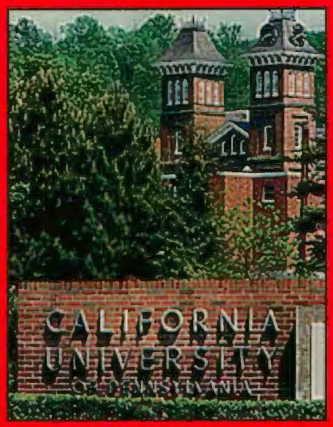
CALIFORNIA UNIVERSITY OF PENNSYLVANIA

1995-98 GRADUATE CATALOG



California University of Pennsylvania

Catalog

of the

School of Graduate Studies and Research

1995-1998

250 UNIVERSITY AVENUE
CALIFORNIA PA 15419-1394
(412) 938-4187
FAX (412) 938-5712

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

Photos include staff photos and commissioned photos by Edward Dunlevy and Sue Urbine and her class.
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California University of Pennsylvania

is

a member of

The Association of State Colleges and Universities
and of
The American Association of Colleges for Teacher Education

and is Accredited by
The Middle States Association of Colleges and Secondary Schools
by
The National Council for Accreditation of Teacher Education
by
National Athletic Trainers Association
and by
The American Speech-Language-Hearing Association

Equal Opportunity

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

Disclaimer

This catalog contains regulations, facts, and requirements that were correct at the time of publication. The governing personnel of California University of Pennsylvania reserve the right and authority to alter any or all of the statements contained herein. In keeping with the educational mission of the university, the educational and financial policies and procedures are continually being reviewed and changed. Consequently, this document cannot be considered binding and must be used solely as an informational guide.

The University

The fountain donated by Emeriti Faculty is a gathering place for students and faculty.

The Campus

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 33 buildings situated on 59 acres. An additional 83 acre recreation complex, Roadman Recreation Center, is located two miles 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 Area

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, canoeing, and skiing activities in the Laurel Mountains. In addition to cultural activities provided on campus, the student has easy access to the Pittsburgh metropolitan area.

This provides 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 excitement and attractions of a metropolitan area.

See maps of the area and the campus inside the back cover.

A Brief History
California University of Pennsylvania

The bust of Robert Eberly in front of Manderino Library reminds students that reading is a gateway to knowledge.

The institution that is now California University of Pennsylvania began as an academy over 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: An 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 John P. Watkins, president, 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.

(Additional information may be found in the book by Regis J. Serinko, *California University of Pennsylvania: The People's College in the Monongahela Valley,* published in 1975; revised 1992)

President Angelo Armenti, Jr.

President Armenti chats with students near the fountain.

President Armenti meets with students in his office.

from the President

California University of Pennsylvania is in the opportunity business. Since 1852, thousands of students have seized 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 to 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 to 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 proportional 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, 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

Contents

Graduate Programs

Application for Admission

If you would like an application for admission to graduate study, a copy of the new schedule or the next one, you may return the prepaid postal card at the back of this catalog. If someone has used it before you, you can write or telephone the office of the School of Graduate Studies and Research. Phone (412) 938-4187—an answering service will take your message after office hours.

School of Graduate Studies and Research
California University of Pennsylvania
250 University Avenue
California PA 15419-1394.

Goals and Objectives

The School of Graduate Studies and Research at California University of Pennsylvania offers three advanced degrees: the Master of Arts (M.A.), the Master of Education (M.Ed.), and the Master of Science (M.S.).

The **Master of Education** program is intended primarily for in-service teachers and other applicants who meet the standards of graduate study established by the University.

The **Master of Arts** and the **Master of Science** degrees are intended for applicants who have an academic major or other adequate preparation in the area in which they wish to matriculate in graduate studies. Graduate students have an opportunity to study in depth in their areas of specialization and become more proficient in their disciplines.

Certificates

The University also offers certain graduate programs that lead to initial, specialized certification beyond the baccalaureate level. In these graduate programs, individual departments determine the competency of the graduate student for certification. It will be noted that receiving a Master's degree does not automatically and of itself entail receiving initial certification.

Graduate study at California University is especially designed to include classroom, laboratory, clinical, internship, and research experiences that add knowledge, depth, breadth, and practical experience to the graduate student's educational background. The program for each person admitted to the School of Graduate Studies and Research is planned in cooperation with an adviser and is based on the previous training and experience of the entering graduate student.

A minimum of thirty to thirty-six credits (semester hours) is required of all degree students, depending on the program and the options within that program chosen by the graduate student. The requirements in the certification programs are determined by the program and the background and experience of the applicant. (SEVERAL PROGRAMS REQUIRE MORE THAN 36 CREDITS.) Curricula differ according to the various areas of specialization. Certain other standards of proficiency described elsewhere in this catalog must also be met for completion of graduate programs and the conferring of the graduate degree.

Each of the graduate programs at the University has its particular goals and approaches based on the subject matter of the unique discipline, the backgrounds and strengths of the faculty members, and a flexible approach to the needs and levels of preparation of individual students. All of the programs share the following objectives as principal and common purposes.

Common Objectives

To offer opportunities and resources for graduate students to increase **competence** in and **basic understanding** of their disciplines;

To provide opportunities to attain **professional growth**;

To assist in the development of modes of inquiry and substantive understandings that promote a critical and creative attitude toward **humanistic** and **scientific principles**;

To develop **research** skills;

To develop responsible **leadership** roles and the ability to **relate effectively** to other people;

To encourage **academic and professional growth** beyond the Master's degree.

Equality of Opportunity

California University of Pennsylvania acknowledges that equality of opportunity is the cornerstone of a free and democratic society. As a state-owned institution, it accepts the duty of putting the principle of equal opportunity into practice. As an institution of higher education, it accepts the responsibility of teaching that principle by its policies and actions. Consequently, California University of Pennsylvania commits itself, ethically and legally, to the equal opportunity policies of a system of fair and open recruitment and acceptance of students regardless of sex, race, color, religious creed, lifestyle, affectional or sexual preference, disability, present or previous military service, ancestry, national origin, union affiliation, 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 aid, especially scholarships, and loans, including National Direct Student Loans, grants, work study programs, assistantships, and internships, are provided on an equal opportunity basis. Likewise, advisors and counselors are available to all students. Special programs in particular have been established to meet the needs of students who meet the federally prescribed financial and academic criteria. Residence halls are available on a first-come, first-served basis to all students without regard to race, national origin, or religion. However, in the case of living arrangements, sex and disability distinctions are made to better serve and accommodate all students. Finally, in accordance with recent federal and state legislation, architectural and programmatic modifications have been implemented to ensure that no qualified student is prevented from succeeding at California University of Pennsylvania because of disability.

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

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

President Armanti stops to chat with students on campus.

Teaching Certification

Some of the graduate programs described in this catalog lead to specialized initial certification in certain fields of education; but it is often possible, in certain other fields of education, also to combine graduate study towards a Master's degree and pursuit of initial teaching certification.

If you are interested in doing so, you may write or telephone the School of Graduate Studies and Research (412) 938-4817 or the College of Education (412) 938-4125 or (412) 938-4126 at the university for specific information.

Admission to Degree Programs

Some of the graduate programs described in this catalog lead to specialized initial certification in certain fields of education. In additon, it is possible, in certain disciplines, to combine graduate study towards a Master's degree and pursuit of initial teaching certification.

If you are interested in doing so, you may write or telephone the School of Graduate Studies and Research (412) 938-4817 or the College of Education (412) 938-4125 or (412) 938-4126 at the university for specific information.

You should apply for admission to the School of Graduate Studies and Research as early as possible, preferably no later than three weeks before the session in which you plan to enroll.

Applications may be obtained from the
School of Graduate Studies and Research
California University of Pennsylvania
250 University Avenue
California PA 15419-1394
(412) 938-4187

They should be returned, with the $25.00 application fee, to the same address. At the same time, official transcripts of all graduate and undergraduate work should be sent by the granting institution to the School of Graduate Studies at California University of Pennsylvania. It is not necessary to send a transcript of work done at California University.

For more detailed information about any program you find in this catalog, you may write, telephone, or ask for an appointment with either the chairperson or the graduate studies coordinator of the department offering that program or with the Dean of the School of Graduate Studies and Research.

Required Steps in Application Process:

(1) You must present evidence of a bachelor's degree from a college or university that is accredited by the National Commission on Accreditation or the appropriate regional accrediting agency.

(2) You must present an official transcript of your undergraduate work, showing at least a 3.0 quality point average (on a four-point scale); other quality point averages may be required for admission to certain programs.

(3) If you are applying for admission to the graduate program in Business Administration, you must take the Graduate Management Admission Test (the GMAT). If you are applying for admission to the graduate program in Biology you must take the Graduate Record Examination (GRE).

(4) If you do not have a 3.0 undergraduate average, you will have to take the Miller Analogies Test for conditional admission (in programs other than the ones in Business Administration and Biology).

(5) For the Master of Education degree in most fields, you must already have a teaching certificate in the field in which you also wish to enroll for graduate study.

(6) For the Master of Arts and Master of Science degrees, you will have to present evidence of adequate undergraduate preparation in the field in which you enroll.

Admission to a program does not carry with it admission to candidacy for the degree: See the statement on candidacy requirements in the next section of this catalog.

Admission to Certification Programs Beyond the Master's Degree

The university offers certification programs that require additional experience and credits beyond the Master's degree and that develop appropriate competencies in specific areas of specialization. They are in the fields of Administration (for either the Elementary Principal or the Secondary Principal Certificate), Technology Education Supervision, Reading Supervision, School Psychology, and Superintendent's Letter of Eligibility.

Those interested in any of these programs may want to speak with the chairperson or the graduate studies coordinator of the department, or with the Dean of Graduate Studies and Research. Applicants for these certification programs must have completed all the prerequisites and any special requirements, as follows. Applicants to the Administration Programs for Principals must have their graduate work and professional experiences evaluated in order that the necessary learning experiences may be prescribed, to fulfill the competency standards of the program. Applicants for the Technology Education Supervisory program must have completed the Master's degree. Applicants for the Reading Supervisory program must have completed the Master's degree and have obtained the Reading Specialist Certificate. Applicants for the School Psychologist certification program must have completed a Master's degree in School Psychology or a related field and must obtain a minimum of thirty credits in special experiences and courses in the School Psychology program.

Admission Other Than as an Applicant for a Degree

Although most graduate students at California are enrolled in degree programs, there are opportunities to take some graduate programs, either for personal or professional growth or for certification, without becoming an applicant for a university graduate degree.

If you wish to take graduate courses at California University but do not wish to enroll in a formal certification program or as a possible applicant for a degree, you will nevertheless have to apply for admission to the university (and pay the normal application fee), and your acceptance will be based on the amount and quality of your preparation as determined by the academic department in which you will be taking courses.

Upon admission, you will be permitted to take any number of courses, but completion of these courses does not automatically and in itself lead to admission to a degree or certification program, and only six credits taken as a non-degree student are normally applicable upon transfer to a degree program.

Graduate students from other universities (sometimes known as "transient students") who wish to take courses at California University of Pennsylvania should be certain, before they enroll, that the courses they plan to take here will be counted towards their graduate program at their home institutions.

Policies about the transfer of graduate credits vary from institution to institution; but commonly universities do not permit graduate students to transfer to any of their programs more than six semester credits taken elsewhere.

International Students

California University welcomes applications from students from countries other than the United States. All international students who apply for graduate studies must meet the same entrance requirements as all other students. For admission, the following documents must be submitted:

(1) A completed application and application fee;
(2) An official transcript, sent by the institution, of all undergraduate work;
(3) An official copy of a teaching certificate (if application is being made to certain Master of Education programs);
(4) TOEFL scores, sent by the testing agency, attesting to competency in the use of the English language;
(5) A statement of financial support; and
(6) Any other necessary forms.

Final admission is contingent upon clearance from the education authorities of the home country and from the Immigration and Naturalization Service of the United States.

International students will also require, for purposes of the University's records, a United States Social Security number.

A limited amount of financial aid is available to international students, chiefly in the form of graduate assistantships requiring a certain amount of work at the University; but students must be certain of adequate funds for their academic and living expenses before enrolling. International students must be enrolled for at least one semester before a graduate assistantship may be granted.

All international students must subscribe to the medical insurance plan of the University.

Admission Is Not Guaranteed

These are the minimum prerequisites for admission to these programs, not necessarily in themselves sufficient to guarantee admission. A prospective student must make application to the School of Graduate Studies and Research for admission to any of these programs, and the academic department and the School of Graduate Studies and Research in consultation may accept or reject the applicant, after consideration of the applicant's background and the availability of faculty and facilities.

Registration Procedures

Applications and Schedules

If you would like an application for admission to graduate study or a copy of the new schedule or the next one, please return the prepaid postal card included inside the back cover of this catalog.

If someone has used it before you, you can phone the School of Graduate Studies and Research at (412) 938-4187—an answering machine will take your message after normal office hours.

Or write:

School of Graduate Studies and Research
250 University Avenue
California University of Pennsylvania
California PA 15419-1394.

Registration by Mail

After you have been accepted and first enrolled in graduate studies at California University, you may schedule for the next semester or summer session by mail.

About six weeks before the beginning of classes, all graduate students who have been enrolled at the University during any of the previous five registration periods are mailed a schedule of classes for the next semester or summer session and the forms necessary for registration.

Graduate students should consult with their academic advisers before scheduling their courses. Registration cards must be signed by the adviser. After such approval has been obtained, the registration forms may be returned by mail (or in person) to the School of Graduate Studies and Research.

If you have been accepted into a program of graduate studies but have not been recently enrolled at California University or if you do not receive a registration packet by mail, you may obtain a schedule or registration materials by writing or telephoning the School of Graduate Studies and Research (See telephone number and address above).

You may pay your fees by Visa or by MasterCard. If you preregister by mail, you may complete the credit card authorization included in your registration packet. If you register in person, authorization forms may be obtained at the Revenue Office.

Registration on Campus

If you prefer, you may register at the University shortly before the opening of classes, on days announced in the schedule of classes, both during the day and in the evenings. Faculty advisers from all academic disciplines are present to assist during these registration periods. Registration after these dates is considered late registration and entails a late registration fee.

Graduate students who register at this time should be prepared to pay their fees then, but existing arrangements for deferment of payments for recipients of financial aid, for veterans, etc. will be honored. (Payments must be by check, money order, or bank draft, payable to California University of Pennsylvania.)

Graduate students are allowed to alter their schedules within the first week of classes. Exceptions are allowed with the permission of the Dean. Provided that there is no over-all change in the number of credits involved and that the changes do not constitute a withdrawal from the School of Graduate Studies and Research for the semester or summer session concerned, there is no penalty for this "drop/add" procedure. Permission is granted through the School of Graduate Studies and Research.

Responsibility for Regulations

Responsibility for knowing and complying with all academic rules and regulations, including the requirements for graduation, rests with the individual graduate student. Faculty advisers assist graduate students in planning their academic programs and research requirements, but they are not expected to relieve graduate students of responsibility in other areas.

Appeal Procedure

If you believe that compelling, persuasive, and unusual circumstances may give you sufficient reason to have certain rules or regulations waived or altered in some particular case, you may appeal for an exception or exemption, to the Dean of the School of Graduate Studies and Research. In many cases, the Dean may make such decisions but sometimes may seek the advice and consent of affected faculty members or advisers, the Graduate Council, or the department chairpersons. In some cases, none of these administrators or bodies are empowered to alter general university policy. A special procedure, described below in this section of this catalog, is followed in cases of grade appeals.

Change of Address or Name

Students should inform the School of Graduate Studies and Research promptly of any change of name or address by means of appropriate forms available in that office.

Style Manuals for Preparation of Papers

Research studies must conform to a format and style that is recognized by the principal scholarly journals in the discipline. Students are expected to obtain and use the style manual which is suggested by their respective programs. Most programs in the School of Graduate Studies and Research require the use of the most recent edition of the *Publication Manual of the American Psychological Association (APA)* or *the MLA Handbook for Writers of Research Papers.* Copies of these manuals and other manuals maybe purchased in the bookstore or consulted in the Manderino Library.

Planning a Program

As soon as students have been admitted to a graduate program, they will be referred to the appropriate department for academic advising. Graduate students' programs are planned specifically for them in conference with their advisers, and research advisers are assigned to graduate students by the Dean's office after they have been admitted to candidacy for the Master's degree.

Candidates doing a Research Study may choose a specific research adviser, after consultation with their department chairperson or the Dean of Graduate Studies and Research.

Each student should consult with his/her adviser throughout the graduate program on a regularly scheduled basis. Programs of studies must be approved by a student's adviser before registration.

Permanent Certification for Teachers

If you already have a Pennsylvania teaching certificate, you can also use the credits you earn in a graduate program at California University towards the post-baccalaureate requirements for permanent certification in the Commonwealth.

Some graduate programs lead to specialized initial certification, at the graduate level, in certain fields; but it is often possible, in other fields, to combine graduate study towards a Master's degree and pursuit of initial teaching certification. If you are interested in doing so, you may write or telephone the School of Graduate Studies and Research or the College of Education and Human Services.

Fees

Changes in university fees may be made without notice. See above, under Registration Procedures, for other information about the payment of fees. Payment must always be in the form of a check, money order, or bank draft payable to California University of Pennsylvania. All fees must be paid, or other arrangements made, before the beginning of classes. The University will honor all customary deferment policies for financial aid recipients, military veterans, etc.

Schedule of Fees*

Application Fee	$25.00
Tuition	
In-State	
Full Time (9 to 15 credit hours)	$1543.00
Part Time (or credits in excess of 15)	$171.00 per credit
Out-of-State**	
Full Time (9 to 15 credit hours)	$2772.00
Part Time (or credits in excess of 15)	$308.00 per credit
Student Association Fee	
1 to 5 credits	$29.00
6 to 8 credits	$47.00
9 or more credits	$71.00
Student Union Building Fee	
1 to 5 credits	$19.00
6 to 8 credits	$38.00
9 or more credits	$75.00
University Service Fee	
1 to 5 credits	$50.00
6 or more credits	$85.00
Late Registration Fee	$15.00
Academic Support Fee	
1 credit	$9.00
2 credits	$18.00
3 credits	$27.00
4 credits	$36.00
5 credits	$45.00
6 credits	$54.00
7 credits	$63.00
8 credits	$72.00
9 credits	$81.00
10 credits	$90.00
11 credits	$99.00
12 + credits	$108.00
Student Center Operations and Maintainance Fee	
9 or more credits	$20.00
6-8 credits	$14.00
1-5 credits	$10.00

*Subject to change

(All students pay the Student Union Fee, the Graduate Student Association Fee, and the University Service Fee, during both the regular academic year and the summer.)

**A Pennsylvania resident is defined as one who is a bona fide resident of and domiciled within the State of Pennsylvania for a reasonable period, not less than one year, immediately preceding the student's registration for a term or semester in any state-supported college or university in the State of Pennsylvania. A minor is generally presumed to be a resident of the place of the parent's or guardian's domicile. The establishment of domicile is primarily a matter of continued residence or intention. Generally, Pennsylvania domicile is considered to be established within the state at the time of registration for courses. Place of residency is determined at the time of admission. If you have been adjudged not to be a resident of Pennsylvania and would like to appeal this decision, you will have to petition the Residency Appeals Committee, through the office of the Vice-President for Academic Affairs, after admission and before registration.

Penalty for Bad Checks

If a check payable to the University is not honored by the bank on which it is drawn, there is a fee of $25.00 for each such check. The original amount due, plus the $25.00 fee, must be paid in such cases by money order or by certified bank draft. A personal check will not be accepted.

Cap and Gown Fee

Candidates who have been approved for the Master's degree are required to purchase or to rent a Master's cap, gown and hood, to be worn at the Commencement exercises, from the university bookstore in the Student Union.

Binding Fee

Three copies of the Master's Thesis, Research Project, or Research Paper must be submitted to the University and bound at the candidate's expense. Arrangements for binding are handled through the School of Graduate Studies and Research. Additional copies for the candidate's own use may be bound, at the same cost per copy.

Transcipts

Transcripts of academic records and certificates of good standing and honorable dismissal are issued by the Office of Academic Records, Room 103 in the Administration Building. Each transcript costs $3.00, and payment must be received before the transcript is issued.

Privacy

All transcripts are issued according to the provisions of the Family Education Rights and Privacy Act of 1974 as amended (the so-called "Buckley Amendment"). 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 on a form in the Office of Academic Records or by writing a letter to that office indicating the number of transcripts required, the types of transcripts (graduate, undergraduate, or both), the name and address of the person making the request, and the name and address of the person or institution to whom the transcripts are to be sent. (Transcripts are issued to a third party on condition that the recipient will not permit any other party to have access to them without the written consent of the student.)

See also the section on Confidentiality of Records toward the end of this section of this catalog.

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

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

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

Course Load

A full-time student is normally one who has scheduled nine to fifteen hours of work in the fall or spring semester. The Dean may allow graduate students with fewer scheduled credits to be considered as full-time students, under certain circumstances.

Part-time graduate students may schedule no more than six credits in the fall or spring semester.

During the summer session a graduate student may earn a maximum of twelve credits.

Partial refunds, or credit, will be granted to students who have officially withdrawn from the University, or from individual courses, according to the schedule below.

Refunds

Refunds are made of the basic fee and the Student Association fee only. No refunds, partial or whole, are made of the application fee, the university service fee, or the Student Union fee.

Refunds or credits are made only if the School of Graduate Studies and Research is notified properly of the withdrawal. The date of notification is considered the effective date of withdrawal, except in unusual and persuasive circumstances.

Refunds are paid only when they are requested from the University; otherwise, the amount due is credited to the graduate student's account.

Since graduate students who enroll for between nine and 15 credits pay the full-time fee given on the schedule of fees shown above, if part of the schedule is dropped, no credit or refund is given.

The amount of refund or credit of the basic fee and of the Graduate Student Association fee is determined as follows:

Fall And Spring Semesters:

	Credit or Refund
First and second week	80%
Third week	70%
Fourth week	60%
Fifth week	50%
After the fifth week	None

Summer Sessions:

Five-week sessions	
First week	80%
Second week	60%
After the second week	None
Ten-week session	
First week	80%
Second week	70%
Third week	60%
Fourth week	50%
After the fourth week	None

Admission to Candidacy

After admission to a graduate program and after a certain amount of course work, in order to complete a program of study leading to the Master's degree, the graduate student must apply for and be admitted to the status of candidacy, which may be understood as full approval to continue to pursue the degree. **It is the individual's responsibility to apply for candidacy in due time and manner.** Application for candidacy should be made when a graduate student has completed at least six but no more than twelve credits of graduate study at this university. Credits completed in excess of twelve will not ordinarily be accepted for inclusion in a degree program. Application is requested by means of a form available in the office of the School of Graduate Studies and Research. Applications requesting admission to candidacy should customarily be made within three weeks of the beginning of a semester or a summer session; and candidacy is customarily granted (according to a date announced in each published Schedule of Classes) approximately midway through the semester or the summer session.

The applicant for candidacy must demonstrate a 3.0 quality point average (B average) in graduate courses. Approval for admission to candidacy is granted by individual departments or programs, which may have special requirements such as interviews or tests, and by the Dean of Graduate Studies and Research.

For more precise details, the applicant should consult with the department chairperson. The University reserves the right to deny the applicant's request for admission to candidacy for the Master's degree.

"Residency" Requirement

In most programs leading to the Master's degree a total of between 30-36 semester hours of academic work (depending on the option selected) is required, in addition to the other special requirements stipulated in this catalog.

Of this number, all but six credits must be taken at California University. (This requirement is known as the "residency" requirement, but it has nothing to do with one's place of residence and does not require living on campus.)

An effort is always made to schedule courses so that graduate students may complete their degrees as expeditiously as possible, either with or without the use of summer academic work; but courses with very small total enrollments cannot always be scheduled when some students may wish them to be.

Transfer Credits

A maximum of six semester hours of graduate study done at another institution in an accredited graduate program may be transferred to California University.

Transferred credits must represent courses equivalent to those offered at California University, and only grades of A or B are accepted. Such credits must have been earned within five years of the date of the application for admission to the graduate program at California University. Transfer credits are not figured into the quality point average. Extension credits are not accepted for transfer.

A graduate student already enrolled at California University who wishes to enroll in a graduate course at another institution and to have the course transfer to his/her program at California must obtain approval from his/her program adviser and from the Dean of Graduate Studies and Research at California before enrolling at the other institution.

Applications for such transfer of credits are available in the office of the School of Graduate Studies and should be completed and returned before taking the course. An official transcript from the institution at which the course was offered must be submitted to the School of Graduate Studies before the course can be entered on the graduate student's permanent record at California.

Withdrawal

All withdrawals are subject to university regulations concerning credit or refunds of fees.

Graduate students who find it necessary to leave the University while they are taking courses should, if possible, confer with the Dean of Graduate Studies and Research before they withdraw. The appropriate withdrawal forms must be completed before withdrawal can be official; and customarily it is not possible to make a withdrawal except in person.

Graduate students who do not follow the requisite procedure may jeopardize their academic status or, by not meeting the necessary deadlines, fail to receive the full amount of any financial refunds to which they would otherwise be entitled.

Graduate students who cease to attend classes without taking other action are not considered to have officially withdrawn, and in such cases the failing grade of F is recorded on their permanent records.

Withdrawal from Individual Courses Dropping and Adding Courses

Courses may be dropped during the first six weeks of a semester without academic penalty. Graduate students are allowed to alter their schedules, with the permission of the Dean of Graduate Studies and Research. Provided that there is no overall change in the number of credits involved and that the changes do not constitute a withdrawal from the School of Graduate Studies and Research for the semester or summer session concerned, there is no penalty for this "drop/add" procedure.

After the first six weeks, withdrawals from individual courses require the grade of either WP (indicating that the graduate student was passing the course at the time of withdrawal) or WF (indicating that the graduate student was failing the course at the time of withdrawal). Both WP and WF are entered on the permanent record, but the grade of WF is figured into the graduate student's quality point average, while the grade of WP is not.

Complete Withdrawal

Graduate students are permitted to withdraw completely from the University until the final week of the semester. Permission is granted by the Dean of Graduate Studies and Research. The grade of WP or WF is assigned to all courses.

Administrative Withdrawal

Administrative withdrawals are initiated by officials of the University for compelling reasons, such as registration in violation of university regulations, failure to comply with academic requirements, failure to pay university fees on time, disciplinary suspension, severe psychological or health problems, or other such reasons deemed appropriate by the proper administrative officer.

Cheating and Plagiarism

Truth and intellectual honesty are both the subject matter 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 graduate dean or to the Vice-president for Academic Affairs, with a request for more formal disciplinary action by the University's Discipline Committee, which may result in suspension or expulsion from the University.

Grading System

Only the grades of A, B, C, F, P, and I are awarded in the School of Graduate Studies and Research. A quality point average of at least 3.0, equivalent to a B average, is required of all graduate students in all graduate programs.

The grade of A is worth four quality points, B is worth three, C is worth two, and F is worth zero. (However, if a student withdraws from a course or from the University after the first six weeks and is earning a grade of D or F at the time, the grade of WF is recorded, and no quality points are earned.)

The quality point average is computed by multiplying the number of semester hours specified for each course by the quality points attained in that course, adding the total of these results, and dividing this total by the total number of semester hours attempted.

The temporary grade of I (for Incomplete) may be assigned by the professor if a student has not completed the work of the course, either because of illness or for other reasons that the professor considers acceptable. (The professor may, however, submit a course grade on the basis of work that has been completed.)

The student must arrange to complete the work necessary to remove the grade of I within one calendar year of receiving it. If it is not removed within that period, the grade of I automatically becomes a grade of I-F, which cannot be removed from the graduate student's transcript unless the course is repeated for credit.

If an Incomplete is on a student's record in the semester or summer session when that student intends to graduate, the I becomes an I-F immediately before graduation—possibly adversely affecting graduation. If a graduate student has enrolled for the Master's Thesis, the Research Paper, or the Research Project, the grade of I will remain on the transcript until the Thesis, Paper, or Project is completed.

The grade of P is awarded in certain courses, to indicate the performance of satisfactory work in situations, such as some kinds of internships, in which it would not be appropriate to assign letter grades. The grade of P carries no quality points, and although the course is credited towards completion of a program or degree, the credits are not used to compute the quality point average.

If satisfactory work is not performed in such a course, the grade of F is awarded, and it is computed into the quality point average. The University does not allow graduate students a "Pass/Fail option" in courses in which letter grades are awarded.

Grade Appeal

If you consider that a grade you have received in a graduate course is unreasonable or unjust, you should first discuss the matter with the professor who awarded the grade. If you are not satisfied with the result of this conference, you should confer further with the chairperson of the department in which you are enrolled. If you do not reach accord at this level, you may appeal to the Dean of the School of Graduate Studies and Research, and then, as the last source of appeal, to the Vice-President for Academic Affairs of the University, who will make a final decision in the case.

This last step should be taken only if you are convinced that you can demonstrate that arbitrary and/or capricious standards were applied in your particular case and there was no possibility for a resolution at an earlier stage. Although the University seeks to provide all students, graduate and undergraduate, with the opportunity to express their concerns on all matters, including grades, it is not customary for the University administration to change a grade properly assigned by a professor.

Comprehensive Examinations

All graduate students who are candidates for the Master's degree must pass a comprehensive examination. The nature of the examination may vary from department to department, but it commonly has a written component and may have an oral component as well. The purpose of the examination is to evaluate the graduate student's ability to demonstrate the achievement of the objectives and/or competencies prescribed in the student's program.

The comprehensive examinations in most departments and fields are usually administered by the School of Graduate Studies and Research and are scheduled together, approximately halfway through the semester or the summer session. The date for this comprehensive examination is always announced in the Schedule of Classes. Such examinations normally require three hours. Information about departmentl examinations administered in other ways should be obtained from the faculty adviser or chairperson.

Period for Completion of Degree

Graduate students must complete all requirements for the Master's degree within six years after the date of initial registration for graduate studies at California University.

Credit Options for the Degree

In a number of the degree programs, you may choose between a 30-credit degree program which requires a Research Project or Master's Thesis, and a 36-credit program, which permits you to complete six credits of research-related courses in place of the Research Project or Master's Thesis. (In certain programs, a greater number of credits is required.) General information about the 30-credit option and what it entails is given below, but fuller details concerning these options will be found in the program descriptions in this catalog or may be obtained from the department concerned or from the Dean of the School of Graduate Studies and Research.

Research Studies: Master's Thesis, Research Project, and Research Paper

If you choose certain options (as specified for each program) you will complete a Research Project or a Master's Thesis, which is bound and kept permanently in the University library. A Research Paper, for one credit, is a requirement or an option in certain programs. Insofar as they have similar requirements, these three kinds of written research requirements are referred to below generally as "Research Studies."

The Research Study may be undertaken after the graduate student has been admitted to candidacy for the Master's degree, has completed the course in Methods of Research (RES 800 or the equivalent course in the graduate student's academic field), and has chosen or been assigned an adviser for this purpose.

The graduate student, in consultation with the adviser, then writes an overview of the proposed project or Master's Thesis, completes first a rough draft for the adviser and then a final draft for presentation to the adviser and, if appropriate, to the committee, who will (in the case of a Master's Thesis; optionally in the case of a Research Project) schedule an oral examination with the candidate on the subject of the Research Project or Master's Thesis.

The Master's Thesis and the Research Project may be distinguished from one another as follows:

The Research Project should make a contribution to the graduate student, either professionally or in increased mastery of the subject matter. The project may pertain directly to the graduate student's own professional work, such as in the office, the classroom, or the laboratory, or it may be a subject suggested by course work or other pertinent interests. This Research Project requires the approval only of the faculty adviser, but the adviser may request the formation of a special committee to assist in the review and evaluation of the proposed study. Two credit hours are awarded for the Research Project.

The Master's Thesis should make a contribution to the graduate student and to the student's field of study. It examines a subject somewhat more deeply than a Research Project does, and uses better controls, wider sampling and/or experimentation, and more of the techniques of basic research. A Master's Thesis is prepared under the direction of a single faculty adviser, but it is approved by a committee consisting of the adviser, another faculty member in the same department or graduate program, and a member of that or another department. Depending on the program and department, from three to six credits may be awarded for the Master's Thesis.

The one-credit Research Paper is similar to the Research Project, but it is of more limited scope or subject matter. The Research Paper requires the approval only of the faculty adviser.

An abstract, a one-page summary of the methodology and conclusions of the study prepared by the candidate, accompanies each completed copy of any of these Research Studies.

All copies of the Research Study, incorporating corrections and revisions suggested or required by the candidate's adviser and/or committee, must be submitted to the School of Graduate Studies and Research before credit for the study can be awarded. If the candidate wishes to receive the Master's degree in a given semester or at the end of a given summer session, the final copies and the abstract must be at the Graduate School by the date specified in the Schedule of Classes for that semester or session.

All Research Studies follow the same format, which is described in the bulletin, "Preparation of Theses and Research Projects," which may be obtained from the School of Graduate Studies and Research. Research studies must conform to a format and style that is recognized by the principal scholarly journals of the discipline. Students are expected to obtain and use the style manual which is suggested by their respective programs.

Any letters or questionnaires concerning a proposed Master's Thesis, Research Project, or Research Paper that are sent for the purpose of collecting information or data from off-campus must first be approved by the adviser and by the Dean of Graduate Studies and Research.

Approval for Degree

Each semester and during the summer, the Graduate School establishes and publishes a schedule of dates that must be met by all degree candidates for that period. The candidate must, within this schedule, submit to the Graduate Office an application for graduation and an up-to-date course distribution sheet, both of which must be approved and signed by the graduate student's adviser; must register for and take the Comprehensive Examination; and must submit the completed Research Study to the Graduate Office. (A "B" average is required for graduation.)

Students completing requirements for teaching certification must also complete a "Certification Endorsement" form. This form must be signed by the Program coordinator and by the Dean of Graduate Studies and Research. Graduate students applying for certification must also contact the office of the College of Education and Human Services.

Conferring of Degrees

Degrees are conferred by the university three times each year: 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. Graduate students who receive their degrees in August or December may participate in the Commencement exercises of the following May, but their diplomas and official university records and transcripts record the date when their degrees were conferred.

Attendance at the Commencement exercises is appropriate, unless particular circumstances warrant graduation in *absentia*. Permission to graduate in *absentia* is granted only upon formal request, by the President of the University or by the designee of the President, the Graduate Dean.

Applications for the Master's degree should be made early in the semester or the summer session in which it is anticipated that the degree will be conferred, usually (according to a date published in every Schedule of Classes) no later than three weeks after the beginning of classes. The graduate student should consult with the School of Graduate Studies and Research not only to make formal application for the degree, but to ensure that all requirements have been met, that all fees have been paid, that one's name will appear accurately on the diploma, etc. The application for the Master's degree must be signed by the graduate student's adviser, to signify that all requirements have been completed.

Graduation is a special occasion.

Undergraduate Credit for Graduate Courses

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

Graduate Credit for Seniors

Undergraduate students in their last term on campus who have completed or are completing all the requirements for an undergraduate degree may enroll in a limited number—usually one or two—of graduate courses for graduate credit. With the exception of the undergraduate degree and teaching certification requirements, they must meet all other entrance requirements for admission to the School of Graduate Studies and Research; and such courses may not be credited to both undergraduate and graduate programs.

Academic Programs and Courses

Administration Program for Principals

Graduate Faculty: Professors Lizbeth A. Gillette, John P. Moreschi, Jr., Roger J. Orr. The faculty consists of former principals who represent both the Elementary Education and Educational Studies departments.

If you have any questions about these programs, phone or write the program office at California University of Pennsylvania, 250 University Avenue, California PA 15419-1394 (412) 938-4140, or the School of Graduate Studies and Research at (412) 938-4187.

Master of Education Degree in Elementary or Secondary School Administration and/or Certification as Elementary or Secondary School Principal

The Administration Program for Principals at California University provides graduate students with a unique and challenging opportunity to obtain a Master's degree in education and/or certification as an elementary, middle or secondary school principal. The program is competency-based and utilizes a variety of instructional modes.

Previous professional experiences and academic background are assessed to determine the program of studies and experiences each candidate must complete to receive a Master's degree in Education and certification or certification only for a candidate with a Master's degree.

Candidacy

This program is open to students with either a Bachelor's or a Master's degree. In addition to meeting the other requirements for admission to the School of Graduate Studies and Research, applicants must meet the following requirements: (a) have a minimum of two years' professional experience in the elementary or secondary schools; (b) have an undergraduate Q.P.A. of 3.0 or a score of 35 on the Miller Analogies Test or a completed Master's Degree; (c) complete the Student Data Sheet; (d) submit a letter of endorsement from their principal or immediate supervisor.

After the applicants have been accepted into the School of Graduate Studies and Research, they will be interviewed by the faculty members of the program. Selected applicants will be allowed to enter the program by enrolling in the Orientation and Assessment Seminar.

Instructional Modes

Unlike the traditional course-oriented program, in the Administration Program for Principals the modes of instruction consist primarily of supervised field experiences (required of all students), learning contracts, seminars and workshops, computer-assisted instruction, independent study, learning activity packets, and case studies. Courses may also be prescribed.

Competencies

The role of the principal is defined as including seven areas of learning, or Generic Competencies. Consequently, the graduate student in this program will demonstrate or acquire cognitive or affective competencies in the following areas, by means of the activities mentioned above:

1. Child Growth and Development
2. Curriculum and Co-Curriculum
3. Laws and Ethics
4. Group Processes and School Community Relations
5. Related Disciplines
6. Administration
7. Research and Evaluation

Credit Equivalents

The graduate student's work is assigned to the following areas for purposes of achieving competencies and earning graduate credit.

ADP	710-719: Child Growth	4
ADP	720-729:Curriculum	10
ADP	760-769:Administration/Supervision	10
ADP	740-749:Group Process/School Community	7*
ADP	730-739:Law/Regulations/Ethics	4
ADP	750-759:Related Disciplines	4*
ADP	770-779:Research and Evaluation	6
TOTAL		45

Total credits will be determined by assessing each candidate's academic background and experience.
*ADP 746, Assessment/Orientation (2 credits of Group Process)
**These credits can be used for the Master's degree.

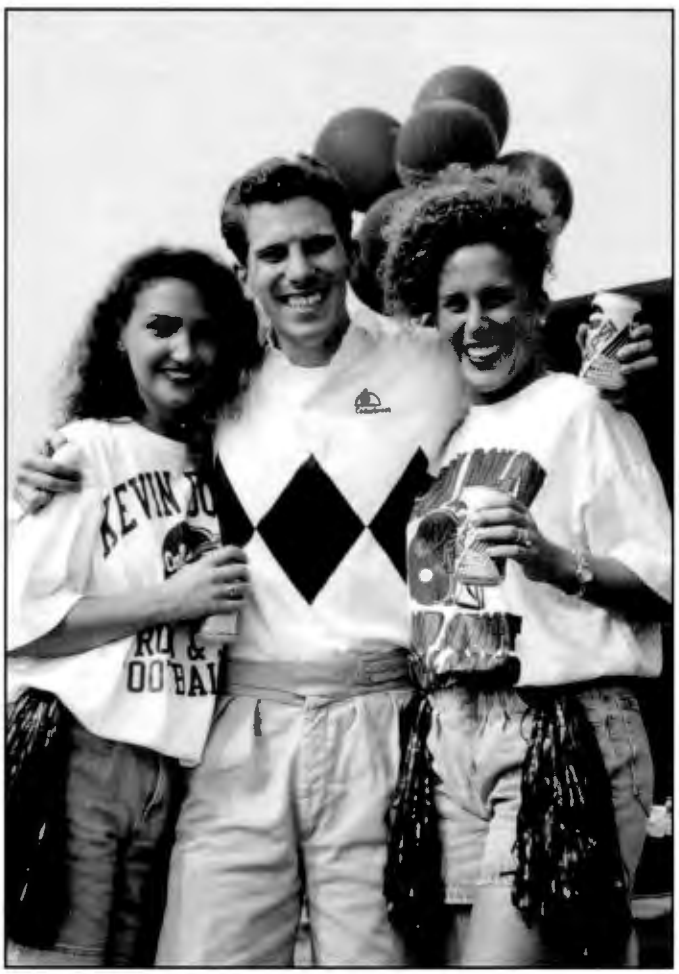
A minimum of 30 graduate credits must be earned from California University in order to receive the Master's Degree.

Orientation and Assessment Seminar

An orientation seminar is required of all students in the program. It lasts for one semester, beginning in September and in January. Students in the seminar receive two credits, which are applicable to the Generic Competency, Group Processes and School Community. This seminar provides students with an opportunity to become familiar with the competencies and to document, according to their previous education or experience, their knowledge, skills and attitudes pertaining to each Generic Competency.

As a result of the documented evidence submitted in this seminar, credit value is determined and in cases where additional competency is deemed necessary, a prescription of learning activities is made for each individual.

Total number of credits for the individual program of study will be determined by an assessment of the candidate's previous academic and experiential background.



Students enjoy tailgate parties at Vulcan football games.

Supervised Field Experience/Internship

The Supervised Field Experience, which is required of all students in the program, is a clinical concurrence merging theory and practice, predicated on the assumption that the development of competencies can and should be fostered in a real learning environment.

The experience may be performed during the school year or during the summer and may be accomplished at one or more sites, but must be outside the student's school district of employment. The graduate student is assigned to work with a principal practictioner. Each placement is made in cooperation with the faculty of this program, the participating school district, and the student.

ADP Courses

As explained above, this Administration Program is competency-based, and consequently course credit is allocated through the seven categories listed above. Most of the background will be obtained through classes, special seminars, professional laboratory experiences, independent study projects, and field learning contracts; but some of the knowledge competencies may be fulfilled by enrollment in existing graduate courses, such as those in Psychology and Professional Education.

Dr. George Crane, Dean of Graduate Studies and Research, congratulates graduate student representative at honors convocation.

Athletic Training

Graduate Faculty: Professors William B. Biddington, chair; Bruce D. Barnhart; Robert H. Kane, Jr.; Joni L. Cramer

If you have questions about this program, phone or write the Department of Sports Medicine, California University of Pennsylvania, 250 University Avenue, California PA 15419-1394, (412) 938-4562, or the School of Graduate Studies and Research, (412) 938-4187.

The Department of Sports Medicine is housed in Hamer Hall and includes a new athletic training facility with state-of-the-art modality and rehabilitation equipment. In addition, the cadaver anatomy laboratory, equipped with numerous anatomical models and slides, is connected to a spacious classroom.

Master Of Science In Athletic Training

The Master of Science degree program is intended for post-baccalaureate students who want more intensive background and clinical experience in the specialized area of athletic training. For admission into this program, the graduate student must have completed the following general requirements:

1. A bachelor's degree from a four year, accredited college or university.

2. A minimum 3.00 undergraduate grade point average based on a 4.00 scale. If a prospective student does not meet this requirement, candidates will be considered if they have a minimum QPA of 2.50 and have scored a 40 on the Miller's Analogies Test.

3. Acceptance to the School of Graduate Studies and Research.

4. All applicants must be certified or certified eligible by N.A.T.A. in order to be considered as a candidate for admission into the program.

In addition, candidates must have a recorded minimum of 800 clock hours of clinical experience under the directed supervision of a NATA certified athletic trainer.

Graduate Assistantships

Graduate assistantships are available with the athletic training intern being assigned to local high schools and colleges for their clinical experience. Students who have a background covering a variety of male and female sports will be given preference. Applicants selected will be expected to provide their own transportation to and from the school to which they are assigned.

Curriculum

I. Athletic Training: 26 credits

ATE 500	Pharmacology for the Allied Health Sciences	2
ATE 700	Gross Anatomy of the Extremities	4
ATE 710	Advanced Athletic Training	3
ATE 715	Sports Law	3
ATE 720	Sports Therapy	4
ATE 730	Internship in Sports Medicine I	3
ATE 735	Internship in Sports Medicine II	3
ATE 745	Contemporary Issues in Athletic Training	4

II. Research: 9 credits

ATE 800	Method of Research in the Allied Health Sciences	3
ATE 810	Thesis Seminar	3
EDP 600	Statistical Methods	2
RES 849	Master's Thesis	4

Athletic Training Courses (ATE)

ATE 500: PHARMACOLOGY FOR ALLIED HEALTH SCIENCES (2 credits) 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.

ATE 700: GROSS ANATOMY OF THE EXTREMITIES (4 credits) The study of anatomical structures in the extremities of the human body, coupled with laboratory dissection of human cadavers.

ATE 710: ADVANCED ATHLETIC TRAINING (3 credits) The study of the cognitive, effective and psychomotor behavioral objectives necessary to properly assess and manage athletic injuries. The course identifies injury and illness factors associated with participation in athletics. Thorough clinical evaluation of injuries and illnesses commonly incurred by athletes makes up a significant amount of the coursework.

ATE 715: SPORTS LAW (3 credits) General legal principles and case law. Specific attention is placed upon the impact of law and case law on sport and sports medicine practitioners.

ATE 720: SPORTS THERAPY (4 credits) Lecture and laboratory exercises that explain the theoretical and practical implementations of physical therapy modalities in the care of athletic injuries. The use of therapeutic exercise and testing in the rehabilitation of sports injuries comprises an equal portion of this course.

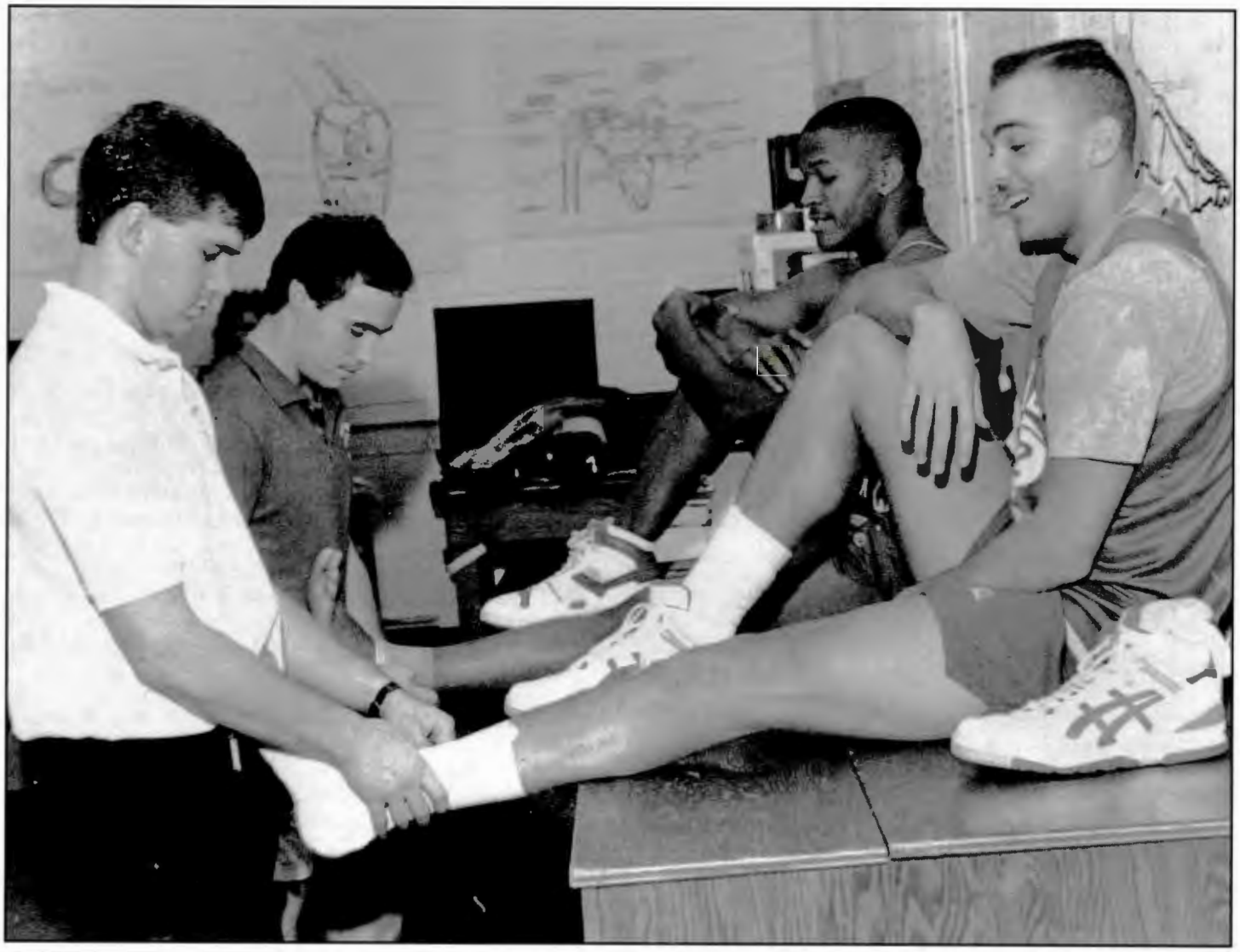
ATE 730: INTERNSHIP IN SPORTS MEDICINE I (3 credits) The graduate student intern practices and enhances clinical skills in athletic training. The student will be assigned to off-campus clinical settings for this experience.

ATE 735: INTERNSHIP IN SPORTS MEDICINE II (3 credits) The graduate student intern continues to practice and enhance clinical skills in athletic training. The student will be assigned to off-campus clinical settings for this experience.

ATE 745: CONTEMPORARY ISSUES IN ATHLETIC TRAINING (2 credits) Administrative functions, professional relationships, facility design, professional conduct, management probelems, record keeping, medical policies and procedures, physical examinations, budgetary considerations, certification and licensing. This course will discuss current trends within the profession of athletic training. In addition, the student will be involved in research in academic areas, concepts and practical ideas in the area of athletic training and sports medicine.

ATE 800 RESEARCH METHODS FOR ALLIED HEALTH SCIENCES (3 credits) The course studies the basic tenets of scientific research as they apply to the allied health fields. Topical discussions include development and limitation of a research problem, research methodology, basic principles of tests and measurements, the review of literature and library utilization, and writing the research document.

ATE 810 THESIS SEMINAR (3 credits) This course is designed to assist graduate level students in development of the first three chapters of their theises. Students will defend their proposals in a mock prospectus meeting.



Trainers ensure that students have healthy athletic careers.

Biological Sciences

Professors Foster E. Billheimer, Thomas P. Buckelew, Barry B. Hunter, William G. Kimmel, C. Allan Miller, Thomas C. Moon, Marc A. Sylvester; Associate Professors David F. Boehm, Brian K. Paulson, Edwin M. Zuchelkowski; Assistant Professor John P. Carroll.

Master of Science Degree in Biology

The Master of Science degree program is intended for graduate students who want intensive training in specialized areas of the life sciences. A graduate student entering this program is expected to have completed extensive course work in biology, mathematics and the physical sciences. After graduate students have been admitted to the program, they are given the opportunity to select a graduate adviser and a research program to meet their educational and professional needs. Graduate students completing this degree program are prepared to enter biological careers in research, allied health professions, teaching, and to pursue advanced degrees in life, veterinary, environmental and mineral sciences.

Admission to the Program

The student should have the following:

1. A QPA of at least 3.0 on a 4.0 system.
2. Two semesters of organic chemistry with no lower than a C grade for each course.
3. One semester of physics.
4. One mathematics course beyond college algebra (calculus is preferred).
5. A minimum of 24 credits in the life sciences with a grade of C or better.
6. Two letters of recommendation from faculty who can attest to the candidate's academic capabilities and promise for success in graduate school (submitted to Graduate Committee).
7. Student must write a letter to Departmental Graduate Committee specifying the following:
   a) Reason for pursuing a graduate degree in life sciences.
   b) Future study/career plans for the life sciences.
   c) Which program option the student intends to pursue.
   d) Area of research interest.
   e) Need of financial assistance (assistantship and/or tuition waiver).
   f) Other information the student deems important for graduate committee members to learn more about his/her suitability for graduate study.
8. A student must take the Graduate Record Examination (Verbal and Quantitative) and the Advanced test in Biology prior to admission into the department. Students having a combined score of 900 on the verbal and quantitative sections of the GRE meet minimal requirements for admission into the graduate program.

Time Requirement to Complete Degree

Full-time students are expected to complete all requirements (course work and research) for their degree within two to three years. Part-time students should complete all requirements for their degree within six years.

Students requesting extensions to finalize their programs must substantiate reasons for the additional time. All courses taken seven years from the first semester of matriculation will not count towards graduation.

Three Options in the Master of Science Program

Option A: Thirty-three credits including the Master's Thesis.

Option B and C: Students enrolling in the Nurse Anesthesiology Program at Washington Hospital, Washington, PA

Option B: Student must have a nursing degree and be admitted into the Nursing Anesthesiology Program at Washington Hospital, Washington, PA. Student must complete 40 credits (four for the Master's Thesis), 18 credits will be taken at Washington Hospital.

Option C: Student must possess a Degree in Nursing and be a Certified Registered Nurse Anesthetist. Student must be accepted as qualified by Washington Hospital and possess the nursing requisites for entrance into the Biology Graduate Program.

Student must complete 40 credits (four for the Master's Thesis), and pass 16 credits of examination at Washington Hospital, Washington, PA.

Ancillary graduate level courses amounting to as many as six credits in fields closely related to the major program may be substituted for Biology courses, with the approval of the research adviser and the Departmental Graduate Committee.

Curriculum

(An asterisk indicates a requirement.)

I. Biological Science: 2 credits from the following Biology courses:

BIO 700	Cellular Ultrastructure	3
BIO 706	Bacteriology	4
BIO708	Microbal Ecology and Physiology	4
BIO 717	Population Genetics	3
BIO 720	Human Genetics	3
BIO 721	Biochemistry I	4
BIO 723	Animal Histology	4
BIO 724	Embryology	4
BIO 725	Molecular Biology	4
BIO 738	Herpetology	4
BIO 740	Ornithology	4
BIO 741	Advanced Research Studies	1-4
BIO 742	Scientific Photography	2-4
BIO 745	Entomology	4
BIO 746	Parasitology	4
BIO 750	Terrestrial Ecology	4
BIO 751	Economic Botany	4
BIO 757	Plant Systematics	4
BIO 758	Plant Anatomy and Morphogenesis	4
BIO 765	Design and Analyses	3
BIO 768	Techniques in Electron Microscopy	4
BIO 788	Cell Biology	4
BIO 795	Seminar in Biology	2
BIO 800	Methods of Research in Science	2

II. Research: 6 credits

*BIO 800	Methods of Research in Science	2
*RES 840	Master's Thesis	4

Master of Education Degree in Biology

The Master of Education is a professional degree designed primarily to improve biology in the public schools. In-service biology educators are encouraged to become more effective in their profession by taking course work and participating in other life science experiences in the Department of Biological and Environmental Sciences and in several other departments of the School of Graduate Studies and Research of California University.

This program offers a broad variety of academic, pedagogical, and research opportunities for the biology teacher.

Graduate students, in close consultation with the department's graduate committee and their advisers, select academic courses which will best broaden each student's understanding in biology. Certain other courses are aimed at updating curriculum and instruction methodologies of the life sciences. Research opportunities are provided to all graduate students, either in an academic or in a pedagogical area.

Admission to the Program

The student should have the following:

1. A QPA of at least 3.0 on a 4.0 system.
2. Two semesters of organic chemistry with no lower than a C grade for each course.
3. One semester of physics.
4. One mathematics course beyond college algebra (calculus is preferred).
5. A minimum of 24 credits in the life sciences with a grade of C or better.
6. Two letters of recommendation from faculty who can attest to the candidate's academic capabilities and promise for success in graduate school (submitted to the Graduate Committee).
7. Student must write a letter to the Departmental Graduate Committee specifying the following:
   a) Reason for pursuing a graduate degree in life sciences.
   b) Future study/career plans for the life sciences.
   c) Which program option the student intends to pursue.
   d) Area of research interest.
   e) Need of financial assistance (assistantship and/or tuition waiver).
   f) Other information the student deems important for graduate committee members to learn more about his/her suitability for graduate study.
8. A student must take the Graduate Record Examination (Verbal and Quantitative) and the Advanced test in Biology prior to admission into the department. Students having a combined score of 900 on the verbal and quantitative sections of the GRE meet minimal requirements for admission into the graduate program.

Time Requirement to Complete Degree

Full-time students are expected to complete all requirements (course work and research) for their degree within three years. Part-time students should complete all requirements for their degree within six years.

Students requesting extensions to finalize their programs must substantiate reasons for the additional time. All courses taken seven years from the first semester of matriculation will not count towards graduation.

Three Options in the Master of Education Program

Option A: Thirty-three credits, with the Master's Thesis.
Option B: Thirty-three credits, with the Research Project.
Option C: Forty credits, with research-oriented courses (determined by advisor).

After twenty credits have been accumulated, a change in option requires permission of the student's advisor and the Graduate Committee.

Curriculum

(An asterisk indicates a requirement.)

I. Professional Education: 10 credits required in all options:

1. Required:

*EDP 600	Statistical Methods	2
*EDP 620	Curriculum & Methods of Teaching Biology in High School	2

2: 4 credits to be chosen from among:

EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
EDP 607	Advanced Educational Psychology	2
EDP 608	Comparative Education	2
EDP 610	Educational Sociology	2
EDP 637	Development and Organization of the Curriculum for Secondary Schools	2

3: 2 credits from among:

EDP 607	Advanced Educational Psychology	2
EDP 617	Psychology of Growth and Development	2
EDP 628	Psychology of the Disadvantaged Child	2
EDP 636	Advanced Psychology of Learning	2

II. Biological Science: Field of Specialization

Option A: 17 credits
Option B: 19 credits
Option C: 24 credits

BIO 700	Cellular Ultrastructure	3
BIO 706	Bacteriology	4
BIO 708	Microbial Ecology and Physiology	4
BIO 713	Applied and Theoretical Concepts in Modern Biology	3
BIO 717	Population Genetics	3
BIO 720	Human Genetics	3
BIO 721	Biochemistry I	4
BIO 723	Animal Histology	4
BIO 724	Embryology	4
BIO 725	Molecular Biology	4
BIO 738	Herpetology	4
BIO 740	Ornithology	4
BIO 741	Advanced Research Studies	1-4
BIO 742	Scientific Photography	2-4
BIO 745	Entomology	4
BIO 746	Parasitology	4
BIO 750	Terrestrial Ecology	4
BIO 751	Economic Botany	4
BIO 757	Plant Systematics	4
BIO 758	Plant Anatomy and Morphogenesis	4
BIO 765	Design and Analyses	3
BIO 768	Techniques in Electron Microscopy	4
BIO 788	Cell Biology	4
BIO 795	Seminar in Biology	2
BIO 800	Methods of Research in Science	2

III. Research: 4-6 credits, according to the Option selected:

Option A:

*BIO 800	Methods of Research in Science	2
*RES 849	Master's Thesis	4

Option B:

*BIO 800	Methods of Research in Science	2
*RES 829	Research Project	4

Option C:

*BIO 800	Methods of Research in Science	2
*BIO 795	Seminar in Biology	2
*Either	Statistics beyond EDP 600 or GEE 537 or Computer Science	2

Biology Courses (BIO)

(Courses marked ° are not offered on a regular basis.)

BIO 700: CELLULAR ULTRASTRUCTURE (3 credits: lecture) The fine structures of cellular organelles as revealed by the electron microscope are discussed in relation to organelle and cell function. Ultrafine structure of the cell membrane, cell wall, nucleus, mitochondria, Golgi apparatus, locomotor organelles, etc. are included. This course does not include instruction in the techniques of electron microscopy.

°BIO 706: BACTERIOLOGY (4 credits: 3 hours lecture, 3 hours laboratory) The physiology of the cell with emphasis on the relationship of cell structure and function. Includes physical and chemical aspects of cells, the relations of cells to their environment, energy conversion in cells, membrane permea-

bility, photosynthesis, and enzyme action. Prerequisite: Organic Chemistry.

°BIO 708: MICROBIAL ECOLOGY AND PHYSIOLOGY (4 credits: 3 hours lecture, 3 hours laboratory) Detailed analyses of the anabolic and catabolic activities of bacteria, fungi, and algae are studied. The microbiological processes of nitrification, dentrification, chemosynthesis, bacterial and algal photosynthesis, fermentation, and antibiosis are examined, with reference to ecological interactions with man and other organisms. Prerequisites: Microbiology and Organic Chemistry.

BIO 720: HUMAN GENETICS (3 credits: 3 hours lecture) A study of various genetic and chromosomal abnormalities found in humans. Some topics are: sex-linked inheritance, karyotype analysis, the genetic code, inherited metabolic disorders, genetics of immune system, blood group genetics, new genetic technologies, population genetics, mutations, and genetic counseling.

BIO 721: BIOCHEMISTRY I (3 credits: 3 hours lecture) A comprehensive study of the characteristics of proteins, lipids, carbohydrates, and nucleic acids, with special emphasis on enzymes. Other topics include the major metabolic pathways found in organisms and the regulation of these organisms. Prerequisite: Organic Chemistry and/or permission of the instructor.

BIO 722: BIOCHEMISTRY II (4 credits: 3 hours lecture, 2 hours laboratory) A continuation of Biochemistry I, including fatty acid biosynthesis, fatty acid metabolism, photosynthesis, protein metabolism, vitamins, hormones and immunochemistry. The laboratory includes qualitative and quantitative determination of fats and steroids and work with nucleic acids, enzymes, and vitamins. Prerequisite: Biochemistry I and/or permission of the instructor.

BIO 723: ANIMAL HISTOLOGY (4 credits: 3 hours lecture, 3 hours lab) The study of cellular differentiations in tissue, tissue identification, and special functions, especially in mammals. Prerequisites: BIO 115 and 120.

BIO 724: EMBRYOLOGY (4 credits: 3 hours lecture, 3 hours lab) A study of oogenesis and spermatogenesis and resultant developments following fertilization; factors involved in morphogenetic determination; organology; sequences of changes in development. Special emphasis on the chick and comparative examples of development in other animals. Prerequisites: BIO 115 and 120.

BIO 725: MOLECULAR BIOLOGY (3 credits: 3 hours lecture) A comprehensive course in macromolecular structure and function in organisms, with emphasis on proteins and nucleic acids. Topics include bioenergetics, the genetic code, and protein synthesis, recombinant DNA technology, and methods of analysis of proteins and nucleic acids. Prerequisite: Organic Chemistry or permission of the instructor.

BIO 727: ICHTHYOLOGY (4 credits: 3 hours lecture, 3 hours laboratory) An introduction to the morphology, taxonomy, ecology, and distribution of the major groups of freshwater fishes, with emphasis on the fauna of the Northern United States; field experiences in fishery survey techniques are provided. Prerequisites: Principles of Biology and General Zoology.

°BIO 738: HERPETOLOGY (3 credits: lecture) A study of the anatomy, physiology, ecology, and taxonomy of the major groups of amphibians and reptiles. Prerequisite: General Zoology.

BIO 740: ORNITHOLOGY (4 credits: 3 hours lecture, 3 hours laboratory) The study of birds, with major emphasis on field observations and identification of resident and migratory species. Numerous field trips in western Pennsylvania areas also illustrate ecological, behavioral, and habitat relations and the impact of human beings on bird life. Lectures and some laboratories cover anatomic and physiologic adaptations of the vertebrate structure to the stringent problems of flight and climate.

BIO 741: ADVANCED RESEARCH STUDIES (1-4 credits) An original research investigation with a qualified research professor in the graduate student's area of biological research interest.

BIO 742: SCIENTIFIC PHOTOGRAPHY (2-4 credits) A basic course in life and environmental sciences which stresses the myriad ways in which photography can be applied to enhance the effectiveness of the 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, using selected photographic equipment and/or procedures.

BIO 745: ENTOMOLOGY (4 credits: 3 hours lecture, 2 hours laboratory) Theoretical and field study of the local classes of insects and related species: taxonomy, collecting and mounting, general and specific morphology, metamorphosis and life cycles, economic importance and control measures. Not open to those who have already taken Biology 362.

BIO 746: PARASITOLOGY (4 credits: 3 hours lecture, 3 hours laboratory) A study of symbiotic relationships in the animal kingdom, with emphasis on invertebrate endoparasites of man, his domestic animals, and common wildlife of the area. Morphology, life cycles, host-parasite relationship, etiology, epidemiology, and treatment and diagnosis are stressed.

°BIO 750: TERRESTRIAL ECOLOGY (4 credits: 3 hours lecture, 3 hours laboratory) Selected aspects of terrestrial systems including various qualities of community dynamics such as structure, composition, succession, phenology, and paleoecology. The biota are intensively analyzed through field work undertaken in various communities of the Northern Temperate Forest and Upland regions. Several extended field trips may be required. Prerequisite: one course in ecology.

°BIO 751: ECONOMIC BOTANY (4 credits: 3 hours lecture, 2 hours laboratory) Human beings' relationships to and economic interests in plants from the products from plant walls, exudates and extractions to those primarily used as food.

°BIO 757: PLANT SYSTEMATICS (4 credits: 3 hours lecture, 3 hours laboratory) The history of plant classification and its culmination in present-day taxonomic practices, the evolution of the vascular plants, and a definitive study of their representative modern families. An extensive plant collection is required of each graduate student. Prerequisite: General Botany.

BIO 758: PLANT ANATOMY AND MORPHOGENESIS (4 credits: 3 hours lecture, 3 hours laboratory) A study of plant growth and descriptive experimental studies on cells and meristems. How plant correlation, polarity, symmetry, differentiation, regeneration, tissue mixtures and abnormal growth are involved in the distinctive phenomena of morphogenesis. Laboratory work consists largely of the growth of representative plants from the seeds in the laboratory. Experiments show the effects of light, temperature, water and various other physical factors together with chemical substances and the various genetic factors.

BIO 765: DESIGN AND ANALYSIS: (3 credits: 3 hours lecture) The theoretical and applied basis of experimental design, sampling theory and sampling designs, data input and output, statistical analysis and interpretation for studies involving ecological research, environmental pollution monitoring, and environmental impact assessment. The emphasis will be on experimental design, sampling procedures and the application of computer methods for data base, spreadsheet, word processing, and statistical packages.

BIO 766: BIOMETRY (3 credits: lecture)
A study of statistical techniques applied to experimental design and analysis of biological problems in the field and laboratory, with emphasis on multivariant situations and on insuring validity of results. Prerequisite: College Algebra or Statistics.

°BIO 768: TECHNIQUES IN ELECTRON MICROSCOPY (4 credits: 3 hours lecture, 3 hours laboratory) 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 and special techniques such as replication and shadow casting. Prerequisite: BIO 762 and permission of the instructor.

BIO 772: MAMMALOGY (4 credits: 3 hours lecture, 3 hours laboratory) Classification, distribution, and natural history of mammals, with emphasis on Eastern North American species. Field studies and preparation of study specimens. Prerequisites: General Zoology, Biotic Communities, or Ecosystems Ecology.

BIO 778: ORGANIC EVOLUTION (3 credits: lecture) An intensive study of the impact of evolutionary thought on the various disciplines of biology. Emphasis is on the evolution of life from non-life, organic materials and the genetic basis of life; also on the elemental forces of evolution, the sources of variation, the role of natural selection and genetic drift, and the result of evolution through adaptation. Evolutionary divergence is studied through an understanding of races and species, isolating mechanisms, the origin if species, and evolution above the species level.

Cal U's men's and women's basketball programs are consistently strong.

BIO 795: SEMINAR IN BIOLOGY (2 credits: lecture) Library research, class discussion, and reports by the participants on topics of special interest. Members of the biology staff are also invited to lead some discussions in their major fields of interest.

BIO 800: METHODS OF RESEARCH IN SCIENCE (2 credits: lecture) Consideration of the fundamentals of research in the natural sciences, with emphasis on the scientific method, technical library use, collection and interpretation of data, and the format of scientific writing for the thesis and for publication. The AIBS Style Manual for publishing in primary scientific journals will be used.

Business Administration

Master of Science Degree in Business Administration

Graduate Faculty: Professors William F. Blosel, Burrell A. Brown, M. Arshad Chawdhry, Debra M. Clingerman, Ismail Cole, Ali A. Hashemi, David T. Jones, Robert J. Kopko, Karen L. LeMasters, Edward Mendola, Susan J. Mongell, Mahmood A. K. Omarzai, Young J. Park, Michael K. Rich, Louise E. Serafin, P. Ronald Tarullo, J. Zderkowski

The demand for skilled managers in the business community today far outstrips the availability of qualified candidates. The scope of business activities has assumed a level of sophistication where the more significant opportunities require skills and abilities that exceed the capabilities possessed by most baccalaureate degree holders.

The Master of Science Degree offered in Business Administration directly addresses the needs of today's progressive business enterprise. This rigorous program is designed for the student desirous of advanced managerial skill development in the areas that significantly affect modern business enterprises.

Successful completion of this curriculum will effectively equip the graduate for a more challenging role in contemporary business enterprises.

The program is particularly appropriate for those currently employed as well as those recent graduates who desire to expand their current level of marketable skills. With many of the courses being offered at appropriate hours for those currently employed, this advanced degree is easily within the reach of most who are willing to devote the time and effort required, on either a full time or part time basis.

The program generally requires a little over one year for full time students and slightly more than two years on a part time basis. The required courses are offered during the Fall, Spring, and Summer semesters.

The program is designed primarily for persons holding a degree in Industrial Management, Business Administration, Administration/Management, Economics, Industrial Technology or other similar fields.

Individuals holding a degree in one of these fields will have probably completed the required Foundation Courses (listed below). All Bachelor's degrees will be considered for admission.

Each applicant's academic background will be reviewed to determine the actual course load that will be required for graduation.

Application for Admission

In order to be considered for admission, the applicant must:

1. verify successful completion of a baccalaureate degree;
2. demonstrate substantial achievement in undergraduate work related to this program or be willing to complete required foundation courses;
3. submit scores from the Graduate Management Admission Test (GMAT);
4. verify an acceptable undergraduate quality point average (QPA);
5. document any appropriate work experience relevant to this course of study.

Applicants may be admitted to the graduate program in Business Administration beginning in the Fall, Spring or Summer semester. Since applications are evaluated as they are received, there is no deadline for applications.

The Business Administration program requires the completion of Foundation Courses and a Graduate Core of courses. The Foundation Courses provide the basic concepts needed for the program and must be completed with grades of B or better before taking the Graduate Core courses. Foundation Courses are given below.

Curriculum

I. FOUNDATION COURSES (15 credits)

CSC 105	Microcomputer & Application Software	3
ACC 601	Survey in Accounting*	3
ECO 601	Survey in Economics*	3
MAT 225	Business Statistics	3
MKT 301	Principles of Marketing	3

II. MASTER'S DEGREE CURRICULUM (39 credits)

(a) Core Curriculum (30 credits)

ACC 711	Managerial Accounting	3
MGT 712	Organizational Behavior	3
MGT 721	Production Management	3
	or	
MGT 751	International Business Management	3

MGT 731	Industrial Relations	3
FIN 711	Financial Management	3
MKT 711	Marketing Management	3
ECO 711	Microeconomic Analysis	3
ECO 712	Macroeconomic Analysis	3
BUS 771	Quantitative Methods	3
BUS 799	Strategic Management	3

(b) Electives (9 credits)**

Choose any three (3) from the following courses:

ACC 721	Financial Accounting	3
ACC 731	Tax Concepts and Planning	3
BUS 741	Business Law	3
BUS 743	Business, Society, and Government	3
ECO 721	Managerial Economics	3
ECO 731	Econometric Methods	3
ECO 741	Industrial Organization	3
FIN 531	Bank Management	3
FIN 712	Advanced Financial Management	3
FIN 721	Investment Management	3
FIN 731	Financial Markets & Institutions	3
MGT 711	General Management	3
MGT 721	Production Management***	3
MGT 726	Management of Technological Innovation	3
MGT 742	Human Resource Management	3
MGT 751	International Business Management***	3
MKT 721	Research Methods in Marketing	3
MKT 731	Marketing for NonProfit Organizations	3
MKT 751	Advertising Management	3
MKT 761	Business Marketing Strategy	3
IMT 707	Industrial Safety	3
IMT 709	Time and Motion Study	3
IMT 765	Operations Research	3
IMT 790	Management Internship	3
BUS 795	Seminar	3
BUS 797	Research Studies in Business	3

*Students who have completed Principles of Economics and Accounting with a B or better grade can be exempted from taking ECO 601 and ACC 601.

**Must include BUS 743 unless it has already been taken at undergraduate level. Approval of the advisor is required.

***One of these must be taken as a core course.

ACCOUNTING COURSES (ACC)

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

ACC 601: SURVEY IN ACCOUNTING (3 credits) This course covers the following topics: accounting cycle, accounting for assets, liabilities and owner's equity, partnership accounting and corporate accounting. (S)

ACC 711: MANAGERIAL ACCOUNTING (3 credits) The use of accounting data for corporate financial planning and control. Topics include organization for control, profit planning, budgeting, relevant costing, return on investment, and administration of controlership functions in business organizations. (Summer)

ACC 721: FINANCIAL ACCOUNTING (3 credits) Introduction to financial accounting theory, the formulation of accounting principles, and the structure of generally accepted accounting principles.

ACC 731: TAX PLANNING AND CONCEPTS (3 credits) This course deals with the broad recognition of the tax effects of business decisions and a practical approach to tax planning for both individuals and corporations. (S)

BUSINESS COURSES (BUS)

BUS 741: BUSINESS LAW (3 credits) The legal aspects of contracts and the results of contractual obligations, negotiable instruments, agency, partnerships, corporations, real and personal property and sales.

BUS 743: BUSINESS, SOCIETY, AND GOVERNMENT (3 credits) A survey of social control of industry and business; the course covers government regulation, consumerism, and the role of technological change in society. (Summer, F)

BUS 771: QUANTITATIVE METHODS (3 credits) Introduces mathematical and statistical techniques that have applications in management. (S)

BUS 795: SEMINAR (3 credits) Seminar in selected theoretical and empirical literature in a functional area (to be designated) of business.

BUS 797: RESEARCH STUDIES IN BUSINESS (3 credits) A special tutorial arrangement between a graduate student and a faculty member that permits guided reading and research in management. The graduate student must submit a proposal to the program coordinator containing an outline and a brief discussion of the planned work and the name of the professor under whom the graduate student wishes to work. The proposal must be approved by the program coordinator and the department chairperson before the graduate student may register for the course. At the end of the term, the supervising professor will submit the graduate student's grade and research paper to the program coordinator.

BUS 799: STRATEGIC MANAGEMENT (3 credits) An integrated course dealing with corporate-level strategic planning and policy from the point of view of chief administrative officers and boards of directors. The case study approach is used. (F and S)

ECONOMICS COURSES (ECO)

ECO 601: SURVEY OF ECONOMICS (3 credits) A one-semester introduction to the principles of economics and their applications to the leading economic problems of society. (F)

ECO 711: MICROECONOMIC ANALYSIS (3 credits) Analysis of the theories of consumer behavior, resource allocation, externalities, production and pricing policies of firms. (Summer)

ECO 712: MACROECONOMIC ANALYSIS (3 Credits) An analysis of the determination of national income, employment and price levels, with discussion of consumption, investment, inflation, government fiscal and monetary policies, international trade, and their relevance to business and industry. (F)

ECO 721: MANAGERIAL ECONOMICS (3 credits) The tools and techniques of economic analysis are used to analyze and solve business and industrial decision-making problems.

ECO 731: ECONOMETRIC METHODS (3 credits) An introduction to statistical estimation in mathematically formulated economic relationships, including the discussion of auto correlation, heteroskedasticity, dummy variables, functional forms, and distribution lags. Computer use is emphasized. (S)

ECO 741: INDUSTRIAL ORGANIZATION (3 credits) An analysis of market structure, its relation to market performance and the problems of public policy; topics include economies of scale, capital requirements, definition, measurement and effects of concentration, market structure, technological change, competition, integration, diversification, merger, oligopolistic behavior and pricing, and a brief look at regulation.

FINANCE COURSES (FIN)

FIN 531: BANK MANAGEMENT (3 credits) Banking environment and an analysis of operational decisions faced by bank managers in the areas of loans, investments, deposit management, and capital management. (S)

FIN 711: FINANCIAL MANAGEMENT (3 credits) An introduction to the role of financial manager in executive decision-making. Topics include valuation models, financial planning, analysis and control, capital budgeting, cost of capital, capital structure, and dividend policy. (F)

FIN 712: ADVANCED FINANCIAL MANAGEMENT (3 credits) Topics include capital markets, common stock, debt and preferred stock financing, lease financing, warrants and convertibles, reorganization and bankruptcy, and international business finance. (S)

FIN 721: INVESTMENT MANAGEMENT (3 credits) Evaluation of debt and equity security alternatives for the use of investment funds and the theory and techniques basic to control of investment risks and optimization of investment returns. (S)

FIN 731: FINANCIAL MARKETS AND INSTITUTIONS (3 credits) Survey of financial markets and institutions and their relationship to the economic process; financial innovations and current topics in financial markets and institutions. (S)

MANAGEMENT COURSES (MGT)

MGT 711: GENERAL MANAGEMENT (3 credits) An analysis of modern complex organizations, with emphasis on those areas of individual and group behavior that are directly relevant to all levels of management. (Summer)

MGT 712: ORGANIZATIONAL BEHAVIOR (3 credits) Focuses on the behavioral science concepts and research findings directed toward the understanding and explanation of human behavior within organizations. Topics covered include individual processes, group processes, organizational processes, work setting and change processes. (F,S)

MGT 721: PRODUCTION MANAGEMENT (3 credits) Problems, techniques, and other topics associated with the management of production in industry. Topics include forecasting, inventory control, scheduling, sequencing, and design of production facilities. (F)

MGT 726: MANAGEMENT OF TECHNOLOGICAL INNOVATION (3 credits) An analysis of management's role in the process of technological innovation. Course emphasizes decision making under a high degree of technological uncertainty.

MGT 731: INDUSTRIAL RELATIONS (3 credits) A survey of the legislation regulating employer employee relations in the United States today and an examination of the relationships between workers and their managers. Special emphasis is given to collective bargaining, wage and hour requirements, equal opportunity regulations, and conflict resolution. (S)

MGT 742: HUMAN RESOURCE MANAGEMENT (3 credits) Theory and practice of personnel management and analysis of personnel problems for managers. Topics include human resource planning, selection, training and development, performance appraisal, compensation administration and equal employment opportunity. (F)

MGT 751: INTERNATIONAL BUSINESS MANAGEMENT (3 credits) The problems and policies of international business enterprise at the management level. Cases in comparative management are utilized. Includes strategies of the firm in international business, structure of the firm in international business, the international environment, restraints on international competition, multinational enterprises, and national institutions. (F, S)

The Business Administration major equips graduates with the skills required for today's business world.

Manderino Library houses an impressive collection of resources as well as a quiet place to study.

MARKETING COURSES (MKT)

MKT 711: MARKETING MANAGEMENT (3 credits) Description and analysis of the nature, strategies, and techniques in marketing management. Includes buyer behavior and segmentation, product development and policy, product pricing, advertising and sales promotion, sales management, strategic marketing, marketing programming, and marketing and society. (S)

MKT 721: RESEARCH METHODS IN MARKETING (3 credits) Examines the process of acquiring, classifying and interpreting primary and secondary marketing data required for intelligent marketing decisions. (S)

MKT 731: MARKETING FOR NON PROFIT ORGANIZATIONS (3 credits) A marketing course designed for MBA students that differentiates between for-profit and not-for-profit organizations, investigates the competitive environment facing non-profits (e.g., hospitals, churches, charities, colleges, and performing arts groups) and applies research techniques and marketing/management tools (product policy, distribution and delivery systems, monetary pricing, and communication strategies) to the non-business entity. (F)

MKT 751: ADVERTISING MANAGEMENT (3 credits) A detailed analysis of the components of the advertising mix, reviewing the components in order to determine selection techniques for appropriate media vehicles for various business advertising demands. The graduate student will analyze and develop a media presentation as a member of an advertising team which will be presented at the end of the term. This process includes basic research, campaign development and media selection. (F, S)

MKT 761: BUSINESS MARKETING STRATEGY (3 credits) This course focuses on the expanded contemporary marketing strategies that are essential for businesses to survive in today's competitive global marketplace. Emphasis will be placed on case studies, group presentations, and class interaction to equip the graduate student with a level of understanding to effectively function with a greater comprehension of business marketing while serving in business management. Prerequisite: MKT 301 (S)

IMT COURSES (IMT)

IMT 707: INDUSTRIAL SAFETY (3 credits) An overview of occupational accident prevention programs, covering the techniques of measurement, associated costs, accident sources, and problems of selective corrective actions.

IMT 709: TIME AND MOTION STUDY (3 credits) An introduction to methods engineering in industry, surveying the methods designed to improve performance of both individuals and groups through motion analysis and principles of motion economy.

IMT 765: OPERATIONS RESEARCH (3 credits) An examination of quantitative methods of decision making in production, marketing, and finance. Topics include inventory, assignment, transportation, and linear programming problems. Deterministic, stochastic, and games theory models are utilized.

IMT 790: MANAGEMENT INTERNSHIP (3 credits) This program involves integration of classroom studies with professional work experience.

Communication

Master of Arts Degree in Communication

Program Coordinators: Richard Helldobler, Fred Lapisardi, J. Drew McGukin

The Master of Arts in Communication provides advanced interdisciplinary study in the communication field and serves as (1) a professionally-oriented terminal masters degree or (2) preparation for advanced graduate study or professional study.

The program is jointly sponsored by the Departments of Communication Studies, English, and Theatre and is administered by a Coordinating Committee and an Advisory Committee consisting of representatives from each sponsoring department.

Admission to the Program

To be admitted to the graduate program in Communication, an applicant must:

1. verify successful completion of a baccalaureate degree;
2. verify an acceptable undergraduate quality-point average;
3. submit scores from the Graduate Record Exams;
4. document any appropriate experience relevant to this program including but not limited to prior course work and professional experience; and
5. provide samples of his or her writing.

Applications will be evaluated by the Coordinating Committee as they are received, and applicants may be admitted to the program at the beginning of the Fall or Spring Semesters or the Summer Sessions.

Structure of the Program

The program of study is divided into (1) a Core, (2) an Emphasis, (3) A Thesis, and (4) Comprehensive Examinations. Thirty six semester credits are required for the degree.

Core: 15 Credits

CMG 800	Introduction to Graduate Study in Communication
CMG 701	Communication Perspectives and Paradigms
CMG 702	Rhetoric and Linguistics
CMG 703	Dramatic Theory and Criticism
CMG 704	Seminar in Communication

Emphasis: 18 Credits

In addition to the core, each student will develop an emphasis as his or her major area of study. A student's emphasis will be designed by the student in consultation with his or her advisor and submitted to the Coordinating Committee as the student's Tentative Degree Plan.

The emphasis for each student must adhere to the following guidelines:

-All graduate level courses designated with the CMG prefix may count toward the degree.

-No more than 12 credits in dual-listed CMG courses may count toward the degree.

-No more than 6 credits of graduate level courses from other departments or institutions may count toward the degree.

-No more than 6 credits of directed study may count toward the degree.

-No more than 6 credits of internship or practica may count toward the degree.

-Compensatory or prerequisite courses taken in preparation for graduate level work will not count toward the Masters degree.

Thesis: 3 Credits

The Thesis can be (1) a systematic investigation of a research problem designed to make an original contribution to the student's field of study (Option 1) or (2) a practical or applied demonstration of the student's mastery of information, skills, procedures, or techniques connection to his or her field of study (Option 2).

Comprehensive Examinations:

Each student will complete comprehensive examinations consisting of a written component and an oral defense designed to test his or her (1) knowledge base, (2) ability to synthesize content, (3) capacity for problem solving, and, (4) ability to effectively communicate orally and in writing.

Comprehensive examinations are administered by the Coordinating Committee.

Tentative Degree Plan and Application for Candidacy

Before a student has completed 12 graduate credits, he or she must submit to the Coordinating Committee a Tentative Degree Plan outlining the Emphasis and Thesis Option. After a student has completed a minimum of 18 credits with a minimum QPA of 3.0 and before completing 27 credits, he or she must submit an application for Admission to Candidacy. Students who fail to submit these documents or who do not receive approval from the Coordinating Committee will not be allowed to register for subsequent courses in this program.

Course Descriptions

CMG 701: COMMUNICATION PERSPECTIVES AND PARADIGMS (3 CREDITS) The intellectual history of the study of human communication from its classical foundations to contemporary perspectives and approaches. Students will explore the development of significant ideas and concepts within the dominant perspectives and paradigms in communication and rhetorical theory. Prerequisite: admission to the Communication Graduate Program or consent of the Coordinating Committee and instructor.

CMG 702: RHETORIC AND LINGUISTICS (3 CREDITS) An introductory course in the underlying assumptions and applications of theories to language and composition, literary studies, cross-disciplinary and cultural studies. Prerequisite: admission to the Communication Graduate Program or consent of the Coordinating Committee and instructor.

CMG 703: DRAMATIC THEORY AND CRITICISM (3 CREDITS) An introduction to dramatic theory and criticism. A seminar with interactive discussion between the students and the instructor. Prerequisite: admission to the Communication Graduate Program or consent of the Coordinating Committee and instructor.

CMG 704: SEMINAR IN COMMUNICATION (3 CREDITS) A capstone seminar that develops and explores themes and issues that reflect the interdisciplinary nature of study in the communication filed. Prerequisite: admission to the Communication Graduate Program or consent of the Coordinating Committee and instructor.

CMG 710: SOCIAL SCIENTIFIC RESEARCH IN COMMUNICATION (3 CREDITS) An introduction to social scientific research and practice in the construction of research that is appropriate to the student's area of interest in communication. Prerequisite: admission to the Communication Graduate Program or consent of the Coordinating Committee and instructor. Dual listed with: COM 481 COMMUNICATION RESEARCH TECHNIQUES

CMG 711: COMMUNICATION THEORY (3 CREDITS) A survey of current theories of human communication this course gives students an opportunity to analyze and evaluate theories and to engage in the development and testing of new theory. Prerequisite: admission to the Communication Graduate Program or consent of the Coordinating Committee and instructor. Dual listed with: COM 490 COMMUNICATION THEORY

CMG 712: COMMUNICATION CRITICISM (3 CREDITS) A study of historical and critical perspectives and methodologies in communication criticism. Analysis of significant texts from a variety of contexts and genres. Prerequisite: admission to the Communication Graduate Program or consent of the Coordinating Committee and instructor. Dual listed with: COM 460 SPEECH CRITICISM

CMG 713: PUBLIC RELATIONS CAMPAIGNS (3 CREDITS) This course seeks to integrate all the skills required of the professional in designing and executing a complete public relations campaign. This is a seminar in which team and group efforts, rather than individual productivity, are emphasized. Prerequisite: admission to the Communication Graduate Program or consent of the Coordinating Committee and instructor. Dual listed with: COM 483 PUBLIC RELATIONS CASES, PROBLEMS, AND CAMPAIGNS.

CMG 714: MASS MEDIA AND SOCIETY (3 CREDITS) An examination of the ways current mass media systems enhance and undermine the the kinds of communication necessary for an open and democratic society. It provides an advanced orientation to the history, theory and process of mass communication. Particular emphasis is given to the relationships among various media and their audiences, media law and ethics, media and politics, media effects, and emerging trends and their implications for society. Prerequisite: COM 105 or consent of the instructor. Dual listed with: COM 445 RADIO AND TELEVISION IN A FREE SOCIETY

CMG 715: INTERNATIONAL BROADCAST SYSTEMS (3 CREDITS) International broadcasting presents 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 and COM 105. Dual listed with: COM 401 INTERNATIONAL BROADCASTING SYSTEMS.

CMG 716: PROFESSIONAL VIDEO COMMUNICATION (3 CREDITS) Professional Video Communication presents to the student the field of business and institutional video. It prepares the student to function as a corporate writer, producer, director, and editor of desktop videos, video press releases, video conferences, training tapes and other business and institutional videos. Prerequisites: COM 100, COM 105 and COM 355. Dual listed with: COM 410 PROFESSIONAL VIDEO COMMUNICATION.

CMG 721: SEMINAR IN INTERPERSONAL COMMUNICATION (3 CREDITS) An examination of current theory and research in interpersonal communication from dfferent perspectives with an emphasis on students conducting basic and applied research in a variety of interpersonal arenas such as personal relationships, families, superior/subordinate relationships, etc. Prerequisite: admission to the Communication Graduate Program or consent of the instructor.

CMG 722: SEMINAR IN ORGANIZATIONAL COMMUNICATION (3 CREDITS) An examination of current theory and research in organizational communication with an emphasis on key organizational variables such as the influence of internal and external communication networks on organizational activities, and the development and management of organizational culture and climate. Applications to research and interventions in actual organizations will be included in the course. Prerequisite: admission to the Communication Graduate Program or consent of the instructor.

CMG 723: SEMINAR IN PUBLIC RELATIONS (3 CREDITS) This course surveys theory and research related to a variety of topics such as issues management, public opinion processes, persuasion, and social movements as these influence public relations activities. Students will complete research projects that focus on the application of theory to actual public relations campaigns and activities. Prerequisite: admission to the Communication Graduate Program or consent of the instructor.

CMG 724: SEMINAR IN INSTRUCTIONAL COMMUNICATION (3 CREDITS) This course surveys current theory and research on Instructional Communication regarding the nature and role of communication in instructional contexts. Students will be expected to be educated consumers and producers of research on the relationships among communication, learning, and instruction. Prerequisite: admission to the Communication Graduate Program or consent of the instructor.

CMG 725: LANGUAGE AND SOCIAL INFLUENCE (3 CREDITS) The focus of the course will be on the influence of language on social, behavioral, and epistemic practices in contemporary society. Case analysis of the role language has played in framing or influencing understandings and actions in different contexts and situations will be a dominant feature of the course. Students will develop specific applications of current theory on the influence of language to areas such as public relations, advertising, political communication, popular culture, and the media. Prerequisite: admission to the Communication Graduate Program or consent of the Instructor.

CMG 726: PRODUCTION THEORY AND PRACTICE (3 CREDITS) An examination of a variety of topics which relate to the artist's production choices. These might include: the nature of the text and signification of visual media, modes and other issues of narrative, genre, ethics, aesthetics, creativity; and the individual artists role in a collaboration process. The course should remain flexible and not be defined as a production course; the student would be free to choose either a video production or a paper as a course project. Prerequisite: admission to the Communication Graduate Program or consent of the Instructor.

CMG 727: SEMINAR IN MASS COMMUNICATION (3 CREDITS) An examination of contemporary topics in mass communication that focus on the developments and trends in mass communication theory and research, legal and ethical issues associated with the media, technological developments, and the influence of current social and political events on the media industry. Prerequisite: admission to the Communication Graduate Program or consent of the instructor.

CMG 728: MASS MEDIA THEORY AND CRITICISM (3 CREDITS) An examination of the critical traditions in mass media analysis, with emphasis placed on outside influences (for example: art, literary criticism, psychology, sociology) as well as on the ideas and critical practices originating from within the disciplines. Special attention would be given to areas of conjunction and conflict among the various disciplines that contribute to an understanding of mass media. Prerequisites: Admission to the Communication Graduate Program or consent of the Instructor.

CMG 730: STUDIES IN WRITING (3 CREDITS) This is a course on writing about writing. Students will read books and essays by professional writers discussing their ideas concerning craft, reviewing work by their peers, considering work within their genre and, in general, providing a definition of what it means to be a writer. This is also a writing course where students will be asked to experiment with different styles and approaches to their own poetry, fiction, non-fiction, or drama. Prerequisite: admission to the Communication Graduate Program or consent of the Instructor. Dual listed with: ENG 352 STUDIES IN WRITING

CMG 731: NEWSPAPER REPORTING (3 CREDITS) Newspaper Reporting is a professional-level course designed to acquaint students with basic newsroom procedures and instruct them through practical exercises in the basic techniques of reporting for a daily newspaper. Prerequisites: Journalism I and II. Dual listed with: ENG 334 NEWSWRITING

CMG 732: PUBLISHING THE MAGAZINE (3 CREDITS) Students in this course publish a magazine, *Flipside*. They contribute works of literature and reportage, illustrate them with original work or with photographs, solicit contributors, finance the magazine through advertising and establish editorial policy. Prerequisite: admission to the Communication Graduate Program or consent of the Instructor. Dual Listed with: ENG 351 PUBLISHING THE MAGAZINE

CMG 733: PRESS LAW AND ETHICS (3 CREDITS) 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. Prerequisite: admission to the Communication Graduate Program or consent of the Instructor. Dual Listed with: ENG 306 PRESS LAW AND ETHICS

CMG 734: WRITING FOR PUBLICATION (3 CREDITS) Upgrade publication to local, regional and national newspapers and magazines through the application of proven methods of market analysis, magazine selection, editorial queries, and topical research for multiple article development. Students review copyright, tax, and contract laws and learn how to set up proper records so they can approach writing as a business. Prerequisites: Students should have equivalent course work or experience in the field. Dual listed with: ENG 496 WRITING FOR PUBLICATION

CMG 735: ADVERTISING (3 CREDITS) An introduction to marketing theories, behavior patterns, and techniques of advertising campaigns: copywriting, layout and production of advertising through working for an actual client. Prerequisites: ENG 101, 102, and at least one journalism course, or the permission of the instructor. Dual listed with: ENG 437 ADVERTISING

CMG 736: COPYWRITING (3 CREDITS) This course focuses on the craft of copywriting for print, radio and television. Principles of advertising and writing print ads will be reviewed, radio and television copywriting will be studied and practiced, and preparing a total promotional campaign will be studied and applied to real situations, both on and off campus. Prerequisite: Advertising or permission of the instructor based on successful completion of other writing courses. Dual listed with: ENG 401 COPYWRITING

CMG 737: SEMINAR IN CREATIVE WRITING (3 CREDITS) The course will help students develop the habits of a professional writer, e.g., writing regularly; writing with discernment; and writing with an eye toward getting work into print. The professor will provide detailed critiques of student manuscripts. Prerequisite: Admission to the Communication Graduate Program or consent of the instructor. Dual listed with: ENG 495 CREATIVE WRITING SEMINAR

CMG 738: ADAPTATION OF LITERARY MATERIALS (3 CREDITS) Through reading and writing of assignments, lectures, class and individual criticism, and, whenever possible, actual production, the student learns the mechanics of adapting fiction, narrative poetry, and plays to media other than those envisioned by the original author. Prerequisite: admission to the Communication Graduate Program or consent of the instructor. Dual listed with: ENG 430 ADAPTATIONS OF LITERARY MATERIAL

CMG 740: SEMINAR IN PROFESSIONAL WRITING THEORY AND PRACTICE: NON-FICTION/CREATIVE (3 CREDITS) A course for seasoned professional writers to improve skills and publication record and to establish successful marketing and writing habits. Prerequisite: course work in article writing, journalism, or creative writing depending on field selected, and/or experience in that field. Publication is recommended. Familiarity with at least one word processing system is essential.

CMG 741: SEMINAR IN TEACHING PROFESSIONAL WRITING (3 CREDITS) This course is designed to help prepare graduate professional writing majors for the classroom. Students will become familiar with various techniques and approaches to teaching professional writing. Prerequisite: admission to the Communication Graduate Program or consent of the instructor.

CMG 742: ADVERTISING WORKSHOP (3 CREDITS) An advanced workshop for people seriously interested in advertising as a profession, this course offers students the opportunity to work under controlled agency conditions with actual clients. A prior knowledge of marketing and advertising theory is essential. Prerequisites: Advertising, Copywriting, and/or experience.

CMG 743: SEMINAR IN STYLE (3 CREDITS) This course is a comprehensive investigation of the matter of style, its definition, history and components. Students will be introduced to, and will be expected to conduct analyses of, the following elements of style: diction, metaphor, symbolism, allusion, point of view, sentence (type, length, arrangement, rhythm), irony, and tone. The course concludes with the students own stylistic self-analyses. Prerequisites: students should have a working knowledge of grammar, professional experience or undergraduate course work in English or professional writing and, if possible, prior publication.

CMG 744: RHETORIC FOR WRITERS (3 CREDITS) An introductory course in theoretical, historical, and technical rhetoric, particularly the theory and practice of social, literary, political and pedagogical aspects of rhetoric and writing. Prerequisite: admission to the Communication Graduate Program or consent of the instructor.

CMG 750: STAGE PRODUCTION (3 CREDITS) Advanced practice and principles of scenery and property construction. Practical experience with plastics, metals, drafting and advanced woodwork is stressed. Prerequisite: LIGHTING I or consent of the instructor. Dual listed with: THE 341 STAGECRAFT II.

CMG 751: LIGHTING FOR THE STAGE (3 CREDITS) Advanced theory and practice of lighting design for stage and television. Practical experience is stressed. Prerequisites: LIGHTING I or the consent of the instructor. Dual listed with: THE 304 LIGHTING II.

CMG 752: HISTORY OF COSTUME (3 CREDITS) A survey of the history of costume in the western world. Prerequisite: admission to the Communication Graduate Program or consent of the instructor. Dual listed with: THE 308 HISTORY OF COSTUME.

CMG 753: TOPICS IN THEATRE HISTORY I (3 CREDITS) The development of theatre from its origins to the Baroque, including representative plays. Prerequisite: admission to the Communication Graduate Program or consent of the instructor. Dual listed with: THE 302 HISTORY OF THEATRE I.

CMG 754: TOPICS IN THEATRE HISTORY II (3 CREDITS) The development of theatre from the 18th century to present, including representative plays. Prerequisite: admission to the Communication Graduate Program or Consent of the instructor. Dual listed with: THE 312 HISTORY OF THEATRE II.

CMG 755: TOPICS IN AMERICAN THEATRE HISTORY (3 CREDITS) The history of American theatre from Colonial times to present, including representative plays. Prerequisite: admission to the Communication Graduate Program or consent of the instructor. Dual listed with: THE 303 AMERICAN THEATRE HISTORY

CMG 756: READER'S THEATRE (3 CREDITS) The principles and practices of a group organizing and presenting literature in primarily acoustic methods. Prerequisite: admission to the Communication Graduate Program or consent of the instructor. Dual listed with: THE 309 READER'S THEATRE

CMG 757: SHAKESPEARE ON STAGE (3 CREDITS) Representative histories, comedies and tragedies, studied as blueprints for theatrical presentation. Prerequisite: admission to the Communication Graduate Program or consent of the instructor. Dual listed with: THE 305 SHAKESPEARE IN THE THEATRE

CMG 758: TOPICS IN WORLD DRAMA (3 CREDITS) Classic to 19th century plays, excluding Shakespeare, studied as blueprints for theatrical presentation. Prerequisite: admission to the Communication Graduate Program or consent of the instructor. Dual listed with: THE 304 WORLD DRAMA

CMG 759: TOPICS IN MODERN DRAMA (3 CREDITS) 19th and 20th century plays studied as blueprints for theatrical presentation. Prerequisite: admission to the Communication Graduate Program or consent of the instructor. Dual listed with: THE 306 MODERN DRAMA

CMG 760: SCENOGRAPHIC DESIGN (3 CREDITS) Advance theory and practice of designing scenery and lighting with emphasis on designing for various environments. Prerequisite: SCENE AND LIGHT DESIGN I or the consent of the instructor. Dual listed with: THE 371 SCENE DESIGN II

CMG 761: COSTUME DESIGN (3 CREDITS) Basic principles of costume design. Students complete various design projects for specific plays selected from a variety of historical periods. Prerequisite: admission to the Communication Graduate Program or consent of the instructor. Dual listed with: THE 325 COSTUME DESIGN

CMG 762: ADVANCED ACTING (3 CREDITS) 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: INTERMEDIATE ACTING or consent of the instructor. Dual listed with: THE 331 ADVANCED ACTING

CMG 763: SUMMER THEATRE PRACTICUM (VARIABLE) Provides the student with practical experience in the theatre arts. This course is designed for the practicing teacher who desires more training in the practical aspects of production. This student will receive assignments in acting, management, directing, technical, and/or design. Prerequisite: admission to the Communication Graduate Program or consent of the instructor. Dual listed with THE 358 SUMMER THEATRE PRACTICUM

CMG 768: PERFORMANCE AESTHETICS (3 CREDITS) An introduction to the science of aesthetics. This course will include the evolution of the field and the application of the science to selected works of performance art. Prerequisite: admission to the Communication Graduate Program or consent of the instructor.

CMG 769: CONTEMPORARY ISSUES IN THEATRE (3 CREDITS) A course exploring current trends in the United States and Europe covering theatre and related fields. It will involve the study of play scripts, direction, acting, design, and technology. Prerequisite: admission to the Communication Graduate Program or consent of the instructor.

CMG 770: DIRECTED STUDY IN COMMUNICATION (VARIABLE UP TO 6 CREDITS) The student will work with a faculty member on a special project designed to enhance the student's understanding of a topic area not covered in another graduate level course. Prior to registering for directed study credit, the student will develop a learning contract in consultation with the faculty member directing the study. The contract must be approved by the student's advisor and the Coordinating Committee prior to registration for directed study credit. Prerequisites: admission to the Communication Graduate Program and permission of the Coordinating Committee, the student's advisor, and the instructor.

CMG 771: COMMUNICATION INTERNSHIP (VARIABLE UP TO 6 CREDITS) The student will complete assigned duties related to his or her interest area in communication and commensurate with graduate level work in an organization under the guidance of a faculty supervisor and on-site supervisor. Prior to registering for internship credit the student will develop a learning contract in consultation with the faculty supervisor and on-site supervisor. The contract must be approved by the Coordinating Committee prior to registration for internship credit. Prerequisites: admission to the Communication Graduate Program and permission of the student's advisor and Coordinating Committee.

Communication majors gain valuable experience by working at Cal U's radio and television stations.

CMG 800: INTRODUCTION TO GRADUATE STUDY IN COMMUNICATION (3 CREDITS) This course provided an introduction to the study of communication and to research methodology and methods from the social sciences and humanities that contribute to understanding communication. The interdisciplinary nature of communication research must be emphasized as the course prepares students for graduate study. The nature of the course as an introductory survey of research in the Communication field does not preclude students completing additional credits in research methods courses within their programs of study. Prerequisite: admission to the Communication Graduate Program or permission of the Coordinating Committee and the instructor.

CMG 890: RESEARCH PROJECT (3 CREDITS) The student will conduct an independent study of a significant topic under the guidance of an advisor. The topic may have either a basic or an applied research focus. The final report on the project will be presented as a written document that conforms to the most recent version of the Modern Language Association style or the American Psychological Association style. Prerequisites: admission to the Communication Graduate Program and permission of the Coordinating Committee and the student's advisor.

CMG 891: THESIS (3 CREDITS) The student will conduct an independent, original study or application of a significant topic under the guidance of an advisor and committee. The thesis will be presented as a written document that conforms to the most recent version of the American Language Association style or the American Psychological Association style. Prerequisites: admission to the Communication Graduate Program and permission of the Coordinating Committee and the student's advisor.

Communication Disorders

Graduate Faculty: Professors Barbara Bonfanti, R. Michael Feldman, Charles A. Gismondi, D. Frank McPherson, Richard R. Nemec, Albert E. Yates

If you would like further information about these programs, phone or write the Department of Communication Disorders, California University of Pennsylvania, 250 University Avenue, California PA 15419-1394, (412) 938-4175, or the School of Graduate Studies, (412) 938-4187.

The Master of Science degree in the Speech/Language Pathology program is intended for post-baccalaureate students who are seeking specialized training in this discipline. It is fashioned for those interested individuals who are preparing to become certified by the American Speech, Language and Hearing Association, as well as for those who wish to become more proficient speech-language pathologists.

The department of Communication Disorders (CMD) is located in the modern Learning Research Center. The facilities lend themselves to ample space for study, clinical therapy, and research.

Consideration for admission to the graduate program in CMD requires the bachelor's degree and the completion of an undergraduate program in CMD/speech-language pathology (such as the undergraduate program at California University). A minimum 3.0 (overall and in the major) GPA is necessary for consideration of the applicant for admission to the graduate program. All applicants must submit official Graduate Record Examination Scores and three letters of recommendation from their undergraduate professors to be considered for admission.

Admission to the Communication Disorders Program is competitive, and only a limited number of students are selected for admission. The Communication Disorders Department has fall admission only.

Students who wish to continue in the graduate program in CMD must maintain a 3.0 or better GPA and must receive satisfactory evaluations from their practica supervisors.

A total of 42 graduate credit hours is required for the Master of Science degree in Speech/Language Pathology. Students who choose a research option (Research Project or Thesis) will have two credit hours (Research Project) or four credit hours (Thesis) applied toward their total number of credits for the Master's Degree.

Curriculum

CMD 600	Research and Professional Practice in Speech/Language Pathology*	3
CMD 701	Language Disorders in Adults*	3
CMD 702	Language Disorders in Children*	3
CMD 703	Fluency*	3
CMD 704	Articulation Disorders*	3
CMD 705	Voice Disorders*	3
CMD 708	Neurology*	3
CMD 710	Advanced Clinical Methods***	6-12
CMD 718	Advanced Audiology	3
CMD 725	Aural Rehabilitation	3
CMD 762	Non-Vocal Communication	3
CMD 763	Communication Problems of Special Groups	3
CMD 764	Instrumentation	3
CMD 765	Dysphagia	3
CMD 766	Traumatic Brain Injury	3
EDP 600	Statistical Methods **	3
RES 829	Research Project	2
RES 849	Master's Thesis	4

Total credits for graduation — 42

* Required.

** Required if not taken by student at undergraduate level.

*** Only 6 credits may be counted toward the degree.

COMMUNICATION DISORDERS COURSES (CMD)

CMD 600: RESEARCH AND PROFESSIONAL PRACTICE IN SPEECH/LANGUAGE PATHOLOGY. (3 credits) This course is designed to give the graduate student an opportunity to examine the total field of Speech Pathology and Audiology and its relationship with allied professions. Special attention is focused on research in the profession and on the ethical, clinical, and legal aspects of membership in the American Speech, Language and Hearing Association.

CMD 701: LANGUAGE DISORDERS IN ADULTS. (3 credits) The purpose of this course is to prepare the student to provide assessment techniques and therapy to manage the language and speech problems of individuals who have suffered stroke or head-trauma injuries. Special emphasis is placed on apraxia.

CMD 702: LANGUAGE DISORDERS IN CHILDREN. (3 credits) The study of language disorders in children from a language content, language form, and language use orientation. Students learn to obtain and analyze a language sample and to plan for remediation of language disorders in children.

CMD 703: FLUENCY DISORDERS. (3 credits) A comprehensive analysis of the several theoretical approaches to the causes and treatment of stuttering. Emphasis is placed on current literature in the application of several techniques to the modification of disfluent speech.

CMD 704: ARTICULATION DISORDERS. (3 credits) This course will provide the graduate student with traditional views toward articulation and phonology disorders and their assessment and treatment. Current management and assessment procedures will be presented.

CMD 705: VOICE DISORDERS. (3 credits) The purpose of this course is to provide comprehensive academic and clinical training in the etiological factors, description, and management of organic voice disorders. The teaching of esophageal speech, the use of the artificial larynx, and the study of tracheo-esophageal practice are covered in detail.

CMD 708: NEUROLOGY. (3 credits) The graduate student becomes familiar with those structures and functions of the central and peripheral nervous systems which appear relevant to the comprehension and production of speech and language. Brain asymmetry in normal and brain-damaged persons, left- and right-hemisphere language abilities in split-brain patients, handedness as it relates to speech and language functioning, brain asymmetry due to gender differences, disruption of language functions after brain injury, the efects of aging and stress, and neurologic endowment are all discussed. The central theme of this course is brain "governance" over all other body systems.

CMD 710: ADVANCED CLINICAL METHODS. (1-12 credits) Clinical practicum is provided for graduate students in the campus Speech Clinic as well as in cooperating outside agencies such as a hospital, nursing home, health center, etc. Graduate students gain experience with children and adults with many kinds of speech, language, and auditory problems.

CMD 718: ADVANCED AUDIOLOGY. (3 credits) This course will provide the student with an understanding of behavioral and electrophysiologic special audiologic tests for the determination of the location of pathology within the auditory system. The student will be introduced to concepts concerning specification, selection, fitting, care, and use of amplification systems.

CMD 725: AURAL REHABILITATION. (3 credits) The purpose of this course is to identify the problems of the aurally handicapped in society and methods of alleviation and compensation for the hearing loss.

CMD 749: INDEPENDENT STUDY. (3 credits) This course allows students to investigate an area of speech pathology or audiology of interest to them by reviewing the pertinent literature and research reports or by conducting research.

CMD 762: NONVOCAL COMMUNICATION. (3 credits) The various modes of nonvocal communication are presented. Information specific to selection of the most advantageous method (or combination of methods) for implementation with clients is considered.

CMD 763: COMMUNICATION PROBLEMS OF SPECIAL GROUPS. (3 credits) This course will focus on the difference in speech/language of non-native and non-standard users of English, with attention given to assessing when and what types of intervention are ethically and professionally appropriate. The changes in structure and function which accompany aging and their effects upon speech and language functions of the elderly are examined.

CMD 764: INSTRUMENTATION IN SPEECH/ LANGUAGE PATHOLOGY. (3 credits) This course is designed to provide the graduate student with a background in the clinical use of instrumentation. Students will learn how instrumentation has been and can be used to measure various parameters of the speech signal and how these measurements can be employed in the assessment and management of individuals with Speech-Language Disorders. Emphasis is on PC-based instrumentation.

CMD 765: DYSPHAGIA. (3 credits) This course addresses the evaluation and management of children and adults with disordered swallowing secondary to neurologic and structural abnormalities. The relationship of dysphagia to speech disorders is discussed.

CMD 766: TRAUMATIC BRAIN INJURY. (3 credits) The primary purpose of this course is to organize and understand the explosions of information related to the medical, communication and psychosocial aspects of traumatic brain injury (TBI). When possible and practical, practitioners from rehabilitation agencies will supplement the instructor's lectures.

CMD 785: SEMINAR IN SPEECH PATHOLOGY. (3 credits) The role of the speech-language pathologist as a diagnostician and interventionist in disciplinary and interdisciplinary investigations, including counseling procedures, and organization of programs for various pathologies of speech and language are considered.

Counselor Education

Graduate Faculty: Professors Robert A. Brown, Shirley A. Little, F. Mel Madden, William G. Parnell

If you would like further information about any of these programs, call or write the Department of Counselor Education, California University of Pennsylvania, 250 University Avenue, California PA 15419-1394 (412) 938-4123, or the Graduate School, at (412) 938-4187.

The Department of Counselor Education offers graduate programs leading to (1) the Master of Education degree and certification as either an elementary- or secondary-school guidance counselor; (2) a Master of Science degree with specialization in Community Agency Counseling; (3) a Master of Science Degree with specialization in Business and Industry Counseling; (4) Certification as an elementary- or secondary-school counselor; (5) a cooperative program with the Pittsburgh Pastoral Institute that leads to eligibility as a Pastoral Counselor.

Admission to the Programs

Besides meeting the general requirements for admission into the Graduate School, the prospective graduate student in the guidance programs must also:

(1) have a 3.0 undergraduate quality-point average, or a score of 45 on the Miller Analogies Test;

(2) have earned 36 quality points in psychology or a related field; and

(3) submit, in typewritten form, the following three kinds of documents: (a) three letters of recommendation; (b) a 1,000-word psychobiography, and (c) a one-page résumé of work and education. (See *CED Student Handbook* for details).

Graduate students may not register for more than nine Counselor Education (CED) credits before admission to the department for any of the programs offered.

Within the first 12 hours the graduate student must have successfully completed CED 701 Organization and Administration of Counseling Services, CED 702 Counseling Theory, and CED 714 Experiential Group Process.

Candidacy is determined by a majority of the faculty of the program; a meeting with the faculty may be required of the candidate.

Practicum Requirements

The Department of Counselor Education requires a minimum of two days per week for a fifteen week term of professional experience at a field site appropriate to the graduate student's program and career goals. Customarily, this assignment will be during the hours of the normal working day. Only grades of A or B in practicum will be counted towards successful completion of the Master's degree.

Elementary and Secondary Guidance students must do practicum at the grade levels appropriate for their certification. Time adjustments may be made for those holding current Pennsylvania school certifications.

Comprehensive Examinations

In order to achieve certification, a graduate student must satisfactorily pass each part of a two-part examination and be recommended by a majority of the department faculty. Consequently, a graduate student pursuing a program in Elementary or Secondary Guidance may receive a Master of Education degree but not necessarily obtain certification.

Details concerning the comprehensive examination and other procedures are available in the *CED Student Handbook.*

The National Board of Certified Counselors currently recognizes courses taught in the Counselor Education Department for continuing education credits.

Master of Education Degree and Certification in Elementary Guidance

Curriculum: Minimum of 43 credits
(An asterisk indicates a required course.)

Area I (Core Courses): 26 credits

*CED 701	Organization and Administration of Counseling Services	3
*CED 702	Counseling Theory	3
*CED 714	Experiential Group Processes	2
*CED 705	Developmental Group Counseling	3
*CED 710	Counseling Skills & Techniques	3
*CED 786	Seminar in Career Information	3
*CED 703	Consulting Theory	3

*CED 711	Practicum I	3
*CED 712	Practicum II	3

Area II: Historical and Philosophical Foundations: 2 credits required

EDP 605	Philosophy of Education	2
ADP 731	School Law	2

Area III: Psychological Foundations: 9 credits required

*ESP 501	Introduction to Exceptionality	3
*PSY 721	Advanced Tests and Measurements	3
*GEE 525	Community Problems of Health and Safety	3

Area IV: Research: 6 credits required

*EDP 600	Statistical Methods	2
*RES 800	Methods of Research	2
*RES 829	Research Project	2

Master of Education Degree and Certification in Secondary Guidance

This program is for those who intend to counsel students in middle-junior-high or high-school, grades 7 through 12.

Curriculum: Minimum of 43 credits

(An asterisk indicates a required course.)

Area I (Core Courses): 26 credits

*CED 701	Organization and Administration of Counseling Services	3
*CED 714	Experiential Group Processes	2
*CED 710	Counseling Skills and Techniques	3
*CED 702	Counseling Theory	3
*CED 705	Developmental Group Counseling	3
*CED 786	Seminar in Career Information	3
*CED 703	Consulting Theory	3
*CED 711	Practicum I	3
*CED 712	Practicum II	3

Area II: Historical and Philosophical Foundations: 2 credits required

EDP 606	General History of Education	2
ADP 731	School Law	2

Area III: Psychological Foundations: 9 credits required

GEE 525	Community Problems of Health and Safety	3
*CED 708	Substance Abuse and Addiction	3
*EDP 700	Introduction to Exceptionality	3
*PSY 721	Advanced Tests and Measurements	3

Area IV: Research: at least 6 credits required

*EDP 600	Statistical Methods	2
*RES 800	Methods of Research	2
*RES 829	Research Project	2

Master of Science Degree in Community Agency Counseling

This program is intended for those who desire a professional position in agencies that provide care within the community. Such agencies provide services to the infirm, the handicapped, the aged, the incarcerated, the chemically dependent, and the family.

Curriculum: Minimum of 45 credits

(An asterisk indicates a required course.)

Area I (Core courses): 29 credits

*CED 701	Organization and Administration of Counseling Services	3
*CED 702	Counseling Theory	3
*CED 714	Experiential Group Process	2
*CED 710	Counseling Skills & Techniques	3
*CED 705	Developmental Group Counseling	3
*CED 708	Substance Abuse & Addiction	3
*CED 786	Seminar in Career Information	3
*CED 703	Consulting Theory	3
*CED 711	Practicum I	3
*CED 712	Practicum II	3

Area II: Foundations: 3 credits required

*GEE 525	Community Problems of Health and Safety	3

Area III: Psychological Foundations: 9 credits required

*CED 717	Diagnosis and Treatment in Mental Health	3
*PSY 721	Advanced Tests and Measurements	3
*	(one elective)	3

Area IV Research: 4 credits required

*EDP 600	Statistical Methods	2
*RES 800	Methods of Research	2

Master of Science Degree in Business and Industry Counseling

(admission to this program is curently on hold)

This program is intended for those who desire a professional position in business and industry. These persons will serve as Employee Assistance Program directors or counselors dealing with problems that concern all personnel in business or industry. Alcohol and drug abuse treatment are given special consideration in this program.

Curriculum: Minimum of 46 credits
(An asterisk indicates a required course.)

Area I (Core courses): 26 credits

*CED 704	Introduction to EAP Services	3
*CED 702	Counseling Theory	3
*CED 714	Experiential Group Process	2
*CED 705	Developmental Group Counseling	3
*CED 786	Seminar in Career Information	3
*CED 710	Counseling Skills and Techniques	3
*CED 703	Consulting Theory	3
*CED 718	Internship I	3
*CED 719	Internship II	3

Area II: Mental Health: 9 credits

*GEE 525	Community Problems of Health and Safety	3
*CED 717	Diagnosis and Treatment in Mental Health Counseling	3
*CED 708	Substance Abuse and Addiction	3

Area III: Organization and Management: 6 credits

*MGT 742	Human Resource Management	3
*MGT 731	Industrial Relations	3

Area IV: Research and Assessment: 5 credits required

*RES 800	Methods of Research	2
*PSY 721	Advanced Tests and Measurements	3

Cooperative Program: Pastoral Counseling Certification

In cooperation with the Pittsburgh Pastoral Institute, California University offers courses that lead to certification in Pastoral Counseling. You may obtain further information about this program from the Director of the Pittsburgh Pastoral Institute or from the department chairperson at California.

COUNSELOR COURSES (CED)

The plus sign (+) indicates introductory courses.

+CED 701: ORGANIZATION AND DEVELOPMENT OF COUNSELING SERVICES (3 credits) This course is the initial and fundamental one in the programs for school and agency counselors. It examines the rationale, development, scope and nature of American counseling services in these aspects: history and current stage of development; systems of organization and administration; implementation of services; professional qualification and preparation; legal and ethical responsibilities; non-standardized assessment; records maintenance; public relations; and future trends.

+CED 702: COUNSELING THEORY (3 credits) This course deals with theories, objectives, principles, and practices of counseling individuals, including children and the family. These theories are applicable in schools and other human-service institutions.

CED 703: CONSULTING THEORY (3 credits) This course is an advanced level course and has theoretical and practical components. In the theoretical component process consultation is highlighted as an applied behavioral science. Emphasis is placed on the levels of environmental quality within an organization. Specific human processes of inclusion, membership, leadership, control, communication and problem-solving are stressed. The practical component deals with initial contact, organizational diagnosis, process intervention, evaluating progress and closure. Prerequisites: CED 701, 702, 710, 714.

+CED 704: INTRODUCTION TO EMPLOYEE ASSISTANCE PROGRAM SERVICE (3 credits) This initial and fundamental course in the Master's program for business and industry counselors focuses on the rationale, development, scope, and nature of business and industry counseling services in the following aspects: history and current status; patterns of organization; problems and issues; qualifications, preparation, and roles of counselors in providing services such as administration, resources, needs assessment, records, and communication; the legal and ethical responsibilities; and future trends.

CED 705: DEVELOPMENTAL GROUP COUNSELING (3 credits) This course includes the meaning, function, types, and principles of the group approach to counseling; the dynamics of group interaction; leadership; role playing; personal development in groups; and the influence of the group processes on individual development. Prerequisite: CED 702 or permission of instructor.

+CED 708: SUBSTANCE ABUSE AND ADDICTION (3 credits) For graduate students interested in alcohol and other drug rehabilitation and prevention. Since substance abuse and addiction are present in all sectors of society, it is important for human service professionals to understand the process of addiction and the special problems experienced by the affected individuals and their significant others.

CED 709: INDEPENDENT STUDY (Variable credit) The graduate student will have an opportunity to do independent study or research in counseling. The graduate student is guided by a member of the faculty in Counselor Education. (By permission of the adviser.)

CED 710: COUNSELING SKILLS AND TECHNIQUES (3 credits) Graduate students develop counseling skills by learning and practicing therapeutic techniques that facilitate the learning process. In a laboratory setting, the students experience personally the elements that constitute effective counseling. They learn the importance of non-verbal behavior in a counseling setting and the skills of attending, active listening, and action planning. Likewise, they are required to explore the uses of audio and video equipment in counseling situations and to integrate these tools with currently employed behavioral interventions such as role playing, social atoms, structured exercises, and simulations. Prerequisites: CED 701,702, 714.

CED 711: PRACTICUM I (3 credits) In this course the student develops effective helping skills and techniques using one or more recognized counseling theories. To achieve this goal, the graduate student spends two full days per week in the field under the supervision of an experienced counselor and also attends regularly scheduled classes. A list of counseling competencies to be developed may be obtained from the Counselor Education Department. Prerequisites: CED 701, 702, 714, 710, candidacy.

CED 712: PRACTICUM II (3 credits) A continuation of Practicum I (CED 711), with emphasis on group counseling. Graduate students in this course are required to spend two full days per week under supervision and to attend regularly scheduled classes. Prerequisites: all core courses or departmental approval.

CED 713: PRACTICUM III (3 credits) A continuation of CED 712, this course serves as a culmination of practicum experiences. The course is flexible, so that it may meet individual needs of counselor trainees with varying degrees of skills while ensuring the maximum standards of competence in counseling. Prerequisite: CED 712.

+CED 714: EXPERIENTIAL GROUP PROCESSES (2 credits) This course provides a setting for graduate students to grow in self-awareness and to explore their interpersonal and intrapersonal concerns. Emphasis is placed on personal and social growth, improving human relationships, diminishing human distress, improving communications, problem-solving, and group membership interaction. The students are given the opportunity to view and assess their behavior by use of audio and/or video tapes of group process.

CED 715: ADVANCED COUNSELING THEORY (3 credits) The initial phase of this course reviews the theories and the role they play in the counseling process. The second phase deals with building around the various theoretical approaches to counseling. Counseling approaches that are considered include: (1) rationale, (2) learning theory, (3) analytic, (4) phenomenological, and (5) existential. The final aspect of the course involves graduate students attempting to incorporate a counseling approach into their own personality and making an attempt to use this approach through role playing. Prerequisite: instructor approval.

CED 716: ADVANCED CONSULTING THEORY (3 credits) A continuation of CED 703, in which students function as process consultants in a consulting project. Students draw up a consulting contact with an actual client or client system, collect and analyze data using contemporary consulting techniques, perform an agreed-upon intervention in the client system, and make a final evaluation of the project. Prerequisite: instructor approval.

CED 717: DIAGNOSIS AND TREATMENT IN MENTAL HEALTH (3 credits) The use and understanding of treatment terminology and concepts as used by mental health treatment centers and clinicians. Use of the Diagnostic and Statistical Manual-III and American Psychological Association codes are emphasized.

CED 718: INTERNSHIP I (3 credits) An integration of all concepts of the B&I program with student's strengths as he/she begins to function as an EAP professional. Internship to be served in a residential care facility for treatment of drug and alcohol addiction. The student shall become familiar with treatment modalities from assessment through after-care planning. Prerequisites: CED 702, 704, 708, 710, 714, 717, candidacy.

CED 719: INTERNSHIP II (3 credits) Experience in a functioning employee assistance program. Internship must be served at approved in-house EAP site. Student shall become involved as permitted in the daily functions of the EAP. Functions shall include, but not be limited to, EAP policy review, benefits programs, client intake and assessment, and the EAP's role as counselor, consultant, referrer and follow up professional. Prerequisites: all core courses.

CED 785: RESEARCH SEMINAR IN COUNSELOR EDUCATION (3 credits) The purpose of this course is to give the graduate student a comprehensive review of the research and current literature in counselor education Critical study and evaluation of research findings are emphasized.

+CED 786: SEMINAR IN CAREER INFORMATION (3 credits) This course provides knowledge and process about career information and counseling in school and agency settings. It may also benefit other professionals such as teachers, administrators, the clergy, etc. The course emphases include sources of career information; appraisal, classification, and filing of career information; theories, values and methods of individual career development; career resources centers; career and vocational education; systems of career guidance; survey of contemporary and projected world of work; assessment; and personal or problem-oriented implications of career development.

CED 787: INTEGRATED SEMINAR (3 credits) Intended for students who have completed all course requirements in the counseling curriculum, providing the opportunity to synthesize the graduate student's work and experience in counseling. Prerequisite: instructor permission.

Early Childhood Education

Professors: Dorothy Campbell, Elwin Dickerson, Phyllis S. McIlwain, Roger Orr, John Shimkanin, Jannene Southworth, John Vargo

The Master of Education Degree in Early Childhood Education provides three options for interested students. Track A -- Master of Education with Early Childhood teaching certification is designed for students seeking certification from Infancy through Grade 3. Track B -- Master of Education in Early Childhood Administration and Supervision is available to students already certified in Early Childhood, who are interested in becoming a supervisor or a child care center administrator. This is a non-certifying program. Track C -- Master of Education Early Childhood is designed for students already certified in Early Childhood who would like to broaden their knowledge of Early Childhood Education.

Applicants must have a 3.0 QPA or a score of 35 on the Miller Analogies Test for admission to the program.

Curriculum

Track A: Master of Education with Early Childhood Teaching Certification

General and Professional Education:

EDP 607	Advanced Educational Psychology	2
EDP 636	Advanced Psychology of Learning	2
ECE 748	Child Growth and Development (or)	3
EDP 617	Psychology of Growth and Development	2
ESP 510	Introduction to Exceptionality	3
EDP 610	Educational Sociology	2
EDF 700	History and Background of Elementary Schools	2
EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
EDE 705	Developing and Organizing Elementary School Curricula	3

Early Childhood Professional Core:

EDE 728	Problems in Health and Physical Ed.	2
ECE 723	Early Childhood Math & Science Seminar	3
ECE 724	Reading and Communication Arts Seminar	3
ECE 725	Social Studies Strategies in Early Childhood	2
ECE 745	Instructional Strategies	2
EDE 738	Children's Literature and Reading	2
ECE 728	Early Childhood Education Seminar	2
ECE 726	Early Childhood Field Experience	2
ECE 749	Parent Involvement	2
*EDE 795	Student Teaching Internship	9
GEE 528	Child and the Expressive Arts	3

*Students must pass the General Knowledge and Communication sections of the National Teachers test prior to student teaching

Research (8-10 credits required)

*RES 800	Methods of Research	2
EDE 705	Developing and Organizing Elementary School Curricula	3
*EDE 706	Evaluation and Measurement in the Elementary School	2
*GEE 537	Computer Science	2
EDP 600	Statistical Methods	2
ECE 759	Research in Early Childhood	2
EDP 656	Computer Oriented Research	2
RES 829	Project	2
RES 849	Thesis	4

*REQUIRED COURSES

Students who are certified teachers in another specialty are not required to take EDE 795.

Minimum 30 graduate credits with a project or thesis. Minimum 36 graduate credits without project or thesis. Maximum 59 graduate credits. Students may be required to take undergraduate courses when graduate courses are unavailable.

Track B: Early Childhood Master of Education Degree in Administration and Supervision (This is a non-certifying program.)

Early Childhood Professional Core:

ECE 745	Instructional Strategies	2
ECE 748	Child Growth and Development	3
ADP 720	Elementary Curriculum	2
ECE 728	Early Childhood Education Seminar	2
ECE 729	Language Development & Emerging Literacy	3

Administration: (15 credits)

ECE 727	Administration & Directorship of Early Childhood Centers	3
ADP 762	Supervision	2
ECE 749	Parent Involvement	2
ECE 726	Early Childhood Field Experience	2
ADP 731	School Law & Regulations	2
ADP 741	School Community	1

Track C: Master of Education Degree in Early Childhood Education

Early Childhood Professional Core:

EDE 728	Problems in Health & Physical Education	2
ECE 723	Early Childhood Math & Science Seminar	3
ECE 724	Reading & Communicative Arts Seminar	3
ECE 725	Social Studies Strategies in Early Childhood	3
ECE 748	Child Growth and Development	3
ECE 745	Instructional Strategies	2
EDE 738	Children's Literature and Reading	2
ECE 728	Early Childhood Education Seminar	2
ECE 726	Early Childhood Field Experience	2
ECE 749	Parent Involvement	2
ECE 729	Language Development & Literacy	3

Master of Education Degree in Early Childhood Education

Track C: The Master of Education in Early Childhood Education track is designed for students already certified in Early Childhood who would like to broaden their knowledge of Early Childhood Education.

I. General & Professional Education (10-15 credits)

EDP 607	Advanced Educational Psychology	2
EDP 636	Advanced Psychology of Learning	2
ESP 501	Introduction to Exceptionality	3
EDE 730	Teaching in Kindergarten Primary	2
EDP 663	Computer Assisted Instruction	2
EDE 700	Historical Background of th Elementary School	2
EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
RSP 701	Fundamentals of Reading	2
RSP 705	Psychology of Reading	2
ENG 758	Modern American Poetry	3
RSU 685	Group Dynamics	2
GEE 528	Child & the Expressive Arts	3

II. Professional Core (10-24 credits)

EDE 728	Problems in Health & Physical Education	2
ECE 723	Early Childhood Math & Science Seminar	3
ECE 724	Reading & Communicative Arts Seminar	3
ECE 725	Social Studies Strategies in Early Childhood	3
ECE 748	Child Growth & Development	3
ECE 745	Instructional Strategies	2
EDE 738	Children's Literature & Reading	2
ECE 728	Early Childhood Education Seminar	2
ECE 726	Early Childhood Field Experience	2
ECE 749	Parent Involvement	2
ECE 729	Language Development & Literacy	3

III. Research (8-10 credits required)

*RES 800	Methods of Research	2
*EDE 706	Evaluation and Measurement in the Elementary School	2
GEE 537	Computer Science	2
EDP 600	Statistical Methods	2
*ECE 759	Research in Early Childhood	2
EDP 656	Computer Oriented Research	2
RES 829	Project	2
RES 849	Thesis	4

*REQUIRED COURSES

Minimum 30 graduate credits with a project or thesis. Minimum 36 graduate credits without a project or thesis.

EARLY CHILDHOOD EDUCATION COURSES

ECE 723: EARLY CHILDHOOD MATH & SCIENCE SEMINAR (3 cr.) Emphasis is on understanding the cognitive development of the child ages birth through eight years, and applying this knowledge to the interdisciplinary teaching of science and math. This course will inform students regarding the history of science and math curricula for young children, the appropriate math and science content for this age, and strategies for process-oriented teaching of this content. Students will deal with relevant affective issues such as learned fear of science or math, and differentiated sexual expectations for the learning of science or math.

ECE 724: READING & COMMUNICATIVE ARTS SEMINAR (3cr.) This course prepares early childhood students to become facilitators of early literacy learnings. Content stresses a holistic philosophy while integrating the four language modes of listening, reading, speaking, and writing across curriculum areas. Lesson planning, micro-teaching, and instructional strategies for teaching and supporting young readers and writers is emphasized.

ECE 725: SOCIAL ISSUES/SOCIAL STUDIES STRATEGIES IN EARLY CHILDHOOD EDUCATION (2 cr.) The graduate student will examine society's demographics as they relate to the social sciences and our social human dilemmas. How children can effectively grow in our society and develop responsible citizen roles is the keystone to an improved environment and quality of life. The graduate student is expected to bring an already established network of information on the development of children as well as a working knowledge of normal, social growth patterns.

ECE 726: CHILDHOOD FIELD EXPERIENCE (2 cr.) Prerequisites: ECE 748.

ECE 729: LANGUAGE DEVELOPMENT & EMERGING LITERACY (3 cr.) The graduate level student is expected to bring a basic understanding of children's language differences, both familial and regional, and their effect on children's efforts to learn. How children function in educational settings should be the focus of students wishing to maximize their information base in language-development-methodology. Research efforts in language development will be examined in order to determine instructional design for young children.

ECE 745: INSTRUCTIONAL STRATEGIES (2 cr.) First hand experiences for students in a teaching/learning situation structured for young children (Infancy - 8 years of age). The student will plan, implement and evaluate learning situations. Lectures with individual and small group activities will enable the student to make informed decisions about life in the early childhood classroom as well as provide a vehicle for professional growth.

ECE 748: CHILD GROWTH & DEVELOPMENT (3 cr.) The graduate level student in Early Childhood Education is expected to bring an informal perspective to the study of young children. The research as well as pragmatic aspects of children's learning/growing development will be discussed, documented and practiced.

ECE 749: PARENT INVOLVEMENT (2 cr.) This course emphasizes the importance of the parents and the community in the framework of educational planning for the young child. The graduate student will demonstrate skill in planning and implementing programs for parents, parent education workshops, adequate interview and conferencing techniques, and in effectively using parents and community resource people in planning the child's educational experiences.

ECE 759: RESEARCH IN EARLY CHILDHOOD (2 cr.) This is an introduction to research with a concentration on the early childhood years. The emphasis will be on interpretation of research studies and journal articles. Students will become familiar with the library resources relative to research. The three main types of research will be analyzed as a means of assisting the student in acquiring knowledge concerning research techniques. The graduate student is given opportunities to demonstrate the ability to read and conduct research relevant to Early Childhood Education.

ECE 728: EARLY CHILDHOOD EDUCATION SEMINAR (2 cr.) The purpose of this course is to research, discuss, and evaluate critical issues in Early Childhood today. The student will use problem solving, critical and creative thinking skills as they reflect and make recommendations on controversial issues impacting on young children today. Poverty, divorce, child abuse, neglect, health related issues, developmentally in appropriate programs, play, and current legislation impacting on children and programs are some of the topics students will address. Students will work in groups as they deal with the challenges and professional responsibilities facing Early Childhood teachers today.

EDE 795: STUDENT TEACHING INTERNSHIP (9 cr.) Student is assigned to work in two classrooms in the public schools or other appropriate settings. Under supervision, the student observes and participates in all teaching activities related to the early childhood or elementary grades. Students attend practicum class once a week. Discussions cover current materials utilized in all subject areas. Pennsylvania school laws relevant to the work of an early childhood or elementary teacher are analyzed and discussed. Opportunities are provided to discuss problems encountered in their student teaching experiences. Teaching opportunities are identified and discussed on a weekly basis.

EDE 790: INDEPENDENT STUDY (1-3 crs.) Independent Study allows the graduate student the opportunity to research any of a number of topics that lend themselves to individual investigation and/or design in Elementary and Early Childhood Education.

A lesson in imprinting teaches education majors that ducklings and goslings respond to humans when they imitate the behavior of ducks and geese.

Earth Science and Geography

Graduate Faculty: Professors Donald J. Conte, William A. Gustin, Lawrence L. Moses, William J. Procasky, Robert A. Vargo

If you would like further information about any of these programs, phone or write the Department of Earth Sciences, California University of Pennsylvania, 250 University Avenue, California PA 15419-1394, (412) 938 4180, or the Graduate School, at (412) 938 4187.

Master of Science Degree in Earth Science

The Master of Science degree with a major in Earth Science is a program intended for those students who desire more training in specialized areas of earth science or wish to broaden their present science background. A graduate student entering the program should have an undergraduate major in one of the sciences or in mathematics.

Applicants should have basic Earth Science courses but deficiencies can be made up in consultation with the advisor. The advisor is assigned to the graduate student upon admission to the program, and the graduate student works closely with the advisor in designing a program of study.

The graduate student must apply for candidacy for the degree immediately after completing six credits of successful graduate work. The graduate student must pass a comprehensive examination.

The program offers two options: Option A, in which a Master's Thesis or Research Project is required, and Option B, in which neither a Master's Thesis nor a Research Project is required.

Option A requires at least 30 credits, including nine credits of required research courses and a minimum of 12 credits in Earth Science, including either two credits for the Research Project or four for the Master's Thesis.

Option B requires at least 36 credits, including nine credits of required research courses and a minimum of 12 credits in Earth Science, but not the Research Project or the Master's Thesis.

Curriculum

(An asterisk designates a required course.)

I. Earth Science Core:

*EAS 800	Methods of Research in Earth Science	3
*EAS 528	Quantitative Applications in Earth Science	3
*EAS 713	Applied Earth Science	3

II. Earth Science: Field of Specialization: a minimum of 12 credits from among the following:

EAS 527	Tectonics	3
EAS 541	Advanced Environmental Geology	3
EAS 547	Reservoir Evaluation	3
EAS 550	Regional Climatology	3
EAS 551	Invertebrate Paleontology	3
EAS 563	Coastal Geomorphology	3
EAS 720	Hydrology	3
EAS 725	Weather Analysis	3
EAS 740	Sedimentology	3
EAS 741	Stratigraphy	3
EAS 742	Structural Geology	3
EAS 751	Optical Mineralogy	3
EAS 755	Geochemistry	3
EAS 760	Field Problems in Earth Science	3
EAS 762	Field Problems in Hydrology	3
EAS 764	Field Course in Earth Science	VA
EAS 765	Field Course in Geology	VA
EAS 771	Field Mapping	3
EAS 780	Readings in Earth Science	3
EAS 781	Research in Earth Science	3
EAS 792	Seminar in Geology	3
EAS 794	Seminar in Meteorology	3
EAS 796	Seminar in Oceanography	3
GEO 520	Physiography of the United States	3
GEO 737	Geographic Information Systems	3
GEO 751	Geomorphology	3
GEO 752	Climatology	3
GEO 753	Physical Environment	3
GEO 767	Computer Cartography	3
GEO 768	Map & Aerial Photo Interpretation	3
GEO 770	Statistical Cartography	3
GEO 798	Seminar in Geography	3
RES 829	Research Project	2
RES 849	Master's Thesis	4

Master of Arts Degree in Geography and Regional Planning

The Master of Arts degree in Geographyand Regional Planning is flexible, and allows for diversity in goal development. It enables a graduate with this degree to pursue a professional career in geography as well as to branch out into cognate areas such as government, industry and planning. This program accepts students with varied backgrounds and does not require the prospective graduate student to have had an undergraduate major in geography.

The graduate student must apply for candidacy for the degree immediately after completing six credits of successful graduate work. The graduate student must pass a comprehensive examination.

The program offers two options: Option A, in which a Master's Thesis or Research Project is required, and Option B, in which neither a Master's Thesis nor a Research Project is required.

Option A requires at least 30 credits, including six credits of required research courses and a minimum of 15 to 18 credits in Geography, including either two credits for the Research Project or four for the Master's Thesis.

Option B requires at least 36 credits, including six credits of required research courses and a minimum of 18 credits in Geography, but not the Research Project or the Master's Thesis.

Curriculum

(An asterisk designates a required course.)

I. Research Courses: 6 credits as follows:

*GEO-EAS	Seminar	3
*GEO 800	Methods of Geographic Research	3

II. Geography: Field of Specialization at least 12 credits from the following:

GEO 520	Physiography of the United States	3
GEO 700	Philosophy of Geography	3
GEO 711	Demographic Analysis	3
GEO 712	Geography and Urban Politics	3
GEO 714	Urban Environment	3
GEO 729	Regional Economic Geography	3
GEO 733	Land Use Analysis	3
GEO 734	Site Selection	3
GEO 735	Marketing Geography	3
GEO 739	Regional Planning	3
GEO 737	Geographic Information Systems	3
GEO 738	Geography and Urban Policy	3
GEO 751	Geomorphology	3
GEO 752	Climatology	3
GEO 754	Physical Environment	3
GEO 765	Field Methods	3
GEO 766	Field Problems	3
GEO 768	Map and Aerial Photo Interpretation	3
GEO 769	Computer Cartography	3
GEO 770	Statistical Cartography	3
GEO 785	Readings in Geography	3
GEO 786	Research in Geography	3
GEO 789	Comprehensive Planning	3
GEO 791	Seminar in Regional Planning	3
GEO 798	Seminar in Geography	3

III. Research (Option A): 8 to 10 credits

+GEO/EAS	Seminar	3
*GEO 800	Methods of Geographic Research	3

*One of the following:

RES 829	Research Project	2
or		
RES 849	Master's Thesis	4

IV. Research (Option B): 6 credits

+GEO/EAS	Seminar	3
*GEO 800	Methods of Geographic Research	3

V. Cognate Courses: Graduate courses in related, or cognate, areas may be chosen, with the approval of the advisor.

IV. Comprehensive Examination: The Graduate student is required to pass a comprehensive examination.

+Any seminar offered by department.

Master of Education Degree in Geography and Regional Planning

The Master of Education degree in Geography is intended for those who wish to pursue a career of teaching at either the Elementary or the Secondary School level.

The graduate student must apply for candidacy for the degree immediately after completing six credits of successful graduate work. The graduate student must pass a comprehensive examination.

The program offers two options: Option A, in which a Master's Thesis or Research Project is required, and Option B, in which neither a Master's Thesis nor a Research Project is required.

Option A requires at least 30 credits, including 9 to 10 credits of Professional Education and 17 to 19 credits in Geography. Eight to ten of these Geography credits are in Research, including either two credits for the Research Project or four for the Master's Thesis.

Option B requires at least 36 credits, including 9 to 10 credits of Professional Education and 18 credits in Geography, of which at least six are in Research, but not the Research Paper or the Master's Thesis.

Curriculum

(An asterisk designates a required course.)

I. Professional Education: 9 to 10 credits from the following:

*EDP 655	The Curriculum and Teaching of Geography	3

One of the two following:

EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2

One of the following:

EDP 610	*Educational Psychology	2
EDP 636	Advanced Psychology of Learning	2

An additional course in Professional Education (EDP) with the approval of the advisor.

II. Geography:

GEO 520	Physiography of the United States	3
GEO 700	Philosophy of Geography	3
GEO 711	Demographic Analysis	3
GEO 712	Geography and Urban Politics	3
GEO 714	Urban Environment	3
GEO 729	Regional Economic Geography	3
GEO 733	Land Use Analysis	3
GEO 734	Site Selection	3
GEO 735	Marketing Geography	3
GEO 739	Regional Planning	3
GEO 737	Geographic Information Systems	3
GEO 738	Geography and Urban Policy	3
GEO 751	Geomorphology	3
GEO 752	Climatology	3
GEO 754	Physical Environment	3
GEO 765	Field Methods	3
GEO 766	Field Problems	3
GEO 768	Map and Aerial Photo Interpretation	3
GEO 769	Computer Cartography	3
GEO 770	Statistical Cartography	3
GEO 785	Readings in Geography	3
GEO 786	Research in Geography	3
GEO 789	Comprehensive Planning	3
GEO 791	Seminar in Regional Planning	3
GEO 798	Seminar in Geography	3

III. Research (Option A): 8 to 10 credits

+GEO/EAS	Seminar	3
*GEO 800	Methods of Geographic Research	3

*One of the following:

RES 829	Research Project	2
or		
RES 849	Master's Thesis	4

IV. Research (Option B): 6 credits

+GEO/EAS	Seminar	3
*GEO 800	Methods of Geographic Research	3

III. Research (Option A): 8 to 10 credits

+GEO EAS	Seminar	3
*GEO 800	Methods of Geographic Research	3

*One of the following:

RES 829	Research Project	2
or		
RES 849	Master's Thesis	4

IV. Research (Option B): 6 credits

+GEO/EAS	Seminar	3
*GEO 800	Methods of Geographic Research	3

V. Cognate Courses: Graduate courses in related, or cognate, areas may be chosen, with the approval of the advisor.

VI. Comprehensive Examination: The graduate student is required to pass a comprehensive examination.

If the Earth Weren't Round, we couldn't have a Whole Earth Catalog. Or a Graduate catalog, either.

- - Rodgers

Courses in Earth Science (EAS) and Geography (GEO)

EARTH SCIENCE COURSES (EAS)

EAS 527: TECTONICS (3 credits) The nature of the earth's tectonic framework. The following topics are of major concern: the location of tectonic elements, theories of orogenesis, especially plate tectonics, crustal types and provinces, magma and plate boundaries, the nature of convergent, divergent, and strike-slip margins, and the Appalachian orogen.

EAS 528: QUANTITATIVE APPLICATIONS IN EARTH SCIENCES (3 credits) The application of statistical and other mathematical approaches to the solution of problems in the earth sciences. The emphasis is on descriptive, univariate and multivariate inferential statistical analysis, and the graphic presentation of data gathered by earth scientists. Exercises from both the physical and social sciences will be computed.

EAS 541: ADVANCED ENVIRONMENTAL GEOLOGY (3 credits) This course deals with the natural environment, particularly geologic factors that may impact upon life or way of life of human beings. 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.

EAS 547: RESERVOIR EVALUATION (3 credits) Application of computer solutions to understanding of hydrologic realm. Focus is on ground water flow equations and models, water table mapping, water quality, and aquifer testing. Laboratory work and problem solving are emphasized.

EAS 550: REGIONAL CLIMATOLOGY (3 credits) 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.

EAS 551: INVERTEBRATE PALEONTOLOGY (3 credits) A detailed study of fossils representative 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. This course will be of interest to students of biology as well as to those of geology.

EAS 713: APPLIED EARTH SCIENCE (3credits) Investigation of problems in the earth sciences that cross the disciplinary boundaries of hydrology, meteorology, geology, and climatology. Library research, field investigations, and laboratory work will lead to an extensive research paper.

EAS 720: HYDROLOGY (3 credits) A survey course relating to the existence of water on Earth. Topics include the occurrence and movement of water, physical and chemical characteristics of water, and climatologic and geologic consideration of water.

EAS 725: WEATHER ANALYSIS (3 credits) The course presumes that the student has a background in Elementary principles of meteorology. It is concerned with the measurements and predictions of weather. Students present findings to the class.

EAS 740: SEDIMENTOLOGY (3 credits) 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 the rocks. To the greatest extent possible, the student works independently through a complete set of problems.

EAS 741: STRATIGRAPHY (3 credits) A study of the basic principles governing the interpretation, correlation, classification, and naming of stratified rock units. The stratigraphy of North America is discussed, with special emphasis placed on rocks of the Pennsylvanian System. Problem solving and individual investigations are important elements of the course.

EAS 742: STRUCTURAL GEOLOGY (3 credits) The primary and secondary structures of rock masses and their modes of formation are covered in this course. Actual structures are examined in the field. Geologic maps and cross sections are utilized.

EAS 743: MICROPALEONTOLOGY (3 credits) A laboratory oriented course in which the student deals intimately with sample material containing microfossils. Real problems (similar to those that a micropaleontologist in industry would face) are posed. Solution generally involves the separation of the fossils from the enclosing sample, the identification of the individual fossils, and a correct (or at least a logical) stratigraphic or paleoecologic interpretation based on the data.

EAS 751: OPTICAL MINERALOGY (3 credits) An in depth examination of the optical behavior of mineral crystals in polarized light with emphasis on identification. The optical theories of Snell and Huygens will be detailed as they relate to the transmission of light through mineral crystals. Microscopic examination of mineral grain mounts and thin sections is emphasized.

EAS 755: GEOCHEMISTRY (3 credits) The 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 are covered.

EAS 760: FIELD PROBLEMS IN EARTH SCIENCE (3 credits) This course is devoted to field work and mapping techniques. It also involves visits to field locations of interest to the earth scientist and to governmental and private agencies devoted to various of the earth science disciplines. A major written report and oral presentation are required.

EAS 762: FIELD PROBLEMS IN HYDROLOGY (3 credits) Opportunities for the graduate student to do practical work

concerning water and water budgets. Graduate students work with problems concerning storage of water, stream measurement, evaporation, infiltration and migration, aquifer testing, tracer studies, mine drainage, and domestic use.

EAS 764: FIELD COURSE IN EARTH SCIENCE (Variable) For the student who wants to learn about his/her environment in situ. With a flexibility to allow for conditions, the course will include a number of trips to actual sites of meteorologic, geologic, or oceanographic significance where materials and processes can be studied. A journal of site descriptions and a report on a specific site or process will be required.

EAS 765: FIELD COURSE IN GEOLOGY (Variable) For the earth science student who desires to apply his/her classroom and laboratory experiences at field sites which typify geologic principles. Site selection will reflect different emphases in geology: mineralogy, petrology, paleontology, geomorphology, or hydrology. Field trips to a minimum of ten sites of geologic significance will be supplemented by laboratory exercises; detailed journal entries and a final report that will enable the student to develop analytical skills.

EAS 771: FIELD MAPPING (3 credits) This is a field course designed for the student to learn various mapping procedures and the use of mapping instruments. Problems involve the determination of distance, direction, and evaluation. Plane table surveying and map making in the field are emphasized.

EAS 780: READINGS IN EARTH SCIENCE (3 credits) The course deals with selected readings in the student's area of interest in earth science. It is designed to exemplify a sense of earth science problems and to develop abilities of critical appraisal.

EAS 781: RESEARCH IN EARTH SCIENCE (3 credits) The organization of research in an area selected by the student with the approval of the instructor. This research is in depth and may be on a micro scale or on a macro scale.

EAS 792: SEMINAR IN GEOLOGY (3 credits) This course allows graduate students to consider the latest developments in geology as well as other topics of interest. Each graduate student completes a research project or library paper and presents the findings to the class, and each such project or paper is the subject of class discussion.

EAS 794: SEMINAR IN METEOROLOGY (3 credits) The latest developments in the field of Meteorology and Climatology. Students are required to complete a research project and present findings to the class.

EAS 796: SEMINAR IN OCEANOGRAPHY (3 credits) Selected topics in geological, biological, physical, and chemical oceanography. Students are required to present a series of eleven short papers and one long paper. Class periods will involve the students in discussions of oceanographic topics presented.

EAS 800: METHODS OF RESEARCH IN EARTH SCIENCE (3 credits) Consideration of purpose, scope and procedures of earth science research including problem statement, data collection and data analysis. The course culminates with the development of a problem which demonstrates research ability.

EAS 829: RESEARCH PROJECT (2 credits) A written report on a specific topic of investigation, based on knowledge of the subject, research techniques, and accurate presentation of the material.

EAS 849: MASTER'S THESIS (4 credits) A written report of exhaustive research into a specific area of investigation, demonstrating thorough knowledge of the background of a subject, the published literature on a subject, and high standards of original research and presentation.

GEOGRAPHY COURSES (GEO)

GEO 520: PHYSIOGRAPHY OF THE UNITED STATES (3 credits) 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.

GEO 700: PHILOSOPHY OF GEOGRAPHY (3 credits) Development through oral and written presentations of the classical and contemporary concepts which define the field of geography.

GEO 711: DEMOGRAPHIC ANALYSIS (3 credits) An analysis of demographic processes, current situations, and consequences of population trends as they relate to urban and rural distributions.

GEO 712: GEOGRAPHY AND URBAN POLITICS (3 credits) The role of the political process in the development of the American urban environment, stressing locational influence and political behavior as they relate to housing, neighborhoods, transportation, poverty, voting, and the law.

GEO 714: URBAN ENVIRONMENT (3 credits) An investigation and analysis of cities in terms of their location, distribution, classification by function and internal morphology. Geographic aspects of urban planning are emphasized.

GEO 729: REGIONAL ECONOMIC GEOGRAPHY (3 credits) The study of the overt results of economically oriented behavior as they appear in the landscape. Various frameworks and models are developed and applied to the "core" of economic geography, the subsystem of agriculture, manufacturing, tertiary activities, and transportation.

GEO 733: LAND USE ANALYSIS (3 credits) An analysis of the structure of urban and rural areas with particular emphasis on the description, patterns and trends in land use. Methods for defining, representing and evaluating land use are developed. Explanations of land use patterns are incorporated.

GEO 734: SITE SELECTION (3 credits) The effects of physical features and spatial economic organization upon the selection of locations for industrial and commercial activities. Attention is given both to regional position and to local site.

GEO 735: MARKETING GEOGRAPHY (3 credits) The distributive trades of retailing and related wholesaling and service activities. Spatial patterns of consumer catchment areas and the business centers within which they are located will be emphasized.

GEO 739: REGIONAL PLANNING (3 credits) A systematic development of regionalism as a geographic concept emphasizing the regional concept as it evolved from area studies to regional science particularly as it applies to planning.

GEO 751: GEOMORPHOLOGY (3 credits) Experiences in geomorphology involve the study of the origin, characteristics, and classification of landforms and the processes that produce them. Extensive use is made of topographic and geologic maps, as well as aerial photographs. Emphasis in placed upon the individual's ability to interpret the geomorphic history of a region.

GEO 752: CLIMATOLOGY (3 credits) A study of world climatic patterns with in depth investigations of micro climatic regions.

GEO 754: PHYSICAL ENVIRONMENT (3 credits) The study of the physical aspects of the human environment including climate, soil, water, vegetation and topography.

GEO 765: FIELD METHODS (3 credits) Study of techniques used in making geographic observations in the field. Emphasis is on the study of natural and cultural landscape features at selected localities.

GEO 766: FIELD PROBLEMS (3 credits) Application of field methods to the landscape. Microstudies are conducted.

GEO 768: MAP AND AERIAL PHOTO INTERPRETATION (3 credits) The use of maps and aerial photographs as sources of quantitative and qualitative information and the interpretation of the natural and cultural landscapes through identification and measurements.

GEO 769: COMPUTER CARTOGRAPHY (3 credits) This laboratory course is designed to further the student's cartographic skills through the preparation of a cartographic project.

GEO 770: STATISTICAL CARTOGRAPHY (3 credits) A statistical approach to cartographic representation. Methods of data manipulation, problems of symbolization, and techniques of presentation are also emphasized.

GEO 785: READINGS IN GEOGRAPHY (3 credits) Selected readings in the student's area of interest in geography, designed to exemplify a sense of geographic problem and to develop abilities of critical appraisal.

Students analyze data in science laboratory.

GEO 786: RESEARCH IN GEOGRAPHY (3 credits) The organization of research in an area selected by the student with the approval of the instructor. This research is in depth and may be on a micro scale or on a macro scale.

GEO 789: COMPREHENSIVE PLANNING Provides students with insights and experiences in applying academic skills to the planning functions of local government. A background in the many factors affecting planning decisions is provided. Emphasis is directed to proposing recommended courses of action to real and hypothetical community problems. (3 credits)

GEO 791: SEMINAR IN REGIONAL PLANNING (3 credits) In depth analysis of topics of current interest: primarily research and oral presentation of selected topics.

GEO 798: SEMINAR IN GEOGRAPHY (3 credits) Review of the field of geography culminating with an oral presentation of written research in the student's area of interest.

GEO 800: METHODS OF RESEARCH IN GEOGRAPHY (3 credits) Consideration of purpose, scope and procedures of geographic research including problem statement, data collection and data analysis. The course culminates with the development of a problem which demonstrates research ability.

GEO 829: RESEARCH PROJECT (2 credits) A written report on a specific topic of investigation, based on knowledge of the subject, research techniques, and accurate presentation of the material.

GEO 849: MASTER'S THESIS (4 credits) A written report of research into a specific area of investigation, demonstrating thorough knowledge of the background of the subject, the published literature on the subject, and high standards of original research and presentation.

Education of Mentally/Physically Handicapped

Graduate Faculty: Professors Robert A. Bauman, Peter J. Belch, Albert Dascenzo, Robert F. Dickie, Paul L. Lancaster, Regis Lazor, Ben A. Mulé, Jay R. Powell

If you would like more information about any of these programs, phone or write the Department of Special Education, California University of Pennsylvania, 250 University Avenue, California PA 938-4142, or the School of Graduate Studies and Research (412) 938-4187.

The Master's degree in the area of Mentally/Physically Handicapped consists of three TRACKS.

TRACK A is a certification program for those who already hold an instructional certificate or certification as a school nurse but not certification in special education.

TRACK B is designed for those students who already hold certification in Mentally and/or Physically Handicapped or any single-category area of special education.

TRACK C is designed for students who have no teaching certificate but who are now working with, or in the past have worked with, handicapped children or adults in either a community or an institutional setting. Track C leads to both certification and a master's degree in a single program.

TRACK A: For Those without Certification in Special Education

The graduate student in Track A has completed a B.S. degree in some area of education but wishes to become certified in Mentally and/or Physically Handicapped.

The student completing the program is licensed to teach all levels of the mentally retarded, learning disabled, behavior disordered, or physically handicapped in Pennsylvania.

The program consists of a minimum of 36 hours, including six credits of internship that may be satisfied at a number of practicum facilities.

Curriculum

(An asterisk designates a requirement.)

A: Major Area: 33 credits

*ESP 501	Introduction to Exceptionality	3
*ESP 701	Introduction to Behavior Analysis	3
*ESP 739	Field Experience in Special Education	3
*ESP 502	Education of the Severely/Profoundly Handicapped	3
*ESP 503	Diagnostic Testing and Prescriptive Teaching	3
*ESP 504	Methods and Curriculum I: For Those with Learning Problems	3
*ESP 505	Methods and Curriculum II: For Those with Learning Problems	3
*ESP 506	Habilitation Training-Transition	3
*ESP 712	Seminar on Trends and Issues	3
*ESP 720	Internship	6
	(May be taken as two 3-credit sessions)	

B: Research: 3 credits

*ESP 800	Seminar in Advanced Behavior Analysis and Research Design	3

TRACK B: For Those with Certification in Special Education

Students who already hold certification in Mentally/Physically Handicapped education should enroll in Track B; no additional certification is awarded. The program consists of a minimum of 36 hours, with six credits of internship. Since students in this track have already had student teaching experience, internships can be in a number of different settings.

Curriculum

(An asterisk designates a requirement.)

A: Major Area: 24 credits

*ESP 502	Education of the Severely/Profoundly Handicapped	3
*ESP 503	Diagnostic Testing and Prescriptive Teaching	3
*ESP 504	Methods and Curriculum I: For Those with Learning Problems	3
*ESP 505	Methods and Curriculum II: For Those with Learning Problems	3
*ESP 506	Habilitation Training-Transition	3
*ESP 720	Internship	6
	(May be taken as two 3-credit sessions)	

Nine credits from the following seminars:

ESP 712	Seminar on Trends and Issues	3
ESP 731	Seminar in Assessment and Prescription	3
ESP 732	Seminar in Special Education Administration	

	and Supervision	3
ESP 734	Seminar in Counseling Parents of Exceptional Children	3
ESP 735	Seminar in Education of the Gifted	3
ESP 736	Seminar in Research Design and Statistics	3
ESP 737	Seminar in Legislation and Litigation	3
ESP 738	Seminar on Teacher Behavior and Group Dynamics	3
ESP 739	Field Experience Seminar in Special Education	3

B: Research: 3 credits

*ESP 800	Seminar in Advanced Behavior Analysis and Research Design	3

TRACK C: For Those with No Teacher Certification But with Professional Experience in the Field

Track C is designed for students who are currently working with or who have worked with handicapped children or adults in either a community or an institutional setting, and want to obtain teacher certification in Special Education. Track C students do not already hold a teaching certificate.

Applicants must meet the requirements for admission to the Graduate School and must demonstrate proof of at least one year's successful professional job performance in a setting serving the handicapped.

Those who complete Track C and pass the National Teachers Examination receive a teaching certificate and the Master's Degree in Special Education.

Besides the 39 hours required in Track C, graduate students in this track must also complete a Professional Education block of at least ten hours (unless some of these courses were part of their undergraduate programs). Track C students must complete one full semester of student teaching including professional practicum.

Curriculum

(An asterisk designates a requirement)

A: Major Area: 36 credits

*ESP 501	Introduction to Exceptionality	3
*ESP 701	Introduction to Behavior Analysis	3
*ESP 739	Field Experience in Special Education	3
*ESP 502	Education of the Severely/Profoundly Handicapped	3
*ESP 503	Diagnostic Testing and Prescriptive Teaching	3
*ESP 504	Methods and Curriculum I: For Those with Learning Problems	3
*ESP 505	Methods and Curriculum II: For Those with Learning Problems	3
*ESP 506	Habilitation Training-Transition	3
*ESP 712	Seminar in Trends and Issues	3
*ESP 720	Internship/Student Teaching	9

B: Professional Education: 10 credits

EDP 605	Philosophy of Education	2
EDP 610	Educational Sociology	2
EDP 611	History of American Education	2
EDP 607	Advanced Educational Psychology	3
EDP 617	Psychology of Growth and Development	3
EDP 636	Advanced Psychology of Learning	3
EDP 663	Computer-Assisted Instruction	2
GMA 636	Computer Science for Teachers	2

C: Research: 3 credits

*ESP 800	Seminar in Advanced Behavior Analysis and Research Design	3

Note: <u>Although not required, students in all tracks may complete a 2 credit research project or a 4 credit thesis.</u>

SPECIAL EDUCATION COURSES (ESP)

F and S indicate whether a course is usually offered in the Fall or the Spring semester. B means that a course is usually offered in both Fall and Spring semesters.

Certain courses in Special Education which bear numbers in the 500s are open to both graduate and undergraduate students. Graduate students enrolled in these "dual-listed" courses fulfill additional or special requirements.

ESP 501: INTRODUCTION TO EXCEPTIONALITY (3 credits) An introduction to handicapped children and to the field of special education, examining the broad range of handicaps in children and their sociological, educational, and vocational implications. B

ESP 502: EDUCATION OF CHILDREN, SEVERELY/ PROFOUNDLY HANDICAPPED (Variable credit) How to work with children and adults who display severe/profound learning and/or behavior problems. Students do some tutoring at facilities for this population. B

ESP 503: DIAGNOSTIC TESTING AND PRESCRIPTIVE TEACHING (Variable credit) This course deals with both norm-referenced and criterion-referenced tests and their use with exceptional children. Class participants must administer selected tests and prescribe remediation based on the results. B

ESP 504 AND 505: CURRICULUM PLANNING AND METHODS I & II (Variable credit) Curriculum and Methods I and II are a block of courses which are offered to Special Education majors the semester prior to their student teaching experience. The major purpose of these courses is the instruction of communication and arithmetic skills to all age groups of exceptional children. Specifically, Curriculum and Methods I is concerned with communication skills (reading—silent and oral—vocabulary development, and comprehension). B

Curriculum and Methods II emphasizes arithmetic skills. Both courses stress: (1) a behavioral diagnosis of communication and arithmetic strengths and weaknesses; (2) the development and implementation of intervention strategies for various populations of exceptional children; (3) the selection and/or development of appropriate materials for instruction; (4) the procedures and techniques for continuous evaluation for the instructional process in order to determine effectiveness. B

ESP 506: HABILITATION TRAINING/TRANSITION (Variable credit) 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 vocational standards and regulations are covered. B

ESP 701: INTRODUCTION TO BEHAVIOR ANALYSIS (3 credits) The basic learning principles of operant and classical conditioning, with the application of these principles. B

ESP 712: SEMINAR ON CONTEMPORARY TRENDS AND ISSUES (3 credits) Recent developments in all areas of special education. Sample topics are inclusion, interactive teaming, alternative assessment, deinstitutionalization and curriculum issues. B

ESP 720: INTERNSHIP (3-9 credits): Required of all graduate students. Educational work with handicapped children or adults in a variety of settings, including special public school classes and classes in residential treatment centers, special schools, and hospitals. Opportunities for case conferences, learning seminars, and teaching critiques are offered, as well as numerous field experiences to observe successful programs. B

ESP 732: SEMINAR IN SPECIAL EDUCATION ADMINISTRATION AND SUPERVISION (3 credits) For supervisors and administrators, those seeking alternatives in education, and teachers who wish to communicate effectively with supervisors and administrators. Sample topics may include such matters as the role and function of supervisors and administrators, budgeting and financial issues, measures of teacher effectiveness, accountability, and legal standards. F

ESP 734: SEMINAR IN COUNSELING PARENTS OF EXCEPTIONAL CHILDREN (3 credits) Designed to improve the skills of professionals, related to their interaction with parents of exceptional children, this course provides an opportunity to learn the special needs of parents, techniques of communication, processes by which change can be implemented, legal rights and implications and resources. Participants are encouraged to assume the role of a parental consultant. F

ESP 735: SEMINAR IN EDUCATING THE GIFTED (3 credits) Presentation by class members of selected topics related to the gifted. State standards and guidelines for programs are discussed, as well as materials for use in classes for the gifted. Students observe classes for the gifted and talented. S

ESP 736: SEMINAR ON RESEARCH DESIGN AND STATISTICS (3 credits) The development of competencies in designing research studies and evaluating the results of formal published research. Basic statistical analysis that will enable the teacher to undertake classroom research is also covered. S

ESP 737: SEMINAR ON LEGISLATION AND LITIGATION (3 credits) Laws and court cases, both federal and local, that have precipitated the initiation of programs for the exceptional child and with parents' efforts to receive legal support for opportunities for their children to receive an appropriate education. S

ESP 738: SEMINAR ON TEACHER BEHAVIOR AND GROUP DYNAMICS (3 credits) An advanced course in methodology and applications, in which the graduate student is given the opportunity to refine many of the skills and behaviors acquired in previous courses in Special Education, especially as related to the skills and methods that contribute to effective classroom instruction and management. S

ESP 739: FIELD EXPERIENCE SEMINAR IN SPECIAL EDUCATION (3 credits) A means for graduate students to obtain needed experiences with various groups of handicapped children, in such settings as an institution, a sheltered workshop, an activity center, a summer camp, a community MH/MR facility, or by doing a specific piece of research with a particular population of students. Specific requirements for individual graduate students are developed by those students and the supervising professor. B

ESP 800: SEMINAR IN ADVANCED BEHAVIOR ANALYSIS AND RESEARCH DESIGN (3 credits) For the student with extensive background in behavioral principles and in applied behavioral analysis. The course covers the field of research design and methodology in intrasubject experimentation, and some of the more novel uses of applied behavioral analysis are introduced. Required of all students in the curriculum. B

RES 829: RESEARCH PROJECT (2 credits) A study or presentation on some topic in Special Education, more in depth than a Research Paper but less thorough than a Master's Thesis. Approval of only the graduate student's advisor is needed. The *Publication Manual of the American Psychological Association* is to be used. B

RES 849: MASTER'S THESIS (4 credits) The thesis will usually be inferential in nature and involve some intervention and manipulation of some independent variables, employing a statistical analysis or experimental design. The *Publication Manual of the American Psychological Association* is to be used. B

Elementary Education

Graduate Faculty: Professors M. Eileen Aiken, Dorothy M. Campbell, Ronald A. Christ, Allan D. Jacobs, Gary W. Kennedy, Phyllis S. McIlwain, J. Gregory Martin, Beverly Melenyzer, Diane H. Nettles, Roger J. Orr, Anthony J. Saludis, John W. Shimkanin, Jannene Southworth, John R. Vargo, Richard Wyman

If you would like further information about this program, phone or write the Department of Elementary Education at California University of Pennsylvania, 250 University Avenue, California PA 15419-1394, (412) 938 4135, or the School of Graduate Studies and Research at (412) 938 4187.

Students wishing to enroll in this program must have an undergraduate Q.P.A. of at least 3.0 or score 35 on the Miller Analogies Test.

The Master's Degree in Elementary Education is available to students who wish to broaden their knowledge of elementary education. The graduate student may choose between two options: Option A, a 30 credit program including a Research Project or Master's Thesis, and Option B, a 36 credit program including instead six credits in research-related courses.

Curriculum

I. Research/Evaluation (8-14 credits)

GEE 537	Computer Science	2
EDP 600	Statistical Methods	2
GEE 656	Computer Oriented Research	2
EDE 706	Evaluation and Measurement in Elementary School	2
EDE 800	Methods of Research	2
EDE 829	Research Project	2
EDE 849	Master's Thesis	4

II. General and Professional Education (10-24 credits)

CHE 790	Studies in Science Education	3
EDP 663	Computer-assisted Instruction	2
ADP 731	School Law and Regulations	2
EDP 636	Advanced Psychology of Learning	2
EDP 607	Advanced Educational Psychology	2
EDP 617	Psychology of Growth and Development	2
EDP 605	Philosophy of Education	2
EDE 700	Historical Background of the Elementary School	2
EDE 705	Development and Organization of the Elementary School	2
RSP 701	Fundamentals of Reading	2
RSP 705	Psychology of Reading	2
EDE 721	Research and Instructional Strategies	2
EDP 617	Educational Sociology	2
ESP 501	Introduction to Exceptionality	2
ESP 503	Diagnostic Testing and Prescriptive Teaching	2

III. Professional Specialty (up to 9 credits)

EDE 728	Problems in Health and Physical Education	2
EDE 730	Teaching in Kindergarten and Primary Grades	2
EDE 738	Children's Literature and Reading	2
EDE 715	Recent Trends in Language Arts	3
EDE 716	Problems in Elementary Social Studies	3
EDE 718	Arithmetic in the Elementary School	2
EDE 740	Trends in Elementary School Science	3
EDE 708	Developmental Reading in the Elementary School	2

Master of Education Degree with Elementary Teaching Certification

Students wishing to enroll in this program must have an undergraduate Q.P.A. of at least 3.0 or score 35 on the Miller Analogies Test.

The Master's Degree certification track is designed for students who have a baccalaureate degree and desire elementary teacher certification. This program is appropriate for teachers certified in other areas and for persons with an undergraduate degree outside of education.

Students who are not certified in Pennsylvania must pass the National Teachers' Examination.

Candidates for Pennsylvania certification must have evidence of undergraduate or graduate studies in mathematics, biology, physical science, environmental studies, U.S. history, geography, and economics.

If you would like further information about this program, phone or write the Department of Elementary Education at California University of Pennsylvania, 250 University Avenue, California PA 15419-1394, (412) 938 4135, or the School of Graduate Studies and Research at (412) 938 4187.

Curriculum

Minimum 30 graduate credits with a project or thesis.
Minimum 36 graduate credits without project or thesis.

I. General and Professional Education (13 credits)

EDP 607	Advanced Educational Psychology	2
EDP 636	Advanced Psychology of Learning	2
EDP 617	Psychology of Growth and Development	2
EDP 610	Educational Sociology	2
ESP 501	Introduction to Exceptionality (req)	3
ESP 000	Multicultural (req)	2
(Minimum: one course)		
EDE 700	Historical Background of the Elementary School	2
EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
EDE 705	Development and organization of Curriculum for Elementary School	3

II. Professional Core (30 credits) (required)

EDE 728	Problems in Health and Physical Education	2
EDE 738	Children's Literature and Reading	2
EDE 715	Recent Trends in Language Arts	3
EDE 721	Research and Instructional Strategies Seminar	2
EDE 722	Introduction to Elementary Teaching Seminar	2
EDE 716	Problems in Elementary Social Studies	3
EDE 718	Arithmetic in the Elementary School	2
EDE 740	Trends in Elementary School Science	3
EDE 708	Developmental Reading in the Elementary School	2
EDE 795	Student Teaching Internship	9

Students must pass the general knowledge and communication sections of the National Teachers Exam prior to student teaching.

III. Research (8 credits)

RES 800	Methods of Research (required)	2
EDE 706	Evaluation and Measurement in the Elementary School (required)	2
GEE 537	Computer Science (required)	2
EDP 600	Statistical Methods	2
EDP 656	Computer Oriented Research	2
	Research Project	2
	Thesis	4

Students who are certified teachers in another specialty are not required to take EDE 795.

ELEMENTARY EDUCATION COURSES (EDE)

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

EDE 700: HISTORICAL BACKGROUND OF THE ELEMENTARY SCHOOL (2 credits) An historical review of elementary education from the distant to the very recent past, designed to develop interplay between past and current educational controversies by contrasting and comparing various personalities and issues. F

EDE 705: DEVELOPMENT AND ORGANIZATION OF THE CURRICULUM FOR THE ELEMENTARY SCHOOL (3 credits) Provides a complete understanding of the history, organizational patterns and resources available for the development of the school curriculum. Special emphasis is given to recent trends in elementary curriculum development. Students receive an introduction to the many facets of curriculum development. Varied opportunities are provided for the students to acquire comprehension knowledge through papers and readings. F

EDE 706: EVALUATION AND MEASUREMENT IN THE ELEMENTARY SCHOOL (2 credits) To gauge success in the practice of teaching and to explore the science of learning, educators (and psychologists) need measuring instruments. We look at the construction, calibration, and application of those instruments used to measurement achievement, intelligence, and aptitude. We examine the limitations inherent in such instruments, and take note to debunk the most egregious and exaggerated claims of some test publishers. This course presumes no statistical sophistication on the part of the students.

EDE 708: DEVELOPMENTAL READING IN THE ELEMENTARY SCHOOL (2 credits) Emphasis is placed on reading trends and various procedures for teaching reading. Through research findings, current literature and discussions, the student will be able to organize, administer, and evaluate a developmental reading program. S

EDE 715: RECENT TRENDS IN LANGUAGE ARTS (3 credits) Research findings and current classroom practices in the teaching of language arts. Methods of updating past teaching practices are considered and evaluated. S

EDE 716: SPECIAL PROBLEMS IN ELEMENTARY SOCIAL STUDIES (3 credits) Current problems in teaching social studies, planning programs, methods of teaching, and evaluating materials for use in public schools are discussed. F

EDE 718: ARITHMETIC IN THE ELEMENTARY SCHOOL (2 credits) Understanding the child's perceptions and cognitive development as they relate to mathematics. Activities appropriate to the developmental and academic levels of elementary school children are demonstrated. F

EDE 721: SEMINAR IN ELEMENTARY TEACHING (2 credits) An overview of elementary school teaching in the 1990's. Observation and participation in field sites is an inte-

Cal U education majors participate in rootbeer-making experiment at a local school.

gral part of the course activities. Students identify specific practices in elementary schools that conform to the developmental interactionist model of teaching/learning. F

EDE 722: RESEARCH AND INSTRUCTION IN ELEMENTARY SCHOOLS (2 credits) A review of current research on instructional practices in elementary schools. There is a special focus on analyzing research related to the developmental interactionist view of teaching and learning. S

EDE 730: TEACHING IN KINDERGARTEN AND THE PRIMARY GRADES (2 credits) The purpose, direction, curriculum development, materials, and techniques for working with children in kindergarten and the primary grades. S

EDE 738: CHILDREN'S LITERATURE AND READING (2 credits) This course is a vital segment of the total reading program for the elementary school child. Permeating all instruction is the philosophy that children's growth in, and through, reading is dependent upon development skills for, and the lasting interest in, reading, as well as an appreciation of the literature in an effective elementary reading program. Emphasis is on ways teachers can use literature in the classroom to meet children's needs, to extend children's interest, to deepen children's literary insights, and to heighten children's appreciation of an extensive range of both prose and poetry appropriate to their age and maturity. F

EDE 740: RECENT TRENDS IN ELEMENTARY SCHOOL SCIENCE (3 credits) Representative samples of elementary science curricula. Emphasis is on the inquiry approach to teaching science, which actively involves children with science materials. The implications of psychological studies are included in relation to the elementary science curricula. Teachers engage in actual laboratory activities appropriate for elementary science. S

EDE 795: STUDENT TEACHING INTERNSHIP (9 credits) During this internship the student is assigned to work in two classrooms in the public schools. Under supervision, the student observes and participates in all teaching activities related to the performance of a teacher's work in the elementary grades. Besides field work, students attend practicum class once a week. Discussions are centered around the current materials utilized in all subject areas. Pennsylvania school laws relevant to the work of the classroom teacher are analyzed and discussed thoroughly. Opportunities are provided to discuss problems encountered by the students in their student teaching experiences. Teaching opportunities are identified and discussed on a weekly basis. F, S

English

Graduate Faculty: Professors Edward J. Chute, Philip Y. Coleman, Bernard DeFillippo, Robert W. Dillon, Sr., Sumner Ferris, Jack D. Goodstein, John Hanchin, Patricia L. Hartman, William Hendricks, Madelon Jacoba, Robert A. Korcheck, Frederick S. Lapisardi, William Murdick, Pratul Pathak, Horace S. Rockwood, III, Lisa M. Schwerdt, Madeline C. Smith, Carol Waterhouse, William Yahner

If you would like further information about these programs, phone or write the Department of English, California University of Pennsylvania, 250 University Avenue, California PA 15419-1394 (412) 938-4070, or the School of Graduate Studies and Research at (412) 938-4187.

Master of Arts in English

An applicant for this program should have an undergraduate degree in English or have completed at least twelve credits in undergraduate upper-division courses in English. Upon satisfactory completion of six credits of graduate work in English, the graduate student should apply for candidacy.

Candidates may choose from two Options: Option A, requiring a minimum of 30 credits, including 27 credits in English courses and three credits for a Master's Thesis; or Option B, requiring a minimum of 34 credits, including 33 credits in English courses and a one credit Research Paper. Either Research Study may be developed from a graduate course or independently. For the distinctions between them and the different requirements for each, graduate students should consult the English Graduate Coordinator.

All graduate students should take ENG 800, Methods of Research, as early as possible in their course of study. All students must pass a comprehensive examination.

Curriculum

(An asterisk designates a requirement.)

I: Linguistics:Minimum of 6 credits (Options A and B), from:

ENG 701	Composition Theory and Practice	3
ENG 705	Introduction to Old English	3
ENG 706	Middle English	3
ENG 707	Linguistics	3
ENG 708	Advanced Linguistics	3
ENG 710	History of the English Language	3
ENG 715	Chaucer	3

II. Literature: Minimum of 18 credits (Options A and B), from:

ENG 715	Chaucer	3
ENG 716	Middle English Drama	3
ENG 717	Shakespeare	3
ENG 718	Sixteenth-Century Non-Dramatic Literature	3
ENG 725	Non-Dramatic English Literature1600-1660	3
ENG 726	Jacobean and Caroline Drama	3
ENG 727	Milton	3
ENG 735	English Literature 1660-1700	3
ENG 736	English Literature 1700-1744	3
ENG 737	English Literature 1744-1798	3
ENG 738	Eighteenth-Century English Novel	3
ENG 745	Romantic Poetry	3
ENG 746	Victorian Poetry	3
ENG 747	Nineteenth-Century Non-Fictional Prose	3
ENG 748	Nineteenth-Century English Novel	3
ENG 755	Colonial American Literature	3
ENG 756	American Renaissance	3
ENG 757	The Rise of Realism	3
ENG 758	Modern American Poetry	3
ENG 760	Cultural Backgrounds of American Literature	3
ENG 765	Modern American Novel	3
ENG 766	Modern British Novel	3
ENG 767	History of Literary Criticism	3
ENG 768	Modern British Poetry	3
ENG 770	Modern Drama	3
ENG 790	Seminar in Literary Criticism	3
ENG 795	Seminar in English Literature	3
ENG 796	Seminar in American Literature	3
ENG 799	Independent Study	1-4

III. Research: Option A: 6 credits required; Option B: 4 credits required

*ENG 800	Methods of Research in English	3

Option A:

*ENG 859	Master's Thesis	3

Option B:

*ENG 819	Research Paper	1

Master of Education in English

An applicant for this program should have a certificate to teach English or Communication and should have completed at least 12 credits in upper-division courses in English.

Upon satisfactory completion of six credits in English, the graduate student should apply for admission to candidacy.

The Master of Education degree requires a minimum of 36 credits. Apart from the sequence of two courses in methodology and research (see below), there is no further research requirement: neither the Master's Thesis nor the Research Paper is required for this program.

All graduate students should take ENG 800, Methods of Research, as early as possible in their course of study. All students must pass a Comprehensive Examination for the Master of Education degree.

The Master of Education program in English is quite flexible, so it is important that graduate students' course selection be coherent. Consequently, all graduate students should, in consultation with the English Graduate Coordinator, draw up their proposed course of study towards the beginning of their graduate work and adhere to it as closely as possible.

Curriculum

(An asterisk designates a requirement.)

I. Research: 3 credits (See also V below):

*ENG 800	Methods of Research in English	3

II. English: A minimum of 18 credits, distributed as below

A: Linguistics: At least 6 credits, from among:

ENG 701	Composition Theory and Practice	3
ENG 705	Introduction to Old English	3
ENG 706	Middle English	3
ENG 707	Linguistics	3
ENG 708	Advanced Linguistics	3
ENG 710	History of the English Language	3
ENG 715	Chaucer	3

B. Literature: At least 12 credits, from among:

ENG 715	Chaucer	3
ENG 716	Middle English Drama	3
ENG 717	Shakespeare	3
ENG 718	Sixteenth-Century Non-Dramatic Literature	3
ENG 725	Non-Dramatic English Literature 1600-1660	3
ENG 726	Jacobean and Caroline Drama	3
ENG 727	Milton	3
ENG 735	English Literature 1660-1700	3
ENG 736	English Literature 1700-1744	3
ENG 737	English Literature 1744-1798	3
ENG 738	Eighteenth-Century English Novel	3
ENG 745	Romantic Poetry	3
ENG 746	Victorian Poetry	3
ENG 747	Nineteenth-Century Non-Fictional Prose	3
ENG 748	Nineteenth-Century English Novel	3
ENG 755	Colonial American Literature	3
ENG 756	American Renaissance	3
ENG 757	The Rise of Realism	3
ENG 758	Modern American Poetry	3
ENG 760	Cultural Backgrounds of American Literature	3
ENG 765	Modern American Novel	3
ENG 766	Modern British Novel	3
ENG 767	History of Literary Criticism	3
ENG 768	Modern British Poetry	3
ENG 770	Modern Drama	3
ENG 790	Seminar in Literary Criticism	3
ENG 795	Seminar in British Literature	3
ENG 796	Seminar in American Literature	3
ENG 799	Independent Study	1-4

III. Professional Education: a minimum of 6 credits

A: At least one of the following:

EDP 600	Statistical Methods	2
EDP 607	Advanced Educational Psychology	2
EDP 616	Guidance and Counseling	2
EDP 617	Psychology of Growth and Development	2
EDP 618	Social Psychology	2

B: At least one of the following:

EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
EDP 608	Comparative Education	2
EDP 610	Educational Sociology	2

IV. Cognate Fields: A minimum of 6 credits (such as History or Psychology), some or all of which may be chosen from II or III above. ENG 711, Problems in the Teaching of Writing, K-13, or ENG 714, Evaluating Writing, K-12, or both can be chosen here.

V. Research: 3 credits (See also I above.)

*ENG 802	Research Practicum/Research Project	3

ENGLISH COURSES (ENG)

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

ENG 701: COMPOSITION THEORY AND PRACTICE (3 credits) The study of theories of writing and approaches to pedagogy, emphasizing the latest research and contemporary practice in the field.

ENG 705: INTRODUCTION TO OLD ENGLISH (3 credits) An introduction to the earliest period (c. 600-1100) of the English language, in order to enable the graduate student to read such works as Beowulf in the original.

ENG 706: MIDDLE ENGLISH (3 credits) The literature and the language of the period 1100-1500, with special emphasis on writers and writings of the fourteenth and fifteenth centuries, such as Sir Thomas Malory, William Langland, the lyric poem, and the romance.

ENG 707: LINGUISTICS (3 credits) An introduction to the systematic study of language, by way of modern American English. The elements of language — sounds, words and inflections, grammar and syntax, usage — are considered in such a way as to enable the graduate student to pursue further linguistic studies and to use linguistic insights in teaching and writing.

ENG 708: ADVANCED LINGUISTICS (3 credits) A study of selected topics of current interest and of importance to the teacher and to the community: e.g., prescriptive grammar vs. descriptive grammar; bilingualism in the schools, the courts, and the streets; Black English; psycholinguistics; sociolinguistics; modern theories of grammar; structuralism and various kinds of generative grammar. An introductory course in linguistics (for example, ENG 707) is recommended, but not obligatory.

ENG 710: HISTORY OF THE ENGLISH LANGUAGE (3 credits) The origins, growth, and development of the world's most widespread and important language. The sounds, words, and grammar of English are treated in relation to major historical events that have affected the structure of modern-day British and American English. No previous knowledge of linguistics is assumed.

ENG 711: PROBLEMS IN THE TEACHING OF WRITING, GRADES K-12 (3 credits) This course is intended to assist graduate students or in-service teachers to examine their assumptions about the teaching of writing, by studying current theories of rhetoric and by writing in various modes for various purposes. Graduate students also become acquainted with research relating to style and with theories of writing assessment.

ENG 714: EVALUATING WRITING, GRADES K-12 (3 credits) A comprehensive summary of the best current information describing writing and measuring growth in writing. The emphasis is on how to use methods of evaluation as a means of improving writing skills and at the same time minimizing the time devoted by the teacher to the evaluation of written work.

ENG 715: CHAUCER (3 credits) A survey of the works of Geoffrey Chaucer, "the father of English poetry," with special attention to his early poems through Troilus and Criseyde and to selected Canterbury Tales. The poetry is read in the original Middle English, and the cultural background is considered, but the emphasis is on Chaucer's literary artistry.

ENG 716: MIDDLE ENGLISH DRAMA (3 credits) English plays and playwrights from the beginnings in the churches and monasteries to the great communal dramas of the fourteenth and fifteenth centuries, to the new vitality of the Renaissance, culminating in the works of Christopher Marlowe, Thomas Kyd, and Shakespeare.

ENG 717: SHAKESPEARE (3 credits) An introduction to the history of Shakespeare criticism and a presentation and discussion of the Elizabethan world-view frame the analysis of selected plays of Shakespeare. The graduate student is expected to develop an awareness of the major critical views and apply them to the plays.

ENG 718: SIXTEENTH-CENTURY NON-DRAMATIC LITERATURE (3 credits) A study of the search for literary form and the gradual establishment of English as an appropriate and effective vehicle for serious literature. Some of the authors considered may be John Skelton, Thomas Wyatt, the Earl of Surrey, Edmund Spenser, Philip Sidney, Sir Walter Raleigh, Thomas Lyly, Michael Drayton, and Thomas Campion, as well as the non-dramatic works of Ben Jonson, Christopher Marlowe, and William Shakespeare.

ENG 725: NON-DRAMATIC ENGLISH LITERATURE 1600-1660 (3 credits) Close reading and discussion of the principal poetic tradition — Metaphysical, Jonsonian, and Spenserian poetry — and a study of the maturing of English prose style, all within the context of a society self-consciously aware of shedding the intellectual trappings of one age and adopting a new, "scientific" view of the world.

ENG 726: JACOBEAN AND CAROLINE DRAMA (3 credits) The methods and types of drama (exclusive of Shakespeare) during the reigns of King James I (the Jacobean period) and King Charles I (the Caroline period), until the closing of the theaters by the Puritans in 1642. Among the playwrights considered are Ben Jonson, Thomas Dekker, Thomas Middleton, Francis Beaumont and John Fletcher, John Webster, John Ford, John Marston, Philip Massinger, George Chapman, James Shirley, and Cyril Tourneur.

ENG 727: MILTON (3 credits) A comprehensive survey of the poetry of John Milton (1608-1674) and his major prose works. Special emphasis is given to the major poems — Paradise Lost, Paradise Regained, Samson Agonistes, and Lycidas — and to the major criticism written about these works.

ENG 735: ENGLISH LITERATURE 1660-1700 (3 credits) The Restoration period and the beginnings of English neoclassicism in the works of such writers as John Dryden, John

Bunyan, John Milton, John Locke, Samuel Butler, Samuel Pepys, Andrew Marvell, and Aphra Behn and in such literary genres as drama, the proto-novel, literary criticism, satire, biography, memoirs, and philosophical and scientific writing.

ENG 736: ENGLISH LITERATURE 1700-1744 (3 credits) The age of Jonathan Swift and Alexander Pope, with special attention to their topical, political, moral and literary satires. Also considered are such writers as John Gay, Joseph Addison and Richard Steele, the Earl of Shaftesbury, and Daniel Defoe and such genres as the essay, the early novel, the letter, and political and social philosophy.

ENG 737: ENGLISH LITERATURE 1744-1798 (3 credits) The age of Samuel Johnson, with emphasis on his moral and critical writings and on James Boswell's Life of Johnson. Changing sensibilities and literary tastes are reflected in the works of such other writers as James Thomson, Thomas Gray, Thomas Chatterton, William Collins, William Cowper, Robert Burns, Christopher Smart, George Crabbe, Oliver Goldsmith, Richard Brinsley Sheridan, and Edward Gibbon, with particular emphasis on the poetry but some attention to drama, criticism, history, and other genres.

ENG 738: THE EIGHTEENTH-CENTURY ENGLISH NOVEL (3 credits) The early novel, and Daniel Defoe, Henry Fielding, Samuel Richardson, Lawrence Sterne, Tobias Smollett, Horace Walpole, Fanny Burney, Matthew Gregory ("Monk") Lewis, Oliver Goldsmith and others.

ENG 745: ROMANTIC POETRY (3 credits) The works of William Blake, William Wordsworth, Samuel Taylor Coleridge, George Gordon, Lord Byron, Percy Bysshe Shelley, and John Keats, with some attention to notable criticism of their work.

ENG 746: VICTORIAN POETRY (3 credits) The major figures of Alfred, Lord Tennyson, Robert Browning, and Matthew Arnold, and consideration of such other important writers as Gerard Manley Hopkins, Edward FitzGerald, Elizabeth Barrett Browning, Dante Gabriel Rossetti, Algernon Charles Swinburne, A. E. Housman, Thomas Hardy, Christina Rossetti, and William Morris.

ENG 747: NINETEENTH CENTURY NON-FICTIONAL PROSE (3 credits) The works of such writers as Charles Darwin (science), John Stuart Mill (political philosophy), John Henry Newman (religion), John Ruskin (art and social criticism), Matthew Arnold (literary and social criticism), Thomas Carlyle (history and social criticism), Thomas Henry Huxley (science), Thomas Babington Macaulay (history), and Walter Pater (art criticism), with attention to the intellectual and social background of their work and to their rhetorical strategies.

ENG 748: THE NINETEENTH-CENTURY ENGLISH NOVEL (3 credits) From Jane Austen to Joseph Conrad, with representation from such masters of the genre as Austen and Conrad, Sir Walter Scott, Charles Dickens, William Makepeace Thackeray, Anne, Charlotte, and Emily Brontë, George Eliot, Walter Pater, Mrs. Elizabeth Gaskell, George Meredith, Samuel Butler, and Thomas Hardy.

ENG 755: COLONIAL AMERICAN LITERATURE (3 credits) An investigation of the developing literature of the American Colonies, 1607-1789, with emphasis on the intellectual, political, religious, social and economic forces shaping that literature. Primary readings include the works of Anne Bradstreet, Michael Wigglesworth, Edward Taylor, the Mathers, Jonathan Edwards, Benjamin Franklin, Thomas Jefferson, and the Federalists; secondary readings include works of intellectual history dealing with the period.

ENG 756: THE AMERICAN RENAISSANCE (3 credits)A study of the heart of American Romanticism, particularly those writers and works ordinarily associated with the American Transcendental movement: Ralph Waldo Emerson, Henry David Thoreau, Walt Whitman, Nathaniel Hawthorne, and Herman Melville. Edgar Allen Poe and James Fenimore Cooper may also be considered.

ENG 757: THE RISE OF REALISM (3 credits) A critical analysis of literary trends from the Civil War to the post-World War I era. The course traces the development of American realistic fiction from Regional Realism (Sarah Orne Jewett, Mary E. Wilkins Freeman, and Mark Twain) to psychological realism (Henry James, William Dean Howells, and Edith Wharton). The works of Stephen Crane, Theodore Dreiser, and Jack London show the influence of Naturalism on the Realistic Movement.

ENG 758: MODERN AMERICAN POETRY (3 credits) The trends of twentieth-century American poetry, especially such seminal figures as Robert Frost, T. S. Eliot, Ezra Pound, and Wallace Stevens. Reading begin with the post-World War I poets; contemporary poets are also analyzed and discussed.

ENG 760: CULTURAL BACKGROUNDS OF AMERICAN LITERATURE (3 credits) A study of the movements and patterns in American intellectual and cultural history that have influenced the Amercian literary scene. Emphasis is placed on contemporary authors and writings. Students are encouraged to study theories of cultural influence as well as to formulate their own theories.

ENG 765: MODERN AMERICAN NOVEL (3 credits) Representative novels and novelists from the end of World War I to the present; e.g., Sherwood Anderson, Ernest Hemingway, F.Scott Fitzgerald, William Faulkner, Willa Cather, Sinclair Lewis, John Dos Passos, William Steinbeck, Norman Mailer, John Updike, Flannery O'Connor, Joyce Carol Oates, William Styron, Bernard Malamud, and Saul Bellow.

ENG 766: MODERN BRITISH NOVEL (3 credits) Experiments in both style and language abound in the twentieth-century British novel, as novelists both expand the language and explore new realms within the conscious worlds they inhabit. The course traces these experiments through the works of such artists as James Joyce, D. H. Lawrence, Joseph Conrad, Virginia Woolf, Samuel Beckett, Joyce Cary, Elizabeth Bowen, George Orwell, Lawrence Durrell, Malcolm Lowry, Evelyn Waugh, William Golding, Muriel Spark, Margaret Drabble and Iris Murdoch.

ENG 767: HISTORY OF LITERARY CRITICISM (3 credits) Both historical and practical in its concerns, this course reviews the large critical trends important to both English and American literature and provides graduate students with the opportunity for work in practical criticism of individual literary works.

ENG 768: MODERN BRITISH POETRY (3 credits) This course considers the struggle of the British poet to hold his place in a world where "things" — including his Empire — fall apart, where twice the "blood-dimmed tide is loosed," where "innocence" on both personal and national levels is "drowned." Among those poets studied are W. B. Yeats, D. H. Lawrence, Robert Graves, Wilfrid Owen, W. H. Auden, John Betjeman, Dylan Thomas, Philip Larkin, Ted Hughes, and Seamus Heaney.

ENG 770: MODERN DRAMA (3 credits) The twentieth century is an age of unprecedented innovation and technical development in the theater and it is also an age in which two basic themes — alienation of the individual and illusion vs. reality — hold the stage above all others. These innovations and themes are examined in the works of such playwrights as August Strindberg, Henrik Ibsen, Oscar Wilde, Alfred Jarry, Maurice Maeterlinck, Maxim Gorki, Bernard Shaw, W. B. Yeats, Luigi Pirandello, Fredrico Garcia Lorca, Eugene O'Neill, Bertold Brecht, Clifford Odets, Tennessee Williams, Samuel Beckett, Jean Genêt, Eugène Ionesco, Harold Pinter, William Albee, Robert Bolt, Peter Weiss, Tom Stoppard, and Sam Shepard.

ENG 790: SEMINAR IN LITERARY CRITICISM (3 credits) The study in detail of a particular critical theory, its history and development, and of those critics who best exemplify this tradition. Opportunity is given graduate students to show their ability to examine literary texts in the light of their study of the theory.

ENG 795: SEMINAR IN ENGLISH LITERATURE (3 credits) Intensive study of a single major writer, movement, or genre in English literature, for example, Sir Thomas Malory's Morte Darthur, William Blake, James Joyce, Romanticism, the Gothic novel, or science fiction. Seminar topics are announced in advance, and the course may be repeated for credit as the topic of the seminar varies.

ENG 796: SEMINAR IN AMERICAN LITERATURE (3 credits) Intensive study of a single major writer, movement, or genre in American literature, for example Walt Whitman, Nathaniel Hawthorne, Ernest Hemingway, Mark Twain, Eugene O'Neill, the Beat Poets, and the contemporary novel. Seminar topics are announced in advance, and the course may be repeated for credit as the topic of the seminar varies.

ENG 799: INDEPENDENT STUDIES IN ENGLISH (3 credits) An opportunity for the graduate student to do independent study or research in any of the subjects taught in the graduate English curriculum; the graduate student is advised by a member of the graduate English faculty. The nature and scope of the study are determined individually, with the approval of the graduate English faculty. (Graduate students who wish to earn credit for a specific course listed in this catalogue that may not be offered during the semester or summer session when they wish to take it should register not for this course but for Individualized Instruction. The graduate English advisers will advise students whether to enroll for Independent Study or Individualized Instruction.)

English graduate students tutor undergraduates in grammar and writing.

ENG 800: METHODS OF RESEARCH (3 credits) An introduction to the graduate study of English and of English education and to methods of bibliographical research in these fields. The course not only acquaints graduate students with standard reference works, editions, etc. but also provides an overview of some of the principal methods and preoccupations of the literary scholar and critic and the teacher of English. This course should be taken as early as possible in the graduate student's course of study.

ENG 802: RESEARCH PRACTICUM/RESEARCH PROJECT (3 credits) The final course in the curriculum for the Master of Education degree in English, this seminar assists graduate students in relating the ideas and content of the course work of the program to their roles as teachers and offers guidance in completing a project relevant to their particular pedagogical interests.

Mathematics and Computer Science

Graduate Faculty: Professors John A. Beyer, Jerry M. Blackmon, William F. Blank, Anette M. DeNardo, Antonio J. Fernandes, Nicholas Ford, John S. Gibson, Jr., Michael R. Gross, Judith I. Hall, Howard L. Hausher, Karla Hoffman, Robert T. Little, Andrew J. Machusko, George D. Novak, Anthony S. Pyzdrowski, Lawrence D. Romboski, Donald R. Sapko, Elwyn M. Schmidt, John S. Skocik, Jr., Virginia Valentino, Brian E. Weinrich, Paul D. Williams.

If you have any questions about these programs, phone or write the Department of Mathematics and Computer Science, California University of Pennsylvania, 250 University Avenue, California PA 15419-1394 (412) 938-4078, or the School of Graduate Studies and Research (412) 938-4187.

Master Of Education Degree with Mathematics and/or Computer Science Emphasis

With a shortage of personnel trained to teach computer science at the pre-college level, this program, with its two areas of specialization, is intended to prepare people to fill any of several roles in the schools: for example, to teach mathematics, to teach about computers, to teach non-computer topics using computers, or to plan administrative functions oriented towards the use of computers.

The goals of this program are to enable the graduate student who has completed it to:

•program satisfactorily in at least two computer languages (such as Pascal, C, or Cobol) and have some knowledge of at least one additional language;

•be conversant with general programming processes, regardless of the language being used;

•be skilled at a computerized information retrieval system and computers as an aid to learning in a variety of academic settings;

•serve as a collector and disseminator of information of computer-related information in a school district, assisting to keep other teachers and administrators appropriately up to date;

•help to acquire and organize a school's collection of hardware, software, or related print materials;

•provide leadership in revision of curriculum, so as to reflect appropriately computer capabilities and availability;

•continue to keep current in the computer-education field.

Admission Requirements

A graduate student's formal acceptance into the program is determined by the faculty of the Department of Mathematics and Computer Science. If applicants are considered deficient in some aspect of undergraduate preparation, the faculty will assign selected undergraduate courses to such students to remedy these deficiencies.

The program has two options: Option I, which requires at least 36 credits but does not require a Master's Thesis or Research Project; Option II, which requires at least 30 credits, plus a Master's Thesis or Research Project;

Curriculum

(An asterisk designates a requirement.)

A. Professional Education: Option I or II: 9 credits

*One of the following courses in Psychology:

EDP 607	Advanced Educational Psychology	2
EDP 617	Psychology of Growth and Development	2
EDP 636	Advanced Psychology of Learning	2

*One of the following courses, dealing with the Multi-cultural:

EDP 610	Educational Sociology	2
EDP 628	Psychology of the Disadvantaged Child	2

*One of the following courses, dealing with Special Education:

ESP 501	Introduction to Exceptionality	3
ESP 506	Habilitation Training	3
ESP 712	Seminar on Contemporary Trends and Issues in the Education of Exceptional Populations	3

*One of the two following courses, dealing with Humanistic concerns:

EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2

B. Mathematics and Computer Science:

Option I: A minimum of 21 credits from the following;
Option II: A minimum of 15 credits from the following:

GEE 537	Computer Science	2
GMA 786	Computer Science for Teachers	2
CSC 735	Discrete Computational Structures	3

GMA 741	Linear Algebra	3
CSC 771	Computer and Information Science I	3
CSC 772	Computer and Information Science II	3
GMA 761	Mathematical Statistics I	3
GMA 762	Mathematical Statistics II	3
GMA 751	Abstract Algebra	3
CSC 700	Computer Operations	3
CSC 781	Programming with COBOL	3
CSC 782	Advanced Programming with COBOL	3
CSC 783	Assembly Language	3
CSC 724	Computer Graphics	3
CSC 775	Systems Analysis	3
CSC 777	Data Organizations	3
CSC 778	Computer Systems' Architectural Structures	3
CSC 734	Methods in Numerical Analysis	3
CSC 755	Computer Language and Design	3
CSC 756	Data Base Management Systems	3

C. Research: Option I: 6 credits; Option II: 6-8 credits

Option I:

*RES 800	Methods of Research	2
*EDP 600	Statistical Methods	2
*EDP 656	Computer-Oriented Research	2

Option II:

*RES 800	Methods of Research	2
*EDP 600	Statistical Methods	2
*EDP 829	Research Project	2
or		
*EDP 849	Master's Thesis	4

Master of Arts Degree in Mathematics

Curriculum

(An asterisk designates a requirement.)

In either Option I or Option II, at least 6 credits from each of the four following areas:

A. Analysis: minimum of 6 credits:

GMA 701	Real Variable Analysis I	3
GMA 702	Real Variable Analysis II	3
GMA 716	Differential Equations I	3
GMA 755	Topology	3
GMA 713	Complex Variable Analysis	3

B. Algebra: minimum of 6 credits:

GMA 751	Abstract Algebra	3
GMA 741	Linear Algebra	3
GMA 725	Theory of Numbers	3
GMA 728	Group Theory	3

C. Geometry: minimum of 6 credits:

GMA 743	Projective Geometry I	3
GMA 744	Projective Geometry II	3

D. Applied Mathematics and Research: minimum of 6 credits

GMA 761	Mathematical Statistics I	3
GMA 762	Mathematical Statistics II	3
CSC 771	Computer and Information Science I	3
CSC 772	Computer and Information Science II	3

E. Minimum of 3 credits from Areas A, B, C, or D

F. Research: 3 credits (Option II only)

*RES 849	Master's Thesis	3

COMPUTER SCIENCE COURSES (CSC)

CSC 700: COMPUTER OPERATIONS (3 credits) Designed for the graduate student who wishes to study the theory of the operation of the computer, this course looks at computer operations on the mainframe computer, minicomputer, and microcomputer. Emphasis is placed on the study of the hardware of the computer and its peripheral devices, along with operating systems of the computer. Prerequisite: CSC 771.

CSC 724: COMPUTER GRAPHICS (3 credits) The utilization and development of graphics software with an emphasis on business and scientific applications. Laboratory sessions utilize the computer via interactive graphics terminals. Prerequisites: CSC 771,772.

CSC 734: METHODS IN NUMERICAL ANALYSIS (3 credits) Seeks to bring about understanding of efficient numerical methods for the solution of algebraic, transcendental, and differential equations. Topics include numerical solution of large systems of linear equations using direct and iterative methods; calculation of eigenvalues, eigenvectors, and inverses of matrices; numerical integration and differential equations; interpolation and curve fitting. Prerequisites: Calculus, Discrete Computational Structures, programming experience in one high-level computer language.

CSC 735: DISCRETE COMPUTATIONAL STRUCTURES (3 credits) This course provides the requisite context for theoretical computer science. Topics include algebraic structures such as groups, semigroups, fields, and lattices. Application studies in combinatorics, coding theory, finite state machines, modular arithmetic, and graph theory. Prerequisites: Linear Algebra; programming experience in high-level or in Assembly computer languages.

CSC 755: COMPUTER LANGUAGE AND DESIGN (3 credits) An examination of the various facets of language design and their implementations. Topics covered include syntax and semantic definitions, data abstractions, strong typing, control structures, modularization techniques, and issues of program correctness. Prerequisite: CSC 777.

CSC 756: DATA BASE MANAGEMENT SYSTEMS (3 credits) Increases understanding of how data resources can be managed to support effectively information systems in organizations. The graduate student is taught the application, logical, structure, and physical implementation of database systems. Prerequisite: CSC 782 with Information Structures recommended.

CSC 771: COMPUTER AND INFORMATION SCIENCE I (3 credits) An introduction to such digital computer concepts as (a) data input, (b) data representation, (c) data output, (d) secondary storage devices, (e) flow charting and program logic, and (f) operating systems, business systems, and information systems. The course shows the impact of computers on business, and the graduate student learns elements of Pascal and programming techniques in that language. Emphasis on problem solving by means of computer programming.

CSC 772: COMPUTER AND INFORMATION SCIENCES II (3 credits) A continuation of CSC 771: emphasis on solution of mathematical and business-oriented programs; and on operations research techniques programming involving statistics, computer simulation and linear programming, transportation algorithms, etc. Graduate students become acquainted with peripheral devices in programming. This is principally an advanced course in `C' language, using the computer to solve numerical analysis problems related to business, science, and education. Prerequisite: CSC 771 or permission of instructor.

CSC 775: SYSTEMS ANALYSIS (3 credits) An introduction to the study of computer-based management information systems. Topics include the analysis, design, and implementation of management information systems, the operation characteristics of a management information system, and the functional parts of a management information system, file structure techniques, data communication characteristics and system implementation models. Prerequisite: CSC 771.

CSC 777: DATA ORGANIZATIONS (3 credits) Design, implementation, and analysis of data structures and techniques for information processing, including, character strings, aggregates such as records and files, abstract structures such as stacks, queues, sorting, and storage management. Prerequisites: Discrete Computational Structures, programming experience in one high-level computer language.

CSC 778: COMPUTER SYSTEMS' ARCHITECTURAL STRUCTURES (3 credits) The course progresses from an introductory overview of computer organizations through a detailed examination of the components and operations of modern computer systems. Prerequisite: assembly programming.

CSC 781: PROGRAMMING WITH COBOL (3 credits) The concepts and theory of data processing through the components of structured COBOL programming. Prerequisite: One course in computer science.

CSC 782: ADVANCED PROGRAMMING WITH COBOL (3 credits) The structured methodology of program design, development, testing, implementation, and documentation of common business-oriented applications using COBOL. Includes coverage of sequential and random access files and processing techniques and development of programs and systems of programs for batch and interactive environments. Prerequisites: CSC 771, 772.

CSC 783: ASSEMBLY LANGUAGE (3 credits) Architecture and instructions, including coding control structures, indexing, indirect addressing, character manipulation, subprograms, and macros. Prerequisites: CSC 771, 772.

MATHEMATICS COURSES (GMA)

GMA 701: REAL VARIABLE ANALYSIS I (3 credits) From a rigorous development of the real numbers, measurement, mapping, functions and limits to differentiation and integration, with the purpose of studying properties of real variables that are essential tools of mathematical analysis. Prerequisite: degree of mathematical maturity that might be attained in a course in Advanced Calculus.

GMA 702: REAL VARIABLE ANALYSIS II (3 credits) Continuing from GMA 701, this course studies properties of real variables that are essential tools of mathematical analysis. Prerequisite: GMA 701.

GMA 713: COMPLEX VARIABLE ANALYSIS (3 credits) Differential and integral calculus of analytic functions, residues, conformal transformations, harmonic functions. Serves as a solid background for more advanced theory and for other useful and unusual applications, with some important applications to problems in engineering and physics. Prerequisite: two semesters of undergraduate Advanced Calculus.

GMA 716: DIFFERENTIAL EQUATIONS (3 credits) Beginning with first order of ordinary differential equations and progressing to higher order equations and some partial differential equations, including some applications.

GMA 725: THEORY OF NUMBERS (3 credits) A theory of those classical results most related to the teaching of mathematics: integers, unique factorizations, Diophantine equations, congruences, Fermat's and Wilson's theorems, divisibility, perfect numbers, Euler's Theorem and function, decimals, Pythagorean triangles, infinite descent and Fermat's conjecture, magic squares, calendar problems.

GMA 741: LINEAR ALGEBRA (3 credits) This course furthers the graduate student's competency in linear algebra to topics above the level encountered in the undergraduate curriculum. Topics are chosen from among eigenvalues and eigenvectors, diagonalization, Shur's theorem, the Cayley-Hamilton theorem, Jordan canonical form, quadratic forms, linear programming, graph theory, and game theory. Prerequisite: An undergraduate course in linear algebra or permission of the instructor.

The Elmo Natali Student Center contains a food court and restaurant, a book store and other shops, offices for student organizations and staff, and places to study, talk or meet friends.

GMA 743: PROJECTIVE GEOMETRY (3 credits) A modern introduction to n-spaces, emphasizing the interrelationships between projective geometry, finite-dimensional linear algebra, and algebraic structures. Prerequisite: an undergraduate course in linear algebra.

GMA 744: PROJECTIVE GEOMETRY II (3 credits) A continuation of GMA 743, Projective Geometry I.

GMA 751: ABSTRACT ALGEBRA (3 credits) The basic algebraic systems that comprise modern abstract algebra, to the level of competency where proofs can be recognized and invented. Algebraic systems investigated usually include groups, rings, integral domains, and fields. Prerequisite: an undergraduate course in abstract algebra or the permission of the instructor.

GMA 755: TOPOLOGY (3 credits) Preliminaries (sets, relations, cardinality, etc.), topologies, separation axioms, coverings, compactness, connectedness, continuity, homomorphism, convergence, metric spaces. Prerequisite: Undergraduate calculus sequence.

GMA 761: MATHEMATICAL STATISTICS I (3 credits) The basic concepts of both discrete and continuous probability theory. Random variables are studied that occur frequently in probability applications and statistical inference. Sampling distributions are emphasized and developed, using moment generating function techniques. At the end of the course the graduate student will know about many of the important probability and distribution theory results that form the basis for commonly used statistical inference procedures. Upon completion the graduate student will be prepared to take the following course. Prerequisite: Undergraduate calculus sequence and linear algebra.

GMA 762: MATHEMATICAL STATISTICS II (3 credits) The fundamental concepts and methods of mathematical statistical inference. The graduate student will learn about both classical and modern statistical techniques and the areas of estimation theory, tests of hypothesis, regression, and distribution free methods. Topics such as maximum likelihood methods, Nexman-Pearson Lemma, likelihood ratio tests, and unbiased minimum variance estimators are covered. Prerequisite: Mathematical Statistics I or an equivalent course.

GMA 785: HISTORY OF MATHEMATICS (2 credits) An historical summary of the development of mathematics, with emphasis on the relation of the development of mathematics to the development of Western culture. The lives and discoveries of many mathematicians are discussed, and methods of incorporating the history of mathematics into school mathematics courses are considered.

GMA 786: COMPUTER SCIENCE FOR TEACHERS (2 credits) This course is for the secondary-school mathematics teacher who is interested in an introduction to the elementary concepts of computer programming, the early history and development of computers, and the uses of the computer in the school and society. Emphasis is placed on writing computer programs related to topics in secondary school mathematics.

Reading

Graduate Faculty: Professors M. Eileen Aiken, Ronald A. Christ, Allan D. Jacobs, Gary W. Kennedy, Diane H. Nettles, Pamela B. Petrick, Anthony J. Saludis, John R. Vargo

Students wishing to enroll in any of these programs must have an undergraduate Q.P.A. of 3.0 or take the Miller Analogies Test and receive a score of 35 or better.

Applicants must meet all the requirements for admission to the School of Graduate Studies and Research and possess a valid teaching certificate. Candidates without a teaching certificate must obtain approval from the Graduate Dean to apply.

All students who are accepted into Graduate School and indicate an interest in completing either the Master's in Reading or Reading Certification program will be advised by the Reading Programs Coordinator for at least one semester.

After completing six (and no more than 12) credit hours, all students must apply for candidacy in the program of their choice. This application for candidacy is submitted to the Graduate School and reviewed by the Graduate Dean and the Reading Programs Coordinator.

Upon being accepted as a candidate for either program, the student will be assigned an advisor. This advisor is responsible for informing the student of program requirements, helping to monitor the student's progress, and administering for the comprehensive examination questions.

If you have any questions about these programs, phone or write the Reading Programs Coordinator, Department of Elementary Education, California University of Pennsylvania, 250 University Avenue, California PA 15419-1394, (412) 938 4135, or the School of Graduate Studies and Research, (412) 938-4187.

Master of Education Degree in Reading

The candidate has the options listed below; namely, Option A, with at least 36 credits, including a Master's Thesis or a Research Project, or Option B, with at least 38 credits but not a Master's Thesis or Research Project.

Upon completion of the required credits, candidates must pass a comprehensive examination. Students without a teaching certificate must obtain approval from the Graduate Dean for admittance into the program.

Curriculum

(* designates course with prerequisites.)

I. Reading and Language Arts:
Option A: 21 credits required
Option B: 23 credits required
(The first four courses must be taken sequentially.)

RSP 701	Fundamentals of Reading Instruction (K-12)	2
*RSP 702	Diagnosis and Treatment of Reading Problems	3
*RSP 703	Practicum: Diagnostic Case Studies	3
*RSP 704	Practicum: Remedial Case Studies	3
*RSP 705	Psychology of Reading	2
RSP 730	Problems in Secondary Reading	2
*RSP 706	Adult Literacy	3
EDE 738	Children's Literature and Reading	2

Electives: (Applies only to Option B. Choose 2-3 credits)

EDE 715	Recent Trends in Language Arts	3
RSP 739	Field Experiences in Reading	1-3
EDE 780	Seminar in Reading and Language Arts	2

II. Psychology:
Option A and B: 4 credits required

EDP 636	Advanced Psychology of Learning	2

Electives:

EDP 607	Advanced Educational Psychology	2
EDP 617	Psychology of Growth and Development	2
EDP 628	Psychology of the Disadvantaged Child	2
PSY 746	Psychology of Learning Disabilities and Prescriptive Techniques	3

III. Educational Research
Option A: 6 credits required, as follows:

RES 800	Methods of Research	2
Either		
RES 829	Research Project	2
or		
RES 849	Master's Thesis	4

(The Research Project or Thesis topic must be in Reading or Language Arts.)

Electives (choose one only if completing a Project):

EDP 600	Statistical Methods	2
or		
EDP 706	Evaluation and Measurements	2

Option B: 6 credits required, as follows:

RES 800	Methods of Research	2

Electives:

EDP 600	Statistical Methods	2
or		
EDP 706	Evaluation and Measurements	2
GEE 537	Computer Science	2

IV. Related Courses:
Options A and B: 5 credits required

Either

EDP 637	Development and Organization of the Curriculum for the Secondary School	3
or		
EDE 705	Development and Organization of the Curriculum for the Elementary School	3

Electives:

EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2
EDE 700	Historical Background of the Elementary School	2
GEE 520	Language in Society	2
EDE 715	Recent Trends in Language Arts (Applies only to Option A)	2

Certification as a Reading Specialist

This program is distinct from the two Master's degree programs listed immediately above. It is a certification-only program in which no degree is received. In order to be admitted to this program, the applicant must meet all the requirements for admission to the School of Graduate Studies and Research and possess a valid teaching certificate.

Students without a teaching certificate must obtain approval from the Graduate Dean for admittance into the program. Students must also have an undergraduate Q.P.A. of 3.0 or a score of 35 or better on the Miller Analogies Test. Upon completion of the required credits, the candidate must pass a comprehensive examination.

Curriculum

31 Total Credits Required

I. Reading and Language Arts: 24 Credits required
An asterisk designates a course with required prerequisites. (The first four courses must be taken sequentially.)

RSP 701	Fundamentals of Reading Instruction (K-12)	2
*RSP 702	Diagnosis and Treatment of Reading Problems	3
*RSP 703	Practicum: Diagnostic Case Studies	3
*RSP 704	Practicum: Remedial Case Studies	3
*RSP 705	Psychology of Reading	2
RSP 730	Problems in Secondary Reading	2
*RSP 706	Adult Literacy	3
EDE 738	Children's Literature and Reading	2

Electives (Choose 2-3 credits):

EDE 715	Recent Trends in Language Arts	3
RSP 739	Field Experiences in Reading	1-3
EDE 780	Seminar in Reading and Language Arts	2

II. Psychology: 2 credits required

EDP 636	Advanced Psychology of Learning	2

III. Educational Research: 2 credits required (Choose one course)

RES 800	Methods of Research	2
EDP 600	Statistical Methods	2
EDE 706	Evaluation and Measurements	2

IV. Related Courses: 3 credits required

EDP 637	Development and Organization of the Curriculum for the Secondary School	3
EDE 705	Development and Organization of the Curriculum for the Elementary School	3

Certification as a Reading Supervisor

For admission into the Reading Supervisor's Program, the applicant must hold a Pennsylvania permanent, or Level II, Instructional Certificate and have held certification as a Reading Specialist for 5 years. After the credentials have been received, the prospective student is referred to the Reading Coordinator for an interview before admission into the program.

The purpose of the Reading Supervisor's Program is to prepare the holder of a Level II Instructional Certificate for a supervisory capacity in the specialized area of Reading.

The role of the Reading Supervisor in the public school is to design an evaluation program to assess the reading needs of a given school district (K-12), develop a program to improve instruction in reading that is consistent with the educational

philosophy of that district, and propose and explore steps for implementation of the program and evaluate its progress.

The acquisition of the following competencies will enable the graduate student to fulfill this role:

A. The prospective Reading Supervisor will implement the techniques, principles, and practices of supervision.
B. The prospective Reading Supervisor will be able to develop and administer a total Reading program.
C. The prospective Reading Supervisor will serve as a consultant to the Reading Specialist, classroom teacher, and other personnel who request help or information concerning the teaching of reading.
D. The prospective Reading Supervisor will coordinate the efforts of various specialists in related fields.
E. The prospective Reading Supervisor will have knowledge concerning reading research, current literature, reading programs, and appropriate texts and materials.

Curriculum

14 Total Credits Required

RSU 680	Improvement of Instruction through Supervision	2
Either		
RSU 685	Group Dynamics	2
or		
ADP 743	Group Process	2
ADP 731	School Law	2
RSP 731	Supervision and Administration of a Reading Program	2
RSP 732	Reading Curriculum and Instructional Materials	2
RSP 733	Reading Internship	4

READING SPECIALIST (RSP) AND READING SUPERVISOR (RSU) COURSES

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

RSP 701: FUNDAMENTALS OF READING INSTRUCTION (2 credits) Students are introduced to instructional strategies that will enable graduate students to make functional use of the basic reading skills in the classroom or Reading Clinic setting. F

RSP 702: DIAGNOSIS AND TREATMENT OF READING PROBLEMS (3 credits) This course explores the gap between the child's reading expectancy level and actual reading level. Theories of causes of reading difficulties and an introduction to diagnostic techniques and strategies for prevention of further difficulties are covered. Prerequisite: RSP 701. S

RSP 703: PRACTICUM: DIAGNOSTIC CASE STUDIES (3 credits) Students identify reading strengths and weaknesses of K-12 grade pupils through the use of various diagnostic materials and techniques. Findings resulting from diagnostic procedures and recommendations for remediation of a pupil are reported in case study format. Prerequisites: RSP 701 and RSP 702. F

RSP 704: PRACTICUM: REMEDIAL CASE STUDIES (3 credits) This course must be taken the semester immediately following the completion of RSP 703. The student applies knowledge of materials and methods gained in prerequisite classes in order to correct reading problems of a remedial reading pupil in a clinical situation. Prerequisites: RSP 701, RSP 702, RSP 703. S

RSP 705: PSYCHOLOGY OF READING (2 credits) This course introduces models of the reading process and research in the human response to reading. Developmental interactionist strategies to be used in the teaching of reading are provided through the understanding of this knowledge. The course provides students with knowledge of reading theory, research, and implications for instruction. Prerequisite: RSP 701. F

RSP 706: ADULT LITERACY (3 credits) This course will expose the students to the point of view that the adult learner is a complex individual and has diverse needs, most of which have some bearing on any reading difficulties. Theories of the causes of adult illiteracy will be presented and diagnostic and remedial techniques will be given. Prerequisites: RSP 701, RSP 702. F

RSP 730: PROBLEMS IN SECONDARY READING (2 credits) Students examine the problems inherent in "reading to learn" in the content areas at the secondary level. Theory based, practical strategies for content area reading instruction are studied. The process of writing to learn and studying along with relevant, meaning-based strategies is also explored. Professional growth and improved reading instruction through planned and informal staff development programs are discussed. S

RSP 739: FIELD EXPERIENCES IN READING (1 3 credits) This is an independent study in an area pertinent to each individual's needs and interests in the field of reading. Projects will be completed in an area mutually agreed upon by the student and the professor. Projects include a choice of the following: a research paper on a topic of relevance and importance to the student's needs or a field experience at an adult literacy center.

RSU 680: IMPROVEMENT OF INSTRUCTION THROUGH SUPERVISION (2 credits) This seminar is intended to prepare participants for performing the supervisory function in schools. The purpose is to increase competency in a practical sense by finding ways to help reading specialists and teachers ask questions about their present and future methods of instruction. In structure, the seminar deals with theory, research, practice, and evolving concepts that have realistic implications for supervision in the school environment.

RSU 685: GROUP DYNAMICS (2 credits) This course reflects the major tenet of the developmental interactionist model by having participants integrate theory and exercises into an inquiry (or experiential) approach to learning about the dynamics of small groups. The techniques are useful for working with children and adults.

RSP 731: SUPERVISION AND ADMINISTRATION OF A READING PROGRAM (2 credits) This course addresses common problems in the administration and supervision of reading programs, including problems of materials and methods, problems of administrative grouping, problems of evaluation, and problems of outcome. Emphasis is placed on the recruitment of qualified teachers, promotion policies, teaching schedules, administering tests and evaluating results, safeguarding the pupil during the reading program, and reporting student progress.

RSP 732: READING CURRICULUM AND INSTRUCTIONAL MATERIALS (2 credits) This course focuses on the introduction, selection and evaluation of the reading curriculum and instructional materials in grades K-12. The developmental sequence of materials throughout the curriculum, the implementation of those materials, and their possible strengths and weaknesses are explored.

RSP 733: READING INTERNSHIP (4 credits) The student is provided with a practicum of clinical and school supervision experiences in a reading program.

Graduate students enrolled in the reading program may work toward either certification or a Master's degree.

School Psychology

Graduate Faculty: Professors Richard G. Cavasina, Gail S. Ditkoff, Kirk R. John, Sam P. Lonich, Elizabeth Mason, Richard D. Scott, Dennis Sweeney, Sylvia S. Williams, Maurice E. Wilson

If you have any questions about these programs, phone or write the Department of Psychology, California University of Pennsylvania, 250 University Avenue, California PA 15419-1394, (412) 938-4100, or the School of Graduate Studies and Research (412) 938-4187.

Admission to the Degree Program

In addition to the other requirements for admission to the School of Graduate Studies and Research, applicants for the Master of Science degree in the School Psychology Program must also meet the following criteria:

(1) Applicants must have an adequate background in undergraduate Psychology courses, with a minimum of 15 such credits required.

(2) Adequacy of background will be determined by the Advisory Committee of the School Psychology program.

(3) Applicants must have at least a 3.0 quality point average in undergraduate work and at least a B average in Psychology courses to be admitted to this graduate program in School Psychology.

(4) Applicants who do not meet the quality point requirement may, at the discretion of the Psychology department, be required to take the Miller Analogies Test or the Graduate Record Examination.

(5) Other applicants with less than a B grade average in Psychology courses may also, at the discretion of the Psychology Department, be required to take the Miller Analogies Test or Graduate Record Examination.

(6) Applicants for admission to graduate study are interviewed by members of the Admission Committee. Admission to graduate study for the M.S. degree does not guarantee admission to the Certification Program.

(7) Applicants must present two letters of professional recommendation that attest to the ability of the student to do graduate work in Psychology.

(8) Applicants must submit an autobiographical essay which focuses on the applicant's motivation to become a school psychologist.

Admission to the Certification Program

In addition to the other requirements for admission to the School of Graduate Studies and Research, applicants for the Certification Program in School Psychology must also meet the following criteria:

(1) Graduate students who have earned a Master's degree or its equivalent may apply for admission to the Certification phase of the School Psychology Program.

(2) Applicants must have an adequate background in undergraduate Psychology courses, with a minimum of 15 such credits.

(3) Adequacy of background will be determined by the Advisory Committee of the School Psychology program.

(4) All credits earned following admission to the Certification Phase should be earned at California University of Pennsylvania.

(5) Applicants for admission to Certification are interviewed by members of the Certification Committee.

(6) Applicants must present two letters of professional recommendation that attest to the ability of the student to do graduate work in Psychology.

Candidacy: To be considered for candidacy, the applicant must submit two letters of recommendation and be interviewed by the Candidacy Committee of the Graduate School Psychology Program.

A minimum of thirty graduate credits is required for the Master of Science degree. A minimum of sixty graduate credits is required for Certification as a School Psychologist.

Curricula

(A single asterisk signifies that the course is required for the Master's degree; a double asterisk, that the course is required for Certification as a School Psychologist.)

I. Psychology and Educational Foundations
For the M.S. Degree: minimum of 10 credits required
For Certification: minimum of 10 credits required

A. Core Courses:

*PSY 702	Psychopathology of Childhood	3
*EDP 617	Psychology of Growth and Development	2
*EDP 636	Advanced Psychology of Learning	2
*PSY 741	Theories of Counseling and Psychotherapy	3

B. Electives:

EDP 605	Philosophy of Education	2
EDP 686	Group Dynamics	2

II. Psychological Methods and Techniques
For the M.S. Degree: minimum of 9 credits required
For certification: minimum of 21 credits required

A. Core Courses:

*PSY 721	Advanced Tests and Measurements	3
*PSY 722	Individual Psychological Evaluation I	3
*PSY 723	Individual Psychological Evaluation II	3
**PSY 724	Practicum in School Psychology	3
**PSY 734	Assessment of Personality and Behavior I	3
**PSY 742	Techniques of Counseling and Psychotherapy with Practicum	3
**PSY 756	Consultation and Group Processes with Practicum	3

B. Elective:

**PSY 735	Assessment of Personality and Behavior II	3
**CED 705	Developmental Group Counseling	3

III. School Programs and Organization
For the M.S. Degree: minimum of 3 credits required
For Certification: minimum of 6 credits required

A. Core Courses:

**PSY 746	Psychology of Learning Disabilities	3
*PSY 752	Fundamentals of School Psychology	3

B. Electives:

EDE 705	Development and Organization of the Curriculum for Elementary Schools	3
PSY 795	Seminar in Behavior Modification with Practicum	3
RSP 701	Fundamentals of Reading Instruction	2
ESP 704	Diagnostic Testing and Prescriptive Teaching	3
CED 703	Consulting Theory	3

IV. Research
(A) Thesis Option (30-credit M.S. degree)
For the M.S. Degree: minimum of 8 credits required
For Certification: minimum of 8 credits required

A: Core Courses:

*RES 800	Methods of Research	2
*EDP 600	Statistical Methods	2
*PSY 849	Master's Thesis	4

B: Electives:

PSY 796	Seminar in Analysis of Research in School Psychology	3
GEE 537	Computer Science	2

(B) Alternate Option (36-credit M.S. Degree)
For the M.S. Degree: minimum of 6 credits required
For Certification: minimum of 6 credits required

A. Core Courses:

*RES 800	Methods of Research	2
*EDP 600	Statistical Methods	2
*PSY 796	Seminar in Analysis of Research in School Psychology	3

B: Elective:

GEE 537	Computer Science	2

V. Clinical Practicum: Internship
Minimum Credits Required for Certification: 15

A. Core Courses:

**PSY 773	Internship in School Psychology (Minimum of 1200 clock hours in supervised experience)	12
**PSY 798	Internship Seminar	3

PSYCHOLOGY COURSES (PSY)

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

PSY 701: PERSONALITY THEORY (2 credits) A course designed to provide the student with an understanding of the development of personality from various theoretical points of view. The course draws comparisons between various theories. The role of personality as it affects the behavior of children, adolescents, and adults is explored. This is a fundamental course in psychology that may become the basis for further development of the student in applied courses and may assist the student to perform the function of a consultant.

PSY 702: PSYCHOPATHOLOGY OF CHILDHOOD (3 credits) This course is designed to provide a comprehensive understanding of disorders of childhood and their behavioral manifestations. Various concepts of normality and abnormality are used to demonstrate the approaches available for assessing behavioral disorders. Attention is given to understanding and identifying a variety of emotional, learning, and social problems in children. The student becomes acquainted with the implications of such disorders for the school and for methods of remediation and treatment. Emphasis is on etiology, diagnosis and approaches to treatment or intervention in the schools. Field experiences in settings dealing with exceptional children are required. S

PSY 721: ADVANCED TESTS AND MEASUREMENTS (3 credits) This course is designed to provide the student with an understanding of the use of tests for diagnostic studies of all types of clients. It explores the way in which tests are constructed, the questions of validity, reliability, objectivity, standardized conditions, test administration requirements, normative data, and the ethical uses of tests. The course provides a survey of some representative tests of achievement, aptitude, intelligence, and interests. Students also receive practice in administering, scoring and interpreting such tests through a practicum involving an evaluation of themselves and at least one client. Summer

PSY 722: INDIVIDUAL PSYCHOLOGICAL EVALUATION I WITH PRACTICUM (3 credits) Emphasizes theory and competence in the administration, scoring, and interpretation of the Stanford-Binet Intelligence Scale-IV. Practical experiences in the administration and interpretation of the test and the use of Bender Visual Motor Gestalt test, with school-aged children are provided. Extensive supervised practice in administration, scoring, and interpretation utilizes subjects aged 2 to adult. Theory and experience with other infant and child measures of intelligence such as the Cattell and the K-ABC are included. Psychological report writing is stressed. Prerequisite: PSY 721. F

PSY 723: INDIVIDUAL PSYCHOLOGICAL EVALUATION II WITH PRACTICUM (3 credits) Emphasizes theory and competence in the administration, scoring, and interpretation of the Wechsler Scales: WISC-III, WPPSI-R, and WAIS-R. Attention is directed to the use of these scales to measure intellectual levels, and identify and describe learning/ adjustment/developmental problems. Practical experiences are required involving testing with these scales and demonstration of competency in the administration, scoring, and interpretation of each scale. Psychological report writing is stressed. Prerequisite: PSY 721. F

PSY 724: PRACTICUM IN SCHOOL PSYCHOLOGY (3 credits) A practicum in psychoeducational assessment in which students work with clients through the School Psychology Clinic. Students develop competence in the administration, scoring, and interpretation of individually administered assessment tools, with an emphasis on diagnostic testing. Under faculty supervision, students conduct comprehensive evaluations of clients, including gathering background information, test administration, report writing and consultation with clients. Prerequisites: PSY 721, PSY 722, and PSY 723. S

PSY 734: ASSESSMENT OF PERSONALITY AND BEHAVIOR I (3 credits) An introduction to the theory of projective techniques in the study of personality, motivation, abnormality, and dynamics of behavior. Experience is given in the administration, scoring, and interpretation of some of the more widely used projective tests, such as the Bender, Human Figure Drawing, Sentence Completion, H-T-P, T.A.T. and C.A.T. Behavior rating scales and self report personality inventories are included. Students receive extensive experience in interpreting protocols they obtain from subjects aged four to adult. Particular attention is given to the use of such tests in understanding psychological disorders and planning for remediation or treatment. Practical experiences will be gained by testing clients of various ages in the School Psychology Clinic. Prerequisites: PSY 702, PSY 721, PSY 722, and PSY 723. S

PSY 735 ASSESSMENT OF PERSONALITY AND BEHAVIOR II (3 credits) A course on the theoretical rationale, administration, scoring, and interpretation of the Rorschach technique as a method of personality assessment. Extensive supervised experience is provided in the scoring and interpretation of protocols.

PSY 741: THEORIES OF COUNSELING AND PSYCHOTHERAPY (3 credits) This course is designed to introduce students to the most common therapeutic approaches in use today. Lectures, classroom demonstrations and role playing are utilized to illustrate these various orientations. Student participation is required. A research paper comparing and contrasting theories is required. A position paper stating the student's own orientation is required. F

PSY 742: TECHNIQUES OF COUNSELING AND PSYCHOTHERAPY WITH PRACTICUM (3 credits) This course is intended to provide both a didactic and an actual experience in counseling. Students familiarize themselves with the phases, procedures, and goals of counseling and therapy through assigned readings, tapes, and group discussion of case presentations. Students are simultaneously required to assume responsibility for a minimum of two cases in an approved setting. Those students currently working in a school district may select cases from that setting. Cases are to be approved by the instructor. Supervision of all cases is provided both in group sessions and on an individual basis. Students are seen outside of regularly scheduled group meetings for individual supervision during the week, when necessary. Prerequisite: PSY 741. S

PSY 746: PSYCHOLOGY OF LEARNING DISABILITIES (3 credits) This course is designed to acquaint the student with an understanding of the common types of learning disabilities. The course explores causes and effects of various learning disabilities in terms of brain-behavior relationships. The course introduces the student to methods of dealing with children with learning disabilities and the development of remedial strategies. Assessment of learning difficulties is also included in the course. The course is directed toward the role of the school psychologist in the identification and the placement of the learning-disabled child. Summer

A challenging curriculum prepares students for a career in school psychology.

PSY 752: FUNDAMENTALS OF SCHOOL PSYCHOLOGY (3 credits) This course is an introduction to the profession of School Psychology. The issues discussed revolve around the roles and functions of school psychologists. Topics include school systems - personnel and policies, the law and school psychology, and professional ethics. Field experiences are required. F

PSY 756: CONSULTATION AND GROUP PROCESSES, WITH PRACTICUM (3 credits) A variety of group methods and consultation techniques utilized by the school psychologist are introduced. This is accomplished by assigned readings, group discussions, and case presentations. Students will tape group sessions and present these to the class. Students will explore and utilize a variety of consultation techniques in problem situations. F

PSY 760: EXPERIMENTAL METHODS IN PSYCHOLOGY (2 credits) This course is designed to assist the student to understand how to design, implement, and analyze the results of research. Consideration is given to the use of published literature as a source of ideas about research problems, and the student is assisted in the development of such problems into an appropriate proposal for research study. The course assists the student in conducting research and provides a resource for the interpretation of existing research in the literature.

PSY 765: PSYCHOLOGICAL STATISTICS (2 credits) This course teaches the student the fundamentals of statistical design of experiments, statistical analysis of results of experiments, and the use of statistics as a model in understanding the types of inference to be drawn from published literature. The power and the limitations of various statistical methods are explored.

PSY 773: INTERNSHIP IN SCHOOL PSYCHOLOGY (12 credits) The internship experience requires a minimum of 1200 hours under direct supervision of a qualified psychologist. A minimum of 800 hours must be completed in a realistic educational setting (i.e., public school system). The remaining 400 hours may be in a related setting (i.e., clinic, hospital, etc.). The intern is expected to demonstrate all of the competencies of the practicing school psychologist. F,S

PSY 795: SEMINAR IN BEHAVIOR MODIFICATION WITH PRACTICUM (3 credits) This course seeks to establish a basic repertoire of skills necessary for the successful formulation, design, implementation, and evaluation of behavioral change procedures derived from operant conditioning principles applicable in the public school setting. Students prepare a formal research proposal describing a behavioral change project, revise the proposal in consultation with the instructor, and then implement it. At the conclusion of the project, the student submits a formal research project.

PSY 796: SEMINAR IN THE ANALYSIS OF RESEARCH IN SCHOOL PSYCHOLOGY (3 credits) This course consists of an examination of current research in School Psychology. Critical study and evaluation of research findings applicable to the school-age child and classroom learning situations are undertaken. The student locates, analyzes, summarizes, critiques and orally presents findings of relevant current published research. A major component of this course is the development, by each student, of a written proposal for an original research study. S

PSY 798: INTERNSHIP SEMINAR (3 credits) This course, in conjunction with the internship, is intended to assist the student to understand the role of the school psychologist and to deal with the problems that arise during the internship experience. In addition, the student receives a review of such topics as the history and trends in the growth of school psychology, the preparation and training of the school psychologist; the Right to Education and Due Process Law; the psychological and educational assessment of children; the professional responsibilities, ethics and professional affiliations of school psychologists and the community resources available to children. Field trips and first-hand observations are stressed. F S

PSY 849: MASTER'S THESIS (4 credits)
The student conducts an independent, scientific research study in a classroom or other structured educational setting. The thesis is presented as a written document that conforms to American Psychological Association style.

Social Science

Graduate Faculty: Professors R. Michael Barber, John F. Bauman, Frank T. Edwards, J. K. Folmar, Ronald L. Michael, Willie H. Pigg, Margaret A. Spratt, Joseph C. Heim, Sean C. Madden, James Wood

If you have any questions about these programs, phone or write the Department of Social Science, California University of Pennsylvania, 250 University Avenue, California PA 15419-1394, (412) 938-4042, or the School of Graduate Studies and Research, (412) 938-4187.

Master of Arts in Social Science

The Master of Arts program in Social Science at California University is a flexible program designed to meet the demands of high-technology culture. Instead of a highly structured program, the program includes a core of several courses that include the social, economic, political, and cultural aspects of American society.

The curriculum specializes through several branches or tracks. These tracks (which can be altered or modified in course structure without changing the core of the degree) have been created to serve the various needs and interests of graduate students who desire degrees in the social sciences. This system also allows the addition or deletion of tracks without jeopardizing the basic structure of the program.

Admission

Admission to the program requires an undergraduate grade point average of at least 3.0 on a 4-point scale or a minimum score of 35 on the Miller Analogies Test.

Candidacy

Following completion of at least six semester credit hours and before completion of 12 semester credit hours, a student must apply by letter to the Graduate School for candidacy. The Graduate School will forward the letter to the Coordinator of the M.A. in Social Science Program for review. If a student has a B average and no grade below B, candidacy will be granted. If a student has C or F grades, candidacy will be deferred until the student has completed 15 credit hours so that his/her academic performance can be carefully monitored. If, after completion of 15 credit hours, a student has no additional grades below B, candidacy will be granted.

Grades

All students must maintain a B grade point average. If a student drops below a B average at any time, he/she will be automatically placed on program probation. A student will have one semester to raise his/her grade point average to a "B". Failing to do so or at any time again dropping below a "B" average will result in termination from the program. Any student earning two or more "C" course grades or an "F" grade will be automatically placed on program probation for the remainder of his/her tenure in the program. If during the remainder of his/her program another "C" or "F" course grade is earned, a student will be automatically terminated from the M.A. in Social Science Program.

Comprehensive Examination

Following completion of a minimum of 24 course credits in the program, including all core courses, a student may apply to the Graduate School to take a required comprehensive examination. Once the M.A. in Social Science Coordinator is notified of a student's intent to take the test, the coordinator will ask two or three social science and/or history department faculty members to each prepare a single examination question for the student. Questions will only be written by professors whom a student has had as an instructor in a graduate class.

Students will be notified by letter as to who will write their examination questions. They will also be encouraged to consult with those professors on how they should prepare for the specific test questions.

The examination questions will be graded on a pass/fail basis by the question author. A student must pass all questions to pass the examination. Failure of one question equates to failure of the examination. The Comprehensive examination may be taken a maximum of two times. Failure of the examination for a second time will result in a student's termination from the M.A. in Social Science Program.

A student who fails the examination will be allowed to retake the entire examination the next fall or spring term when it is offered by the Graduate School (no special tests are given). The test may be taken only twice. Failure a second time will result in student's termination from the Social Science program.

Students will be notified by letter from the Program Coordinator as to whether they have passed or failed the examination.

The test may be taken in the Fall or Spring on the dates appointed by the Graduate School.

Curriculum

Since the following core courses are scheduled only every other or every third semester or during the summer, every student needs to enroll in them the first time they see they are offered. Students need to recognize that in order to complete their curriculum it may be necessary to take classes during the summer.

SOS 716 Social, Economic, and Political Order
SOS 717 Analysis of Power Structure
SOS 800 Social Science Research Techniques

California University's Master of Arts Degree in Social Science is a flexible program designed to meet the demand of a high technology culture. Instead of a highly structured traditional curriculum, California University's program includes a core of several courses which include the social, economic, political and cultural aspects of American society. The curriculum then splits into several branches, or tracks. The tracks, which can be easily modified in course structure without changing the heart or core of the degree, have been created to serve the varied interests of students who desire degrees in the social sciences. The track system also allows the addition or deletion of branches without jeopardizing the basic structure of the program. Tracks can be added or dropped as student interests and social needs change during the 1990's.

Currently there are six (6) tracks in the curriculum.

(1) **Cultural Resource Management**- a program created to train graduate students to work in the rapidly growing field of cultural resource management and historic preservation.
(2) **Secondary Education-** essentially this curriculum is the same as the Master of Education in Social Science, which California University successfully offered for many years.
(3) **History**- a streamlined and updated version of the University's Master of Arts in History.
(4) **Political Science** - a curriculum designed for students interested in a traditional political science program.
(5) **General Social Science**
(6) **Geography**

Social Science Tracks

Six tracks exist within the social science program. The tracks are designed so that within the same program, flexibility can be maintained to provide all students seeking a Social Science Degree a program that best fits their career goals. The tracks are:

Track 1: Cultural Resource Management
Track 2: Political Science
Track 3: Secondary Education
Track 4: History
Track 5: General Social Science
Track 6: Geography

CORE COURSES: Thirteen (13) semester hours

*SOS 800	Social Science Research Techniques	3
*EDP 600	Statistical Methods	2
*GEE 537	Computer Science	2
	or	
EDP 656	Computer Oriented Research	2
*SOS 716	Social, Economic, and Political Order	3
*SOS 717	Analysis of Power Structure	3

*Must be taken first time offered after acceptance into the MA in Social Science program or before a student completes more than 12 credit hours.

Track 1: Cultural Resource Management: 24 Hours

*ANT 707	Cultural Resource Management	2
*ANT 708	Historic Sites Archaeology	3
GEO 733	Land Use Analysis	3
*GEO 768	Map and Aerial Photo Interpretation	3
HIS 727	Studies in the Social and Intellectual History of the United States	3
HIS 736	Studies in Urban American History	3
IMT 701	Industrial Management	3
IMT 745	Industrial Organization	3
*ANT	Practicum	4-6

*Required

Track 2: Political Science: 18-24 Hours

Option A: Eighteen hours, including the Master's Thesis.

Option B: Eighteen hours, including the Research Project.

Option C: Twenty-four semester hours from the courses listed below.

POS 700	Public Policy	3
POS 704	American Political Ideas	3
POS 705	History of Political Theory	3
POS 711	Politics of Latin America	3
POS 728	Politics of Underdeveloped Nations	3
POS 740	American Defense Policy	3
POS 745	The Legislative Process	3
POS 746	American Chief Executives	3
POS 747	Civil Liberties and Judicial Processes	3
POS 779	Independent Studies in Political Science	1-3
RES 829	Research Project	2
RES 849	Master's Thesis	6

Track 3: Secondary Education: 18-24 Hours

Option A: Eighteen hours, including the Master's Thesis.
Option B: Eighteen hours, including the Research Project.

I. Professional Education- 6 Credits

Humanistic- 2 Credits

EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2

Behavioral- 2 Credits

EDP 607	Advanced Educational Psychology	2
EDP 617	Psychology of Growth and Development	2
EDP 618	Social Psychology	2
EDP 636	Advanced Psychology of Learning	2
EDP 663	Computer Assisted Instruction	2

II. Social Science- 8-10 Credits

***SOS 785	Seminar in World Culture	3
***ANT 705	Cultural Anthropology	3
**RES 829	Research Project or	2
**RES 849	Master's Thesis	VA

** Either required
***One of the two is required

III. General Field Electives- 2-4 Credits

ANTHROPOLOGY

ANT 701	Archaeology Field School	3
ANT 707	Cultural Resource Management: Historic Preservation	3
ANT 708	Historic Sites Archaeology	3
ANT 750	Prehistoric Archaeology Field School	VA
ANT 755	18th and 19th Century Folk Crafts and Traditions	3
GEE 536	Archaeology Field School	VA

GEOGRAPHY

GEO 520	Physiography of the United States	3
GEO 700	Philosophy of Geography	3
GEO 711	Demographic Analysis	3
GEO 712	Geography and Urban Politics	3
GEO 713	Urban Geography	3
GEO 730	Economic Geography	3
GEO 733	Land Use Analysis	3
GEO 734	Site Selection	3
GEO 735	Marketing Geography	3
GEO 736	Spatial Analysis	3
GEO 750	Physical Geography	3
GEO 751	Geomorphology	3
GEO 752	Climatology	3
GEO 760	Regional Geography	3
GEO 775	Field Methods	
GEO 768	Map and Aerial Photo Interpretation	3

HISTORY

HIS 715	The Civil War and Reconstruction	3
HIS 717	The 1930's and the United States	3
HIS 718	The United States Since World War II	3
HIS 725	Studies of the Afro-American in American History	3
HIS 727	Studies in Social and Intellectual History of the United States	3
HIS 728	Studies in American Labor History	3
HIS 735	Studies in American Diplomatic History	3
HIS 736	Studies in American Urban History	3
HIS 737	Studies in Pennsylvania History	3

POLITICAL SCIENCE

POS 700	Public Policy	3
POS 704	American Political Ideas	3
POS 705	History of Political Theory	3
POS 711	Politics of Latin America	3
POS 728	Politics of Underdeveloped Nations	3
POS 740	Problems of the Soviet Political System	3
POS 745	The Legislative Process	3
POS 746	American Chief Executives	3
POS 747	Civil Liberties and Judicial Process	3
POS 779	Independent Studies in Political Science	3

OPTION C: Twenty-four (24) semester hours

HUMANISTIC- 2 Credits

EDP 605	Philosophy of Education	2
EDP 606	General History of Education	2

BEHAVIORAL- 2 Credits

EDP 607	Advanced Educational Psychology	2
EDP 617	Psychology of Growth and Development	2
EDP 618	Social Psychology	2
EDP 636	Advanced Psychology of Learning	2
EDP 663	Computer Assisted Instruction	2

SOCIAL SCIENCE- 6 Credits

SOS 785	Seminar in World Culture	3
ANT 706	Cultural Institutions	3

GENERAL FIELD ELECTIVES- 12 Credits

ANTHROPOLOGY

ANT 701	Archaeology Field School	3
ANT 705	Cultural Anthropology	3
ANT 707	Cultural Resource Management: Historic Preservation	3
ANT 708	Historic Sites Archaeology	3
ANT 755	18th and 19th Century Folk Crafts and Traditions	3
GEE 536	Archaeology Field School	VA

GEOGRAPHY

GEO520	Physiography of the United States	3
GEO 700	Philosophy of Geography	3
GEO 711	Demographic Analysis	3
GEO 712	Geography and Urban Politics	3
GEO 713	Urban Geography	3
GEO 730	Economic Geography	3
GEO 731	Geography Resources	3
GEO 732	Industrial Geography	3
GEO 733	Land Use Analysis	3
GEO 734	Site Selection	3
GEO 735	Marketing Geography	3
GEO 736	Spatial Analysis	3
GEO 750	Physical Geography	3
GEO 752	Climatology	3
GEO 760	Regional Geography	3
GEO 768	Map and Aerial Photo Interpretation	3

HISTORY

HIS 715	The Civil War and Reconstruction	3
HIS 717	The 1930's and the United States	3
HIS 718	The United States Since World War II	3
HIS 725	Studies of the Afro-American in American History	3
HIS 727	Studies in Social and Intellectual History of the United States	3
HIS 728	Studies in American Labor History	3
HIS 735	Studies in American Diplomatic History	3
HIS 736	Studies in American Urban History	3
HIS 737	Studies in Pennsylvania History	3

POLITICAL SCIENCE

POS 700	Public Policy	3
POS 704	American Political Ideas	3
POS 705	History of Political Theory	3
POS 711	Politics of Latin America	3
POS 728	Politics of Underdeveloped Nations	3
POS 740	Problems of the Soviet Political System	3
POS 745	The Legislative Process	3
POS 746	American Chief Executives	3
POS 747	Civil Liberties and Judicial Process	3
POS 779	Independent Studies in Political Science	3

Track 4: History - 18 to 24 Hours

OPTION A: Eighteen (18) semester hours, including the Master's Thesis.

OPTION B: Eighteen (18) semester hours, including the Research Project.

OPTION C: Twenty-four (24) Semester Hours

HIS 715	The Civil War and Reconstruction	3
HIS 717	The 1930's and the United States	3
HIS 718	The United States Since World War II	3
HIS 725	Studies of the Afro-American in American History	3
HIS 727	Studies in Social and Intellectual History of the United States	3
HIS 728	Studies in American Labor History	3
HIS 735	Studies in American Diplomatic History	3
HIS 736	Studies in American Urban History	3
HIS 737	Studies in Pennsylvania History	3
HIS 829	Research Project	2
HIS 849	Master's Thesis	4

Track 5: General Social Science

OPTION A: Eighteen (18) semester hours, including the Master's Thesis.
OPTION B: Eighteen (18) semester hours, including the Research Project.
OPTION C: Twenty-four (24) Semester Hours

SOCIAL SCIENCE

SOS 785	Seminar in World Culture	3
ANT 706	Cultural Institutions	3
	Required	

ANTHROPOLOGY

ANT 701	Archaeology Field School	3
ANT 702	Archaeology Field School	3
ANT 705	Cultural Anthropology	3
ANT 707	Cultural Resource Management: Historic Preservation	3
ANT 708	Historic Sites Archaeology	3
ANT 755	18th and 19th Century Folk Crafts and Traditions	3

GEOGRAPHY

GEO 520	Physiography of the United States	3
GEO 700	Philosophy of Geography	3
GEO 711	Demographic Analysis	3
GEO 712	Geography and Urban Politics	3
GEO 713	Urban Geography	3
GEO 730	Economic Geography	3
GEO 733	Land Use Analysis	3
GEO 734	Site Selection	3
GEO 735	Marketing Geography	3
GEO 736	Spatial Analysis	3
GEO 750	Physical Geography	3
GEO 751	Geomorphology	3
GEO 752	Climatology	3
GEO 760	Regional Geography	3
GEO 768	Map and Aerial Photo Interpretation	3

HISTORY

HIS 715	The Civil War and Reconstruction	3
HIS 717	The 1930's and the United States	3
HIS 718	The United States Since World War II	3
HIS 725	Studies of the Afro-American in American History	3
HIS 727	Studies in Social and Intellectual History of the United States	3
HIS 728	Studies in American Labor History	3
HIS 735	Studies in American Diplomatic History	3
HIS 736	Studies in American Urban History	3
HIS 737	Studies in Pennsylvania History	3

POLITICAL SCIENCE

POS 700	Public Policy	3
POS 704	American Political Ideas	3
POS 705	History of Political Theory	3
POS 711	Politics of Latin America	3
POS 728	Politics of Underdeveloped Nations	3
POS 740	Problems of the Soviet Political System	3
POS 745	The Legislative Process	3
POS 746	American Chief Executives	3
POS 747	Civil Liberties and Judicial Process	3
POS 779	Independent Studies in Political Science	3

Track 6: Geography

OPTION A: Eighteen (18) semester hours, including the Master's Thesis.
OPTION B: Eighteen (18) semester hours, including the Research Project.
OPTION C: Twenty-four (24) Semester Hours

GEOGRAPHY

GEO 520	Physiography of the United States	3
GEO 700	Philosophy of Geography	3
GEO 711	Demographic Analysis	3
GEO 712	Geography and Urban Politics	3
GEO 713	Urban Geography	3
GEO 730	Economic Geography	3
GEO 731	Geography of Resources	3
GEO 733	Land Use Analysis	3
GEO 734	Site Selection	3
GEO 735	Marketing Geography	3
GEO 736	Spatial Analysis	3
GEO 750	Physical Geography	3
GEO 751	Geomorphology	3
GEO 752	Climatology	3
GEO 760	Regional Geography	3
GEO 778	Map and Aerial Photo Interpretation	3

COURSES:

SOCIAL SCIENCES (SOS)

SOS 716: ECONOMIC, SOCIAL, AND POLITICAL ORDER (3 credits) Analysis of the diverse social institutions that guide and shape the economic process, with special emphasis on the major types of systems that allow economic challenges to be confronted and solved. Several of the more recent rapid growth economies are used as models.

SOS 717: ANALYSIS OF POWER STRUCTURE (3 credits) An appraisal of the nature, composition, structure, and function of groups along with sociological theory concerning group functioning, with particular emphasis on decision-making at various levels of government, labor, military and business.

SOS 785: SEMINAR IN WORLD CULTURE (3 credits) A study of selected cultures from social, economic, political, historical, and geographic perspectives and within the frame of reference of those cultures, to stress and demonstrate the integration of the social sciences.

SOS 800: SEMINAR IN SOCIAL SCIENCE RESEARCH TECHNIQUES (3 credits) The techniques involved in both research and writing on the social sciences, including the selection of a topic, acquaintance with research materials, organization of materials, and monograph writing. An overview of contemporary social science is also undertaken.

ANTHROPOLOGY (ANT)

ANT 701: ARCHAEOLOGY FIELD SCHOOL (3-6 credits) Acquaints graduate students with basic prehistoric and historical archaeological field and laboratory techniques.

ANT 703: LIVING HISTORY: STUDY AND REPLICATION OF MATERIAL FOLK CULTURE (3 credits) The material folk culture of the eighteenth, nineteenth and early twentieth centuries in southwestern Pennsylvania, with interviews with persons knowledgeable about crafts, study of how these crafts were performed, and replication of the craft objects being studied.

ANT 705: CULTURAL ANTHROPOLOGY (3 credits) Primitive educational and enculturation systems compared cross-culturally with our own American system. The relationships between culture, personality, and education are defined and evaluated. The reaction of North American ethnic groups to Western technology and ideas is used as a basis for the understanding of different value systems.

ANT 706: CULTURAL INSTITUTIONS (3 credits) The concept of culture, the identification and understanding of cultural institutions in an integrated human social context. Readings on non-western cultures for comparisons with American institutions, and a written and oral report on a field problem of the student's choice.

ANT 707. CULTURAL RESOURCES MANAGEMENT: HISTORIC PRESERVATION (3 credits) The need for preservation of cultural resources, the state and federal legislation supporting such work, the various facets of cultural resources work, and a practical scheme for cultural resources preservation. Part of the course involves doing preservation work.

ANT 708: HISTORIC SITES ARCHAEOLOGY (3 credits) The techniques, philosophy, work and aims of that branch of history that studies the American historic past from a cultural-archaeological perspective, with study of military, domestic, commercial, and industrial sites and the people who lived or worked at them. Insight into the means by which debris from the past occupation of an area may be made to tell the story of who lived there, why they chose to settle in certain areas, what the settlers subsisted on, what daily activities they performed, and the relationships of these elements to one another.

ANT 755: EIGHTEENTH AND NINETEENTH-CENTURY FOLK CRAFTS AND TRADITIONS (3 credits) Placing early American folk crafts (from the 1600's through the 1800's) into cultural perspective by identifying the crafts and traditions, showing their significance to American culture, relating how they evolved, and identifying their role in the American family.

ECONOMICS (ECO)

ECO 715: ECONOMICS FOR THE TEACHER (3 credits) Basic concepts, principles, and methods of economics, including basic price theory, the monetary system, national income accounting, and theory of income and employment.

POLITICAL SCIENCE (POS)

POS 705: HISTORY OF POLITICAL THEORY (3 credits) A study of early and modern political theories, their development and application as controlling factors in the growth of western civilization and American democracy.

POS 728: POLITICS OF UNDERDEVELOPED NATIONS (3 credits) A comparative study of emerging political systems and their attempts to achieve modernity.

POS 740: AMERICAN DEFENSE POLICY (3 credits) An analysis of the forces influencing decision-making in the quest for American national security.

POS 745: THE LEGISLATIVE PROCESS (3 credits) An analysis of policy determination in the American legislative system.

POS 746: AMERICAN CHIEF EXECUTIVES (3 credits) The role of the presidency in policy determination in both domestic and foreign affairs.

POS 747: CIVIL LIBERTIES AND JUDICIAL PROCESS (3 credits) The Supreme Court as the principal guardian of libertarian principles.

POS 779: INDEPENDENT STUDIES IN POLITICAL SCIENCE (Variable) The graduate student has this opportunity to do independent study or research in political science, under the direction of a member of the political science faculty. The nature of the research study and the assigned credit hours are determined individually.

HISTORY (HIS)

HIS 700: THE COLONIAL ERA (3 credits) Topics in the exploration and settlement of America, and the social, political, economic, and intellectual life of the American Colonies before the Revolution.

HIS 705: THE REVOLUTION AND EARLY NATIONAL PERIOD (3 credits) Topics in the social, political, economic, and intellectual life of the American people to 1820.

HIS 706: THE MIDDLE PERIOD IN THE UNITED STATES HISTORY: 1820-1860 (3 credits) The years of Jacksonian nationalism and two-party politics; internal economic developments, territorial expansion and the rise of sectionalism; slavery and the emergence of the Republican party; sectional controversies of the 1850's and the coming of the Civil War.

HIS 715: THE CIVIL WAR AND RECONSTRUCTION (3 credits) Causes of the Civil War; the political crisis of 1860-1861; military, political, economic, and diplomatic analysis of the war; presidential and congressional reconstruction; social, political, and economic developments; the erosion of Reconstruction and the Compromise of 1877; long-range results of the Civil War and Reconstruction Era.

HIS 716: THE ERA OF REFORM: 1873 UNTIL WORLD WAR I (3 credits) A detailed examination of certain key groups and events that influenced America's response to a rapidly industrializing and urbanizing society, with particular attention to the ideology of such groups as the Populists, Mugwumps, Utopian reformers, the new clergy, and the Progressives.

HIS 717: THE 1930'S IN THE UNITED STATES (3 credits) A comprehensive examination of the cultural, constitutional, political, diplomatic, literary, and economic developments of the 1930s that made that decade a watershed in American history. Special attention is given to the New Deal; the political leadership of Franklin D. Roosevelt; the role of the Supreme Court; social and cultural aspects of the times, such as music and the "radical" literature of the period; the end of the isolation, the coming of World War II; and the varied theories that historians have drawn from the Thirties in America.

HIS 718: THE UNITED STATES SINCE WORLD WAR II (3 credits) A consideration of the major events, problems, and trends in the American experience since the Second World War, with equal attention to domestic and foreign problems. Emphasis on the revolution in Civil Rights, space, learning, and (possibly) special attention to the role of the United States as a world power.

HIS 720: STUDIES IN AMERICAN CONSTITUTIONAL HISTORY (3 credits) Topics in the formation of the Constitution and its development through amendment, interpretation, and practice.

HIS 725: STUDIES OF THE AFRO-AMERICAN IN AMERICAN HISTORY (3 credits) Selected topics from the origins of the slave trade through Emancipation, "Jim Crow," the urban experience, the Black revolution of the 1960s, and the age of affirmative action. Special emphasis may be devoted to economic, social, or cultural aspects of the Black experience in some specific era.

HIS 726: STUDIES IN AMERICAN ECONOMIC HISTORY (3 credits) Some of the major issues of U.S. economic history, exploring key factors that shaped the American economy. Its approach is institutional and interdisciplinary, linking social structure and public policies with the changing economy.

HIS 727: STUDIES IN THE SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES (3 credits) Selected aspects of social and intellectual thought and their contributions to American civilization, with emphasis on the early evolution of American institutions and the recent impact of the city on American social and intellectual thought and institutions.

HIS 728: STUDIES IN AMERICAN LABOR HISTORY (3 credits) A detailed examination of particular issues in the history of the American labor movement, with special emphasis on the emergence of industrial unionism and its relation to American politics.

HIS 735: STUDIES IN AMERICAN DIPLOMATIC HISTORY (3 credits) A program of major themes in the history of American foreign relations, a single topic being selected for class investigation, with attention to primary and secondary sources and work of general importance in American diplomatic history.

HIS 736: STUDIES IN AMERICAN URBAN HISTORY (3 credits) Selected topics on the historical development of urbanism in American life, such as urban demography, ethnic group acculturation, urban politics, the impact of industrialization on urban development, and the effect of the city on American thought and social development in a particular period of the nation's history.

HIS 737: STUDIES IN PENNSYLVANIA HISTORY (3 credits) Selected topics in the transition from the "Holy Experiment" to the Keystone State. Emphasis is placed on such topics as the frontier role of Western Pennsylvania, the racial origins, composition, and movements of the population, and the unique economic, political and social development of Western Pennsylvania.

HIS 755: STUDIES IN THE HISTORY OF ENGLAND (3 credits) Selected topics concerned with the types of, and changes in, English social, legal, and governmental institutions in relation to political and economic development from the Norman Conquest to the present era.

HIS 760: STUDIES IN THE HISTORY OF CONTEMPORARY EUROPE (3 credits) Major themes concerning the evolution of twentieth-century Europe: problems of stability and change within the European state system, Europe as part of the global system of nation-states, the growth of economic and political community, and the countermovements of nationalism, East and West.

HIS 778: RUSSIA: THE ROAD TO REVOLUTION (3 credits) Nineteenth-century Russia: a prelude to revolution. A study of the historical, political, economic, and social trends and forces that contributed to the outbreak of the Russian Revolution in 1917.

HIS 779: INDEPENDENT STUDIES IN HISTORY (1-3 credits) Independent reading or research in history; the graduate student is advised by a member of the History faculty. The nature and scope of the study and the assigned credit hours are decided on an individual basis.

HIS 800: METHODS OF RESEARCH (3 credits) This course empasizes major aspects of the historical process as a literary and scientific endeavor, including techniques for gathering, collating, and evaluating historical evidence; the importance of creative historical thinking; and effective writing.

HIS 801: QUANTITATIVE METHODS (3 credits) Social science methodologies that apply to historical investigation, including elementary computer programming, levels of measurement, applicable programs, and theory.

HIS 829: RESEARCH PROJECT (2 credits) The investigation of an assigned historical problem in which recognized research techniques and original sources are used. The format is similar to that of the thesis.

HIS 849: MASTER'S THESIS (3 credits)

Superintendents

Program Coordinator: Professor Thomas C. Wilkinson

If you have any questions about this program, phone or write the program office at California University of Pennsylvania, 250 University Avenue, California PA 15419-1394, (412) 938-5740, or the School of Graduate Studiesand Research at (412) 938-4187.

The Superintendents Program

The program for the Superintendent's Letter of Eligibility provides an opportunity for a graduate student to obtain certification as a superintendent of schools in the Commonwealth of Pennsylvania. This program combines a number of unique features not generally found in most superintendent certification programs. Modes of instruction utilized in the program include (1) core courses, (2) university seminars, and (3) business/industry partnerships.

Admission to the Program

This program is open to students with a minimum of six years of professional certified service in the basic schools, three years of which shall have been in administration or supervision. *The three years of administrative or supervision experience must be completed before certification endorsement will be granted.* Applicants must possess a QPA of at least 3.0 in all graduate work taken prior to application to the program. Applicants must submit to the Graduate Office a letter of endorsement completed by the chief school administrator in the school district of current employment. Final recommendation for admission to the program will be determined by the Program Coordinator.

Curriculum

I. Core program (21 credits: 7 courses with a Field Experience Episode)

SLE 701 - Administration Theory, Organization and Operation
SLE 702 - Contract Law, School District Legal Issues
SLE 703 - Finances
SLE 704 - Technology and Facilities Development
SLE 705 - Strategic Planning, Policy Analysis, Board Relations
SLE 706 - Curriculum and Instruction Leadership, Supervision
SLE 707 - School/Community, Public Relations, Marketing

All core courses will be taught by experienced superintendents, members of the program's Academy of Superintendents, appointed as adjunct faculty in the College of Education and Human Services.

II. University Seminars (7 credits)

This phase of the program is intended to provide the participant with a more comprehensive and analytical view of central office administration. Students will have an opportunity to become exposed to a variety of educational encounters by such experiences as tours of school districts, seminars on pertinent administrative topics, theories of administrative practices, synthesizing a code of ethics, and evaluation of self and goal attainment.

III. Business Management/Education Partnership (4 credits, 2 seminars)

An important and unprecedented phase of the program is the involvement of business/industry leaders in the preparation of future school superintendents. Business/industry leaders have knowledge concerning budgeting, personnel management, maintenance, planning, etc. that is valuable to potential chief school administrators.

Student Evaluation

Students will be required to complete a portfolio that can be used in measuring many of the outcomes deemed necessary to analyze desired performance levels. Course testing utilizing essay and objective information will be used in determining the knowledge and comprehension acquired by the student.

K-12 Administration Ed.D. Program

Through a Collaboration Agreement between California University of Pennsylvania and the University of Pittsburgh, students completing their studies for the Letter of Eligibility at CUP and recommended by the Director of the SLE Program can transfer up to forty-five (45) graduate credits to the University of Pittsburgh, School of Education, Department of Administration and Policy Studies, K-12 Administration Program.

Technology Education

Graduate Faculty: Professors Ronald G. Dreucci, Richard C. Grim, Jay D. Helsel, John R. Kallis, Stanley A. Komacek, John W. Loney, John H. Lucy, James R. Means, Jr., Mark L. Nowak, Joseph E. Pecosh, Joseph A. Sanfilippo, Charles A. Schuler, Alfred E. Simpson, Darrell L. Smith, John M. Thompson.

Master of Education Degree in Technology Education

This program provides an opportunity for those with qualifications to study for the Master of Education Degree and/or as a preparation for those pursuing advanced degrees; in addition, a supervisory certificate in Technology Education can be obtained.

Besides meeting the other general requirements for admission to the School of Graduate Studies and Research, the applicant should hold an Industrial Arts/Technology Education teaching certificate, or its equivalent.

The program has three tracks, or plans. Plan A (38 credits) leads both to the Master of Education degree and the Supervisory Certificate in Technology Education. Plan B (30 credits) is the general track with a thesis requirement and leads only to the Master of Education degree. Plan C (36 credits) is also a general track program but without a thesis requirement. In all three plans, completion of all course work and program requirements, as well as a satisfactory score on a comprehensive examination, is required.

Curriculum

I. Human Development

Plans A, B, C: 5-7 credits

EDP 607	Advanced Educational Psychology	2
EDP 617	Psychology of Growth and Development	2
EDP 636	Advanced Psychology of Learning	2
* EDP 610	Educational Sociology	2
ESP 501	Introduction to Exceptionality	3
* GEE 586	A Study of Human Creativity	3

II. Technology Education - Professional

Plans A, B, C: 6 credits

*#TED 700	Foundations of Technology Education	3
*#TED 710	Organization and Administration of Technology Education	3

III. Technology Education Laboratories

Plans A, B: 9-12 credits
Plan C: 15-21 credits

TED 720	Implementing Technology Education	3
* TED 730	Communication Systems	3
* TED 740	Production Systems	3
* TED 750	Transportation Systems	3
+ TED 735	Advanced Studies in Communication	1-3
+ TED 745	Advanced Studies in Production	1-3
+ TED 755	Advanced Studies in Transportation	1-3
TED 760	Technology Education and Industrial Practices Workshop	1-3
TED 765	Special Problems in Technology Education	1-3
TED 766	Special Problems in Technology Education	1-3

IV. Supervision (three years of teaching experience required)

Plan A: 8 credits
Plan B: 0 -4 credits
Plan C: 0 credits

*#TES 781	Improvement of Instruction Through Technology Education Supervision	2
* EDP 685	Group Dynamics	2
*#TES 791	Practicum I - Technology Education Supervision	2
*#TES 792	Practicum II - Technology Education Supervision	2

V. Research Area

Plans A, B: 8 credits
Plan C: 4 credits

* EDP 600	Statistical Methods	2
* RES 800	Methods of Research	2
RES 849	Master's Thesis	4

*Required Courses
#Self Study Module Course
+ One course is required in Plan C.

NOTE: Students in Plan A must have a minimum of three years of teaching experience prior to entering the program.

COURSES — TED AND TES

TED 700: FOUNDATIONS OF TECHNOLOGY EDUCATION (3 credits) This course examines the roles of technology and technology education in today's public schools. A historical review of the liberal and manual arts as they evolved over the past 10,000 years provides the student with a broad understanding of the philosophies and goals of general education. The study of technology and its systems are examined as an academic discipline. This effort will assist in-service instructors to redirect their teaching methods currently used in grades K-12.

TED 710: ORGANIZATION AND ADMINISTRATION OF TECHNOLOGY EDUCATION (3 credits) A critical analysis of the administrative and organizational problems related to the various types of technology education problems and the role of the administrator and teacher in developing, organizing, and evaluating these efforts as an integral part of the total school program. Emphasis is placed on teaching methodologies and activities used in the technology education laboratory: e.g., the organization of facilities, resources for an instructor, measure of teacher effectiveness, meeting the needs of special students and human growth and development as they relate to this field of education.

TED 720: IMPLEMENTING TECHNOLOGY EDUCATION (3 credits) A course to assist in-service industrial arts teachers in understanding and implementing technology education. Presentations will focus on historical perspectives, contemporary content, teaching strategies, instructional resources and standards for technology education. Participants develop curriculum materials for a technology education program that includes the technological systems of Communications, Energy/ Transportation and Manufacturing/Construction. Emphasis is placed on change strategies, student activities, and program evaluation.

TED 730: COMMUNICATION SYSTEMS (3 credits) An in-depth study into the types of communication systems and their concepts of operation, transmission and retrieval of information. An insight into such topics as artificial intelligence, satellites, digital audio, LAN architectures, and fiber optics will be covered in this course. The graduate student participates in products/activities and develops a communication system related to classroom teaching.

TED 735: ADVANCED STUDIES IN COMMUNICATION (1-3 credits) A course which provides opportunity for advanced study or investigation into the various components of communication technology. Study is in the form of short concentrated sessions or on an individual basis.

TED 740: PRODUCTION SYSTEMS (3 credits) This course provides the technology education graduate student with educational experiences and activities related to the teaching of manufacturing and construction technology. Class participants research the current trends and possible future directions of the technology education field. Skill development in the technical content of areas of manufacturing and construction such as computer applications in CAD/CAM is included. Students also develop and test curriculum materials for the manufacturing and construction content areas on the junior and senior high school levels. Peer teaching and participation in a student directed enterprise activity are included.

TED 745: ADVANCED STUDIES IN PRODUCTION (1-3 credits) This course provides the graduate student with the opportunities to experience and research various technologies and methods in the areas of manufacturing or construction. An intense in depth study is made in relation to selected topics on an individual basis or as a short term concentrated study session for a group.

TED 750: TRANSPORTATION SYSTEMS (3 credits) A student directed course consisting of three components: (a) enhancement of technical skills related to transportation technology, (b) conducting research in the field of transportation, and (c) creating and testing transportation curriculum and instructional materials. Students will design transportation related curricular materials based on their research while developing the laboratory skills necessary to teach courses/units in transportation technology education.

TED 755: ADVANCED STUDIES IN TRANSPORTATION (1-3 credits) The graduate students enrolled in this class will be part of concentrated study sessions or individually conducted investigations of learning new technologies or methodologies related to the systems of land, air, water or space transportation.

TED 760: TECHNOLOGY EDUCATION AND INDUSTRIAL PRACTICES WORKSHOP (1-3 credits) A workshop course designed to acquaint the student with industrial plants and practices in the Tri-state area. The workshop provides the student with an opportunity to understand the operation of a variety of industries and the incorporation of the information into selected teaching techniques for technology education classes.

TED 765: SPECIAL PROBLEMS IN TECHNOLOGY EDUCATION (1-3 credits) Original investigations in the field of technology education. The nature of the problem will determine the credit-hour load. The student will provide evidence of the ability to conduct independent study and gain credit by reporting the findings effectively.

TED 766: SPECIAL PROBLEMS IN TECHNOLOGY EDUCATION (1-3 credits) Original investigations in the field of technology education. The nature of the problem will determine the credit hour load. The student will provide evidence of the ability to conduct independent study and gain credit by reporting the findings effectively.

TES 781: IMPROVEMENT OF INSTRUCTION THROUGH TECHNOLOGY EDUCATION SUPERVISION (2 credits) The writing and development of new materials to be utilized in the improvement of technology education. The structuring and demonstration of modern teaching techniques for technology education. The potential supervisor will need to take into consideration the many new teaching methods and techniques. Experiences are provided so that those materials can be uti-

Automation lab offers experiences in systems technology.

lized in actual instructional situations. Prerequisites: TED 700 & TED 710.

TES 791: PRACTICUM I: TECHNOLOGY EDUCATION SUPERVISION (2 credits) Supervised school experiences that provide the prospective supervisor with the opportunity to observe such duties, and to learn about school organization and procedures essential for successful supervision. The prospective supervisor performs functions in association with teacher interviewing, budget planning, teacher and student scheduling, and evaluation of technology education facilities and programs. (Practicum I may be scheduled when initial enrollment is made in the supervisory plan.)

TES 792: PRACTICUM II: TECHNOLOGY EDUCATION SUPERVISION (2 credits) A continuation of supervisory experiences from Practicum I, with more emphasis placed on the supervisory candidate playing the role of a technology education supervisor. The candidate demonstrates supervisory competencies through the development, planning, and conducting of an in-service program for technology education teachers; public relation activities in terms of news releases and industrial relations; and participates in inner city or rural school experiences. Prerequisites: Admission to Candidacy for the Supervisory Certificate and TES 791.

General Education Courses

GENERAL EDUCATION COURSES (GEE)

GEE 505: GREAT WORKS IN DRAMA (2 credits) Study and comparison of a number of plays by authors of various nationalities (for instance Aeschylus, Plautus, Calderon, Racine, Goethe, Ibsen, Chekhov, Shakespeare, Shaw, O'Neill), for the values they represent in themselves and also as a basis for comparisons in aesthetics, philosophy and culture.

GEE 506: PHILOSOPHY AND PHILOSOPHERS (2 credits) This course proposes to consider the basic problems of philosophy through the writings of Plato, Aristotle, Kant, Schopenhauer, Bergson, James, Dewey and other thinkers. The guiding aim will be to present diverse views from primary sources. Lecture and discussion will be used.

GEE 507: COMPARATIVE MUSIC (Variable) This elective course is open to any student in the Graduate School and focuses on American music. Lectures about the development of music in America from 1620 to the present are reinforced with guided listenings to representative recordings, audio and video tapes, and films.

GEE 508: SCIENCE AND TECHNOLOGY (2 credits) In a consideration of the interaction of technology with both the individual and the social institution, current socio-technological problems are used to introduce the major concepts of technology. The concepts include modeling, decision-making, feedback, stability and dynamics. Particular areas include energy, noise and health delivery with emphasis on the human-technology interaction. The major objective is to improve the technological literacy of the student to give a broad understanding of modern technology (its capabilities, characteristics, and limitations) which is so important as we cope with the problems of the interaction of technology and society.

GEE 510: HISTORY OF MATHEMATICS (2 credits) A study of the origin and the development of our number system. The development of the fundamental operations of mathematics is stressed. The importance of mathematics to the various stages of civilization is emphasized.

GEE 520: LANGUAGE AND SOCIETY (2 credits) The course approaches the traditional goals of the study of language by the methods of modern semantics, i.e., through an understanding of the role of language in human life and through an understanding of the different uses of language. The course also shows that the language of each nation is its most distinctive cultural pattern as well as its strongest unifying force.

GEE 525: COMMUNITY PROBLEMS OF HEALTH AND SAFETY (3 credits) The physical, social, and emotional dimensions of the health and safety problems prevalent in our society. These issues are perceived in terms of our lifestyle and concepts of personal and community health. Epidemiology, prevention, treatment, rehabilitation, legislation, education, and the role or community agencies are presented. The purpose is to enable counselors within a school or community setting to help clients deal more effectively with their problems.

GEE 526: MASS COMMUNICATIONS (2 credits) The history, development, function, and problems of mass media in America, considering various theories of mass communication in the organization of authoritarian, libertarian, and communist societies and the theories of social responsibility and their effects in these societies.

GEE 528: EARLY CHILDHOOD AND THE EXPRESSIVE ARTS. (3 credits) A general experimental course which, first, provides encounters stimulating the students to discover that the arts can be modes of personal expression and communication; second, provides experiences to evoke fluency, flexibility, and originality; and, third, is an integrative experience as a holistic approach to learning involving the cognitive, affective, and psychomotor domains.

GEE 529: DEATH, DYING, AND IMMORTALITY (2 credits) The phenomenon of death and dying in the areas of anthropology, psychology, philosophy, education, literature, religion and song.

GEE 536: ARCHAEOLOGY FIELD SCHOOL (Variable) Scientific archaeological field and laboratory techniques. The basic orientation is that of research. It is assumed that students have little or no background in archaeology or anthropology.

GEE 537: COMPUTER SCIENCE (2 credits) A general course in computer science for the graduate student majoring in any field in education. Topics include the early history and development of computers, simple programming concepts, and the use and application of the computer in industry and education. Major emphasis is on the educational application of the computer in such areas as computer-assisted instruction (CAI), pre-programmed statistical packages, optical-scanning devices for test scoring, simple arithmetic computation, information retrieval, etc. The course combines lecture, demonstration, and laboratory experiences in the Computer Center at the University. There are no prerequisites for this course, which is intended primarily for the non-mathematically oriented graduate student but is open to all students.

GEE 538: CONSERVATION OF BIOLOGICAL RESOURCES (4 credits; 3 hours lecture, 2 hours field experiences/ laboratory) An exposure to the water and soil problems of Western Pennsylvania by going directly to the environment. The inter-relations of plants and animals are studied to develop an awareness of the natural scheme of biological successions. The observations and direct contacts with nature are pursued on weekly field trips.

GEE 545: ENERGY, POWER AND THE ENVIRONMENT (3 credits) Surveys energy use and the social and economic guidelines that govern it. The course analyzes both the difficult compromises that people must inevitably face and the technologies that, if properly managed, can help realize material well-being for all human cultures. This course focuses on

established patterns of energy use and how these can be altered for greater efficiency, effectiveness, and safety. How do man's decisions concerning energy utilization impact upon viable ecosystems throughout the biosphere?

GEE 565: SURVEY OF THE HUMANITIES AND RELATED ARTS (2 credits) This course is intended to relate some aspects of the humanities—namely, music, art, and literature—through the perceiving of experiences presented in auditory, visual and verbal forms. Through these art forms, a search is made to better understand man's wonderings, problems, experiences with beauty and a myriad of life's experiences. A review of representative art works is used to evoke experiences and to understand them in a humanistic light.

GEE 584: BASIC CARE OF PLANTS (3 credits) General introduction to the care of plants. Students are introduced to the suggestions and techniques that make the growing and caring for plants, indoors and out, less complicated and more enjoyable. No prerequisites.

GEE 586: STUDY IN HUMAN CREATIVITY (3 credits) The primary purpose of this course is to formally introduce the student to the study of human creativity as an academic endeavor. It is specifically designed to establish each person's competence as a creative problem-solving facilitator (a teacher, one who is knowledgeable and skilled at applying creative problem solving methodologies). Individual, managerial and technical types of problem-solving activities will be engaged. Each student will conduct (facilitate) several problem-solving excursions. Each student will study, administer and evaluate several standardized tests that evaluate creative problem-solving skills. Students may evaluate themselves, others or both. this is a learning laboratory, action oriented course, intended to simulate real world creative problem-solving techniques.

Students stroll through campus.

Professional Education Courses

PROFESSIONAL EDUCATION COURSES (EDP)

EDP 600: STATISTICAL METHODS (2 credits) Intended to increase graduate students' knowledge of statistics and especially prepare them to work on a Master's Thesis or Research Project. Develops an understanding of the application and meaning of descriptive statistics as they apply to educational problems.

EDP 605: PHILOSOPHY OF EDUCATION (2 credits) An introduction to the discipline of philosophy and the significant contribution that this discipline makes to education. Major schools of traditional and contemporary philosophy are examined, with particular emphasis on the influence these philosophies have had on educational theory and practice over the years.

EDP 606: GENERAL HISTORY OF EDUCATION (2 credits) The course is designed to develop an historical awareness, appreciation, and understanding of the people and of the major cultural and educational events that have shaped education in Western culture. The significance and relevance of these people and events for contemporary American culture are stressed.

EDP 607: ADVANCED EDUCATIONAL PSYCHOLOGY (2 credits) Current issues and recent evidence in the areas of educational psychology including growth, personality, heredity and environment, intelligence, learning, transfer of learning, emotion, motivation, and teaching methods.

EDP 608: COMPARATIVE EDUCATION (3 credits) This course centers on the province of Quebec. Students are introduced to basic rules of educational comparison followed by readings aimed at investigating the traditions, social organization, and political and economic conditions that have determined the development of Quebec. Source reading is brought into special perspective by a one-week program of school visitations in Quebec where students can observe classes and interview educational personnel.

EDP 610: EDUCATIONAL SOCIOLOGY (2 credits) The role of the school in child socialization, intergroup education, the integration of school and community, group processes and the teacher, teacher problems in human relations, and educating for leadership.

EDP 611: HISTORY OF AMERICAN EDUCATION (2 credits) The course is designed to develop an historical awareness, understanding, and appreciation of major cultural and educational events and of individuals that have shaped American education from 1620 to the present. The significance and relevance of these events and individuals for contemporary American education are stressed.

EDP 615: TEACHER AWARENESS (3 credits) A practical approach to the solution of daily problems arising from action

and interaction with students, other faculty members, administrators, school board members, parents, and the community. The course is experience-oriented and focuses on student rights, duties and responsibilities and the legal rights of teachers; evaluations; classroom procedures; and lesson planning.

EDP 616: GUIDANCE AND COUNSELING (3 credits) This course is intended primarily for teachers, administrators, and other non-specialists in counseling in order to help them in their counseling-related work and responsibilities. Course emphases include history, development, and place of guidance/ counseling programs; counseling theory and application; professional journals and materials; public and parent support and activities; and problem solving in individual and group contexts for educational, vocational, and emotional reasons.

EDP 617: PSYCHOLOGY OF GROWTH AND DEVELOPMENT (2 credits) How people grow and develop from infancy to old age. Maturation, learning, and their interrelationships are studied. Physical growth patterns are noted, along with emotions, intellectual and social development, with implication for the school, community, and home.

EDP 619: STUDENT TEACHING SUPERVISION (Variable) For teachers who are acting as cooperating teachers and for those interested in serving in this capacity in the future. A prerequisite for admission to this workshop is three years' teaching experience. The course provides an opportunity to strengthen, clarify, re-think, and revitalize one's approach to student-teaching supervision.

EDP 620: CURRICULUM AND METHODS OF TEACHING BIOLOGY IN THE HIGH SCHOOL (2 credits) The BSCS courses of study and how and why they were developed, along with a critical analysis of each of the three versions in light of various school backgrounds. Laboratory projects will be pursued that can serve as source material in a teacher's classroom. Two hours of lecture and two hours of laboratory. Prerequisite: Certification to teach biology.

EDP 625: ADVANCED MENTAL HYGIENE (2 credits) The study of disorders due to psychological causes, whether the symptoms are somatic, psychological, or behavioral. Preventive and psychological adjustment of children in a deprived society are analyzed in order to improve their group relationships and development.

EDP 628: PSYCHOLOGY OF THE DISADVANTAGED CHILD (2 credits) Analysis of research, direct experimentation, and observation are used as methods for compensating for deficiencies in a child's environment.

EDP 636: ADVANCED PSYCHOLOGY OF LEARNING (2 credits) A treatment of selected, well-known theories, related to the learning process, derived from rational and empirical sources, with the object of showing the relationships to teaching and clarifying the developmental processes in conceptual and perceptual areas.

EDP 638: SELECTION AND USE OF INSTRUCTIONAL MATERIALS IN THE CLASSROOM (2 credits) Designed for the teacher and for instructional material specialists. Major emphasis is on the improvement of instruction through the informed selection and effective use of instructional material and equipment. Deals with a broad range in the evaluation of materials including motion picture films, filmstrips, slides, transparencies, flat pictures, recordings, audio tapes, feltboard materials, and study displays.

EDP 640: IMPROVEMENT OF INSTRUCTION THROUGH SUPERVISION (2 credits) A study of the theory, research, practice, and evolving concepts that have practical implications for supervision in the school with the purpose of improving student progress.

EDP 648: PENNSYLVANIA PUBLIC SCHOOL LAW (3 credits) Court decisions, state and federal, that have brought about changes in the typical role of secondary-school teachers. Major topics considered include student rights, teachers' rights, tenure problems, legality of negotiations, and related problems. .

EDP 650: PERCEPTION AND MOTOR DEVELOPMENT IN CHILDREN (2 credits) Provides the teacher with fundamental knowledge, through practical program demonstrations and readings, of the role of the motor cortex in learning.

EDP 656: COMPUTER ORIENTED RESEARCH (2 credits) This course is intended to provide students with an opportunity to explore issues in the present and future uses of the computer in education and educational research.

EDP 663: COMPUTER-ASSISTED INSTRUCTION (3 credits) The development of computer applications in education provides a significant new resource in teacher education. This course is designed to include both theory and practice. This course serves to acquaint the learners with computers and their uses as instructional tools. Laboratory assignments are designed to provide generalizable and transferable competencies using the programming language BASIC. No previous computer related knowledge is assumed.

EDP 685: SEMINAR IN AUDIO-VISUAL TECHNIQUES (2 credits) This course is designed to bring together the recent research on teacher behavior with the theories and research of social psychology and group dynamics. It aims to give the student some understanding of group processes and some personal experience helpful in developing a repertoire of ideas and behaviors that will be pertinent in supervision and in the classroom.

Research Courses

RESEARCH COURSES
(RES OR ACADEMIC DISCIPLINE)

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

For a fuller discussion of the Master's Thesis, the Research Paper, and the Research Project as requirements or options for a graduate degree, and the differences between them, see "Research Studies" page 18.

RES 800: METHODS OF RESEARCH (2 credits) An introduction to the reasons and the procedures for research. Types of research, selection of a research problem, bibliographical research, and statistical validity. F S

EAS 800: METHODS OF RESEARCH IN EARTH SCIENCE (3 credits) Consideration of purpose, scope, and procedures in earth science research including problem sensing, data collection, and statistical analysis.

ENG 800: METHODS OF RESEARCH IN ENGLISH (3 credits) An introduction to the graduate study of English and of English education and to methods of bibliographical research in these fields. The course not only acquaints the graduate student with standard reference works, editions, etc. but also provides an overview of some of the principal methods and preoccupations of the literary critic and the teacher of English. F

ESP 800: SEMINAR ON ADVANCED BEHAVIOR ANALYSIS AND DESIGN (3 credits) For the student with extensive background in behavioral principles and in applied behavioral analysis. the course covers the field of research design and methodology in intrasubject experimentation, and some of the more novel uses of applied behavioral analysis are introduced on demand.

GEO 800: METHODS OF GEOGRAPHIC RESEARCH Consideration of purpose, scope, and procedures of geographic research including problem sensing, data collection, and statistical analysis. Development of a research problem and written and oral presentation of the results are the culmination of the course.

HIS 800: METHODS OF RESEARCH (3 credits) Major aspects of the historical process as a literary and scientific endeavor, including techniques for gathering, collating, and evaluating historical evidence; the importance of creative historical thinking and effective writing.

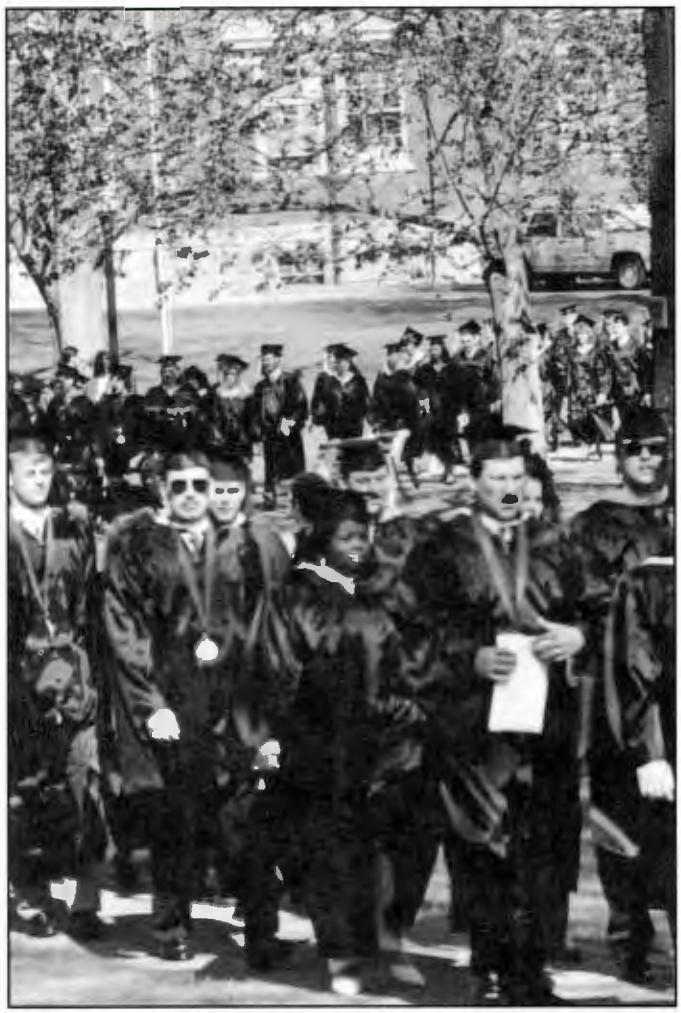
SOS 800: SEMINAR IN SOCIAL SCIENCE RESEARCH TECHNIQUES (3 credits) The techniques involved in both research and writing on the social sciences, including the selection of a topic, acquaintance with research materials, organization of materials, and monograph writing. An overview of contemporary social science is also undertaken.

CMD 800: RESEARCH METHODOLOGY (2 credits) Consideration in detail of the research methodology employed in intrasubject experimentation. Topics include reliability, validity, experimental control, and evaluation of effects and research design.

RES 819: RESEARCH PAPER (1 credit) A written report on a specific topic of investigation, based on knowledge of the subject, acquaintance with the published literature on the subject, and accurate presentation of the findings.

RES 829: RESEARCH PROJECT (2 credits) A written report on a specific topic of investigation, based on knowledge of the subject, research techniques, and accurate presentation of the findings.

RES 849: MASTER'S THESIS (3, 4, or 6 credits depending on the curriculum) A written report of exhaustive research into a specific area of investigation, demonstrating thorough knowledge of the background of the subject, the published literature on the subject, and high standards of original research and presentation.



Students march through campus as part of graduation ceremony.

General Information

Honors Convocation

The university recognizes, encourages, and rewards academic excellence on the part of both graduate students and undergraduates by designating Presidential Scholars at an Honors Convocation each spring.

At this convocation, presentations are made by Honor Societies, a Distinguished Alumni award is presented to a graduate of the University, and distinguished faculty members are formally recognized. The convocation is followed by a reception at which certificates are presented to the Presidential Scholars by the Dean of Graduate Studies and Research.

Graduate students are named Presidential Scholars if they have completed twenty-four credits of graduate study with a cumulative quality-point average of at least 3.75.

Housing Facilities

Housing in university residence halls may be available to women and men. If you desire such accommodation, write or telephone the Director of Housing, Office of Student Development, at the University.

The University does not supervise or maintain any off-campus housing. Lists of off-campus housing are available, but the housing office does not approve or disapprove of such housing.

Cooperative Education

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

Graduate Student Association

The Graduate Student Association was organized in 1977. The purpose of the Association is to serve as a representative body for all full-time and part-time graduate students enrolled at California University. The organization appoints representatives to various university committees, addresses graduate student grievances, and acts as a forum for graduate students at the University.

The Association prepares and receives a budget from Student Activities, Incorporated, and elects a graduate student representative to the Student Activities Board of Directors.

Social and other functions are regularly scheduled for graduate students through the Graduate Student Association, and every effort is made to inform all graduate students of these activities and of other matters affecting graduate students as a body.

The Graduate Student Association is the chief means by which graduate students may bring general concerns to the attention of the Graduate Dean and the administration of the University.

All enrolled graduate students are members of the Graduate Student Association and are welcome to attend all meetings.

Graduate Assistantships

A number of graduate assistantships are available for full-time graduate students during the regular academic year (and in somewhat lesser numbers in the summer). Graduate students receiving these assistantships are assigned to various duties in offices and departments throughout the University, insofar as possible in fields relating to their graduate programs, such as research, instruction and other professional assignments. (Assistants at this university are not assigned to the teaching of classes, but may assist full-time faculty members in other classroom duties and functions.) Applications for assistantships and further information about them may be obtained from the Office of the School of Graduate Studies and Research.

Tuition fees are waived for graduate assistants. Generally, assistantships are for either quarter time, requiring 10 hours of duties a week, or for half time, requiring 20 hours a week. Some assistantships are without financial recompense, but many carry a stipend.

Graduate assistants normally schedule nine credit hours, and must devote full time, without other employment, to their graduate programs and their assigned duties at the university.

Veterans Affairs

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

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

All Veterans, Reservists, National Guard personnel, and eligible dependents applying for entrance to the university should contact the Veterans Affairs Office at an early date so that necessary VA paperwork can be processed to assure timely payments of educational benefits.

ROTC

Graduate students may avail themselves of the opportunity for commission in the armed forces through the Army Reserve Officers Training Corps (ROTC) on campus, and may earn a stipend while doing so. Applicants need not have previous service in the armed forces of the United States and must attend a summer camp. Fuller information may be obtained from the ROTC office on campus.

Women's Center

As part of the University's dedication to equality, a Women's Center, staffed at present by graduate student assistants, is open daily. It is located in the center of campus, in Clyde Hall. All are welcome to visit the Women's Center.

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.

Students take advantage of the career services department.

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 with the computerized guidance system;
- use the career center media, including: videos, audiotapes, and computerized software resources;
- see a staff member about any career issues, including graduate and professional school;
- attend career workshops, job fairs, and special programs;
- learn about alumni who will discuss their careers;
- investigate cooperative education and internship opportunities;
- set up a credentials file;
- make an appointment for a "mock" interview;
- see listings of full-time, part-time, co-op, internship, and seasonal jobs;
- pick up guides to resume writing and interviewing, and other handouts;
  get the most up-to-date information on company recruiting visits;
  sign up for campus interviews and information sessions; and
- learn what other services are available.

Manderino Library

Students use computerized card catalog, VULCAT.

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, periodicals and other serials, it is first of all the chief and most accessible source of information on any subject. With a seating capacity of more than 1500, it is also a place to study and to read, whether the reading is required for a course or a term paper, or for browsing or recreational reading. During the fall and spring semesters the library is open 15 hours a day during the week and 9–10 hours a day on weekends. The library is open until midnight the last week of each term. Hours in the summer are curtailed somewhat dependent upon student enrollment.

Computerized information retrieval has made library research faster, more thorough, and more efficient at Manderino. 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 print out automatically the titles and call numbers of those materials. VULCAT can also be accessed from various on–campus terminals and, by means of a telephone modem, by anyone who has a home computer.

To locate magazine or periodical articles, a network of twenty computers and printers runs computerized indexes and abstracts on CD–ROM discs replacing the need to consult printed volumes of them issue by issue and year by year. Chief among these discs are: EXPANDED ACADEMIC INDEX, PSYCHLIT, CUMULATIVE INDEX TO NURSING AND ALLIED HEALTH LITERATURE, NEWSPAPER ABSTRACTS, MODERN LANGUAGE ASSOCIATION BIBLIOGRAPHY, EDUCATION INDEX, ERIC, APPLIED SCIENCE AND TECHNOLOGY INDEX, and BUSINESS SOURCE. EXPANDED ACADEMIC INDEX provides full-text of the articles for 500+ periodical titles of the total 1600 titles indexed. Through a Tower System these resources may be used by a number of people at one time. Other specialized sources on disc include GROLIERS ENCYCLOPEDIA, BOOKS IN PRINT, ACCESS PENNSYLVANIA DISCS, PC GLOBE and PC USA--featuring geographical information, maps, and census data. Brief tutorial sessions, instruction sheets, and individual assistance from Reference Librarians aid the student who may need additional help.

The library also offers such services as a large Reference Collection, inexpensive photocopiers, a pamphlet file, syllabi for all courses offered at the University, a certain amount of computer software, a collection of specially housed art slides, and corporate annual reports. Some of the special services available are borrowing privileges at over 100 public, college, university, and special libraries in the tri-state area; with the Curriculum Library for Teacher Education students, with a large collection of children's books and textbooks; the Media Center with over 800 pieces of audiovisual equipment and 62,000 audiovisual materials plus laminating, duplication, and binding services; the University Archives; and Special Collections.

Manderino Library is an official Federal Government Document Depository and regularly receives, in hard copy, microform, or CD–ROM format, large numbers of government documents such as census data, reports, maps, the CONGRESSIONAL RECORD, etc. The Documents Librarian will assist with the use of these important resources.

The Microform Collection of over 1.3 million units includes ERIC documents, retrospective book collections, and specialized manuscript collections.

The staff of the 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.

Computers on Campus

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 terminals, various printers, PC micro laboratories, and one classroom.

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. The labs are closed holidays and during session breaks.

Other Campus Facilities

Many departments have microcomputers for student and staff use; only some of the major facilities are listed here.

Two specialized laboratories, the Computer Aided Design and Drafting laboratory and the Numerical Control Machine laboratory, are located in the Coover Annex and are operated by the Industry and Technology Department. These laboratories are reserved for students taking specific computer-aided drafting and numerical control courses.

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

Instructional Applications

The University maintains the following applications packages in support of instructional computing in addition to language compilers and other software available on the VAX systems. Graphic packages run using the equipment available in the World Culture and Coover Annex terminal laboratories:

Statistical Package for the Social Sciences, Extended
Computer Aided Manufacturing and Numerical Control
Computer Aided Design and Drafting
Tektronix graphical subroutine packages
Library On-Line Catalog

Computer Center

The University Computer Center is located in the basement of Manderino Library. Staff offices are open Monday through Friday from 8:00 until 4:00. User facilities in the World Culture Building are available for student use at least 80 hours each week during the fall and spring semesters.

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

Computer Accounts

Students will automatically have a VAX computer account. There is no charge for the service or for use of the computer.

User Guide

An Introductory Users' Manual for VAX/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 VAX users. It describes basic instructions for effective use of VAX 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.

Campus Network

University VAX computers, terminal and PC laboratories and many campus buildings are connected together via a high-speed "Ethernet" local area network. This industry-standard network enables system users to share and more easily access computing resources from various buildings on campus.

Computer Center Facilities

The VAX computers which serve the campus are maintained by the Computer Center. The computer system is a VAX-Cluster with a total of 281 Megabyte of Memory and ap

proximately 20 Gigabytes of disk storage. Tape processing for system backups and restoration is managed using a tape cartridge system. A magnetic tape drive is also available. High speed line printers and laser printers with PostScript capability provide printing service.

Word Processing

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

The Word Processing Lab is divided into three sections: a Macintosh classroom, an MS-DOS classroom, and a combined Mac and DOS room. Laser printing is available in all sections. The combined room is always open for general student use during Lab hours. Each classroom is reserved for several hours a day for composition and other writing courses. However, both are open for general student use at all other hours.

The computer classrooms are networked and provide student access to the local campus network and to Internet.

For more elaborate art, layout, and design work, the lab offers desktop publishing equipment and software, including major layout and art programs, pre–packaged art, big screens, a scanner, and a light table.

Students in the Professional Writing Program receive instruction in desk–top publishing.

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

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.

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, Services for Students with Disabilities.

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

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.

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 students for treatment beyond the 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 must initiate the request:

(1) If a student consults a health care professional at the Health Center, and the health care professional determines that the student has or had sufficient medical reason not to attend class (or to fulfill other academic obligations), notification will be sent to the student's professors but only if the student makes a request at that time.

(2) If a student has consulted a private physician, who has determined that the student has or had sufficient medical reason not to attend class (or to fulfil 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 directors in the residence halls, the Health Center, the Speech and Hearing Clinic, the Rehabilitation Office, the Veterans Affairs Office, the Women's Center, the Campus Ministry, and other divisions of the University.

A formal agreement 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 on the page following.

Checking the headlines in the campus newspaper.

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.

Outcomes Assessment

In order to provide quality education, the University periodically conducts program evaluation studies involving assessment of students' knowledge, skills, and attitudes. These studies, which are part of a program of outcomes assessment, involve collection of data from students through tests, work samples, questionnaires, and interviews. All students are expected to participate in outcomes assessment activities. While no one student will be asked to participate in all studies, it is likely that most students will be involved in one or more activities at some time during their graduate careers. The results obtained through outcomes assessment activities contribute to the continued improvement of our educational programs and services. Student cooperation is essential.

University Public Safety/Security Services

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

The department consists of professionally trained individuals capable of responding to requests for assistance in routine and emergency situations. The department, a diverse group of police officers, communications, and secretarial staff, provides continuous 24-hour assistance to the university community. The staff includes a director, assistant night operations supervisor, two shift supervisors and 10 additional commissioned police officers who have received training at the Pennsylvania State Police Academy. Three public safety communications officers and one departmental secretary contribute to the operation of the department.

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

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

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

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 students, parents of students, alumni, faculty, the business community, regional citizens, the media and donors to the University and the California University Foundation. University Advancement is responsible for alumni relations, public relations, development and public service.

The Alumni Relations Department, located in Old Main under the twin towers, is the liaison between the University and its 35,000 living graduates, who receive periodic copies of *The California Review* (alumni magazine), A *Progress Report* (the University's annual report), and notices about various special events. The department arranges 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).

The Public Relations Department, 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. It maintains a toll-free telephone hotline with information changing daily (1-800-4-CAL-NEWS or 938-4507 locally). The department also manages university advertising, produces numerous publications and acts as a media contact.

The Development Department, 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, 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 35,000 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 Alumni Relations Department.

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, place and date of birth, academic curriculum, dates of attendance, date of graduation, degrees and awards received, most recent educational institution attended, participation in student activities (including athletics), and height and weight (for athletic teams).

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

V. Disclosure of Student Records

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

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

3. Limitations on the Right of Access by Students: the following 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 andVice–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 proper maintenance of all official student records under their jurisdiction in accordance with the policies of this statement and the relevant state and federal laws. If further information is required, a student should contact the appropriate university official.

Governance

The State System of Higher Education
Commonwealth of Pennsylvania

James H. McCormick, Chancellor

Mary Burger
Vice–Chancellor
Academic Policy and Planning

Wayne G. Failor
Vice–Chancellor
Finance and Administration

Edward P. Kelley, Jr.
Vice–Chancellor
Employee and Labor Relations

Sarah V. Souris
Vice–Chancellor
Advancement

Board of Governors

Eugene Dixon, Jr., Chairperson
Judy Ansill, Vice–chairperson
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The Honorable Jeffrey W. Coy
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G. Edward DeSeve
Rebecca F. Gross
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The Honorable F. Joseph Loeper
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Joseph M. Nespoli
Darren K. Parr
Philip D. Rowe, Jr.
The Honorable Jere W. Schuler
The Honorable Patrick J. Stapleton
Julius Uehlein

California University of Pennsylvania

Angelo Armenti Jr., President

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Melinda K. Deal, Secretary
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Robert Billick
Frank DeLuca
Paul Lemmon
Gail Lese
Frank Mascara
Gwendolyn Simmons
Steven Stout

Chief Administrative Officers

Provost, Vice President for Academic Affairs
Nancy Z. Nelson

Vice President for Administration and Finance
Allan J. Golden

Vice President for Student Development and Services
Paul E. Burd

Vice President for University Advancement
Richard Webb (Interim)

Administration

Academic Affairs

Provost andVice President for Academic Affairs, Nancy Z. Nelson
Associate Provost and Associate Vice President for Academic Affairs, Donald J. Thompson
Dean, School of Graduate Studies and Research, George W. Crane
Dean, College of Education and Human Services, Stephen A. Pavlak
Associate Dean, College of Education and Human Services, John Young
Director of Student Teaching, Betty A. Ford
Dean, College of Science and Technology, Richard B. Hart
Associate Dean, College of Science and Technology, Harry M. Langley
Dean, College of Liberal Arts, Jesse A. Cignetti
Associate Dean, College of Liberal Arts, Walter A. Brumm
Dean of Library Services, William L. Beck
Director of Contniuing Education, Joyce A. Hanley
Dean for Enrollment Management and Academic Services, Norman G. Hasbrouck
Associate Director of Academic Records, Charles E. Talbert
Assistant Director of Transfer Admissions, Amy C. Woodward
Assistant Director of Admissions, Paul Burns
Director of Career Services, Stephanie Urchick
Assistant Director of Career Services, Jeanine Metal
Coordinator of Cooperative Education, Marilyn Natili
Director of Institutional Research, Richard L. Kline
Director of Honors Program, Jay R. Powell

Student Development and Services

Vice President for Student Development and Services, Paul E. Burd
Dean of Students / University Judicial Officer, Phillip L. Hayes
Dean for Student Services, Barry Niccolai
Assistant Dean for Student Services, John Watkins
Assistant Dean of Residential Facilities / Conferences, Shawn Urbine
Dean for Residence Life, William F. Behrendt
Director, University Dining Services, Lenora Angelone
Associate Dean for Student Development and Services / Social Equity Officer, Alan K. James
Director, Women's Center, Disabled Services, Alberta Graham
Associate Dean for Student Growth and Development, Tim Susick
Residence Hall Director, Colleen Crooks-Carter
Residence Hall Director, Richard Dulaney
Residence Hall Director, James Pflugh
Residence Hall Director, Leslie Loase
Residence Hall Director, Sheleta Webb
Athletic Director, Thomas Pucci
Associate Athletic Director, Paul Flores
Associate Athletic Director, Fund Raising, Jeff Petrucci
Dean/International Student Adviser, Nancy J. Tait
Counseling Psychologist, Lynn R. Surrey
Counselor, Drug & Alcohol Specialist, Liz Gruber
Campus Ministry, Faye Abbondanza
Director of Student Publications, Alan Natali
Executive Director, Student Association, Inc., Paul E. Burd
Assistant Director, Student Association, Inc., Barry Niccolai
Operations Manager, Student Association, Inc., Dave Smith
Program Director, Student Association, Inc., Jay R. Wheeler
Assistant Program Director, Student Association, Inc., Joy Helsel
Director of Business Operations, Richard Olshefski
Director of Fitness Center, Paul Fazio
University Physicians, Dr. A. K. Hiranya, Dr. Min Park, Dr. Rula Saghir, Dr. S. Miller, Dr. Robert Smith, Dr. T. S. Wallia
Nurse Educator, Norma Snyder

Administration and Finance

Vice President for Administration and Finance, Allan J. Golden
Associate Vice President for Administration and Finance, Eugene P. Grilli
Comptroller, Eric Larmi
Director of Computer Services, Richard E. Cerullo
Director of Financial Aid, Robert Thorn
Director of Grants, Sandra Huska
Director of Health and Safety, Sharon Elkattani
Director of Personnel, Penelope Stanick
Director of Physical Plant, Thomas Jameson
Director of Public Safety, James Hanson (interim)
Director of Purchasing, Carl Maurer
Inventory and Facilities Officer, Thomas Taylor
Director of Payroll, Margaret M. Wilson

University Advancement

Vice President for Development and External Relations, Richard H. Webb (Interim)
Executive Director, Mon Valley Renaissance, Richard H. Webb
Interim Director of Alumni Relations, Dale Hamer
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1995-1996
TENTATIVE ACADEMIC CALENDAR

August 1995

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September 1995

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October 1995

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January 1996

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August

10 2ND FIVE/10 WEEKS ENDS (TENTATIVE)
28 REGISTRATION/ORIENTATION
29 GRADUATE REGISTRATION
REGISTRATION/ORIENTATION
30 FIRST DAY OF CLASSES

September

1 LABOR DAY BREAK BEGINS AFTER CLASSES
4 LABOR DAY
5 8:00am LABOR DAY BREAK ENDS

November

21 THANKSGIVING BREAK BEGINS AFTER CLASSES
23 THANKSGIVING DAY
27 8:00am THANKSGIVING BREAK ENDS

December

15 LAST DAY OF CLASSES

January

15 REGISTRATION/ORIENTATION
16 REGISTRATION/ORIENTATION
GRADUATE REGISTRATION
17 FIRST DAY OF CLASSES

March

8 SPRING BREAK BEGINS AFTER CLASSES
18 8:00am SPRING BREAK ENDS

April

4 EASTER BREAK BEGINS AFTER CLASSES
7 EASTER SUNDAY
8 8:00am EASTER BREAK ENDS

May

3 LAST DAY OF CLASSES
4 COMMENCEMENT
30 RESIDUAL REGISTRATION SUMMER (TENTATIVE)

June

3 FIRST FIVE/10 WEEKS BEGIN (TENTATIVE)

July

3 RESIDUAL REGISTRATION/2ND FIVE WEEKS (TENTATIVE)
5 FIRST FIVE ENDS (TENTATIVE)
8 2ND FIVE BEGINS (TENTATIVE)

February 1996

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April 1996

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June 1996

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July 1996

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1996-1997
TENTATIVE ACADEMIC CALENDAR

August 1996

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September 1996

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October 1996

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November 1996

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December 1996

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January 1997

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August

8 2ND FIVE/10 WEEKS ENDS (TENTATIVE)
26 REGISTRATION/ORIENTATION
27 REGISTRATION/ORIENTATION
GRADUATE REGISTRATION
28 FIRST DAY OF CLASSES
30 LABOR DAY BREAK BEGINS AFTER CLASSES

September

2 LABOR DAY
3 LABOR DAY BREAK ENDS

November

26 THANKSGIVING BREAK BEGINS AFTER CLASSES
28 THANKSGIVING DAY

December

2 8:00am THANKSGIVING BREAK ENDS
13 LAST DAY OF CLASSES

January

13 REGISTRATION/ORIENTATION
14 GRADUATE REGISTRATION
REGISTRATION/ORIENTATION
15 FIRST DAY OF CLASSES

March

7 SPRING BREAK BEGINS AFTER CLASSES
17 8:00am SPRING BREAK ENDS
27 EASTER BREAK BEGINS AFTER CLASSES
30 EASTER SUNDAY
31 8:00am EASTER BREAK ENDS

May

2 LAST DAY OF CLASSES
3 COMMENCEMENT

June

5 RESIDUAL REGISTRATION SUMMER (TENTATIVE)
9 FIRST FIVE/10 WEEKS BEGIN (TENTATIVE)

July

10 RESIDUAL REGISTRATION/2ND FIVE WEEKS (TENTATIVE)
FIRST FIVE ENDS
14 2ND FIVE WEEKS BEGIN (TENTATIVE)

February 1997

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March 1997

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April 1997

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May 1997

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June 1997

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July 1997

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1997-1998
TENTATIVE ACADEMIC CALENDAR

August 1997

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September 1997

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October 1997

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November 1997

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December 1997

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January 1998

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August

14 2ND FIVE/10 WEEKS ENDS (TENTATIVE)
25 REGISTRATION/ORIENTATION
26 GRADUATE REGISTRATION
REGISTRATION/ORIENTATION
27 FIRST DAY OF CLASSES
29 LABOR DAY BREAK BEGINS AFTER CLASSES

September

1 LABOR DAY
2 8:00am LABOR DAY BREAK ENDS

November

25 THANKSGIVING BREAK BEGINS AFTER CLASSES
27 THANKSGIVING DAY

December

1 THANKSGIVING BREAK ENDS
12 LAST DAY OF CLASSES

January

12 REGISTRATION/ORIENTATION
13 REGISTRATION/ORIENTATION
GRADUATE REGISTRATION
14 FIRST DAY OF CLASSES

March

13 SPRING BREAK BEGINS AFTER CLASSES
23 8:00am SPRING BREAK ENDS

April

9 EASTER BREAK BEGINS AFTER CLASSES
12 EASTER SUNDAY
13 8:00am EASTER BREAK ENDS

May

1 LAST DAY OF CLASSES
2 COMMENCEMENT

June

4 RESIDUAL REGISTRATION SUMMER (TENTATIVE)
8 FIRST FIVE/10 WEEKS BEGIN

July

9 FIRST FIVE ENDS (TENTATIVE)
10 RESIDUAL REGISTRATION/2ND FIVE (TENTATIVE)
13 2ND FIVE BEGINS (TENTATIVE)

February 1998

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March 1998

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April 1998

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May 1998

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June 1998

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July 1998

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1998-1999
TENTATIVE ACADEMIC CALENDAR

August 1998

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September 1998

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October 1998

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November 1998

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December 1998

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January 1999

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31						

August

13 2ND FIVE/10 WEEKS ENDS (TENTATIVE)
31 REGISTRATION/ORIENTATION

September

1 REGISTRATION/ORIENTATION
GRADUATE REGISTRATION
2 FIRST DAY OF CLASSES
4 LABOR DAY BREAK BEGINS AFTER CLASSES
7 LABOR DAY
8 8:00am LABOR DAY BREAK ENDS

November

24 THANKSGIVING BREAK BEGINS AFTER CLASSES
26 THANKSGIVING DAY
30 8:00am THANKSGIVING BREAK ENDS

December

18 LAST DAY OF CLASSES

January

18 REGISTRATION/ORIENTATION
19 GRADUATE REGISTRATION
REGISTRATION/ORIENTATION
20 FIRST DAY OF CLASSES

March

12 SPRING BREAK BEGINS AFTER CLASSES
22 8:00am SPRING BREAK ENDS

April

1 EASTER BREAK BEGINS AFTER CLASSES
4 EASTER SUNDAY
5 8:00am EASTER BREAK ENDS

May

7 LAST DAY OF CLASSES
8 COMMENCEMENT

June

3 RESIDUAL REGISTRATION SUMMER (TENTATIVE)
7 FIRST FIVE/10 WEEKS BEGIN (TENTATIVE)

July

8 RESIDUAL REGISTRATION/2ND FIVE (TENTATIVE)
9 FIRST FIVE WEEKS END (TENTATIVE)
12 2ND FIVE BEGINS (TENTATIVE)

February 1999

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March 1999

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April 1999

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May 1999

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June 1999

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July 1999

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25	26	27	28	29	30	31

Index

BUILDING DIRECTORY

1. **Azorsky Administration Building**
   Vice President for Administration & Finance — Rm 236
   Academic Records — Rm 103
   Admissions — Rm 200
   Budget — Rm 118
   Financial Aid — Rm 107
   Grants — Rm 114
   Maintenance — Rm 222
   Payroll (Student) — Rm 224
   Payroll (Staff/Faculty) — Rm 227
   Personnel — Rm 226
   Procurement — Rm 117
   Revenue — Rm 119
2. **Noss Building**
   College of Liberal Arts — Rm 103
   College of Science & Technology — Rm 110
3. **Keystone Education Building**
   CARE — Rm 112
   College of Education & Human Services — Rm 202
   Educational Studies Dept — Rm 408
   Elementary Education Dept — Rm 302
   Gerontology Dept — Rm 110
   Reading Clinic — Rm 200A
   Special Education Dept — Rm 108
4. **Main Hall**
   Office of the President
   Vice President for University Advancement — Rm 114
   College of Graduate Studies — Rm 111
   Public Relations — Rm 120
5. **South Hall**
   Alumni Office — Rm 303
   Foreign Language & Cultures Dept — Rm 201
   GACO — Rm 107
   MV Renaissance — Rm 108
   Philosophy Dept — Rm 201
6. **Morgan Learning Research Center**
   Credit Union — Rm 239
   Career Services — Rm 229A
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   Nursing Dept — Rm 333
   Psychology Dept — Rm 319
   Speech Pathology & Audiology — Rm 296
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CLASSROOMS

7. **Michael Duda World Culture Building**
   Business & Economics Dept — Rm 115
   Computer Center (Basement)
   History & Urban Affairs Dept — Rm 317
   Social Science Dept — Rm 224
8. **Dixon Hall**
   Alumni Director — Rm 1
   English Dept — Rm 201
   Math & Computer Science Dept — Rm 303
   Word Processing Lab — Rm 110
   Writing Clinic — Rm 124
9. **Frich Biological Science Building**
   Biology Dept — Rm 231
   Earth Science Dept — Rm 219
10. **John Pierce Watkins Academic Center**
    Provost and
    Vice President for Academic Affairs — Rm 219
    Communication Studies Dept — Rm 328
11. **New Science Building**
    Physical Science Dept — Rm 235
12. **Industrial Arts Building**
    Industry & Technology Dept — Rm 105
13. **Coover Hall**

HEALTH & PHYSICAL EDUCATION FACILITIES

14. **Hamer Hall**
    Athletic Office — Rm 221
    Athletic Training (Basement)
    Health & Physical Ed Dept — Rm 117
15. **Herron Recreation & Fitness Center**
    Patio (Restaurant) — In rear
16. **Emeriti Faculty Fountain**

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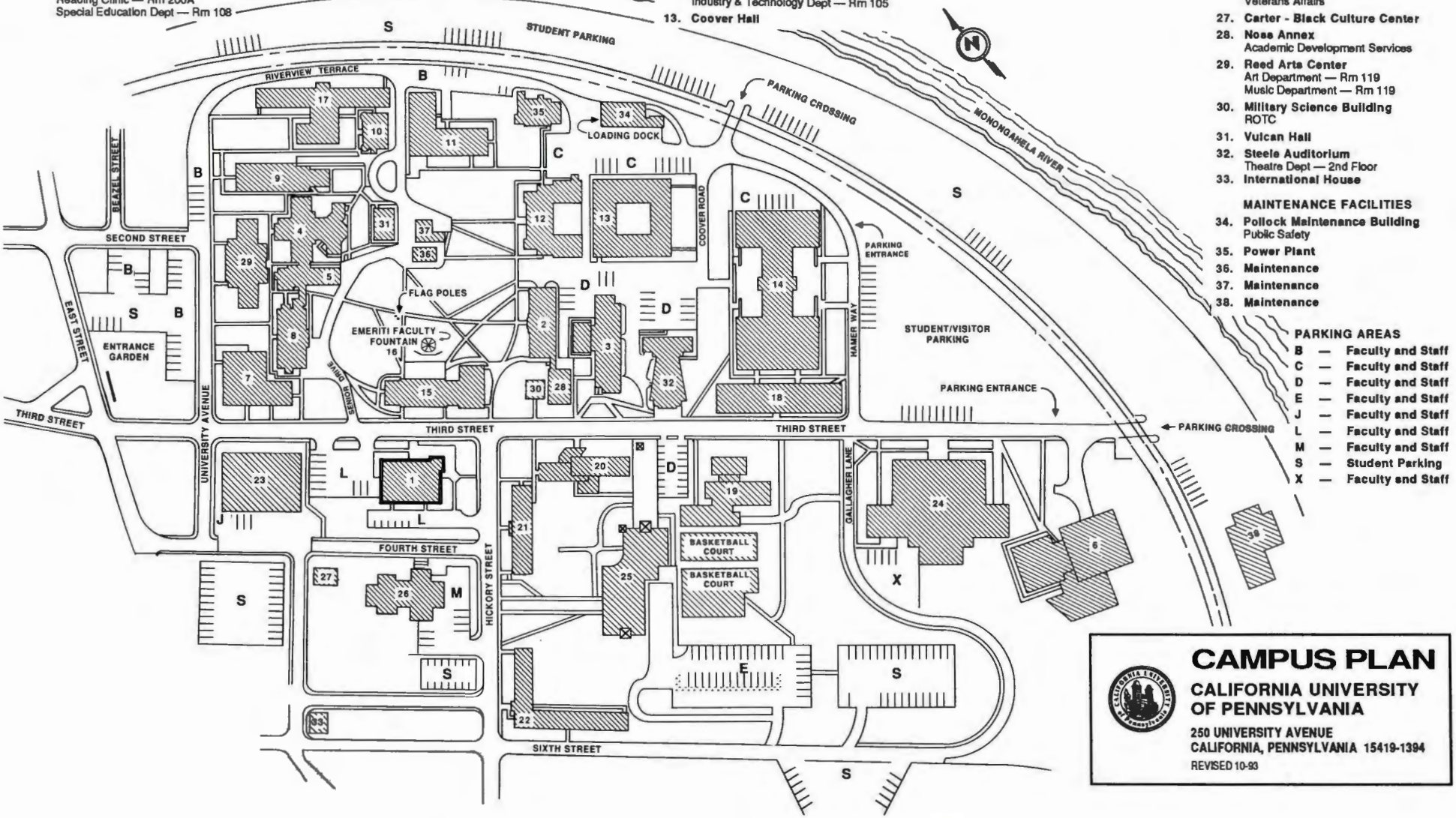
17. **Binns Hall** (Men's Dorm)
18. **Longanecker Hall** (Men's Dorm)
19. **Stanley Hall** (Women's Dorm)
20. **Clyde Hall** (Women's Dorm)
21. **Johnson Hall** (Men's Dorm)
22. **McCloskey Hall** (Men's Dorm)

OTHERS

23. **Manderino Library**
24. **Gallagher Dining Hall**
25. **Elmo Natali Student Center**
    Vice President for Student Development and Services
    Campus Book Exchange
    Campus Ministry
    Commuter Center
    Dee's Record Plus
    Information/Copy Center
    Jackson Farms Ice Cream/Bakery
    Media Complex
    Cal Times
    Channel 29 - WVCS
    Performance Center
    Student Association, Inc.
    Vulcan Theater
    Washington Food Court
26. **Downey-Garofalo Health Services Building**
    Infirmary
    Veterans Affairs
27. **Carter - Black Culture Center**
28. **Noss Annex**
    Academic Development Services
29. **Reed Arts Center**
    Art Department — Rm 119
    Music Department — Rm 119
30. **Military Science Building**
    ROTC
31. **Vulcan Hall**
32. **Steele Auditorium**
    Theatre Dept — 2nd Floor
33. **International House**

MAINTENANCE FACILITIES

34. **Pollock Maintenance Building**
    Public Safety
35. **Power Plant**
36. **Maintenance**
37. **Maintenance**
38. **Maintenance**



PARKING AREAS

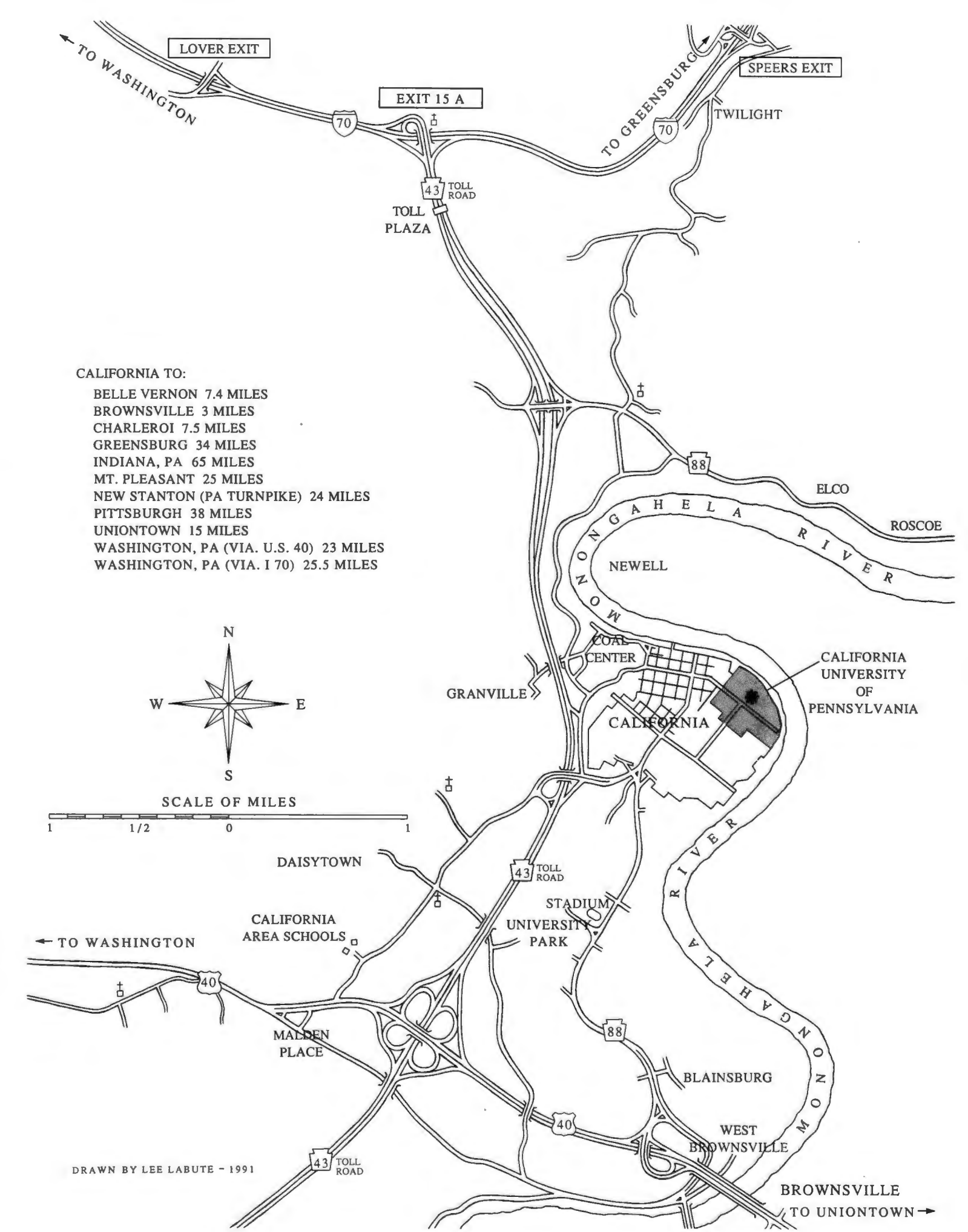
- B — Faculty and Staff
- C — Faculty and Staff
- D — Faculty and Staff
- E — Faculty and Staff
- J — Faculty and Staff
- L — Faculty and Staff
- M — Faculty and Staff
- S — Student Parking
- X — Faculty and Staff

CAMPUS PLAN

CALIFORNIA UNIVERSITY OF PENNSYLVANIA

250 UNIVERSITY AVENUE
CALIFORNIA, PENNSYLVANIA 15419-1394

REVISED 10-93


LOVER EXIT
TO WASHINGTON
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BROWNSVILLE 3 MILES
CHARLEROI 7.5 MILES
GREENSBURG 34 MILES
INDIANA, PA 65 MILES
MT. PLEASANT 25 MILES
NEW STANTON (PA TURNPIKE) 24 MILES
PITTSBURGH 38 MILES
UNIONTOWN 15 MILES
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TO UNIONTOWN

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