

# PACIFIC UNION COLLEGE GENERAL CATALOG



1998-2000

117TH-118TH ACADEMIC YEARS

MAILING ADDRESS:  
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ANGWIN, CA 94508-9707  
(707) 965-6311

PACIFIC UNION COLLEGE IS AN EQUAL OPPORTUNITY EDUCATIONAL INSTITUTION.

## **Pacific Union College**

### *Is accredited by:*

The Accreditation Association of Seventh-day Adventist  
Schools, Colleges and Universities  
The Accrediting Commission for Senior Colleges and  
Universities of the Western Association of Schools  
and Colleges  
State of California Department of Education

### *Offers programs accredited by:*

Council on Social Work Education (Baccalaureate)  
National Association of Schools of Music (Baccalaureate)  
National League for Nursing (Baccalaureate and Associate)

### *Is a member of:*

American Association for Higher Education  
American Association of Collegiate Registrars and  
Admissions Officers  
American Association of Presidents of  
Independent Colleges and Universities  
Association of Governing Boards  
Association of Independent California Colleges  
and Universities  
California Council on the Education of Teachers  
College Placement Council  
Independent Colleges of Northern California  
National Association of Independent Colleges  
and Universities  
Western Association of Graduate Schools

### *Is approved by:*

American Dietetic Association  
The Attorney General of the United States for  
nonimmigrant students  
California Commission on Teacher Credentialing

Accreditation documents may be viewed in the office of the  
Vice President for Academic Administration.

## **Equal Opportunity Commitment**

Pacific Union College is committed to equal opportunity for qualified men and women of any handicap, race, color, national or ethnic origin. It extends to them all the rights, privileges, programs and activities generally accorded or made available to members of the College community. It does not discriminate against qualified persons on the basis of handicap, sex, race, color, national or ethnic origin in administration of its educational and admissions policies, financial affairs, employment programs, student life and services, or any other College-administered program.

PACIFIC UNION COLLEGE GENERAL CATALOG  
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Dentistry  
Dietetic Technology  
Engineering  
Health Information Administration  
Law  
Medical Radiography  
Medical Technology  
Medicine  
Nutrition and Dietetics  
Occupational Therapy  
Optometry  
Osteopathy  
Pharmacy  
Physical Therapist Assisting  
Physical Therapy  
Respiratory Therapy  
Speech Pathology and Audiology  
Veterinary Medicine

\* Emphasis or Concentration  
\*\* Affiliated Program

“A college education,” says A. Whitney Griswold, “is not a quantitative body of memorized knowledge salted away in a card file. It is a taste for knowledge, a taste for philosophy, if you will; a capacity to explore, to question, to perceive relationships between fields of knowledge and experience.”

With the exponential growth of knowledge in recent decades, and with its dizzying acceleration in these waning years of our century, a college education can now less than ever be “a quantitative body of memorized knowledge.” In so many disciplines what is known today is so quickly superseded that *what* one knows at graduation is less important than *how* one comes to know.

To *have studied* is deeply satisfying, and to have earned your degree deserves its proper reward and respect. But to validate those achievements requires continuing beyond Commencement in lifelong learning. It’s important to know where to go for resources. It’s important to know how to select and to access the relevant and valuable from the overwhelming tide of information. It’s important to know how to synthesize intelligently what has been chosen. It’s important to know how to perform the essential



*D. Malcolm Maxwell*

alchemy that fuses precious wisdom from knowledge and experience.

Welcome to the stimulus—and the inevitable moments of frustration—of that challenge.

This *alma mater*—this “fostering mother”—has never wanted her children to become alumni feeling they have all the answers in “a quantitative body of memorized knowledge.” She has always wanted them to leave not so much with answers as with “an appetite for knowledge,” with the skills to explore, and with the habit of collecting notes toward their maturing responses to life’s insistent puzzles. She has wanted them to make connections between knowledge and experience—in Griswold’s words, “to perceive relationships.” She has wanted them to become thinkers, not mere reflectors of others’ thoughts.

Most of all she has wanted them to discover the One in whom are hid all the treasures of wisdom and knowledge; to know Him as the Psalmist did, to understand that the fear of the Lord is the beginning of wisdom; to continue to seek His wisdom as did Solomon, who advised: “Do not forsake wisdom, and she will protect you; love her, and she will watch over you. Wisdom is supreme....”

# Calendar, 1998-2000

## September 1998

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## October 1998

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## November 1998

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## December 1998

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## August 1999

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## September 1999

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## June 2000

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## July 2000

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## August 2000

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## 1998-1999

### Autumn Quarter (1998)

Su	September	13	New Student Orientation Begins
F		18	Registration
M		21	Instruction begins
M		28	Last day to enter classes
M-S	Sept-Oct	28-3	Week of Prayer
M		12	Last day to delete classes
T		13	Fall picnic, no classes
F-Su		23-25	Parents Weekend
M	November	9	Preregistration begins
M		16	Last day to withdraw from classes
F		20	Last day for preregistration
F		20	Thanksgiving recess begins (4:00 p.m.)
Su		29	Thanksgiving recess ends (10:00 p.m.)
M-Th	December	7-10	Final examinations

### Winter Quarter (1999)

Su	January	3	Registration for new students (6-8 p.m.)
M		4	Instruction begins
M		11	Last day to enter classes
M		18	Martin Luther King Day, no classes
T-S		19-23	Week of Prayer
M		25	Last day to delete classes
F	February	5	Midquarter vacation, no classes
M	March	1	Preregistration begins
M	March	1	Last day to withdraw from classes
F		12	Last day for preregistration
M-Th		15-18	Final examinations

### Spring Quarter (1999)

Su	March	28	Registration for new students (6-8 p.m.)
M		29	Instruction begins
M	April	5	Last day to enter classes
M-S		5-10	Week of Prayer
Th-Su		15-18	Alumni Weekend
M		19	Last day to delete classes
M	May	24	Last day to withdraw from classes
M		31	Memorial Day observed, no classes
M-Th	June	7-10	Final examinations
F-Su		11-13	Commencement

### Summer Quarter (1999)

M	June	21	Registration
M		21	Instruction begins
Th	August	12	End of Summer Quarter

## 1999-2000

### Autumn Quarter (1999)

Su	September	12	New Student Orientation Begins
F		17	Registration
M		20	Instruction begins
M		27	Last day to enter classes
M-S	Sept-Oct	27-2	Week of Prayer
M		11	Last day to delete classes
T		12	Fall picnic, no classes
F-Su		22-24	Parents Weekend
M	November	8	Preregistration begins
M		15	Last day to withdraw from classes
F		19	Last day for preregistration
F		19	Thanksgiving recess begins (4:00 p.m.)
Su		28	Thanksgiving recess ends (10:00 p.m.)
M-Th	December	6-9	Final examinations

### Winter Quarter (2000)

Su	January	2	Registration for new students (6-8 p.m.)
M		3	Instruction begins
M		10	Last day to enter classes
M		17	Martin Luther King Day, no classes
T-S		18-22	Week of Prayer
M		24	Last day to delete classes
F	February	4	Midquarter vacation, no classes
M		28	Preregistration begins
M		28	Last day to withdraw from classes
F	March	10	Last day for preregistration
M-Th		13-16	Final examinations

### Spring Quarter (2000)

Su	March	26	Registration for new students (6-8 p.m.)
M		27	Instruction begins
M	April	3	Last day to enter classes
M-S		3-8	Week of Prayer
Th-Su		13-16	Alumni Weekend
M		17	Last day to delete classes
M	May	22	Last day to withdraw from classes
M		29	Memorial Day observed, no classes
M-Th	June	5-8	Final examinations
F-Su		9-11	Commencement

### Summer Quarter (2000)

M	June	19	Registration
M		19	Instruction begins
T	July	4	Independence Day, no classes
Th	August	10	End of Summer Quarter

## Using This Catalog

Unlike some textbooks used in a course but perhaps never consulted again, this catalog is important throughout your college career because it describes the academic program of the College and defines the requirements you must meet to achieve your academic goals. You should become acquainted with the catalog before you register at PUC.

Even if you have not yet decided on a major, you may become familiar with the general-education program and plan a course schedule based on its requirements. Though an academic adviser will help you work out your course of study, *you have the ultimate responsibility for meeting the requirements of the program you have chosen*. The catalog will serve as your constant personal adviser in the continuing process of planning and managing your college career.

Every effort has been made to ensure that the information in this catalog is correct at the time of publication, but altered circumstances and policy changes may affect the accuracy of the information it contains. Consequently, should any regulations or program requirements be in conflict with information in this catalog, current regulations and requirements govern.

The catalog presents only an overview of College policies and regulations. Other existing requirements are equally binding, though not published in this catalog.





## History

The Seventh-day Adventist Church has a heritage of strong commitment to education. Its members expressed this commitment during the late 1800s and early 1900s by establishing schools and colleges near major population centers across North America. In 1874 the Church founded its first college in Battle Creek, Michigan. A few years later the rapidly growing California church began looking for a good location for a school in Northern California.

In the vineyards of Healdsburg, fifteen miles north of Santa Rosa, the searchers found an ideal property. Total cost of the imposing brick structure and its furnishings, just off Healdsburg's main street, was thirty gold coins. The new school, to which Pacific Union College traces its roots, opened April 11, 1882, with two teachers and twenty-six students. In 1899, to reflect more accurately the school's purpose and its expanding curriculum, the school's name was changed to Healdsburg College; it became Pacific Union College in 1906.

When the Angwin Resort on Howell Mountain, above Napa Valley's St. Helena, became available, the College Board sensed the opportunity to secure more adequate space for the growing school and the associated businesses that had been

established to provide student employment. They bought the buildings and land for \$60,000. On September 29, 1909, Pacific Union College was dedicated at its present Angwin site. The resort's hotel, bowling alleys, and cottages became dormitories, classrooms, and faculty homes. Students and faculty worked together building other structures, often using lumber harvested from College property.

## The Campus

Today the institution occupies a 200-acre main campus surrounded by approximately 1800 acres of College-owned agricultural and forested land. The school's estate includes 60 major structures as well as faculty homes, necessary utilities, and other buildings. Fifteen academic buildings house the library, classrooms, laboratories, and offices. West Hall, the oldest, dates from 1917. The newest, Chan Shun Hall, is a modern science complex, in use since 1986. Recently completed, it includes 55,000 square feet of classroom, laboratory, and office space. Four women's residence halls can accommodate approximately 700 students; three men's halls, approximately 600.

## The Area

The College is located on Rancho La Jota, whose title is based on an old Mexican land grant. It is surrounded by places of historic significance in the development of the American West: Sonoma, the northernmost Spanish mission in California and the scene of the Bear Flag Revolution; Fort Ross, the southernmost Russian outpost on the continent; Sutter's Fort and the California gold diggings; and the routes of early explorers, traders, and immigrant groups.

Howell Mountain, the school's site, is a junction point for the life zones of north and south, coast and interior, and is recognized as an unusually rich area for studying plant and animal life. About one hundred miles from the campus, at Albion in Mendocino County, the College owns fourteen acres where it operates the Albion Field Station. This primitive region, where the Albion River empties into the Pacific Ocean, presents unusual opportunities to study marine biology and botany.

The San Francisco, Oakland, and Sacramento International Airports are within a two-hour drive from the campus. Bus service from St. Helena to Napa, Berkeley, Oakland, San Francisco, and other cities brings the cultural opportunities of large urban communities within reach of the student body.



Pacific Union College is a Christian liberal arts college sponsored by the Seventh-day Adventist Church. Its mission is to prepare its students for fellowship with God and service to Him through service to humanity. To achieve its mission, the College offers an excellent education, informed by a distinctive Seventh-day Adventist Christian point of view, to all who appreciate the school's unique values and its integration of faith and learning. Paying special attention to Christianity's role in civilization, the College considers liberal arts study with a Christian perspective to be uniquely valuable not only for its own sake, but also as a basis for career training and professional life.

### **Christian Liberal Education**

Liberal arts education with a Christian perspective prepares one to live in responsible human freedom. Such study promotes a balanced self-development. It frees one from the confines of personal experience and immediate interests and encourages entering with understanding into the experience of others. It advocates at once a tolerance of differing views, the respect those views deserve, and vigorous engagement with them. It fosters those lifelong habits of curiosity and serious inquiry that sustain the growth of the human spirit. It develops creative self-expression, including the ability to speak

*Our mission is to offer an excellent and distinctive Christian education designed to prepare our students for productive lives of useful human service and uncompromising integrity*

and write articulately. It provides breadth and flexibility for coping and adapting in a changing world.

### **The Major**

As an essential part of their liberal arts education, students choose majors for specialized study in harmony with their personal interests and as preparation for successful entry into their chosen careers or into graduate study. The College regularly reviews all programs to maintain their quality and to ensure that they respond to current student demand and to the changing needs of the Church and the larger community.

### **General Education Core**

The structured general-education core gives scope of knowledge. The liberal arts emphasis in both the major and the general-education core promotes quality of understanding. The graduate should

therefore have a growing knowledge and an enlightened appreciation of the major areas and modes of learning. A personally appropriated Christian view of the origin and purpose of human life should give this knowledge coherence for each student.

### **Independent, Critical Thinking**

Beyond giving information, the disciplines of the liberal arts create the environment for students to develop their abilities to think analytically, critically, and independently. Students are challenged to find original solutions for a variety of problems. Such study teaches not only the different modes of inquiry and their valid uses, but also their limitations.

### **Faith and Learning**

In a church-related college, tensions may sometimes occur between the claims of a religious belief system and those of academic pursuits. But because faith without thought is not an acceptable alternative to thought without faith, such unresolved tensions should never force the sacrifice of one to protect the other. Ideally, they should energize creative study of the valid claims of both faith and learning and of their interrelationships. A foundation of knowledge and understanding strengthens faith. Because the challenge of resolving ambiguities and uncertainties often produces the most valuable new insights,

# **The Mission of the College**

such study should both preserve intellectual honesty and enhance a faith worth holding. Knowing truth does indeed bring freedom.

## **Responsible Freedom**

Students are urged through their total college experience to evaluate their own convictions and to inform them with enduring cultural values and essential Christian principles. They are invited to recognize that changing times require fresh statement of this heritage, but not its compromise. They are challenged to blend these timeless values and principles in a distinctive lifestyle that includes responding helpfully to human need, wherever encountered, in a natural expression of their own Christian calling. As Jesus showed, the finest incarnation of responsible freedom is in compassionate human service.

## **The Mission Realized**

The mission of the College is therefore partly realized when its students leave the campus well prepared for advanced study and for selfless service to humanity in productive careers marked by uncompromising personal integrity. The mission is more perfectly realized when these same students are set on their way free to approach their potential as persons restored in the image of God and as agents of His grace in the world.

## Student Housing

Three men's and four women's residence halls house approximately 1,200 students. If you are a single undergraduate student under 23 years of age not living with your parents, you are required to live in a College residence hall. If you desire other housing arrangements, you may register your request at the Office of Student Services. Student Life Administration considers student requests to live with close relatives or with families where room and board are available at substantial savings. Applicants must demonstrate significant financial need.

Single students aged 23 or older and graduate students ordinarily live in off-campus housing approved by the Office of Student Services. Older students, however, may petition to live in the residence halls if they prefer. The College also has available a limited amount of housing for married students. Send inquiries about on-campus and off-campus housing for single and married students to the Office of Student Services.

To reserve a room in a residence hall, you must make a \$100 room/cleaning/damage deposit in advance. Your deposit is refundable if your plans change and if the College receives your notice of cancellation by September 1. No refunds are made for cancellations after September 1 or for a student's failure to appear for registration.

## Dining

The Food Service provides a selective menu and a variety of services to satisfy the needs and tastes of a cosmopolitan campus community. The College provides a lacto-ovo-vegetarian menu on the à la carte plan. If you have any special dietary needs, you should visit the Food Service Director to make any necessary special arrangements.

The College Food Service caters for small-group activities, picnics, and banquets. For special occasions, small groups and organizations may reserve four auxiliary dining rooms in the Dining Commons (all food is to be prepared by the Food Service). Reservations are made at the Food Service office.

Residence-hall students are expected to take their meals in the Food Service and are charged a minimum fee each quarter. For details, see the FINANCIAL INFORMATION section of this catalog.

## Health Service

The Health Service has a well-qualified staff to provide basic health care for students and emergency care for the entire campus community. To supplement these services and your own medical insurance, the College also provides an Accident and Sickness Medical Expense Assistance Plan. For a description of this plan, see the FINANCIAL INFORMATION section of this catalog. International students should refer to "Insurance for

International Students" in the FINANCIAL INFORMATION section of this catalog.

If you are a new student, you must present, before admission, documentation of a current physical examination and a complete summary of all immunizations. The examination form to be used by the examining physician is included in the application materials sent to you by the Office of Enrollment Services.

## Orientation for New Students

Prior to autumn-quarter registration the College provides an orientation program to acquaint new students with various aspects of campus life. Activities during this period include aptitude and placement tests to assist in planning one's academic program, familiarization with the use of campus facilities and services, and social gatherings to provide opportunity for becoming acquainted with other students and with members of the faculty.

### Library Services

The W. E. Nelson Memorial Library provides both print and nonprint educational materials and electronic databases for the use of students and faculty. Library holdings include 303,256 items and a current subscription list of 901 periodicals. The 36,709-item media collection includes slides, tapes, film-strips, motion-picture films, videotapes, transparencies, recordings, musical scores, and other media. The building provides seating, including 204 individual study carrels, for 277 patrons.

Special collections in the library include the Pitcairn Islands Study Center, one of the most comprehensive collections of material about the Pitcairn Islands, and the E. G. White Seventh-day Adventist Study Center. This latter collection is housed in the Elmshaven Room, named for the last home of Ellen White, which is located only a few miles from the College. The Center is operated in affiliation with the White Estate and in cooperation with its work at Elmshaven.

### The Learning Resource Center

Located in the Library, the Learning Resource Center offers assistance to individuals and groups in strengthening such basic academic skills and knowledge as reading and phonics, spelling, basic grammar, vocabulary enhancement, writing, development of research papers, and study skills. Free tutoring and computer-assisted learning in a variety of academic subjects are central features of this program.

### Counseling, Career, and Testing Services

An important resource for personal and academic success is the Counseling and Career Center. It offers programs and professional assistance designed to help you achieve maximum growth in your personal and interpersonal, academic, and spiritual life and in your occupational choice and placement. You may make appointments for personal, occupational, or academic counseling through the Center coordinator. Referral service to other professionals in the immediate vicinity is also available through the Center.

The Center provides the following services:

#### Testing Services

Available for minimal fees: personality tests and occupational interest inventories. The Center is an official non-Saturday test site for professional school admissions. Test application forms and national testing dates and deadlines are available from the Center. CLEP and other institutional testing is also coordinated through the testing service.

#### Psychological Services

Professional emotional and psychological support in a confidential setting, on an individual or group basis. Counselors want to help you deal with any anxiety, depression, stress, personal situational difficulties, or other personal problems that might interfere with your academic performance and seriously compromise your quality of life.

#### Career Services

Career counselors are available with whom you may discuss career options, self-assessment, skills, interests, values, goals, and job-seeking strategies. The Center provides career testing and personality testing. The Center also helps graduating students in developing effective interview skills and in writing résumés and application letters.

The following resources are available:

*The Career Information Library:*

A wide assortment of self-assessment and career planning guides, graduate school bulletins and directories, general resource books, an occupational information file, company literature, video tapes, and current job announcements useful for occupation research and job search preparation.

*The Job Opportunities Board:* Lists of current employment opportunities.

*On-Campus Recruitment:* Recruiters from professional schools, businesses, industries, technological firms, human services, educational organizations, and government agencies visit PUC to interview graduating seniors for local, regional, and national positions. There are career opportunities for all majors. Interviews are conducted on campus, usually in the Counseling and Career Center.

### Accommodations for Students with Learning Differences and Physical Disabilities

Pacific Union College offers equal opportunities to students who may have specific learning differences or physical disabilities. The College accommodates their special needs as mandated by the 1990 Americans with Disabilities Act and by Section 504 of the 1973 Rehabilitation Act.

PUC provides extensive support services for students diagnosed as having “specific learning differences” or “disabilities.” There is a \$250 per-quarter fee for students in the Specific Learning Differences Support program. Detailed information is available from the Office of Student Services.

### Religious Life

In keeping with the special character of this Christian College, you are expected to attend regularly a specified number of daily and weekly worship services, chapels and vesper services, all of which are planned to stimulate growth and maturity in Christian living.

You may participate in a variety of other religious activities: small group meetings, Children's Church, the Student Missionary program, short-term mission opportunities, off- and on-campus service groups, and retreats. These activities provide opportunities for full-time students to be active in service to humanity and God.

### Concert and Lecture Series

Cultural activities include a Fine Arts Series featuring guest artists and members of the music faculty in classical music concerts; an Adventure Series, including ten to twelve travelogue programs during the school year; and a Forum Lecture Series, which presents outstanding lectures, usually by distinguished guest speakers, each school term. The general admission charge for programs in these series is included in your tuition.

### Recreational Facilities

College recreational facilities include a lounge and game room in the Campus Center (Dining Commons, first floor); a gymnasium where basketball, volleyball, badminton, table tennis, gymnastics, and shuffleboard are available; an Olympic-size swimming pool; lighted outdoor tennis courts; and athletic fields for softball, soccer, volleyball, flagball, and track and field activities. Recreational areas near the College offer skiing, golfing, scuba diving, and boating.

### Student Association

All students and faculty are voting members of the Student Association. Responsible for promoting and conveying the ideals and objectives of the College, the Association coordinates a number of social and religious activities and other services on campus. These include producing the campus newspaper (*Campus Chronicle*), the student-faculty directory (*Funnybook*), the yearbook (*Diogenes Lantern*), and the annual video yearbook.

The main purpose of the Student Association is to serve as a liaison with College administrators. The SA Senate and the Campus Clubs Council are additional forums for addressing relevant campus issues.

You are invited and encouraged to participate in the various opportunities the Association provides for activities and leadership. A detailed description of the organization of the Student Association appears in the Association's Constitution and Bylaws.

### College Standards

Pacific Union College is a conservative, independent, coeducational institution, operated in harmony with the beliefs, practices, and educational philosophy of the Seventh-day Adventist Church. In keeping with the special character of the College, you are encouraged to relate your academic study to your understanding of the Christian faith.

The College emphasizes the development of sound Christian character and makes a continuous effort to maintain an atmosphere that encourages commitment and growth in a personal relationship with Jesus Christ. Thus faith and learning may combine to prepare students for lives of Christian usefulness.

In harmony with that purpose, students are expected to consistently avoid all forms of personal conduct that are scholastically deleterious or spiritually or morally destructive. They are expected to refrain from the use of drugs, alcoholic beverages, tobacco, and improper conduct between the sexes, and to respect the facilities of the College and the property of others.

Applicants unwilling to pledge compliance with these standards will not knowingly be accepted or retained at Pacific Union College. Students who later find themselves out of harmony with these standards and social policies, or whose conduct and attitude show evidence of a negative or noncooperative influence, may expect dismissal.

### Student Conduct

The Office of Student Services publishes the *Student Guide*, which presents in more detail the standards of conduct referred to above. Application to and enrollment in the College are viewed as evidence that you have chosen to abide by the practices and regulations that appear in official College publications.

### Family Rights and Privacy

In maintaining student records, the College complies with the Family Educational Rights and Privacy Act of 1974. (Copies of the Act, amendments subsequent to it, and HEW guidelines are available in the Office of Student Services.)

Except as noted below, the College will give no information about you to any third party without your consent.

The law provides, however, that the College may disclose certain information without requiring your consent. This includes the following:

1. Information to faculty, administrators, and employees within the College system with a legitimate educational need to know your record.
2. Information to other universities, colleges or schools in which you seek to enroll.
3. Information requested by certain federal, state, and local officials and/or authorities as set forth in the law.
4. Information to persons or organizations providing financial aid.
5. Information required in an emergency to protect your health and safety or that of others.
6. Information to certain organizations conducting educational studies.
7. Information to accrediting organizations.
8. Information to your parents if you are a financial dependent according to IRS standards.
9. Directory or public information consisting of your name, address, telephone number, date of birth, major, minor, class schedule, year in college, dates of attendance, date of graduation, degrees and awards received.

You have the right to refuse the disclosure of directory information about yourself except for information about your degree status. To exercise this right of refusal, you must notify the Registrar in writing, while you are enrolled, of your request.

You have the right to inspect and review official records, files, and data directly related to yourself that are kept by any office of the College. There is one exception: Students applying for admission to the College may not review their application files.

Requests to review any records should be made in writing to the administrator responsible for the record. Requests will be processed within forty-five days from the date the request is filed.

### Grievance Policies, Procedures

The College has developed grievance policies and procedures to ensure that members of its constituent groups are not being treated in an unjust, unethical, or discriminatory manner. Statements detailing these policies and procedures are available at the Office of Student Services.

### Telephone Information

One telephone line is provided in each dormitory room for on-campus calling. You are to provide your own telephone—either touch-tone or pulse. Optional local calling and direct-dial long distance calling are available through the Telecommunications department. For these services students are charged a refundable deposit and a nonrefundable connection fee.

Telephone service does not permit you to accept collect calls. If you do accept a collect call, you must pay for the call plus a \$125 per-call service charge.

Billing for collect calls and for optional telephone services is separate from the regular college billing. These billings will be sent to you at your residence hall address and have a monthly deadline for payment. Failure to pay any incurred charges will result in immediate discontinuance of service. There is a reconnection fee to re-establish service.



Pacific Union College will accept your application for admission regardless of your race, age, sex, color or national origin so long as your attitudes and behavior are in harmony with the goals and traditions of this Seventh-day Adventist College and your abilities and preparation indicate the probability of a successful academic experience.

Although church affiliation is not required for admission, you are expected to abide by the policies outlined in this catalog and the *Student Guide*. To qualify for admission, you must give evidence of intellectual competence, high moral character, satisfactory health, and a genuine desire to learn.

## Application Procedures

- 1.** Request the *PUC Application for Admissions* form, available from the Office of Admissions.
- 2.** Send the completed application, with a \$30 nonrefundable application fee, to the Office of Admissions.
- 3.** Request the registrar of each high school, academy, or college you previously attended to send an official transcript directly from that school to PUC's Admissions office.

Applicants are responsible for the transfer of official transcripts of all high-school and college work attempted. Anyone who willfully refrains from transferring all scholastic records, or does not give full and truthful information concerning previous attendance at other educational institutions, will not knowingly be accepted or retained as a student. The transcripts become the property of the College and are kept on permanent file.

- 4.** Arrange for necessary recommendations. This requirement is automatically met if you apply directly from a constituent Seventh-day Adventist academy in the Northern or Central California Conference or from Hawaiian Mission Academy. Bachelor of Science in Nursing students need to provide only the references required as part of their application to the nursing program. All others must have three recommendation forms completed and sent to the Admissions office.
- 5.** Wait for a decision letter. When all pertinent documents are on file—application form, official transcripts, and recommendations—the application will be processed and you will be promptly notified in writing of the action taken.

*No student should at any time come to the College for the purpose of registering without having first received a formal notification of acceptance.*

## Admission

### Acceptance Follow-Up Procedures

The letter of acceptance outlines further steps necessary before registration:

**1.** If you will be a residence hall student, complete the room reservation form and send it, together with a \$100 room deposit, to the Office of Admissions. This room/cleaning/damage deposit is refundable if your notice of cancellation is received by September 1. No refunds are made for cancellations after September 1 or for failure to appear for registration.

**2.** Take the required college entrance examination and be sure that scores are on file in the Office of Admissions. Pacific Union College participates in the American College Testing Program (ACT) as an essential element in academic advising. *Each first-year and transfer applicant with fewer than 30 quarter credits must provide ACT scores.* You may be *accepted* without these test scores, but you must take the test before you register for courses.

All Seventh-day Adventist senior academies in the Central California, Northern California, and Hawaiian Conferences are designated Sunday ACT testing centers, providing test services to persons not enrolled at these academies. Upon request, guidance counselors at these academies provide information about college entrance testing to those who write, telephone or visit them.

**3.** Provide necessary medical information. The College's Student Health Service, in order to administer efficient care, requires all students to provide documentation of a recent physical examination (within the last twelve months), an immunization record, and a form verifying health insurance. Return these completed forms to the Office of Admissions.

### Reapplication Procedures

**1.** Students in residence, students in Adventist Colleges Abroad (ACA), and PUC Student Missionaries and Taskforce Workers should submit reapplications for the following year before the close of winter quarter.

**2.** Students who have withdrawn for at least three quarters must follow regular application procedures.

**3.** Students in residence may specify room preferences for the following year before the end of the current school year. Questions about this policy should be directed to the Office of Student Services.

### Admission to Regular Undergraduate Standing

You will have regular admission status if you have acceptable recommendations and qualify in one of the following categories:

**1.** Students having secondary-school graduation, or its equivalent, and a grade-point average of at least 2.3 (C+) in solid subjects. You are expected to have completed the following:

#### *Minimum Requirements*

- 4 years of English
- 2 years of Mathematics, including Algebra
- 1 year of Science
- 1 year of History

#### *Strongly Recommended\**

- 3 years of Mathematics, including Algebra II and Geometry
- 3 years of Science, including Biology, Physics, and Chemistry
- 2 years of History, including U.S. and World History
- 2 years of Foreign Language
- Computer Literacy

If you have not completed all the above minimum requirements, you may be admitted on a provisional basis (see "Admission on Provisional Status").

Any remedial work must be completed within a maximum of three quarters.

**2.** Students lacking secondary-school graduation who have passed the Test of General Educational Development (GED) with a standard score of 40 or above on each of the five tests and an average standard score of 50 for all five tests. (To be eligible to write the GED examination, one must be 18 years old, an exception being made for a seventeen-year-old who will have reached 18 by the time of enrollment in college, or whose class will have graduated by that time.)

**3.** Students seeking early entrance to college and lacking secondary-school graduation but having passed the California High School Proficiency Examination are considered for admission when the following requirements have been met:

- a) Successful completion of a minimum of two years of secondary school.
- b) A personal interview of applicant and parents by an admissions officer of the College or a designated representative.
- c) A letter from the applicant stating the rationale for early entrance into college.
- d) Recommendation by the faculty of the secondary school last attended, including an evaluation of social and academic readiness for college, and a recommendation from the applicant's local pastor.

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\* *If you have completed the strongly recommended courses, you will probably have fewer requirements in your general-education program. See "General Education Requirements for the Baccalaureate Degree."*

**4.** Transfer students who have attended other accredited institutions of higher education and who have on file in the Office of Admissions official transcripts showing a minimum cumulative grade-point average of 2.0 on all course work taken. A maximum of 108 quarter hours of transfer credit will be accepted from community or junior colleges.

**5.** Reapplicants who have a minimum cumulative grade-point average of 2.0 on course work taken at Pacific Union College and have maintained an acceptable citizenship record.

## **Admission on Academic Probation**

Applicants for admission as first-year students who meet the requirements of one of the categories above, but whose grade-point average in solid subjects is between 2.0 and 2.3, may be admitted on academic probation. Also admitted on academic probation are those applicants who have taken the GED test with standard scores of not less than 35 on each of the five tests and an average standard score of at least 45 for all five tests.

If you are admitted on academic probation, you may take up to 15 hours each quarter, including any required remedial courses, until you achieve regular enrollment status. You must complete any required remedial courses within three quarters of admission.

Transfer students admitted on academic probation should read the sections of this catalog entitled “Academic Probation” and “Academic Renewal” in ACADEMIC INFORMATION AND POLICIES.

## **Admission on Provisional Status**

If you have graduated from secondary school but have not completed all courses required for admission, you may be admitted on provisional status. Not more than three quarters are allowed for removing secondary-school deficiencies.

If you transfer from an unaccredited institution, you may also be admitted on provisional status. When you complete 16 quarter hours of course work in residence at Pacific Union College with a minimum grade-point average of 2.0, your transcript from the unaccredited institution will be analyzed on a course-by-course basis and credit awarded for those courses which appropriately apply toward your PUC program.

## **Admission by Advanced Enrollment**

Advanced Enrollment status is for secondary-school students of superior ability who wish to enroll in some college courses while completing requirements for secondary-school graduation. For admission to this status, you must meet the following criteria:

- 1.** Completion of your sophomore year with a grade-point average of at least 3.5.
- 2.** Recommendation from the secondary-school faculty supporting your ability to benefit from early college enrollment and specifying your remaining requirements for graduation and the method of fulfilling them.
- 3.** Written rationale for early entrance into the college program and evidence of superior motivation.

Students in this category are admitted tentatively, subject to secondary-school graduation, and are classified as Advanced Enrollment Freshmen.

## **Admission as a Special Non-Degree or Audit Student**

If you do not meet college entrance requirements or do not wish to qualify for a degree, but do wish to take certain courses at the college level on either a credit or an audit basis, you may apply for admission as a special nondegree student. On this basis you are permitted to select courses for study without reference to the requirements of any prescribed curriculum. Enrollment in any particular course is subject to the approval of the instructor and to your meeting any course prerequisites.

Applicants for admission as special students are expected to follow the same procedures for application and registration as regular applicants. Ordinarily, a special student may register for one to six quarter hours at any one time.

## **Admission as a Guest Student for Transfer Credit**

If you have been accepted for study in another accredited college or university and wish to earn credit at Pacific Union College for transfer, you are not required to follow regular admission procedures. You need only apply to Enrollment Services at least one month prior to the beginning of the quarter for which you expect to register at PUC.

As a guest applicant you must provide evidence of good and regular standing, including a statement from the college or university to which you have been admitted stating that the credits you earn at Pacific Union College will be accepted as transfer credit.

## Admission

### Admission of International Students

International students will be considered for admission when they have:

1. met all regular requirements for admission;
2. provided certified English translations of official transcripts;
3. provided the required recommendations, written in English;
4. presented evidence of ability to meet all financial obligations to the College (see also the section of this catalog entitled “International Students” under FINANCIAL INFORMATION); and
5. demonstrated ability to pursue studies in the English language by presenting a **minimum score of 525** on the Test of English as a Foreign Language (TOEFL). This score must be based on a recently taken TOEFL and be dated no more than six months prior to the student’s application for admission.

International students who have not met the above language requirement, but who have **scores between 435 and 525** on the TOEFL, or who present other evidence that they can succeed at PUC, should apply for admission to the English Language Program of the College. This program is designed to develop and enhance the English language skills of students whose primary language is not English so that they may qualify for college-level educational programs taught in English and may participate effectively in them.

International students with a TOEFL **score between 500 and 524** may be admitted to a combined program consisting of both ESL courses and regular academic courses. Students in this category are required to participate in a special advising program in which they work with two advisers (ESL and academic major); take prescribed ESL support courses; take the TOEFL at the beginning and end of each quarter in residence; and

may take selected regular courses as approved by both the ESL and academic major advisers.

Information on this program is provided in the section of this catalog entitled “English Language Program” under English. Interested persons may also contact the Director, English Language Program, Pacific Union College, Angwin, CA 94508.

Pacific Union College is a Christian liberal arts institution of higher education offering studies and activities designed to promote the harmonious development of each student—spiritually, mentally, socially, and physically.

Through religious services, classroom instruction, and a varied program of social and cultural activities, the College seeks to assist in the development of both character and intellect. A sincere attempt is made to create an environment in which you may freely arrive at a realistic and satisfying concept of human nature and of humanity's relation to the universe.

Character as a code of moral and spiritual values, and intellect as the tool of reason, are integrated in the learning experience in order to provide a firm base for effective, ongoing contributions to the church and society.

In essence, the College seeks to

- promote the development of a sense of values and a personal philosophy of life as an outgrowth of commitment to the Christian faith;
- stimulate intellectual curiosity essential to the discovery of truth;
- encourage creativity in thought and expression;
- demonstrate that learning is both discipline and pleasure and that meaningful, lasting benefits accrue to those who throughout life continue to experience the satisfaction of learning;

- introduce you to the great body of knowledge by which people understand and relate to their physical and social environments; and
- develop certain basic skills and abilities that contribute to satisfactory social and occupational relationships.

## Degrees and Curricula

While Pacific Union College is primarily a four-year liberal arts institution, it also offers a graduate program in Elementary Education, professional and preprofessional programs, and two-year programs leading to associate degrees.

### Degrees Offered

- *Baccalaureate Degrees:*
  - Bachelor of Arts (B.A.)
  - Bachelor of Science (B.S.)
- *Professional Baccalaureate Degrees:*
  - Bachelor of Business Administration (B.B.A.) See Department of Business Administration and Economics.
  - Bachelor of Science in Medical Technology (B.S.M.T.) See Department of Biology.
  - Bachelor of Music (B.Mus.) See Department of Music.
  - Bachelor of Social Work (B.S.W.) See Department of Behavioral Science.
  - Bachelor of Professional Studies (B.P.S.) See Extended Learning.

- *Graduate Degree:*
  - Master of Arts (M.A.)
- *Associate Degrees:*
  - Associate of Arts (A.A.)
  - Associate of Science (A.S.)

The general requirements for the degrees follow, except for the professional baccalaureate degrees, which are detailed in the departments offering the programs.

## The Associate Degree Program

### Plan of Study

The two-year associate degree program is designed for students who desire to enter occupations that require a limited amount of training. Except for nursing, which requires 105 quarter hours, the degree consists of 90 quarter hours of course work distributed among the major, general education, and electives. (If you are interested in nursing, you should refer to the Nursing section of this catalog for specific requirements.)

### Graduation Requirements for the Associate Degree

All candidates for an associate degree must complete the following requirements:

#### ➤ *Residence Requirements:*

1. A minimum of 24 quarter hours must be completed in residence.
2. The last 12 hours of the major must be taken in residence.

# The Academic Program

## General Requirements:

1. A total of 90 quarter hours of course work (105 for Nursing).
2. A minimum overall grade-point average of 2.0 (C) in course work for the degree, with no grade lower than C- in the major concentration. (For Nursing GPA requirements see the Nursing section of the catalog.)
3. Completion of an associate-degree major as specified in the departmental sections. (For the General Studies major, see the Associate of Arts degree in the Liberal Studies section.)
4. Completion of the general-education requirements (outlined below).
5. Filing of your Application for Graduation and Senior Contract specifying the complete program of the senior year. File these at the Records office at least three quarters before the expected conferring of your degree.
6. Completion of any correspondence work and filing of all transfer credit with the Records office at least a full quarter before expected graduation.\*  
For further information regarding graduation, see the section entitled "Graduation Information."

## General Education Requirements for the Associate of Science Degree

General-education requirements for Associate of Science degree programs

\* *Note: If you wish to take course work at another college during the quarter prior to graduation, you must have obtained prior permission from the Office of the Registrar. One week before graduation, a sealed envelope must be delivered to the Records office containing either an official transcript or a letter from the registrar of the college where you have taken the out-of-residence work reporting course number and title, hours of credit, and course grade, together with a statement that an official transcript will follow as soon as possible.*

total approximately 32 hours. Selections are to be made from courses that meet baccalaureate degree general education requirements (see pages 24-27).

### I. Foundations of Learning

ENGL 101 or 105\*\*  
MATH 019 or equivalent  
COMM 105 or 226

### II. Revelation, Belief, and Action

A minimum of 9 hours, with at least 4 hours selected from courses carrying the prefix RELB. Students who transfer from public institutions of higher education for the second year of this degree must take five hours of religion.

### III. Health and Fitness

One health course; two physical education activity courses, taken during two different quarters, one course being from the aerobics area.

### IV. Electives

From at least two of the three areas listed below, three courses are to be chosen that also apply to baccalaureate-degree general education.

1. Literature, Visual Art, Music
2. Natural World/Sciences/Mathematics
3. Foreign Language, History, Philosophy, Social Sciences

## Requirements for the Associate of Arts Degree

The College offers an Associate of Arts degree in General Studies. Requirements for the degree are listed in the Liberal Studies section of this catalog.

## The Baccalaureate Degree Program

### Plan of Study

Preparation for a career involves both general and specialized education. Courses of study leading to a baccalaureate

\*\*See page 44 for a list of prefixes and the subjects they represent.

ate degree are designed to give a general understanding of the major academic disciplines and to provide for specialization in the field of your major interest.

In most programs the first two years are primarily devoted to general education, but you should also take certain elementary and intermediate courses in your proposed major during these years.

If you have not yet selected a major, you may pursue a general program of education while exploring several fields of knowledge. One can usually do this without loss of time or credit if the program is carefully planned in consultation with a faculty adviser. A faculty curriculum adviser is available for counsel throughout your college career.

## Graduation Requirements for the Baccalaureate Degree

It is your responsibility to become acquainted with all graduation requirements published in this catalog and to plan a program of studies that will fulfill them. Candidates for baccalaureate degrees must complete the residence and general requirements that follow.

### ➤ Residence Requirements:

You must satisfy the following minimum residence requirements on the Angwin campus or as a participant in a PUC extension program. (If you need an exception to any of these residence requirements, you must present your special request, in writing, to the Records office.)

1. 36 of the last 48 quarter hours immediately preceding conferral of your degree.
2. 30 quarter hours of upper-division course work.
3. One-half the upper-division hours in your major field.
4. For students taking a minor, 6 hours of upper-division course work in the minor field.

## ► *General Requirements:*

1. A minimum of 192 quarter hours including 60 hours at the upper-division level with a resident and cumulative grade-point average of 2.0 (C) or above.
2. Completion of the general-education requirement specified for the degree sought.
3. Completion of a major specialization as defined in the department of your choice. No course with a grade below C- may apply toward a major or minor.
4. Application for Graduation and Senior Contract specifying the complete program of the senior year. You must file these two documents with the Records office at least three quarters before the expected conferring of your degree.
5. Completion of any correspondence work and filing of all transfer credit with the Records office at least a full quarter before expected graduation.\*

## ► *Senior Comprehensive Examination*

Before graduation, you are required to take a comprehensive examination covering your major field of study. In some departments, because of the nature of certain disciplines, this requirement may be satisfied by an assessment of competence other than an examination.

For further information regarding graduation, see the section entitled “Graduation Information.”

## **General Education Requirements for the Baccalaureate Degree**

The general-education requirements for the *Bachelor of Arts* and *Bachelor of Science* degrees are the same except that foreign language is not required for the *Bachelor of Science* degree. The general-education requirements for the degrees of *Bachelor of Business Administration*, *Bachelor of Music*, and *Bachelor of Social Work* will be found in the respective departmental sections.

The number of courses and credits you will take to satisfy general education requirements will depend on your secondary-school preparation and your choice of degree program.

## **Regulations Governing General Education**

1. Unless expressly excluded by a statement in the departmental course listings, a general-education course in the field of your major may both satisfy the general-education requirement and apply toward your major.
2. Credit hours from any given course may be applied only once in fulfilling the general-education requirement.
3. Besides satisfying the requirements of the major and of general education, most students will find, within the 192 hours required for a baccalaureate degree, room for elective courses that will also enrich their general preparation.

## **The Purpose of General Education at PUC**

The principal goal of the general-education program is to enable graduates to make a distinctively Christian difference in the world. Such a preparation requires the ability to understand oneself, others, and the various ideas human societies use to define themselves. It also includes the disposition to act effectively in the world.

Understandings, skills, and dispositions are learned in communities. As a community of liberal learning, the Seventh-day Adventist College is called to be one of God’s agents in a fallen world. Through the experience of this community, both student and teacher may find the freedom to confront the claims of Christianity. The general education program seeks to cultivate a community of learners at PUC in order that all may be inspired by a sense of Christian mission to invigorate

the Church and to enlighten the world.

The PUC community affirms the ideals of liberal education. A hallmark of liberal education is that it calls us to submit our actions and beliefs to critical analysis in order to clarify or to transform our perceptions of the world. In response to this call, the general education program seeks to provide a forum in which we may judge which understandings of the world are better, may practice the skills of appropriate persuasion, and may cultivate the disposition to do the good we see.

## **A Note to Transfer Students**

The main objective of the general-education program is not so much to require a prescribed list of courses as it is for students to achieve the *goals* of general education. These goals are stated in the introduction to each section. The courses listed below are those by which Pacific Union College students achieve the goals of the program. Acceptable transfer courses for meeting general-education requirements may not in every case be identical, but they must achieve the purposes of each section.

\* See footnote, page 22.

# The Academic Program

## General Education Course Requirements

### I. Foundations of Learning

The essential basis for participating in the community of learning includes the ability to do critical analysis of presentations in various forms. It includes the ability to make clear, accurate, and forceful presentations, both written and spoken, including those that employ statistical methods.

#### A. Rhetoric

1. COLLEGE WRITING: The uses of written language, with emphasis on the skills of critical reading and competent college-level writing, including development of these skills in research.

ENGL 101-102\* College English (or ENGL 105-106 Honors College English)

The general-education requirement in College English should be completed by the end of the freshman year and must be completed by the end of the sophomore year. Students exiting the English Language Program (ESL courses) are required to transfer into regular English (ENGL) courses immediately after completion of the intensive English Language Program.

2. ORAL COMMUNICATION: The public, spoken presentation of ideas, with emphasis on oral argument.

*One course from the following:*

COMM 105 Speech Communication

COMM 225 Oral Interpretation

COMM 226 Public Speaking

COMM 326 Advanced Public Speaking

COMM 327 Argumentation

COMM 427 Persuasive Communication

B. Reasoning from Data: Emphasis on the critical reasoning skills necessary for accurately understanding and appropriately using statistical data.

MATH 222 Introduction to Statistics

### II. Human Identity in Cultural Contexts

Insights into the identities of individuals, peoples, and cultures are gained through courses that describe and explain philosophical and historical developments, social contexts, and psychological conditions. These courses explore the methods of inquiry used by the sciences and the humanities and the tensions between them. The study of foreign languages provides not only extended communication skills, but also enhanced cultural understanding.

A. *Historical Context:* Emphasis on major developments in the civilizations of the world, on the perennial questions that have challenged humankind, and on historical methodology.

Required: either the sequence HIST 101-102 or the sequence HIST 134-135, depending on the student's secondary-school background in history. Those having taken World History in high school must take HIST 134-135; those having taken United States History must take HIST 101-102. Those having taken both may elect either sequence.

HIST 101-102 History of World Civilizations

HIST 134-135 History of the United States

B. *Philosophy:* Emphasis on philosophy as a means of thinking about the enduring questions of human experience.

*One course from the following:*

PHIL 101 Introduction to Philosophy

PHIL 274 Introduction to Political Thought

PHIL 320 Philosophy of Religion

PHIL 334 History of Political Thought I

PHIL 335 History of Political Thought II

PHIL 336 History of Political Thought III

PHIL 390 History and Philosophy of Science

PHIL 451 History of Western Thought

PHIL 460 Moral Philosophy

C. *Social Sciences:* Emphasis on how humans interact, on why they interact as they do, and on how their interaction explains behavior.

Two courses from the following: one selection from anthropology (ANTH), psychology (PSYC), or sociology (SOCI); a second course with a prefix different from that of the first course chosen:

ANTH 124 Cultural Anthropology

ECON 261 Principles of Economics—Macroeconomics

ECON 265 Principles of Economics—Microeconomics

GEOG 301 World Regional Geography

PLSC 124 Introduction to American Government

PLSC 274 Introduction to Political Thought

PLSC 328 Critical World Issues

PSYC 121 General Psychology

PSYC 390 Gender Issues

SOCI 121 Introduction to Sociology

SOCI 214 The Family

SOCI 232 American Social Problems

SOCI 355 Racial and Ethnic Relations

D. *Foreign Language:* Emphasis on developing the ability to read and to communicate in a foreign language and on the educational enrichment that derives from the study of foreign language and culture. (Required of all Bachelor of Arts students; recommended for students in other curricula.)

1. *Prerequisite:* Satisfactory completion of two years of a for-

\*See page 44 for a list of prefixes and the subjects they represent



eign language at the secondary level or of a 10-12 hour college sequence in a beginning foreign language course.

FREN 111-112-113	Beginning French
GRMN 111-112-113	Beginning German
SPAN 111-112-113	Beginning Spanish
RELL 225-226/325-326	Beginning/Intermediate Greek
RELL 337-338/ RELB 445	Biblical Hebrew/ Hebrew Prophets

2. *Requirement:* A basic language-cultural experience in a foreign language through one of the following options:

- Satisfactory completion of an intermediate-level college sequence in a foreign language.
- Satisfactory completion of an elementary-level sequence in a new language.
- Satisfactory completion of the reading-knowledge sequence in a new language.
- This requirement is waived for students who have completed four or more years of formal schooling, with a C average or better, in a school conducted in a language other than English and located in a country where English is not the native tongue. No college credit is awarded for the proficiency gained through such an educational experience. The student is responsible for documenting such learning. The General Academic Studies and Policies Committee determines waiver of the requirement on the basis of the committee's review of supporting evidence.

### III. *Insights of the Imagination*

Courses in this category explore the artistic expression of ideas, values, and emotions. They seek to cultivate the ability to understand, to evaluate, and to respond to such expressions. They seek to develop enhanced awareness of aesthetic qualities.

- Literature:* Emphasis on understanding people and culture through literature.  
ENGL 301 Great Books
- Visual Arts:* Emphasis on the visual arts as communication about ourselves and our surroundings and on the qualities used to identify aesthetic value in works of art.  
*One course from the following:*  
ART 105 History of Western Art  
ART 107 American Art  
ART 108 History of Far Eastern Art  
ART 278 Women Artists

- Music:* Emphasis on music as the expression of ideas, values, and emotion and on the criteria that define aesthetic value in music.

*One course from the following:*

MUED 104	The Christian and Music
MUHL 105	Survey of Music
MUHL 331, 332, 333	Music History sequence (any quarter)
MUHL 336	Popular Music in the Twentieth Century

### IV. *The Natural World*

Faculty and students inquire into the nature of science, exploring relationships between the sciences and other realms of human thought, including culture, philosophy, history, and ethics. They consider both the benefits and the limitations of science and technology.

#### A. *Introductory-Level Mathematics and Science*

- Algebra:* An ACT standard score of 19; or a satisfactory score on a Mathematics department waiver examination; or the following:

MATH 019	Introductory Algebra
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The algebra requirement should be completed by the end of the freshman year and must be completed by the end of the sophomore year.

- Life Science:* A full year of biology at the secondary level or the following:

BIOL 105	Man and the Natural World
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- Chemistry:* A full year of chemistry at the secondary level or the following:

CHEM 101	Introductory Chemistry
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- Physics:* A full year of physics at the secondary level or the following:

PHYS 105	Introduction to Physics
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- Scientific Inquiry:* An interdisciplinary approach to the major ideas of science.

GSCI 205	Scientific Revolutions
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- Insight Through Investigation:* A four-hour laboratory course in natural science.

*One course from the following:*

ASTR 105	Introduction to Astronomy
ASTR 125	General Astronomy (Honors)
BIOL 101	Human Anatomy
BIOL 102	Human Physiology
BIOL 111	Biological Foundations
or 112 or 113	
BIOL 335	Marine Science
CHEM 102	Survey of Organic Chemistry
CHEM 103	Survey of Biochemistry
CHEM 111	General Chemistry

## The Academic Program

GEOL 233	Geology
MICR 134	General Microbiology
PHYS 111	General Physics
PHYS 131	Physics with Calculus

*Note: Completion of any of the following sequences will satisfy both requirements B and C above:*

BIOL 101-102- MICRO 134	Human Anatomy/Human Physiology/ General Microbiology
BIOL 111-112-113	Biological Foundations
CHEM 111-112-113	General Chemistry
PHYS 111-112-113	General Physics
PHYS 131-132-133	Physics with Calculus

D. *Science, Technology, and Culture:* Emphasis on the interactions and relationship of science and technology with culture or society.

*One course from the following:*

BIOL 345	Human Ecology
BIOL 355	Philosophy of Biology
BIOL 450	Philosophy of Origins
PHIL 390	History and Philosophy of Science
PHIL 485	Issues in Science and Religion
TECH 493	Technology, Society, and Culture

### V. Revelation, Belief, and Action

Courses in this section explore the nature, forms, and uses of belief; the relationship between Christian belief and revelation; and the applications of belief to life, emphasizing Christian expression of faith in service. Since the Bible records selected revelations of God through centuries of human experience, it is the central text of study for approaching an understanding of God's will and of the Christian tradition. (Minimum of 18 hours. Up to 9 hours of credit in religion may be lower division for all students, including transfer students.)

A. *Biblical Studies:* (6-16 hours)

RELB prefix All courses

B. *Studies in Religion:* (2-12 hours)

RELH, RELL, RELP, and RELT prefixes: All courses

C. *Religious Issues in Other Disciplines:* (0-2 hours)

FLHD 490	Issues in Contemporary Society
HIST 490	Seminar in Philosophy of History
PETH 490	Ethics in Physical Education
PHIL 101	Introduction to Philosophy
PHIL 335	Philosophy of Biology
PHIL 450	Philosophy of Origins
PHIL 460	Moral Philosophy
PHIL 485	Issues in Science and Religion

PSYC 435	Psychology of Religion
PSYC 490	Issues in Religion, Ethics, and the Human Sciences

SOCI 435 The Sacred and Profane in Society

D. *Requirements in Religion for Transfer Students:* The minimum requirement in religion for students who transfer from public colleges and universities is as follows:

1. *Freshmen* (0-44 hours) must take the 18 hours required of students in baccalaureate degree programs.
2. *Sophomores* (45-89 hours), juniors (90-134 hours), and seniors (135 hours and up) are required to take 14, 10, and 6 hours respectively.
3. *For sophomores and juniors*, at least 6 hours are to be selected from courses carrying the prefix RELB. Seniors are required to take one course carrying the prefix RELB.

### VI. Health and Fitness

Comprehensive, balanced education includes acquiring and using the accurate knowledge and developing the skills and habits that help to sustain a sound mind in a sound body.

A. *Health:* Consideration of such major health issues as nutrition, stress management, substance abuse, and SDA health principles and their application.

*One course from the following:*

FDNT 175	Personal Nutrition
FDNT 235	Nutrition
HLED 162	Fitness for Life
HLED 166	Health Education
HLED 169	Current Health Concerns

B. *Fitness:* Emphasis on exercise and physical activity. Up to four activity courses required, one for each year in residence. One must be an aerobics course.

PEAC All courses

### VII. Skills for Daily Living

Education is comprehensive, affecting the experience of the whole person. Affirming the dignity of labor, a truly liberal education opposes the isolation of the scholar from the artisan. It includes experiences that broaden one's applied and manual skills. It acknowledges the importance of improving one's ability to cope with the common details of everyday living.

A. *Applied Arts:* "Hands-on" courses that emphasize the use of physical skills in the maintenance or production of utilitarian goods or devices.

*Minimum of 2 hours selected from the following:*

Art: ART 141, 241

Agriculture: AGRI 211, 212, 213  
 Auto Mechanics: AUTO 101, 171, 172, 178  
 Clothing and Textiles: CLTX 224, 226, 326  
 Interior Design: DSGN 145, 242  
 Electricity and Electronics: ELEC 141, 144  
 Food Preparation: FDNT 130L, 134, 135, 136, 230  
 Building and Finishing: MFG 121, 122, 161, 164, 181, 184, 221, 264, 281

B. *Personal Management Skills*: Courses that focus on the application of information to the details and demands of personal and family life, as distinguished from those developed prima-

rily for vocational purposes.

*Minimum of 2 hours selected from the following:*

Business: ACCT 121, 241; BUAD 118, 223, 335; OFAD 165, 301  
 Communication: COMM 223  
 Computing: CPTR 105, 115; GRPH 153, 155, 251; INFS 144, 148, 149  
 Family Life: FLHD 365, 375  
 Nutrition: FDNT 235, 335, 336  
 Personal Behavior: CLTX 321; PSYC 126, 227

## The Honors Program

The Honors Program offers an alternative general education program for academically motivated students. It is built around a series of “great books,” or central texts, illustrating significant themes in the liberal arts. These works are supplemented by selected contemporary works, including films.

Students who complete the Honors Program will have no other general education requirements. Only students fulfilling the requirements of the Honors Program will graduate “With Honors,” a designation that appears in the graduation program and the transcript.

If you have the following qualifications, you are invited to apply for admission to the Honors Program: a strong academic record in high school, including four years of English, two years of history, three years of mathematics, a year each of biology, chemistry, and physics, and a C.P.I. of at least 3.5. In addition, you must score at the 80<sup>th</sup> percentile or higher on the ACT examination or its equivalent.

If you are a nonfreshman transfer student at least five quarters from graduation, you may be admitted to the program if you meet the entrance requirements given above and provide two letters of

recommendation from college teachers supporting your ability to do superior academic work. Sophomores are required to complete nine of the twelve required seminars; juniors will take four seminars. All students, including transfer students, are required to complete an honors project.

All of the Honors general-education courses are interdisciplinary, and some are team-taught. The themes and texts have been chosen by the Honors Director in consultation with other teachers in the Honors Program; they are subject to revision every two years.

### Freshmen Seminars:

HNRS 101 Heroes  
 HNRS 102 Order and Liberty  
 HNRS 103 Scripture I

### Sophomore Seminars:

HNRS 251 Cosmos  
 HNRS 252 America  
 HNRS 253 Virtue

### Summer Term Abroad:

HNRS 330 Christianity  
 HNRS 331 Scripture II

### Junior Seminars:

Two of the following courses:

HNRS 360 Beauty  
 HNRS 361 Self and Society  
 HNRS 363 East

### Senior Seminar:

HNRS 485 Progress

### Senior Project:

HNRS 498 Honors Project

### Language:

RELL 225-226 Beginning Greek  
 RELL 325-326 Intermediate Greek

The total number of general education hours in the Honors Program is 67. This includes 12 hours of New Testament Greek in the first two years of the program, required as a means of studying the Bible, the central text in the Honors Program. (With the approval of the Honors Director, students who successfully complete a year at a college or university in which English is not the medium of instruction may substitute a modern language for New Testament Greek.)

You should be aware of several additional features of the Honors Program. The freshman year seminars are designed to have a particularly strong writing component. The Cosmos seminar includes a laboratory. The Summer Term Abroad involves two months of study based in Europe.

You may, if you wish, transfer out of the Honors Program into the regular general-education program. Consult with the Honors Director for specific details.

# The Academic Program

The Honors Project allows you to examine an issue or problem of your own choosing. In consultation with a faculty adviser and the Honors Director, you will submit an Honors Proposal by the end of your junior year. No later than the fourth week before graduation, you will make a public presentation of your research or creative work.

The goal for the Honors courses is to create an atmosphere in which you feel free to experiment with ideas and to test them in open debate with classmates and teachers. The program is designed to engage significant books, films, art, and music in a Christian context. We encourage each student, regardless of vocational goals, to seek truth and to act upon it.

## Honors Courses

### **HNRS 101** **5 A** **Heroes**

Homer, *The Odyssey*; David narratives (I Sam. 16 to I Kings 2:12; I Chron. 11 to 29); Donatello, Michelangelo, and Bernini, *David*; Plato, *Apology of Socrates and Crito*; Kelly, *Eleanor of Aquitaine*; Shakespeare, *Henry V*; Cervantes, *Don Quixote*; Shaw, *Saint Joan*; Bainton, *Here I Stand: A Life of Martin Luther*; Beethoven, *Eroica* (symphony); Brookhiser, *Founding Father: Rediscovering George Washington*; and *Gandhi* (film).

### **HNRS 102** **5 W** **Order and Liberty**

Sophocles, *Antigone*; Plato, *The Republic*; St. Augustine, *City of God* (selections); Machiavelli, *The Prince*; Locke, *Second Treatise on Government*; Dickens, *A Tale of Two Cities*; Wollstonecraft, *A Vindication of the Rights of Woman*; Mill, *On Liberty*; Marx and Engels, *The Communist Manifesto*; Koestler, *Darkness at Noon*; *Danton* (film); David, selected paintings.

### **HNRS 103** **5 S** **Scripture I**

Genesis, Job, Ruth, Isaiah; Mendelssohn, *Elijah* (oratorio); Blake, engravings of Job and Genesis.

### **HNRS 251** **5 A** **Cosmos**

Ptolemy, selections; Lewis, *The Discarded Image*; Bacon, *Novum Organum*; Galileo, *Dialogues*; Kuhn, *The Structure of Scientific Revolutions*; Hawking, *A Short History of Time*; Dawkins, *The Blind Watchmaker*; Johnson, *Darwin on Trial*; 2001: *A Space Odyssey* (film); Holst, *The Planets* (symphony). This seminar includes laboratory.

### **HNRS 252** **5 W** **America**

*Declaration of Independence*; *Constitution*; *The Federalist Papers* (selections); Tocqueville, *Democracy in America* (selections); Hawthorne, *The Scarlet Letter*; *Narrative of the Life of Frederick Douglass*; Lincoln, selected speeches; Whitman, *Leaves of Grass*; Dickinson, selected poems; Twain, *Huckleberry Finn*; Cather, *Death Comes for the Archbishop*; Stegner, *Angle of Repose*; *Heartland* (film); Winslow Homer, selected paintings.

### **HNRS 253** **5 S** **Virtue**

Lewis, *The Abolition of Man*; Aristotle, *Nicomachean Ethics*; Aquinas, *Summa Theologica* (selections); *The Koran*; Shakespeare, *Richard III*; Nietzsche, *Beyond Good and Evil*; Stevenson, *Dr. Jekyll and Mr. Hyde*; *Crimes and Misdemeanors* (film).

### **HNRS 330** **5 Su** **Christianity**

(Summer term in Europe.)  
Lewis, *Mere Christianity*; The Virgin Mary in the National Gallery, selected

artists; Dante, *The Divine Comedy*; Julian of Norwich, *Showings*; selected stained glass; Luther, *Christian Liberty*; Bunyan, *The Pilgrim's Progress*; St. Paul's Cathedral; Law, *A Serious Call*; Mozart, *Requiem*; Dostoevsky, *The Brothers Karamazov*; Flannery O'Connor, selected stories; *The Mission* (film).

### **HNRS 331** **5 Su** **Scripture II**

(Summer term in Europe.)  
Mark, Acts, Romans, I John; *The Gospel According to St. Matthew* (film).

### **HNRS 360** **4 A** **Beauty**

Michelangelo, *Letters*; Burke, *A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and the Beautiful*; Shelley, *Defense of Poetry*; Coleridge and Wordsworth, *Lyrical Ballads*; Hawthorne, "The Artist of the Beautiful"; Wilde, *The Decay of Lying*; Barzun, *The Use and Abuse of Art*; Bayles, *Hole in Our Soul*; Wolfe, *The Painted Word*; Venturi, *Learning from Las Vegas*; *Bird* (film); The Parthenon; The Bauhaus.

### **HNRS 361** **4 W** **Self and Society**

St. Augustine, *Confessions*; Rousseau, *Confessions*; Wesley, *Journals* (selections); Hume, *An Inquiry Concerning Human Understanding*; White, *Life Sketches*; James, *The Varieties of Religious Experience*; Freud, *The Future of an Illusion*; Woolf, *A Room of One's Own*.

### **HNRS 363** **4 S** **East**

Confucius, *Analects*; *Bhagavad Gita*; Lady Murasaki, *Tale of Genji*; Marco Polo, *Travels*; Naipaul, *A Bend in the River*; Hesse, *Siddhartha*; Hokusai, selected prints; Van Gogh, selected paintings; *Mister Johnson* (film); traditional Ethiopian music.

# The Academic Program

## HNRS 485 Progress

Voltaire, *Candide*; Gibbon, *Decline and Fall of the Roman Empire* (selections); Malthus, *Essay on the Principle of Population*; Mary Shelley, *Frankenstein*; Darwin, *The Descent of Man*; Achebe, *Things Fall Apart*; *The Bounty* (film).

## HNRS 498 Honors Project

Preparation and evaluation of the Honors Project. Prerequisite: GPA of 3.5.

## 4 A

## The Minor

A minor is not required for graduation. You should, however, consult with your academic adviser about a minor if you plan to teach, if you desire California and/or SDA teaching credentials, or if you anticipate attending a graduate or professional school that requires a concentration in a discipline other than the major.

A minor generally requires 30 quarter hours in a departmental specialization, of which you must complete at least six upper-division hours in residence with a minimum grade-point average of 2.0 (C).

In departments embracing more than one discipline (e.g., Behavioral Science), one may earn both a major and a minor having different names. While some courses may apply to both the major and the minor, a minimum of 20 hours in the minor must not overlap those in the major.

## The Major and the Minor

The specific requirements for majors and minors are given under the departmental listings in COURSES OF INSTRUCTION.

Though no course with a grade below C- may apply toward the major or minor, all work taken in these areas must be included in computing the grade-point average for the major or minor.

## The Major

A major consists of 45 quarter hours or more in your chosen area of specialization, of which you must complete at least one-half of the upper-division hours in residence. You must maintain a minimum grade-point average of 2.0 (C) in the major. Some departments may have additional requirements. You should consult with your departmental or major adviser to determine whether such additional requirements are in force.

You may earn more than one major concurrently, provided that you complete all courses and cognates required for each major. Some courses may apply to both majors, but a minimum of 30 hours in the second major must not overlap those in the first.

## 3 W, S

## Education: The Master's Degree Program

### Plan of Study

The four-quarter graduate program at Pacific Union College leads to a Master of Arts degree in education with an emphasis in reading/language arts.

Before the master's degree can be awarded, you must qualify for both California and Seventh-day Adventist Professional elementary or secondary English teaching credentials. Careful planning with the Education department Chair and the Credential Analyst is necessary to ensure that you have included in your Program of Studies all requirements for both the degree and the credential.

A nondegree fifth-year program and a reading/language arts specialist credential are also available. You may obtain information about these programs from the Education department.

## Admission to the Master of Arts Degree Program

One applies for admission both to the College and to the master's degree program. Your application will be considered when official college transcripts and other requested materials have been filed with the Education department.

Admission is determined by the Education department faculty on the basis of credentials held, your recommendations, former academic performance, and background. The Department Chair must approve credit for course work taken prior to admission to the program.

### Requirements for Admission

1. A baccalaureate degree from an accredited college or university.
2. A California preliminary multiple subject credential or single-subject credential in English or SDA Basic elementary or secondary English credential (or eligibility for these credentials).
3. Admission to the College.
4. Submission of a graduate application to the Department of Education including the following:
  - a) two recommendations
  - b) official transcripts
  - c) interview with Department Chair and one other Education faculty member
  - d) essay discussing interests and goals
5. A minimum grade-point average of 3.0 in each of the following undergraduate areas:
  - a) Upper-division major
  - b) Education courses
  - c) Overall college work or the last 96 quarter hours
6. Passing scores in the following examinations:
  - a) California Basic Educational Skills Test (CBEST)
  - b) For students without an approved Liberal Studies degree or English subject matter program or its equivalent: Multiple Subject Assessment for

# The Academic Program

Teachers (MSAT) or PRAXIS/SSAT in English. Passing scores are determined by the California Commission on Teacher Credentialing.

7. Acceptable scores in the Graduate Record Examination (GRE) General Test.
8. A proposed program of studies appropriate to your strengths, weaknesses, interests, and test results.

## Admission of Former Students

If you previously attended Pacific Union College, you are required to apply for readmission (no application fee).

## Admission of Transfer Students

If you are a student in good standing in another accredited graduate program, you are welcome to apply for admission to the master's program at Pacific Union College. A maximum of 12 quarter hours of approved transfer credits may be accepted toward the degree.

In addition to the regular application forms, as a transfer candidate you are required to file official postsecondary transcripts with the Office of Enrollment Services.

## Admission of Guest Applicants

If you have been accepted for graduate study in another accredited institution of higher education and if you wish to earn credit at Pacific Union College for transfer, you are not required to follow the regular admission procedures outlined above. Refer to the section of this catalog entitled "Admission as a Guest Student for Transfer Credit."

## Notification of Admissions Action

When application documents for admission to the College have been received, the Enrollment Services office will inform you of your status. The Education department staff will consider the master's degree application and notify you of the action taken.

## Cancellation of Acceptance

The College reserves the right to cancel the acceptance of any person for graduate study should further evidence indicate that he or she does not adequately meet requirements for admission to the master's program.

## Reserved Graduate Credit

If you have completed 135 hours toward a baccalaureate degree and if you will be eligible to apply for admission to the master's program after graduation, you may request to reserve a maximum of 12 quarter hours of approved upper-division or 500-level courses for graduate credit provided that they are not needed to fulfill requirements for your bachelor's degree. Make arrangements with the Education department and the Records office.

## Program of Studies

### Committee on Studies

The Department of Education faculty will monitor your progress during the period of your graduate study and will work with you in constructing an acceptable Program of Studies.

### Provisions of an Approved Program of Studies

Your Program of Studies must provide for the following:

1. removal of any undergraduate deficiencies,
2. a logical and orderly sequence of course work so that you may complete all educational objectives within the seven-year limit,
3. completion of all departmental and College requirements for the degree,
4. completion of all statutory requirements for California and Seventh-day Adventist Professional elementary or secondary English teaching credentials, and
5. completion of all professional education core courses at PUC (exceptions: PSYC 359/L, EDUC 438/L, which may be

transferred from other State-approved teacher education programs).

Credit earned by correspondence, examination, student teaching or continuing education is not applicable for graduate degree course requirements.

## Course Requirements for the Master of Arts Degree

Requirements for the Master of Arts degree include a minimum of 45 quarter hours of upper-division and graduate classes (at least 24 hours must be 500-level courses). Specific requirements include 19 hours of professional education core classes, 17 hours from the area of specialization as listed below, and 9 hours of approved electives.

### Professional Education Core Requirements (19 hours)

EDUC 359*	Psychology of Exceptional Children	3
EDUC 359L	Psychology of Exceptional Children Lab	1
EDUC 438*	Computers in the Classroom	2
EDUC 438L*	Computers in the Classroom Lab	1
EDUC 514	Advanced Learning Theory	3
EDUC 515	Educational and Psychological Evaluation	3
EDUC 516	Curriculum Planning and Development	3
EDUC 517	Current Issues in Education	3

### Area of Specialization/Reading/Language Arts and Electives (26 hours)

EDUC 522	Reading as a Cognitive Process	3
EDUC 523	Strategies for Authentic Literacy Assessment and Instruction	2

\* Fulfills California mainstreaming and computer education requirements

EDUC 523L	Field Work	1
EDUC 524	Seminar in Language and Literacy Instruction	2
EDUC 524L	Field Work	1
EDUC 526	Integrated Language Arts Curriculum	3
EDUC 596	Seminar: Research in Teaching Literacy	1
EDUC 597	Graduate Project	4
	Approved electives	9

Information regarding credential requirements is available from the Credential Analyst.

*Note: Requirements for SDA Professional Elementary or Secondary English and California Professional Clear Credentials may differ from courses needed for a Master of Arts degree.*

## Graduation Requirements

You have the option of fulfilling requirements under the catalog of your first enrollment or any subsequent catalog during the time of continuous enrollment. Requirements include the following:

1. Satisfactory completion of course work for the degree and current California and SDA Professional elementary or secondary English credential requirements as outlined in your Program of Studies.
2. A minimum overall graduate grade-point average of 3.0 with no grade lower than B- (2.7).
3. Satisfactory completion of examinations and projects as determined by your Committee on Studies.
4. Completion of requirements within seven calendar years beginning with your first enrollment in courses counting toward your master's degree, or date of acceptance into the program, whichever comes first. If you take these courses at any time during the seven-year period, you are considered to have continuous enrollment status. A time extension requires Education department approval.

## Other Curricula

### Teacher Education Program

Teacher education at Pacific Union College is a two-step, five-year program involving preparation in subject-matter areas and professional education courses required for Seventh-day Adventist and California State teaching credentials.

Although provision is made for you to obtain both a baccalaureate degree and a preliminary teaching credential at the end of four years, a fifth year of study is necessary to meet professional credential requirements for both the State of California and the Seventh-day Adventist denomination. The Education section of this catalog provides further information.

### Preprofessional Curricula

Preprofessional and pretechnical programs in a wide variety of fields are offered to prepare students for admission to professional schools or for entry into technical careers. Below are listed the preprofessional curricula most frequently chosen by Pacific Union College students.

Architecture  
 Cytotechnology  
 Dental Hygiene  
 Dentistry  
 Dietetic Technology  
 Education  
 Engineering  
 Health Information Administration  
 Law  
 Medical Radiography  
 Medical Technology  
 Medicine  
 Nursing  
 Nutrition and Dietetics  
 Occupational Therapy  
 Optometry  
 Osteopathy  
 Pharmacy  
 Physical Therapist Assisting  
 Physical Therapy

Respiratory Therapy  
 Speech Pathology and Audiology  
 Veterinary Medicine

### Cooperative Education

In selected programs, you may add the experience of career-related, paid employment in government, industry, or business to your classroom experience.

Placements are arranged through your efforts combined with those of the Cooperative Education office and the participating department. Appointments are typically full time while you are on leave from the College, but part-time appointments are also available. Placement is usually off campus for one academic quarter or summer, but may be extended.

Evaluation and supervision of students in the program are the joint responsibility of the Director of Cooperative Education, a professor from the student's major field of study, and the employment supervisor.

#### *Guidelines for Cooperative Education:*

1. Some Cooperative Education programs may be available on a noncredit basis only. To have such a Cooperative Education experience recorded on your transcript for 0 credit, you must complete at least 30 hours of approved activity.
2. For each hour of Cooperative Education credit earned and recorded on your transcript, you must complete a minimum of 30 hours of approved activity.
3. Cooperative Education experience and credit are limited to the major.
4. In addition to completing Cooperative Education contract forms, you are required to present to the major department a written or oral report on the experience.

## Extended Learning

The Extended Learning office coordinates a number of credit and noncredit special programs. Credit earned in some Extended Learning courses is applicable toward degree and certificate programs.

Some Extended Learning programs offer enrichment and acceleration for secondary school juniors and seniors who have demonstrated good academic ability and motivation and strong potential for success in college studies. Other programs address the needs of employed persons seeking to update and broaden their professional knowledge and skills. Still others may respond to the leisure-time interests of retirees and others.

Participating departments and the courses offered vary from term to term. For complete current information, write, telephone, or e-mail the following:

Extended Learning  
Pacific Union College  
One Angwin Avenue  
Angwin, CA 94508-9797

(800) 862-7080

(707) 965-6409

FAX (707) 965-6416

E-mail: sselcom@puc.edu

## Degree-Completion Programs

To meet the needs of adult learners who were unable to complete their programs at the traditional college age, Extended Learning offers degree-completion programs leading to a bachelor's degree. Currently available are the Bachelor of Science in Management; the Bachelor of Science in Early Childhood Education; and the Bachelor of Science in Criminal Justice Administration. To accommodate employed adult learners, evening courses are offered at various off-campus locations.

Admission is limited to applicants who

- are at least 25 years old;
- have completed two full years of college and have attained the equivalent of an Associate's degree; and
- have several years of full-time work experience (a minimum of five recommended).

To accelerate their progress toward degree completion, adults with qualifying work and life experience may apply for academic Credit for Prior Learning through portfolio assessment.

Further details, including dates and locations of program offerings, are available from Extended Learning.

### Leadership in Business Administration

The major in Leadership in Business Administration is offered in cooperation with the College's Business Administration and Economics department. The LBA curriculum includes the following courses (descriptions are in the Business section of this catalog):

- The Legal Environment of Business
- Economics for Managers
- Principles of Marketing
- Data Presentation
- Group and Organizational Behavior
- Organizations and Environments
- Principles of Finance
- Accounting Principles for Managers
- Principles of Management
- Principles of Finance
- Human Resources Administration
- International Business
- Business Policy
- Senior Project
- Biblical Perspectives
- Ethics and Personal Values

### Early Childhood Education

The major in Early Childhood Education is offered in cooperation with the Family and Consumer Sciences depart-

ment and coordinated through Extended Learning. The ECE curriculum includes the following courses (descriptions are in the Family and Consumer Sciences section of this catalog):

- Young Children's Developmental Speech
- Literature for Children
- Exceptional Children
- Parent/Child Relationships
- Art and Creative Activities
- Behavior Management and Observation
- Play and Environments
- Healthy Child Care
- Diversified Early-Childhood Programs
- Infant/Toddler Programs
- Adult Supervision and Management
- Administration and Supervision I, II
- Counseling for EC Teachers
- Senior Project-Seminar
- Biblical Perspectives
- Ethics and Personal Values

### Criminal Justice Administration

The major in Criminal Justice Administration is offered in cooperation with several departments. The following courses are required (see the Business and Economics section for descriptions):

- Introduction to Criminalistics
- Forensic Research Methods
- Legal Aspects of the Criminal Justice System
- Courts and Criminal Justice
- Police-Community Relations
- Multicultural Issues in Public Safety
- Theories and Concepts of Contemporary Public Safety
- Individual in the Organization
- Economic Environmental Forces
- Budgeting and Fiscal Administration
- Group and Organizational Behavior
- Principles of Management
- Human Resources Administration
- Biblical Perspectives
- Ethics and Personal Values



Changes in academic policies made and announced during the school year have the same force as if they were published in this catalog. Policies may not be waived or amended except by petition to and approval by the General Academic Studies and Policies Committee. If you desire an exception to an academic policy, complete a Special Request form (available at the Records office), ask your academic adviser to endorse your petition, and return it to the Records office.

## Registration

You are expected to register during the registration periods as announced in this catalog. At registration the Records office will issue full information on registration procedures to each student who has been formally accepted. Freshmen are required to participate in orientation activities held prior to registration.

## Late Registration

You must complete registration for autumn quarter on registration day. If you do not preregister for winter and spring quarters, you must complete your registration on registration day. Your preregistration is completed when you present your fully stamped Permit to Register card at the Records office after you return from vacation and before 4:30 p.m. of the first day of the quarter. *Failure to complete registration by these deadlines will result in a late registration*

*fee of \$25 cash payable at the Records office or \$35 charged to your account.*

Even if emergency circumstances make it impossible to complete your registration as described above, *you may not under any conditions continue attending class after the fifth week of the quarter unless you are officially enrolled.* No grade is issued or recorded on the transcript, or credit awarded, for any course for which you are not officially enrolled by the end of the fifth week of the quarter. (For summer quarter and other courses scheduled for durations other than the standard ten-week quarter, this policy applies with the phrase “fifth week of the quarter” replaced by the phrase “midpoint of the quarter.”)

## Changes in Registration

To avoid changes in registration, you should plan your program carefully. You may add courses or withdraw from them, however, before the last date to enter and with the approval of your adviser.

You are responsible for following the program for which you have registered. You may not attend or receive credit for a course for which you have not registered. Failure to attend a course for which you have registered will result in an “F” in that course. Changing from one course section to another requires the approval of the instructor and of the Records office.

## Audited Courses

If you wish to attend a course but do not wish to complete all regular assignments, you may, with the consent of the instructor, register on an audit basis. Applications to change registration from “Audit” to “Credit” or from “Credit” to “Audit” are not approved after the third week of the quarter. Fees for audited courses are charged at half the regular tuition rate, except for private music lessons, ensembles, and other participation-type courses, which are charged at the full tuition rate. On the transcript, audited courses carry the notation “AU.”

## Withdrawal from Courses

To withdraw from a course after the close of the registration period, you must file a change of program request (forms are available at the Records office). *Withdrawal becomes official only when the form, bearing the signatures of the course instructor and your academic adviser, has been filed in the Records office.* A course from which you withdraw within the first three weeks of the quarter will be deleted from your record. Withdrawal after the eighth week will result in an “F.”

## Academic Information and Policies

### Withdrawal from the College

To withdraw from the College, complete a Notice of Withdrawal form (available at the Records office). The completed form must be signed by your adviser, your College employer, the Coordinator of Retention, the residence-hall dean (for residence-hall students), the Vice President for Academic Administration, the Vice President for Student Life Administration, and the Director of Student Finance. Withdrawal is official when the form with the signatures has been filed in the Records office.

The date of official withdrawal from the College will appear on your transcript. *If you choose to withdraw after the eighth week of the quarter, a grade of "F" will be recorded for all courses in which you are registered.*

### Advisory Services

#### The Advising Program

Your academic advising program begins at orientation when you first enroll. An adviser will work with you in planning an academic schedule. You are required to see your adviser at least once each quarter.

In planning your studies, you should carefully follow the recommended sequence outlined in this catalog. At the end of your sophomore year, you should ask the Records office for a degree analysis. With your adviser, you should then plan your studies for the final two years. Such planning helps to ensure that you meet all graduation requirements in an orderly, logical, and timely sequence.

Approximately four quarters before graduation you must file at the Records office your application to graduate. Approximately three quarters before graduation you file a senior contract.

### Teaching Credential Advising

If you have chosen a career in teaching, you should consult with the Chair of the Education department as early as possible in your curriculum planning. You should discuss requirements for both Seventh-day Adventist and California State teaching credentials. Early identification with the elementary or secondary teaching profession as a career is essential for structuring an orderly academic program. If you are a candidate for elementary teaching, you should register your intention after one quarter in residence.

If you are a transfer student, you should register your intention upon enrollment. You will be admitted to the teacher education program after your application has been approved by the Education department. Further information is available at the Education department office.

### Counseling Services

The Counseling Center coordinates counseling involving student-college relations in nonacademic matters. Testing service is also a function of this office. (See STUDENT LIFE AND SERVICES in this catalog.)

### Veterans Services

The Veterans Coordinator in the Records office maintains liaison between enrolled veterans and the Veterans Administration. The Coordinator provides advice about special provisions of the law relating to veterans as college students and information about current developments of significance to veterans.

### Education Benefits for Veterans

If you are a veteran, you should get in touch with the Veterans Coordinator in the Records office at least two months prior to the date you expect to enroll to arrange to receive the benefits to which you are entitled. The Coordinator will

supply the necessary forms and advise you of current monthly benefit rates.

To qualify for maximum benefits, you must enroll for at least 12 credit hours each quarter. Adjusted payments are made for three-quarter (9 to 11.5 quarter hours) and half-time (6 to 8.5 hours) enrollment. During the summer session, maximum benefits are paid for 9 quarter hours and above, three-quarter benefits for 6.5 to 8.5 quarter hours, and half benefits for 4.5 to 6.0 quarter hours.

Experience has shown that it may take longer than eight weeks to process all the necessary forms from the date of application to the receipt of the first check.

### VA Standards of Progress

According to Veterans Administration policy, veterans' educational benefits are discontinued for a veteran (or eligible person) who remains on academic probation for more than three quarters because of grade-point deficiency. If your academic record should come into this category, there will be no further certification for benefits until your academic standing reflects improvement to a cumulative 2.0 grade-point average. (See "Academic Probation," "Academic Renewal," and "Repeating Courses" for an explanation of conditions under which you might be able to continue your studies if your grade-point average drops below 2.0.)

Under VA policy, the conditions for re-entrance after dismissal for unsatisfactory academic progress are also subject to the above standards of progress for veteran students.

### Other Benefits for Veterans

If you qualify for other benefits provided by previous benefit bills for veterans (for example, war orphans and applicants for vocational rehabilitation), you should get in touch with the VA.

## **Armed Forces Credit**

Although “blanket” credit is not awarded for military service, some training courses provided by the armed forces may be the equivalent of college courses. You may obtain credit for such courses by presenting certificates describing the training. Credit is awarded for college-level courses sponsored by the United States Armed Forces Institute that are completed with a satisfactory end-of-course examination.

Credit is awarded for military training in accordance with the American Council on Education’s *Guide to the Evaluation of Education Experiences in the Armed Services*. No credit is granted for the General Education Development Test, but satisfactory scores on the high-school-level GED Test may be used as a basis for admission to the College.

## **Transfer Credit**

If you have attended other institutions of higher education, you must provide complete official transcripts from each college or university attended, even where you earned no credit. Such transcripts should be filed before you register for the quarter following the completion of the work. This policy applies also if you are regularly enrolled at Pacific Union College but take summer work, correspondence, or other work elsewhere. Failure to file all transcripts may result in delay of registration until the transcripts are received.

Transcripts from institutions accredited by recognized accrediting associations are evaluated to allow equivalent courses from the transfer institution to satisfy specific course requirements at Pacific Union College.

The College reserves the right to require repetition of courses that have become outdated.

Transcripts from unaccredited institutions are given provisional evaluation. After you have completed 16 quarter hours in residence at Pacific Union College with at least a 2.0 grade-point average, the transcript from the unaccredited institution will be analyzed on a course-by-course basis and credit established for those courses that appropriately apply to your program at Pacific Union College.

Credit is allowed for college course work completed before secondary-school graduation if such work has been taken in an accredited college and is shown by transcript as college credit.

The maximum credit transferable from a recognized junior (community) college is 108 quarter hours (72 semester hours). Upper-division credit is not allowed for junior college courses or for courses numbered as lower-division credit at another senior college or university. Pacific Union College reserves the right to accept or reject credit earned or attempted at other institutions. (See also “Concurrent Enrollment.”)

## **Cancellation of Scheduled Courses**

The College administration, in consultation with the respective department chair, reserves the right to cancel any course listed in the course schedule if enrollment is five students or fewer or if a qualified instructor is not available because of unavoidable changes in personnel.

## **Course Load**

Your academic study load is described in terms of quarter hours (credits). One quarter hour normally represents one fifty-minute class period per week for one quarter. Thus, two-hour classes normally convene twice a week and three-hour classes three times a week. For three clock hours of laboratory experience per week throughout the quarter, a student normally receives one hour of credit. (See also “Credit Hours.”)

The normal course load is 16 quarter hours for undergraduates and 12 quarter hours for graduate students. Guidelines on course load are listed below. (All totals are exclusive of physical education activity courses.)

- 1.** If you have a record of superior scholastic achievement and ability, 18 quarter hours. A course load in excess of 17 hours requires the approval of your academic adviser.
- 2.** If you are on academic probation, a maximum load of 14 quarter hours.
- 3.** If you are a freshman, a maximum of 16 hours until you have established a record of proficiency. The demand for social, emotional, and intellectual adjustment during the first year of college underlies the importance of a well-balanced and sometimes reduced study load commensurate with your abilities.

In helping you work out your academic schedule, your major adviser will take into account your prior scholastic achievement and, if you are employed, the demands of part-time work. He or she may consequently recommend an adjusted course load.

# Academic Information and Policies

## Study-Work Program

If you are employed either on or off campus, you are expected to adjust your course load in harmony with the following schedule to achieve a reasonable balance in study and work:

<i>Course Load</i>	<i>Maximum Work Load per Week</i>
16 quarter hours	16 hours
14 quarter hours	20 hours
12 quarter hours	26 hours
10 quarter hours	32 hours

If you have a record of average scholastic achievement, you should plan a study-work program involving less than the maximum labor load suggested.

## Class Absences

You are responsible for all material and assignments presented in class, and you are expected to maintain regular attendance at all class sessions of the courses in which you are enrolled. While there is no general College attendance requirement, each instructor has the right to establish specific policies best suited to a given course.

## Academic Integrity

Academic integrity is highly valued and is expected. Academic dishonesty is an extremely serious offense and is cause for disciplinary action. *Students involved in cheating, plagiarizing, fabrication, multiple submissions, abuse of academic materials, deception, misrepresentation, electronic dishonesty, and other types of academic dishonesty, including production of materials for other students, are ordinarily subject to dismissal from the course with a failing grade.*

Situations involving academic dishonesty are dealt with by the instructor of the course in consultation with the department chair. A record of any verified instance of dishonesty is forwarded to the Academic Dean and is kept in the

student's personal file. Whenever such filing occurs, the student involved is notified. (A student feeling he or she has been treated unfairly has the right of appeal through established grievance procedures.) A pattern of serious or habitual dishonesty is dealt with by the Academic Dean and may result in dismissal from the College. (For further details, see "Appendix: Code of Academic Integrity" in this catalog.)

## Ownership of Written Work

Written work you present in fulfillment of course requirements becomes the property of the College. The teacher or the College, however, may not publish the written work for any reason without your permission. The original copy is returned to you at the discretion of the teacher. When it is not returned, you have the right to request and be given a copy of work turned in. You should request a copy not later than the end of the quarter following that during which you took the course.

## Grading System

Grade reports are issued at the end of each quarter. These reports are not valid for transfer or certification purposes.

Any corrections and grade changes must be made *within two weeks* after the grade reports have been issued. After this date all grades become final. To raise a grade once it has been recorded, you must repeat the course.

## Grade Symbols

Grades are recorded by letter symbols and are assigned point values as follows:

A	4.0	D	1.0
A-	3.7	D-	0.7
B+	3.3	F	0.0
B	3.0	I	Not computed
B-	2.7	IP	Not computed

C+	2.3	NR	0.0
C	2.0	S	Not computed
C-	1.7	W	Not computed
D+	1.3	AU	Not computed

The grade-point average is computed by dividing the total number of points earned by the total number of hours attempted.

## Failure

A grade symbol of "F" is assigned to a course for which you do not meet the minimum standards set for a passing grade. "F" is also recorded if you earn the equivalent of "F" in a course offered only on a Satisfactory/Fail (S/F) basis. An "F" carries 0 grade points and is computed in the grade-point average.

## Satisfactory

A grade symbol of "S" signifies that you earned the equivalent of "C-" or higher in a course available only on a Satisfactory/Fail basis. An "S" is not computed in the grade-point average.

## Audit

A symbol of "AU" is assigned to a course taken on an audit basis. You may change registration from audit to credit, or from credit to audit, before the end of the third week of instruction. A course for which you register for audit but do not attend regularly is assigned a "W."

## Withdrawal

Courses from which you withdraw before the end of the third week are deleted from the record. A symbol of "W" is assigned to a course from which you officially withdraw between the beginning of the fourth week and the end of the eighth week of the quarter. A "W" is not computed in the grade-point average. You may not withdraw from a course after the eighth week.

You will be considered registered for a course until you file a Change of Program Request Form with the Records office.

**Incomplete**

A grade symbol of “I” is assigned in exceptional instances when unavoidable circumstances prevent completion of a course. An “I” carries 0 grade points; it is not computed in the grade-point average.

You must remove an Incomplete by the end of the following quarter. An Incomplete incurred at the end of spring quarter must be made up by the end of the summer session; an Incomplete incurred during summer session must be made up by the end of fall quarter. An Incomplete that is not removed reverts to the grade computed without the missing work. This grade is specified at the time the Incomplete is granted.

If, through no fault of your own, it is impossible for you to remove an Incomplete by the end of the following quarter, you may request an extension of time from the Records office. At least one quarter before graduation, prospective graduates must have made up all outstanding Incompletes.

**IP—In Progress**

The “IP” grade is available only in a few courses that span more than one quarter. Ask the Registrar or the chair of the department in which a course in question is offered to determine if it is available on this basis.

**Grade Not Reported**

The symbol “NR” is assigned to a course for which no grade is reported. An “NR” carries 0 grade points and is computed in the grade-point average. An “NR” not removed by the end of the second week of the following quarter becomes an “F.”

**Dean’s List**

When you complete a minimum of 12 credits with a grade-point average of at least 3.85, you are honored as a member of the Dean’s List for that term.

**Academic Probation**

You will be placed on **academic probation** at the end of any quarter when your grade-point average for that quarter, or your cumulative grade-point average in residence, falls below 2.0 (C).

New and transfer students admitted with a cumulative grade-point average lower than 2.0 are automatically placed on academic probation. If you are a transfer student admitted on this basis, you will be returned to regular standing at the end of one quarter of course work (12 quarter hours minimum) in which you achieve a grade-point average of 2.0 or higher.

While on academic probation, you may enroll in a maximum of 15 quarter hours of course work. You will not, however, be eligible for any office in student activities, and you will be required to meet regularly with the Admissions Coordinator. You will return to regular standing when you achieve a quarter of at least 12 hours with both a quarter and a PUC cumulative GPA of at least 2.0.

**Academic Suspension**

If you are on academic probation for three or more consecutive quarters, you will be placed on **academic suspension**. While on academic suspension, you may not continue your studies at Pacific Union College. You may reapply after you complete at least ten quarter hours of course work at another accredited college or university for which you earn a grade-point average of at least 2.25. Academic suspension is recorded on the transcript.

**Academic Dismissal**

If you are readmitted to Pacific Union College following academic suspension and then earn a grade-point average below 2.0 (C) during either of the next two quarters, you will be placed on **academic dismissal**. After academic dismissal, you may apply for readmission after completing at least 45 hours of course work at another accredited college or university with a grade-point average of at least 2.25. Academic dismissal is recorded on the transcript.

**Academic Renewal**

*Option 1:* If at the end of three quarters (at least 36 hours) of course work you maintain a grade-point average of 2.0 (C) or better, you as a transfer student admitted on probation may apply to the Records office to have excluded from your transfer record sufficient course work to bring the transfer grade-point average to 2.0. Former students who have failed to maintain a grade-point average of 2.0 or higher may, after a break in residence of at least one year, be readmitted on the same basis as transfer students.

If you have not reached the minimum required grade-point average (2.0) by the end of the third quarter, you may request readmission on the basis of a revised curriculum plan prepared in consultation with an academic adviser. If the Admissions Committee approves the request for readmission, you must then maintain an average of 2.0 quarter by quarter, and by the end of the sixth quarter in residence must have established an overall grade-point average of 2.0 to qualify for readmission.

**Option 2:** Under certain circumstances, the College may disregard up to three quarters or two semesters of previous undergraduate course work, taken at any college or university, from all considerations associated with requirements for the baccalaureate. These circumstances are the following:

1. You have formally requested the action; and
2. you have presented evidence that work completed in the terms under consideration is substandard and not representative of your current academic ability and level of performance.

The final decision that one or more terms are to be disregarded in determining eligibility for graduation is based upon careful review of evidence by the General Academic Studies and Policies Committee and is made when

1. at least one year has elapsed since the most recent work to be disregarded was completed; and
2. you have completed at PUC at least 15 quarter units with at least a 3.0 GPA.

When such action is taken, your permanent record is annotated so that it is readily evident to all users of the record that no work taken during the disregarded terms, even if satisfactory, may apply toward baccalaureate requirements. All work must remain legible on the record, ensuring a true and complete academic history.

**Option 3:** If you have accumulated a grade-point average lower than 2.0, you may petition the General Academic Studies and Policies Committee to be admitted to a degree program with no *prior* college credit and no grade-point average. To qualify, you must

1. be at least 25 years of age;
2. have been out of a degree program of college studies for at least four years; and
3. demonstrate ability to progress in college work.

If the petition is approved, all prior college courses and grades are retained on the transcript and the notation “admitted without credits or grades by committee action” is recorded. When implemented, this policy waives all previous credits and grades except for any credits and grades earned in a special nondegree-bound status.

### Repeating Courses

You may repeat a course in which you have earned a grade of C- or above only if you have not taken a more advanced course in the same subject.

If you have a D or F in a major, minor, cognate, or other required course, you may, on the advice of your major adviser, take another course in the same general area, or you may repeat the course if you have not taken a more advanced course in the same subject.

As a currently enrolled student, you may repeat a course *in residence only*. You must repeat all the classwork; and, if the course involves a laboratory, you may be required to repeat all laboratory requirements as well. *At your request*, your grade-point average will be recomputed on the basis of the second grade received. A course repeated out of residence will not affect the Pacific Union College grade-point average.

Your permanent record includes a complete account of all courses attempted, and all transcripts are issued on this basis. A course you have repeated to improve your grade-point average is not counted toward the total credit hours earned, and the original course grade is not included in the grade-point calculation.

### Restriction on Lower-Level Courses After Upper-Level

You may not take lower-level courses after you have earned credit in a more advanced course in the same area. Each department will identify those advanced courses that preempt lower-level courses in its area.

### Correspondence Courses

You may apply a maximum of eighteen quarter hours of correspondence credit toward the requirements for a baccalaureate degree and twelve toward those of a two-year associate degree. Credit by correspondence may apply toward the requirements for the major only if approved by the major professor; it cannot be used to raise a grade.

If you are working toward a California teaching credential, you should obtain from the Credential Analyst specific current information about the acceptance of credit for correspondence courses.

While in residence, you may pursue correspondence work only with approval, in advance, of Academic Administration. All transcripts for correspondence courses applying toward the requirements of any degree must be on file in the Records office one quarter before graduation.

Correspondence courses are not accepted in first-year language or in speech.

### Concurrent Enrollment

While you are registered at Pacific Union College, you may not earn credit toward graduation from PUC through concurrent enrollment in another college unless you have the *prior* approval of the Registrar. Transfer credit will not be accepted for any course taken concurrently elsewhere without your having secured approval *before the course began*. (See also “Transfer Credit.”)

## **Reserving Courses for Post-Degree or Graduate Credit**

You may request that certain upper-division courses be reserved for post-baccalaureate or graduate credit by making arrangements with the Education department and the Records office. To be fully credentialed by California and the SDA denomination, one must complete an approved fifth year or master's degree of 45 quarter hours beyond a bachelor's degree.

## **Independent Study**

Independent Study refers to advanced study or research you may do on an individual basis under the direction of a faculty member with regular appointment. You may use Independent Study for your major, minor, free electives or cognates, but not to meet general-education requirements. Cross-disciplinary studies earn split credit in the disciplines represented. You may earn up to twelve hours in Independent Study.

To be eligible for Independent Study in any department, you must have reached junior or senior standing, have met all departmental prerequisites, and have earned a minimum grade-point average of 3.0 in the proposed area of study. Before registering for the course, you must have negotiated a contract with the instructor and the chair of the supervising department, specifying the number of hours of credit to be earned, the detailed requirements of the course, the grading criteria, and a schedule of meetings to be specified.

Independent Study should not take the place of courses regularly available. It should not be confused with courses offered through Directed Study. Extended Learning credit is not accepted as Independent Study.

## **Credit for Student Missionaries and Taskforce Volunteers**

Through PUC's Extended Learning office, you may earn academic credit in connection with field experience during appointment as a Student Missionary or Taskforce volunteer. To qualify, you must have previously taken courses at Pacific Union College, and you must arrange for credit with Extended Learning before the experience begins. Credit—elective only—is available on a Satisfactory/Fail basis. You may earn up to 6 hours per quarter to a maximum of 18 hours.

More detailed information about credit for field experience is available from Extended Learning.

## **Assessment of Outcomes**

The College seeks through various means to measure its success in fulfilling its mission. A part of that effort involves an examination program to assess outcomes in general education and in each student's major field. Examinations are given to entering freshmen and to students completing their sophomore and senior years. *All students are required to participate in this examination program.*

## **Pre-Examination Week**

No off-campus field trips, major examinations, or extracurricular activities requiring student participation may be scheduled during the week prior to the first day of final examinations ("dead week") in order that you may devote full time to completing course projects and preparing for final examinations.

## **Examinations**

You must take the final examination in each course in which you are enrolled at the time listed in the official examination schedule or you will receive the grade earned without the final examination. *You should expect no exceptions to the published schedule unless you can provide proof to the Registrar of an emergency situation beyond your control.*

### **Course-Waiver Examinations**

You may waive certain course requirements provided that you fulfill one of the following conditions:

- 1.** Present credit in courses substantially equivalent in purpose, scope, context, and credit value to the required course from which you request exemption.
- 2.** Pass a proficiency examination. The examination is administered by the department concerned and approved by the Records office.

Qualifying for course exemption through waiver examination does not involve the awarding of credit, nor does it reduce the total number of hours to be earned for a degree. Its only effect is to increase the number of elective hours available as part of your degree program. (See the FINANCIAL INFORMATION section of this catalog for examination fees.)

## Credit by Examination

You may earn academic credit by successfully writing CLEP (College Level Examination Program) and College-prepared tests. No credit by examination is available for remedial (0-level) courses.

### AP, CLEP and Other Tests

Maximum credit applicable to a four-year degree is 45 hours; maximum credit applicable to a two-year degree is 24 hours.

**1. AP Tests:** Prepared and administered by the College Entrance Examination Board, Advanced Placement Examinations are currently available in several subject-matter areas.

**2. CLEP Tests:** CLEP (College-Level Equivalency Program) tests are intended as a means of establishing academic credit for persons who through extensive independent study, specialized training, etc., have gained knowledge equivalent to that gained by regular study in formal college courses. There are two kinds of College-Level Examinations: General Examinations and Subject Examinations. Pacific Union College awards credit for selected Subject Examinations only. (You may get further information at the Records office about which PUC courses may be satisfied by AP and CLEP tests.)

**3.** Regulations governing the administration of the CLEP tests:

- The examinations are open to all classifications of students, but are directed toward freshmen and sophomores.
- You may use credit earned by Subject Examinations to meet either general-education or major requirements.
- To earn credit, you must achieve a score at or above the 50th percentile on each CLEP test and at the third level or above on each AP test.
- Credit earned by CLEP or AP will be placed on your transcript with the credit hours earned and a grade of "S" (satisfactory).

e) Except by special permission of the department involved, you may take any one CLEP examination only once.

**4.** Fees for CLEP and AP are paid to the testing company at the time you register for the test. If supplementary departmental examinations are required, additional fees are charged. (See the FINANCIAL INFORMATION section of this catalog for examination and recording fees.)

### College-Prepared Tests

(Maximum applicable to a four-year degree is 18 hours; maximum applicable to a two-year degree is nine hours). The following regulations apply:

- An application for permission to attempt credit by examination requires, on the appropriate form available from the Records office, the signatures of the course instructor, the department chair, and the Registrar.
- A course for which credit may be earned by examination is normally a lower-division course in a four-year curriculum or a first-year course in a two-year curriculum. Its content is such that it can be measured by a written, oral, or manipulative test.
- To be eligible for credit by examination, you must demonstrate superior competence by such evidence as the following:
  - a grade-point average of at least 3.0 in similar courses;
  - a percentile score of at least 75 on an ACT test in the same area;
  - similar course work in a non-academic institution; and
  - work experience sufficient to develop course competencies.
- You may not earn credit by examination if you have previously taken a similar course or if the course in question is a prerequisite to one in which you have already earned credit.

**5.** If you have taken or attempted a course, you may not raise the grade for that course by examination.

**6.** Examinations for credit may not be repeated.

**7.** C+ is the minimum passing grade for credit by examination. Grades earned in credit by examination will appear on your transcript.

**8.** If you have audited a course, you may earn credit by examination for the course by paying one half the regular tuition fee. (See the FINANCIAL INFORMATION section of this catalog for examination and recording fees.)

## Classification of Students

- Regular Student:** A student who has completed all of the entrance requirements and who has definitely enrolled in a degree program.
- Freshman:** A beginning first-year student or one who has completed fewer than 18 quarter hours of credit.
- Second-Year Freshman:** A second-year student who has completed at least 18 quarter hours.
- Sophomore:** A student who has completed at least 45 quarter hours.
- Junior:** A student who has completed at least 90 quarter hours of credit.
- Senior:** A student who has completed 135 quarter hours of credit. A student may not be classified as a senior until he or she has filed a formal request with the Records office for graduation candidacy.
- M.A. Degree Student:** A student who has been accepted into the Master of Arts degree program.
- Uncoded:** A student who does not meet College entrance requirements and/or does not wish to qualify for a degree, but who wishes to take certain courses on either a credit or an audit basis.



## Requirements for Undergraduate Degree Graduation

You normally meet the graduation, general education, and major course requirements of the catalog current the year you first enter Pacific Union College. You have the option, however, of qualifying under any catalog in effect during the time you are in continuous residence.

If you wish to do so, you may choose the requirements for your major and for general education from separate qualifying catalogs. If you are a transfer student, you may also graduate under the catalog of your admission.

If your residence as a student at Pacific Union College is broken by a period of more than three consecutive quarters (excluding summer quarter), you must meet the requirements of the catalog under which you are reaccepted to the College, or of a subsequent catalog.

## Degree Candidacy

You may become a degree candidate when you begin the academic year during which it will be possible to complete all requirements for graduation.

Four quarters before your expected graduation, you must formally apply for graduation at the Records office. Transfer students planning to meet graduation requirements during the current academic year must file a request at registration.

*It is the responsibility of each student to satisfy degree requirements.* You are expected to acquaint yourself with the various policies and requirements published in the catalog and, in consultation with your adviser, to plan your course of study accordingly.

## Residence Requirements for Denominational Teachers

If you have earned 96 quarter hours toward a baccalaureate degree and have established residence at PUC, you may, if continuously employed as a teacher in the Seventh-day Adventist denominational school system, be considered as not having broken residence provided that you complete the work for the degree within seven consecutive summer quarters and provided that you have not during this period enrolled as a student in any other institution of higher education without the authorization of the General Academic Studies and Policies Committee.

## Graduation Information

At the end of spring quarter, Commencement is held for all students who have completed all requirements for a degree. If you complete your requirements during an autumn or winter quarter, you will receive your degree at the following spring commencement. The date of graduation appearing on the diploma, however, is that of the last day of the quarter during which you actually completed the degree requirements.

## Graduation In Absentia

You are expected to participate in Commencement services unless you notify the Records office *in advance* that you plan to be graduated *in absentia*. You should make written application for exemption not later than one week prior to Commencement. A fee of \$25 is assessed if you are absent from graduation without having given prior notice.

## Nurses' Graduation Recognition

All nursing students are expected to participate in the recognition service unless excused, in writing, by the Chair of the Nursing department. Requests for exemption should be presented in writing during the first week of spring quarter.

## Baccalaureate Degree Graduation Recognition Graduation with Academic Distinction

Students who, one quarter before graduation, have earned both a Pacific Union College and an over-all grade-point average of 3.5-3.749 will be graduated *cum laude*; those with 3.75-3.899, *magna cum laude*; and those with 3.9-4.0, *summa cum laude*.

## Honors Program Graduation

The Honors Program is designed to enrich the studies of exceptionally well-prepared students. Honors students meet general-education requirements by taking required core courses in the Honors Program, by selecting from among recommended elective courses, and by completing the Honors Seminar and Senior Honors Research Project. Only students fulfilling requirements of the Honors Program will graduate "With Honors," a designation that appears on the graduation program and on the student's transcript. (See "The Honors Program.")

## Second Degree

Two degrees may be conferred concurrently or subsequently if you have met all the major and general-education requirements for both degrees and the requirements for more than one major. (See "The Major and the Minor.")

## **Transcripts**

At your written and signed request, the Records office will provide official transcripts of your credits. (See the FINANCIAL INFORMATION section of this catalog for transcript fees.)

The College reserves the right to withhold all information concerning your record if you are in arrears in payment of accounts or other charges, including student loans. No transcripts are issued until all of your financial obligations to the College have been met. You should allow two weeks for processing your request and mailing the transcript.

Official transcripts from other institutions which have been presented for admission and evaluation of credit become the property of the College and are not reissued or copied for release.

## Quarter System 1

Each quarter has approximately 11 weeks. Quarters are designated as Autumn **A**; Winter, **W**; Spring, **S**; and Summer, **Su**

## Credit Hours 2

“One quarter hour” normally represents one fifty-minute class per week throughout an academic quarter and approximately two hours of preparation for each one-hour session. One laboratory period of approximately three hours is considered equal in credit value to one lecture/discussion period and the expected preparation.

Variations may include independent study, directed study, research laboratory courses, individualized studio instruction, music lessons, special workshops, and perhaps other “nontraditional” academic events.

## Prefix 3

The three- or four-letter prefix to each course number indicates the department or subject area (see page 44).

## Numbering and Classification of Courses 4

Courses are numbered and classified as follows:

### 001-099 Remedial Courses

For students with inadequate academic skills. No remedial course work may apply toward any degree.

### 100-299 Lower-division Courses

Normally taken by freshmen and sophomores.

### 300-499 Upper-division Courses

Normally taken by juniors and seniors. You will not be permitted to register for upper-division courses unless you have completed any prerequisites. First-year students may register for these courses only with special permission.

Some upper-division courses serve the purpose of extending the scholarly background of a graduate student. When

approved by the student’s Committee on Studies, such courses may apply toward the graduate degree.

### 500-599 Graduate Courses

Primarily for graduate students. With the approval of the major professor, a senior whose preparation is adequate may take graduate courses for undergraduate credit.

### Alternating Courses 5

The year is defined in terms of the graduating year.

Odd year—2000-2001

Even year—2001-2002

### Hyphenated Courses 6

Course numbers separated by hyphens indicate an integrated sequence. Though they are generally taken consecutively, a student may receive credit for any quarter or quarters without the others provided that any prerequisites have been met.

### Directed Group Study

A course is offered under the title Directed Group Study when a department chooses to

1. experiment with a course before it is listed in the catalog, or
2. offer the course, on a one-time basis, for enrichment purposes when sufficient student interest is indicated.

A specific title is assigned when the course is offered, and the course is listed as follows:

1. Alpha prefix of the course
2. Course number 096, 296 or 496
3. The title *Directed Group Study*
4. The credit hours of the course
5. The name of the course as subtitle

### Directed Study

You may take a catalog-listed course on an individual basis only under the most unusual circumstances and at the discretion of the instructor and department chair. Any such course will be offered only for the number of hours listed in the catalog and will adhere to the catalog description and standard course syllabus. Consult with the Records office for re-

quest forms and applicable criteria.

When Directed Study is approved, the course will be listed as follows:

1. Alpha prefix of the course
2. Course number 097, 297 or 497
3. The title *Directed Study*
4. The credit hours of the course
5. The name of the course as subtitle

### Honors Project

Although not listed in each department, Honors Projects carry the following course designation:

1. Alpha prefix of the course
2. Course number 498
3. The title Honors Project
4. The credit hours of the project
5. A subtitle, identifying the nature of the project

Mathematics	2.	1.
<p><b>MATH 200</b> <b>3</b> <b>W</b></p> <p><b>Elementary Differential Equations</b></p> <p>Ordinary differential equations including, matrix techniques, qualitative methods, and basic modeling. Topics include separable methods, first-order systems, Laplace transforms, phase plane, equilibrium, stability, linear systems, and population models. Prerequisite: MATH 111, 112.</p>		<p>calculus, it includes topics, Fourier series, infinite, and discrete Fourier. Prerequisite: MATH 222, 231, 234, 235.</p>
<p><b>MATH 201-202</b> <b>3-3</b> <b>W-S</b></p> <p><b>Calculus III</b></p> <p>A two-semester study of the development and history of Euclidean geometry, the discovery of non-Euclidean geometry, and the independent formalization of the foundations of geometry.</p>		<p>MATH 201 focuses on the systematic treatment of Euclidean geometry, Euclidean geometry, non-Euclidean geometry, and investigations geometric applications, and investigates geometric applications through problems and projects.</p>
<p><b>MATH 203</b> <b>3</b> <b>W</b></p> <p><b>Logic and Sets</b></p> <p>A bridge to upper-division mathematics, develops student's ability to handle abstract concepts and capitalizes on propositional and predicate logic. Topics of interest include induction, algebra of sets and functions, equivalence relations, and countable sets. Prerequisite: MATH 111.</p>		<p>MATH 202 focuses on the systematic treatment of Euclidean geometry, Euclidean geometry, non-Euclidean geometry, and philosophical foundations.</p>
<p><b>CONTEMPORARY COURSES:</b></p> <p><b>MATH 202</b> <b>3</b> <b>W, S, Su</b></p> <p><b>Mathematical Methods</b></p> <p>Linear and multiple regression and correlation; analysis of variance; time series analysis and forecasting; and nonparametric methods. Prerequisite: MATH 111, 112, 113, 114.</p>		<p>Prerequisite: MATH 214 or permission of the instructor. Three years.</p>
<p><b>MATH 203-202</b> <b>3-3</b> <b>W-S</b></p> <p><b>Probability and Statistical Theory I-II</b></p> <p>MATH 203 introduces the theory and applications of probability theory, probability distributions, and statistics including estimation, hypothesis testing, and confidence distributions. Required course: (Calculus) and (Logic) theory. Major prerequisites: functions and probability, special functions and probability, and statistics and distributions. Prerequisite: MATH 111, 112, 211, 212, 213, 214, 215.</p>		<p>MATH 201-202</p> <p>MATH 201 is a basic introduction to groups, rings, integral domains, fields, and vector spaces. Also included are mappings, equivalence relations, and modular arithmetic. MATH 202 is a continuation of MATH 201 with various applications. Topics include module homomorphisms, elementary Galois theory, geometric constructions, algebraic coding theory, lattices, and Jordan algebras. Prerequisite: MATH 211, 212, 213, 214, 215.</p>
<p><b>MATH 204</b> <b>3</b> <b>S</b></p> <p><b>Number Theory</b></p> <p>A selection of topics from Diophantine equations, Diophantine and congruences, ideal prime numbers, Dirichlet series, the elements of Euler and Dirichlet, quadratic numbers, Fibonacci numbers, continued fractions and Pell's equation. Prerequisite: MATH 201, 202, 211, 212, 213, 214, 215.</p>		

# Courses of Instruction

## Prefix

The three- or four-letter prefix to each course number indicates the department or subject area as follows:

	<b>Subject</b>	<b>Department</b>
ACCT	Accounting	Business Administration and Economics
AGRI	Agriculture	Biology
ANTH	Anthropology	Behavioral Science
ART	Art	Art
ASTR	Astronomy	Physics and Computer Science
AUTO	Energy–Power–Transportation	Technology
AVIA	Aviation	Technology
BIOL	Biology	Biology
BUAD	Business Administration	Business Administration and Economics
CHEM	Chemistry	Chemistry
CJA	Criminal Justice Administration	Extended Learning (also see Business)
CLTX	Clothing and Textiles	Consumer and Family Sciences
COMM	Communication	Communication
CPTR	Computer Science	Physics and Computer Science
DRMA	Dramatic Arts	Liberal Studies
DRFD	Drafting–Design	Technology
DSGN	Design	Family and Consumer Sciences
ECE	Early Childhood Education	Family and Consumer Sciences
ECED	Early Childhood Education	Family and Consumer Sciences
ECON	Economics	Business Administration and Economics
EDUC	Education	Education
ELEC	Electricity–Electronics	Technology
ENGL	English	English
ENGR	Engineering	Physics and Computer Science
ENSL	English as a Second Language	English
FCSC	Family and Consumer Sciences	Family and Consumer Sciences
FDNT	Foods and Nutrition	Family and Consumer Sciences
FIN	Finance	Business Administration and Economics
FLHD	Family Life and Human Development	Family and Consumer Sciences
FREN	French	Modern Languages
GEOG	Geography	History and Social Studies
GEOLOGY	Geology	Biology
GNRL	General	General courses; various departments
GNST	General Studies	Liberal Studies
GRPH	Graphics Technology	Technology
GRMN	German	Modern Languages
HIST	History	History and Social Studies
HLED	Health Education	Physical Education, Health, Recreation
HNRS	Honors	Honors Program

## Subject

	<b>Subject</b>	<b>Department</b>
INDS	Interdisciplinary Studies	Liberal Studies
INFS	Information Systems	Business Administration and Economics
ITAL	Italian	Modern Languages
JAPN	Japanese	Modern Languages
JOUR	Journalism	Communication
LBA	Leadership in Business Administration	Extended Learning (also see Business)
LTHC	Long-Term Health Care	Business Administration and Economics
MATH	Mathematics	Mathematics
MDIA	Digital Media Technology	Technology
MFG	Manufacturing	Technology
MGMT	Management	Business Administration and Economics
MICR	Microbiology	Biology
MKTG	Marketing	Business Administration and Economics
MODL	Modern Languages	Modern Languages
MTCH	Medical Technology	Biology
MUED	Music Education	Music
MUEN	Music Ensemble	Music
MUHL	Music History and Literature	Music
MUSP	Music Performance	Music
MUTH	Music Composition and Theory	Music
NURS	Nursing	Nursing
OFAD	Office Administration	Business Administration and Economics
PEAC	Physical Education Activity	Physical Education, Health, Recreation
PETH	Physical Education Theory	Physical Education, Health, Recreation
PHIL	Philosophy	Liberal Studies
PHYS	Physics	Physics and Computer Science
PLSC	Political Science	History and Social Studies
PREL	Public Relations	Communication
PSYC	Psychology	Behavioral Science
RECR	Recreation	Physical Education, Health, Recreation
RELB	Religion, Biblical Studies	Religion
RELH	Religion, Historical Studies	Religion
RELL	Religion, Biblical Languages	Religion
RELP	Religion, Professional Studies	Religion
RELT	Religion, Theological Studies	Religion
RUSS	Russian	Modern Languages
SIGN	Sign Language	Modern Languages
SOCI	Sociology	Behavioral Science
SOWK	Social Work	Behavioral Science
SPAN	Spanish	Modern Languages
SPPA	Speech Pathology & Audiology	Communication
TECH	Technology	Technology

## General Courses

*Nondepartmental courses.*

### **GNRL 104** **1 Su** **Young Scholars Program**

A week-long program of course work, projects, and investigations in science, mathematics, humanities and the arts. Graded on a Satisfactory/Fail basis. May be repeated for credit. Prerequisite: Admission to the PacificQuest summer program for talented and gifted students.

### **GNRL 204** **2 S** **Introduction to Dentistry**

Dental anatomy, morphology, and related aspects of dentistry as a career. One lecture and one laboratory weekly.

### **GNRL 350** **2, 6** **Field Experience**

Students in the PUC Student Mission and Taskforce programs may arrange to do extra academic work in connection with their service appointments and thereby to earn credit applicable toward degree requirements. Credit is available on both a 6.0-unit per quarter basis and a 2.0-unit per three-week period of service. Registration qualifies students to maintain enrolled status at PUC while off campus in these programs. Further information is available at the Extended Learning office.

### **GNRL 498** **3-6 A, W, S** **Honors Project**

An Honors Project must carry at least 3 hours of credit. Work on the project and registration for it may extend from one to three quarters. Students may register for 1-6 credits during any quarter; the amount of credit registered for during any one quarter must represent the amount of work done.

### **GNRL 499** **3** **Honors Seminar**



## Faculty

Tom Turner, chair; Jon Carstens, Milbert Mariano, Thomas Morphis, Cliff Rusch, Bob Seyle

Departmental Office: 254 Fisher Hall; 965-6350

## Degrees and Programs

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Photography, A.S. ....	49

In the DEPARTMENT OF ART, the student has the opportunity to study art either as a vocation or as a means of increasing cultural awareness. The department is keenly interested in students who choose art as their occupation and who want to devote themselves to the period of intensive training necessary for their profession. It is also concerned with those whose interests may be avocational rather than professional, who recognize the cultural advantages to be obtained from the study of art, or who find in artistic experience a high degree of personal enjoyment and satisfaction.

## Major in Graphic Design, B.S.

► A minimum of 77 hours (38 upper division) including the following:

ART 121-122	Drawing Fundamentals I-II	2-2
ART 124-125	Design and Composition I-II	3-3
ART 127	Three-Dimensional Design	2
ART 131	Watercolor Painting I (or ART 151 Acrylic and Oil Painting I)	2
ART 234	Printmaking-Silkscreen	2
ART 241-242	Photography I-II	3-3
ART 261-262	Graphic Design I-II	3-3
ART 263	Typography I	3
ART 265	Package Design	3
ART 268	Illustration I	3
ART 317	Design for the Web	2
ART 361-362	Graphic Design III-IV	3 -3
ART 363	Preprint Production I	3
ART 394	Professional Practices in Art	2
ART 421	Life Drawing	2
ART 426	Design and Composition III	2
ART 446	Digital Photo Imaging	3
ART 463	Typography II	3
ART 464	Preprint Production II	3
ART 465-466	Illustration II-III	3-3
ART 468	Preprint Production III	2
ART 477	Twentieth-Century Art (or ART 478 Contemporary Art)	3
ART 499	Baccalaureate Degree Project	3
► Required Cognate Courses:		
GRPH 153	Introduction to Macintosh (or Macintosh competency)	2
GRPH 253	Publication Technology I	3
GRPH 352	Digital Image Technology	3
GRPH 354	Color Imaging	3
MKTG 374	Advertising Management	3

# Art

## ► Recommended Cognate Courses:

COMM 134	Media Communication Careers (3)
GRPH 155	Introduction to Graphics Technology (2)
GRPH 256-257	Publication Technology II-III (2-2)
JOUR 434	Media Law and Ethics (3)
MGMT 160	Small Business Management (3)
MKTG 360	Consumer Behavior (3)

## Major in Fine Art, B.S.

### ► A minimum of 73 hours (23 upper division) including the following:

ART 105	History of Western Art	4
ART 107	American Art	3
ART 115	Stained-Glass Design	2
ART 121-122	Drawing Fundamentals I-II	2-2
ART 124-125	Design and Composition I-II	3-3
ART 127	Three-Dimensional Design	2
ART 131-132	Watercolor Painting I-II	2-2
ART 141-142	Ceramics I-II	2-2
ART 144	Sculpture I	2
ART 151-152	Acrylic and Oil Painting I-II	2-2
ART 226	Collage and Assemblage	2
ART 234	Printmaking–Silkscreen	2
ART 235	Printmaking–Woodcuts and Etchings	2
ART 241-242	Photography I-II	3-3
ART 243	Color Photography I	3
ART 331	Watercolor Painting III	2
ART 341	Ceramics III	2
ART 346	Sculpture II	2
ART 394	Professional Practices in Art	2
ART 421	Life Drawing	2
ART 426	Design and Composition III	2
ART 451	Acrylic and Oil Painting III	2
ART 477	Twentieth-Century Art (or ART 478 Contemporary Art)	3
ART 499	Baccalaureate Degree Project	3

### One of the following:

ART 472	Greek and Roman Art (3)	3
ART 473	Medieval Art (3)	3
ART 474	Baroque and Rococo Art (3)	3
ART 475	Renaissance Art (3)	3
ART 476	Nineteenth-Century Art (3)	3

## Major in Fine Art, B.A.

### ► A minimum of 53 hours (18 upper division) including the following:

ART 105	History of Western Art	4
ART 107	American Art	3
ART 121-122	Drawing Fundamentals I-II	2-2

ART 124-125	Design and Composition I-II	3-3
ART 127	Three-Dimensional Design	2
ART 131-132	Watercolor Painting I-II (or ART 151-152 Acrylic and Oil Painting I-II)	2-2
ART 141-142	Ceramics I-II	2-2
ART 144	Sculpture I	2
ART 226	Collage and Assemblage	2
ART 234	Printmaking–Silkscreen	2
ART 235	Printmaking–Woodcut and Etching	2
ART 331	Watercolor Painting III (or ART 451 Acrylic and Oil Painting III)	2
ART 341	Ceramics III	2
ART 346	Sculpture II	2
ART 394	Professional Practices in Art	2
ART 421	Life Drawing	2
ART 426	Design and Composition III	2
ART 477	Twentieth-Century Art (or ART 478 Contemporary Art)	3
ART 499	Baccalaureate Degree Project	3

## Major in Art History, B.A.

### ► A minimum of 49 hours (27 upper division) including the following:

ART 105	History of Western Art	4
ART 107	American Art	3
ART 108	History of Far Eastern Art	3
ART 124-125	Design and Composition I-II	3-3
ART 277	History of Photography	3
ART 278	Women Artists	3
ART 472	Greek and Roman Art	3
ART 473	Medieval Art	3
ART 474	Baroque and Rococo Art	3
ART 475	Renaissance Art	3
ART 476	Nineteenth-Century Art	3
ART 477	Twentieth-Century Art	3
ART 478	Contemporary Art	3
ART 480	Art Historical Methodology	3
ART 490	Art History Research Project	3

### ► Required Cognate Courses:

ANTH 124	Cultural Anthropology	4
MUHL 105	Survey of Music	3
PHIL 101	Introduction to Philosophy	4
RELH 311	World Religions	3
SOCI 121	Introduction to Sociology	4

**Major in Photography, B.S.**

➤ *A minimum of 60 hours including the following:*

ART 124-125	Design and Composition I, II	3-3
ART 241-242	Photography I, II	3-3
ART 243	Color Photography I	3
ART 261	Graphic Design I	3
ART 277	History of Photography	3
ART 317	Design for the Web	2
ART 394	Professional Practices	2
ART 426	Design and Composition III	2
ART 441	Portrait Photography	3
ART 443	Commercial Photography I	3
ART 444	Color Photography II	3
ART 446	Digital Photo Imaging	3
ART 452-453	Fine Print I, II	3-3
ART 455	Architectural Photography	3
ART 456	Special Effects Photography	3
ART 457	Independent Study	3
ART 477	Twentieth Century Art (or ART 478 Contemporary Art)	3
ART 499	Baccalaureate Degree Project	3

➤ *Required Cognate Courses:*

GRPH 153	Introduction to Macintosh (or Macintosh competency)	2
MGMT 160	Small Business Management	3
JOUR 242	Photojournalism	2
JOUR 434	Media Law and Ethics	3

**Associate Degree in Graphic Design, A.S.**

➤ *A minimum of 47 hours including the following:*

ART 121-122	Drawing Fundamentals I-II	2-2
ART 124-125	Design and Composition I-II	3-3
ART 127	Three-Dimensional Design	2
ART 131	Watercolor Painting I (or ART 151 Acrylic and Oil Painting I)	2
ART 241	Photography I	3
ART 261-262	Graphic Design I-II	3 -3
ART 263	Typography I	3
ART 268	Illustration I	3
ART 299	Associate Degree Project	3
ART 363	Preprint Production I	3
ART 394	Professional Practices in Art	2
ART 421	Life Drawing	2
ART 426	Design and Composition III	2
ART 446	Digital Photo Imaging	3
ART 477	Twentieth-Century Art (or ART 478 Contemporary Art)	3

➤ *Required Cognate Courses:*

GRPH 153	Introduction to Macintosh (or Macintosh competency)	2
GRPH 352	Digital Image Technology	3

➤ *Recommended Cognate Courses:*

GRPH 253	Publication Technology I (3)
GRPH 354	Color Imaging (3)
MGMT 160	Small Business Management (3)
MKTG 360	Consumer Behavior (3)
MKTG 374	Advertising Management (3)

**Associate Degree in Photography, A.S.**

➤ *A minimum of 40 hours including the following:*

ART 124-125	Design and Composition I-II	3-3
ART 241-242	Photography I-II	3-3
ART 243	Color Photography I	3
ART 277	History of Photography	3
ART 299	Associate Degree Project	3
ART 394	Professional Practices in Art	2
ART 426	Design and Composition III	2
ART 441	Portrait Photography	3
ART 443	Commercial Photography	3
ART 444	Color Photography II	3
ART 446	Digital Photo Imaging	3
ART 477	Twentieth-Century Art (or ART 478 Contemporary Art)	3

➤ *Required Cognate Course:*

GRPH 153	Introduction to Macintosh (or Macintosh competency)	2
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➤ *Recommended Cognate Courses:*

JOUR 242	Photojournalism (2)
JOUR 434	Media Law and Ethics (3)
MGMT 160	Small Business Management (3)

**Minor in Art**

➤ *A minimum of 35 hours (7 upper division) including the following:*

ART 105	History of Western Art	4
ART 121-122	Drawing Fundamentals I-II	2-2
ART 124-125	Design and Composition I-II	3-3
ART 127	Three-Dimensional Design	2
ART 131-132	Watercolor Painting I-II (or ART 151-152 Acrylic and Oil Painting I-II)	2-2
ART 141-142	Ceramics I-II (or ART 144 Sculpture I and ART 226 Collage and Assemblage)	2-2



# Art

ART 234	Printmaking–Silkscreen	2	ART 108	History of Far Eastern Art	3
ART 235	Printmaking–Woodcuts and Etchings	2	ART 124-125	Design and Composition I-II	3-3
ART 421	Life Drawing	2	ART 278	Women Artists	3
ART 426	Design and Composition III	2	ART 472	Greek and Roman Art	3
ART 477	Twentieth-Century Art (or ART 478 Contemporary Art)	3	ART 473	Medieval Art (or ART 475 Renaissance Art)	3
			ART 474	Baroque and Rococo Art (or ART 476 Nineteenth-Century Art)	3
			ART 477	Twentieth-Century Art	3
			ART 478	Contemporary Art	3

## Minor in Art History

► A minimum of 34 hours (12 upper division) including the following:

ART 105	History of Western Art	4
ART 107	American Art	3

## The Rasmussen Art Gallery

The Rasmussen Art Gallery, located in the heart of the campus mall, offers students and community a stimulating and enriching cultural dimension in the visual arts. The gallery's exhibitions provide exposure to contemporary work as well as to historically significant art.

## Fine Art

LOWER-DIVISION COURSES:

### ART 115 2 S Stained-Glass Design

An introduction to stained-glass design, including copper foiling and leading techniques. One lecture and three hours laboratory weekly.

### ART 121 2 A ART 122 2 W, S Drawing Fundamentals I-II

A foundation course developing the student's ability to communicate and express creative ideas using line, shape, value, and texture. One lecture and two hours laboratory weekly. Courses must be taken in sequence.

### ART 124-125 3-3 A-W Design and Composition I-II

The basic principles and elements of naturalistic and nonrepresentational design. Stresses creative use of line, color, shape, texture, and space. Courses must be taken in sequence.

### ART 127 2 S Three-Dimensional Design

The perceptual, spatial, and structural principles of well-ordered three-dimensional forms. Includes assignments introducing techniques of modeling and assemblage.

### ART 131-132 2-2 A-W Watercolor Painting I-II

Fundamentals of nonrepresentational and naturalistic watercolor in landscape, still-life, and figure painting. Emphasis on creative expression both in studio and on-location landscape painting. One lecture and three hours laboratory weekly. Must be taken in sequence. Odd years.

### ART 141 2 A, W, S Ceramics I

Introduction to materials and techniques in creating hand-built and wheel-thrown ceramic forms. One lecture and three hours laboratory weekly.

### ART 142 2 W Ceramics II

Exploration of ceramics techniques and processes at the intermediate level. One lecture and three hours laboratory weekly. Prerequisite: ART 141. Even years.

### ART 144 2 W Sculpture I

A basic study in creating sculptural forms with additive and subtractive techniques. Figurative and abstracted subject matter rendered in clay and plaster. Odd years.

### ART 151-152 2-2 A-W Acrylic and Oil Painting I-II

Fundamentals of opaque media in painting naturalistic and nonrepresentational forms. Emphasis on color, composition, and expression through the study of still-life, landscape, and figurative subject matter. One lecture and three hours laboratory weekly. Even years.

### ART 226 2 W Collage and Assemblage

The artistic use of papers, found objects, and other nontraditional media; historical examples and the creation of two- and three-dimensional projects. One lecture and three hours laboratory weekly. Even years.

**ART 234** **2 W**  
**Printmaking-Silkscreen**

An introduction to the techniques of silkscreen printing including cut stencil and photostencil. One lecture and three hours laboratory weekly. Prerequisites: ART 121-122.

**ART 235** **2 S**  
**Printmaking-Woodcut and Etching**

An introduction to the creation of prints through the relief process of woodcuts and the intaglio process of etchings. One lecture and three hours laboratory weekly. Prerequisites: ART 121-122. Odd years.

**ART 299** **3 A, W, S**  
**Associate Degree Project**

An individual-project course required of all associate-degree art majors. Creation of a unified, accomplished body of work for exhibition in the Rasmussen Art Gallery or at another predetermined location on campus. Students completing more than one degree do a separate project for each degree earned.

UPPER-DIVISION COURSES:

**ART 314** **3 S**  
**Art for Children**  
 (See also ECED 314.)

A course that provides an understanding of children's art, a knowledge of art materials, and teaching techniques applicable to their levels of learning. Designed to provide in the life of the child the thrill of the visual and tactile uses of line, shape, value, color, and texture.

**ART 331** **2 S**  
**Watercolor Painting III**

Continued study of form and color through watercolor paintings of still-life, figure, and landscape. Increased emphasis on developing personal expression and technique. One lecture and three hours

laboratory weekly. Prerequisites: ART 131-132. Odd years.

**ART 341** **2 S**  
**Ceramics III**

Advanced study in creating ceramic forms, formulating glazes, and firing the kiln. One lecture and three hours laboratory weekly. Prerequisites: ART 141-142. Even years.

**ART 346** **2 S**  
**Sculpture II**

Continued study in creating three-dimensional forms, using subtractive methods and such media as stone and plaster. One lecture and three hours laboratory weekly. Prerequisite: ART 144. Odd years.

**ART 394** **2 W**  
**Professional Practices in Art**

Focus is on issues that graduating art majors will face whether practicing in the field of art or applying to graduate programs. Each student compiles a portfolio of artworks. This team-taught course features guest speakers.

**ART 421** **2 S**  
**Life Drawing**

A course to improve visual skills and accurate portrayal through the practice of drawing the human model. One lecture and three hours laboratory weekly. Prerequisites: ART 121-122.

**ART 426** **2 S**  
**Design and Composition III**

Integration and application of basic design principles through a series of comprehensive projects. Prerequisites: ART 124-125.

**ART 451** **2 S**  
**Acrylic and Oil Painting III**

Continued study of form and color in acrylic and oil paints. Increased emphasis

on developing personal expression and techniques. One lecture and three hours laboratory weekly. Prerequisites: ART 151-152. Even years.

**ART 491** **1-3 A, W, S**  
**Cooperative Education in Art**

An individualized contract agreement involving selected students, faculty, and employers to provide practical experience in art, art history, and graphic design in a professional setting. Approval of the department chair required in advance. Thirty clock hours of experience required for each hour of credit. May be repeated.

**ART 495** **1-3 A, W, S**  
**Independent Study**

Available in any area where additional study is desired. Approval of department chair and major adviser is required. Maximum of three hours permitted in any one quarter, for a total of six in any major.

**ART 498** **3 A, W, S**  
**Honors Project**

Required of baccalaureate degree art majors in the Honors Program in place of ART 499. (See ART 499 for course description.)

**ART 499** **3 A, W, S**  
**Baccalaureate Degree Project**

An individual-project course required of all baccalaureate degree art majors. Students create a unified, original, and professional body of work for exhibition either in the Rasmussen Art Gallery or at another predetermined location on campus. Students completing more than one art degree do a separate degree project for each degree earned. (For art history majors in the Honors Program, this three-hour degree requirement is met by GNRL 498 Honors Project.)

# Art

## Graphic Design

### LOWER-DIVISION COURSES:

#### **ART 261** **3 A** **Graphic Design I**

A basic overview of the design process from conceptualization and visualization to the preparation of advertising and collateral materials for print.

#### **ART 262** **3 W** **Graphic Design II**

A foundation course emphasizing conceptual problem-solving in the design of corporate identity and collateral materials. Prerequisites: ART 124-125, 261.

#### **ART 263** **3 W** **Typography I**

Study of letter forms with emphasis on typesetting and preparation of copy for typesetting and design. Prerequisite: ART 261.

#### **ART 265** **3 S** **Package Design**

Introduction to the process of design and presentation as applied to packaging. Studies the redesign of existing packaging and the creation of new product entries. Prerequisites: ART 262, 263. Even years.

#### **ART 268** **3 A** **Illustration I**

Applied rendering in ink, markers, and wash drawings of the human figure, animal life, and inanimate objects. Prerequisites: ART 121-122.

### UPPER-DIVISION COURSES:

#### **ART 317** **2 A** **Design for the Web**

The process, resources, and skills needed to create a visual presence on the World Wide Web: personal home pages, Websites for clients, use of the Web as a

delivery platform. Beyond development of a properly functioning site, the course emphasizes creation of visually attractive and coherent presentations. For general students and art majors. Prerequisite: CPTR 105 or GRPH 153 or computer competency (PC or Mac). Recommended prior courses: ART 124-125, 261.

#### **ART 361** **3 S** **Graphic Design III**

An advanced course in design and presentation as applied to advertising and collateral materials. Prerequisites: ART 262, 263. Odd years.

#### **ART 362** **3 S** **Graphic Design IV**

In-depth study of corporate identity and graphic standards programs. Includes logo design and usage in various print and signage applications. Prerequisites: ART 262, 263. Even years.

#### **ART 363** **3 A** **Preprint Production I**

Preprint production techniques applied to advertising and collateral materials. Emphasis on presentation and technical skills. Prerequisite or corequisite: ART 261.

#### **ART 463** **3 S** **Typography II**

Type styles, character, arrangement, and usage in the design of printed materials. Practical experience in preparation of type for print production. Prerequisites: ART 263; GRPH 253. Odd years.

#### **ART 464** **3 W** **Preprint Production II**

Explores the preparation of digital files and desktop design. For advanced graphic design majors who understand the basic elements of design, typography, and print and who have good Macintosh competency. Prerequisites: ART 262, 363; GRPH 253. Even years.

#### **ART 465-466** **3-3 W-S** **Illustration II-III**

Emphasis on visual and conceptual problem-solving in renderings and on client presentations of editorial and commercial assignments. Media include markers, airbrush, and mixed media. Prerequisites: ART 268, 421.

#### **ART 468** **2 W** **Preprint Production III**

An advanced course in digital preprint techniques. For advanced graphic design majors who understand the basic elements of digital file preparation. Prerequisites: ART 262, 363, 464; GRPH 253. Odd years.

## Photography

### LOWER-DIVISION COURSES:

#### **ART 241-** **3 A, W** **ART 242** **3 W** **Photography I-II**

The basic equipment, experimental manipulations, and photographic skills involved in producing black and white negatives, contact prints, and enlargements; the proper use of various films, papers, and chemicals. Ninety minutes lecture and three hours laboratory weekly. Must be taken in sequence.

#### **ART 243** **3 S** **Color Photography I**

An introduction to color theory and practice; color toners, photo oils, slide developing, and color printing. Ninety minutes lecture and three hours laboratory weekly.

### UPPER-DIVISION COURSES:

#### **ART 441** **3 A** **Portrait Photography**

Development of fine art and commercial skills in black-and-white and color

portraiture, including executive and group portraits, both in studio and outdoors. A 2 1/4 format camera is used. One and one-half hours lecture and three hours laboratory weekly. Prerequisite: ART 243.

**ART 443** **3 W**  
**Commercial Photography**

Use of 2 1/4 and 4 x 5 format cameras with studio lighting for product still life, architectural, and industrial applications. Ninety minutes lecture and three hours laboratory weekly. Prerequisite: ART 243.

**ART 444** **3 S**  
**Color Photography II**

Advanced color materials and manipulation of color photography techniques using the subtractive process and printing from slides. One and one-half hours lecture and three hours laboratory weekly. Prerequisite: ART 243.

**ART 452** **3 A**  
**The Fine Print I**

An advanced photography printing course using large format camera. Refined printing using cold-light enlargers and archival treatments. Ninety minutes lecture and three hours laboratory weekly. Even years.

**ART 453** **3 W**  
**The Fine Print II**

Second stage of refined printing with large format negatives. Ninety minutes lecture and three hours laboratory weekly. Even years.

**ART 455** **3 W**  
**Architectural Photography**

Use of 2 1/4 and 4 x 5 cameras to record interior and exteriors of architectural subjects. Lighting techniques blend natural light and flash. Ninety minutes lecture and three hours laboratory/field work weekly. Odd years.

**ART 456** **3 A**  
**Special Effects Photography**

Advanced studio techniques producing varied special effects for studio and commercial applications. Ninety minutes lecture and three hours laboratory weekly. Prerequisite: ART 443. Odd years.

## History of Art

### LOWER-DIVISION COURSES:

**ART 105** **4 A, S**  
**History of Western Art**

Designed to further appreciation of significant art as an expression of profound human experience. Major artists and monuments in Western Civilization from its origins to the present, with particular emphasis on the relationship between art and the epoch during which it was created.

**ART 105H** **4 S**  
**History of Western Art (Honors)**

In addition to fulfilling the requirements for ART 105, honors students will participate in a series of seminars dealing with the methodology of art history.

**ART 107** **3 W**  
**American Art**

A study of painting, sculpture, graphic art, photography, and architecture in the United States from the colonial period to the present. Odd years.

**ART 108** **3 S**  
**History of Far Eastern Art**

An overview of art and architecture created in China, Japan, India, and Southeast Asia. Even years.

**ART 277** **3 W**  
**History of Photography**

Analysis of theories and techniques of major photographers in America and Europe from the inception of photography to the present.

**ART 278** **3 W**  
**Women Artists**

Female artists in the Western World from the Renaissance to the present, with particular focus on the nineteenth and twentieth centuries. Even years.

### UPPER-DIVISION COURSES:

**ART 472** **3 A**  
**Greek and Roman Art**

The architecture, painting, sculpture, and minor arts of Ancient Greece and Rome from the Cyclades in Greek art to the age of Constantine in Late Roman art. Prerequisite: ART 105. Odd years.

**ART 473** **3 A**  
**Medieval Art**

The art of Western Europe from early Christianity until the advent of the Renaissance, with particular attention to architecture. Prerequisite: ART 105. Even years.

**ART 474** **3 W**  
**Baroque and Rococo Art**

Course covers the age of Bernini, Velázquez, Rubens, Rembrandt, and Watteau: architecture, painting, graphic art, and sculpture in Italy, Spain, the Netherlands, France, and England during the seventeenth and eighteenth centuries. Prerequisite: ART 105. Odd years.

**ART 475** **3 A**  
**Italian Renaissance Art**

An examination of painting, sculpture, graphic art, and architecture in Italy and Spain from 1300 to 1600. Prerequisite: ART 105. Odd years.

## **Art**

### **ART 476 3 A**

#### **Nineteenth-Century Art**

An analysis of painting, sculpture, graphic art, photography, and architecture in Europe from 1775 to 1900.

Prerequisite: ART 105. Even years.

### **ART 477 3 S**

#### **Twentieth-Century Art**

Painting, sculpture, graphic art, photography and architecture in Europe from 1900 to 1945. Prerequisite: ART 105.

Odd years.

### **ART 478 3 S**

#### **Contemporary Art**

Painting, sculpture, graphic art, photography, and architecture in America and Europe from 1960 to the present.

Prerequisite: ART 105. Even years.

### **ART 480 3 W**

#### **Art Historical Methodology**

Bibliographical training and methods of art history applied to selected periods and art works created during those periods. Prerequisite: ART 105. Even years.

### **ART 490 3 A, W, S**

#### **Art History Research Project**

An intensive, faculty-directed research paper required of all majors in Art History during their senior year, the topic to be determined in consultation with the Art faculty adviser.



## Faculty

*Aubyn Fulton, chair; Bruce Bainum, Fiona Bullock, Monte Butler, Larry Pickard, Gregory Schneider, Sharon Teruya*  
 Departmental Office: 109 Davidian Hall; 965-6537

## Degrees and Programs

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The DEPARTMENT OF BEHAVIORAL SCIENCE offers three majors: Behavioral Science, Psychology, and Social Work. The goals of the department are as follows:

- To encourage purposeful living in the service of God and humanity by helping students understand and apply principles of human behavior in personal and professional relationships.
- To provide a general background for a wide range of careers that involve working with people, such as law, medicine, nursing, education, business, and the ministry.
- To prepare students at the baccalaureate level in the generalist framework for employment in the profession of social work.
- To prepare students adequately for graduate study in psychology and social work.

## Major in Behavioral Science, B.S.

► A minimum of 60 hours in behavioral science (30 upper division) including the following core courses plus an emphasis of 16-17 hours from psychology or sociology:

► Required Core Courses:

ANTH 124	Cultural Anthropology	4
PSYC 121	General Psychology	4
PSYC 122	Psychology Seminar*	3
PSYC 334	Child Development	4
PSYC 364	Social Psychology	4
PSYC 394	Colloquium**	2
PSYC 457	Psychological Testing	4
PSYC 490	Issues in Religion, Ethics, and the Human Sciences	4
SOCI 121	Introduction to Sociology	4
SOCI 232	American Social Problems	4
SOWK 121	Introduction to Social Work	4
SOWK 227	Conflict Resolution and Relationship Skills (or PSYC 225 Personal Behavior Modification (2))	3

► Emphases: (choose one):

Psychology: Minimum 16-17 upper-division hours

Sociology: Minimum 16-17 upper-division hours

► Required Cognate Course:

OFAD 301***	Word Processing (or GRPH 153 Introduction to Macintosh)	2
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\* PSYC 122 must be taken before the junior year.

\*\* PSYC 394 is required each quarter of the junior and senior years.

\*\*\* OFAD 111 may be prerequisite to OFAD 301 depending on the student's keyboard competence.

## Major in Psychology, B.A., B.S.

➤ *B.A.: A minimum of 49 hours in psychology (24 upper division).  
B.S.: A minimum of 60 hours in psychology (30 in the upper division) including the following:*

PSYC 121	General Psychology	4
PSYC 122	Psychology Seminar*	3
PSYC 322	Research Design	4
PSYC 323	Intro. to Experimental Psychology	4
PSYC 334	Child Development	4
PSYC 344	Psychology of Personality	4
PSYC 364	Social Psychology	4
PSYC 394	Colloquium**	2
PSYC 436	Physiological Psychology	4
PSYC 444	History and Systems of Psychology	4
PSYC 445	Learning and Cognition	4
PSYC 490	Issues in Religion, Ethics, and the Human Sciences	4
PSYC 499	Systematic Issues in Psychology	4

➤ *Recommended Course:*

PSYC 457 Psychological Testing (4)

➤ *Required Cognate Courses:*

ANTH 124	Cultural Anthropology	4
MATH 322	Statistical Methods	3
OFAD 301***	Word Processing (or GRPH 153 Introduction to Macintosh)	2
SOCI 121	Introduction to Sociology	4

## Major in Social Work, B.S.W.

➤ *A minimum of 65 hours in social work (54 upper division).*

The baccalaureate degree program in social work is fully accredited by the Council on Social Work Education. It is designed to prepare students at the baccalaureate level to enter the profession as generalist social work practitioners.

The objectives of the social work program support its mission and goals to train students as competent generalist social workers, ready for beginning professional practice in accord with the standards of the Council on Social Work Education. These objectives provide the standard by which the quality of education and professional competencies of students may be assessed. The major objectives include the following:

1. To prepare students for beginning generalist professional social work practice. This includes work with individuals, small groups, families, organizations, communities, and administrative and legislative systems.
2. To provide students with an appreciation for the relevance to today's practice of the history and philosophy of the social work profession and an understanding of the current issues and social welfare policies that affect client systems and generalist practitioners.
3. To provide students a strong knowledge base, from an ecological perspective, of the bio-psycho-social, spiritual, and cultural factors that affect human behavior throughout life.
4. To prepare students with a working knowledge of quantitative and qualitative research methodologies at the micro and macro levels of practice, with emphasis on incorporating techniques for systematic evaluation of practice and awareness of technological advances.
5. To guide students in developing values, ethics, standards, and conduct vital to the social work profession and to provide supervised field practicum experiences that allow opportunity for continued growth and application of practice knowledge and skills.
6. To provide social work resources to the community (Napa and Sonoma Valleys, Lake County, the college environment, and the church at large) needing social services, consultation, and practice skills from social work faculty and students.
7. To provide students with a greater appreciation of human diversity, with special attention to the practice knowledge and skills related to the specific populations-at-risk in surrounding communities.
8. To prepare students for lifetime learning and critical thinking through an educational process that combines a liberal-arts foundation with professional social work education.

Students interested in social work as a profession should make an advisement appointment with the Social Work Program Director. The *Social Work Student Handbook* contains detailed information on the admissions process.

1. Complete the program admissions packet, including admissions application, personal statement, and reference letters.
2. Complete the personal admissions interview.

The Program Admissions Committee applies the following criteria in evaluating applications:

- Successful completion of required prerequisite courses.
- Satisfactory academic record.
- Effective oral-communication skills.
- Effective written-communication skills.
- Attitudes, behaviors, and ethics appropriate to the social work profession.

\* PSYC 122 must be taken before the junior year.

\*\* PSYC 394 is required each quarter of the junior and senior years.

\*\*\* OFAD 111 may be prerequisite to OFAD 301 depending on the student's keyboard competence.

The Admissions Committee notifies each candidate of the action taken on his or her application. To remain in the program, students must continue to meet the same academic, ethical, and behavioral standards. (The *Social Work Student Handbook* contains further information on criteria for admission to the program, continuance in it, and the appeal process.)

► *Required Core Courses:*

PSYC 322	Research Design	4
SOCI 355	Racial and Ethnic Relations	3
SOWK 121	Introduction to Social Work	4
SOWK 232	American Social Problems	4
SOWK 275	History and Philosophy of Social Welfare Institutions	3
SOWK 368	Principles of Counseling	4
SOWK 376	Human Behavior in the Social Environment I	3
SOWK 377	Human Behavior in the Social Environment II	3
SOWK 382	Practice Theory I	4
SOWK 383	Practice Theory II	4
SOWK 394	Colloquium*	2
SOWK 465	Practice Theory III	4
SOWK 468	Social Welfare Policy and Contemporary Social Issues	4
SOWK 470	Introduction to Field Experience	3
SOWK 471	Field Experience	14
SOWK 475	Integrative Field Seminar	2

► *Required Cognate Courses:*

BIOL 102	Human Physiology	5
ECON 261	Principles of Economics–Macroeconomics	4
MATH 222	Introduction to Statistics	4

PLSC 124	Introduction to American Government	3
PSYC 121	General Psychology	4
PSYC 358	Abnormal Psychology (or PSYC 344 Psychology of Personality)	4
PSYC 490	Issues in Religion, Ethics, and the Human Sciences	4

► *Elective Courses: 8 hours*

Electives must be selected in consultation with the Social Work adviser.

► *General Education Requirements:*

The same as for the B.S. degree except that the health requirement (VI-A) is fulfilled by the major.

► *Recommended Course:*

Students who intend to seek employment in California are strongly urged to include Spanish as a second language. See especially SPAN 111-112 Beginning Spanish.

**Minor in Psychology**

► *A minimum of 30 hours in psychology (12 hours upper division) including the following:*

PSYC 121	General Psychology	4
PSYC 122	Psychology Seminar	3
PSYC 225	Personal Behavior Modification	2

**Minor in Sociology**

► *A minimum of 30 hours in sociology (17 hours upper division) including the following:*

SOCI 121	Introduction to Sociology	4
SOCI 232	American Social Problems	4

\*SOWK 394 is required each quarter of the junior and senior years.



# Behavioral Science

## Anthropology

LOWER-DIVISION COURSE:

### **ANTH 124** **4 W, S** **Cultural Anthropology**

The nature and concept of culture, the learning and growth of culture, and the development of cultural patterns. Survey of economics, kinship, gender, political structures, languages, and religion in technologically simple and complex societies.

## Psychology

(PSYC 121 is prerequisite to all other courses in Psychology except PSYC 126, 225, 227 and 390.)

SERVICE COURSE:

*(May not apply to a major or minor in the department)*

### **PSYC 234** **4 A, W** **Human Development**

Theory and research in developmental psychology, including an overview of the mental, emotional, physical, social, and moral development of the individual from conception to senescence.

LOWER-DIVISION COURSES:

### **PSYC 121** **4 A, W, S** **General Psychology**

Survey of the field of psychology: social processes, biological psychology, learning, development, motivation, stress, personality, psychopathology, and therapies.

### **PSYC 122** **3 W, S** **Psychology Seminar**

An introductory seminar emphasizing the exploration and discussion of psychological issues. Topics include critical analysis of psychological research, professional and occupational roles, and

religious, ethical, and social implications of psychological theory and data.

### **PSYC 126** **2 A** **Assertive Behavior**

(See SOWK 126.)

### **PSYC 225** **2 A** **Personal Behavior Modification**

Application of self-analysis and behavior-modification techniques to achieve self-change and personal development.

### **PSYC 227** **3 A, W** **Conflict Resolution and Relationship Skills**

(See SOWK 227.)

UPPER-DIVISION COURSES:

### **PSYC 322** **4 W** **Research Design**

(See also SOCI 322.)  
Methods of inquiry in the behavioral sciences from conception of idea to analysis of data. Includes the experiment, survey research, observational methods, and program evaluation. Requires a laboratory that introduces the student to the Statistical Package for the Social Sciences (SPSS). Prerequisite: MATH 222.

### **PSYC 323** **4 S** **Introduction to Experimental Psychology**

Research design and procedures in the psychological laboratory. Requires a major research project and laboratory. Prerequisites: MATH 222, PSYC 322.

### **PSYC 334** **4 A** **Child Development**

(See also ECED 334.)  
Theory and research in developmental psychology; their application in understanding and relating to children. Focus on learning, perception, and identifica-

tion and on the development of intelligence, motivation, language, play, personality, self-concept, moral principles, and sex roles. Emphasis on interaction between innate development and environmental influences. Covers infancy through adolescence.

### **PSYC 335** **3 W** **Adolescent Development**

Theory and research in adolescent development. Focuses on the unique tasks and conflicts of adolescence, the role and function of adolescence in modern society, and the social and psychological problems and opportunities associated with adolescence.

### **PSYC 336** **4 S** **Adult and Geriatric Development**

(See also SOWK/SOCI 336.)

A developmental exploration of early adulthood through the elder years. Focus on the main tasks, milestones, life events, problems, and fulfillments of this aging process. Emphasis on the impact of societal, cultural, racial, and ethnic influences.

### **PSYC 344** **4 A** **Psychology of Personality**

Survey and analysis of major theoretical models of personality, personality classification systems, and empirical research.

### **PSYC 358** **4 W** **Abnormal Psychology**

Overview of psychological disorders: description of symptoms, course of the disorder, etiology, and treatment. Includes survey of current biological and behavioral research in psychopathology and behavioral disorders. Recommended prior course: PSYC 344.

**PSYC 359 3 S**

**Psychology of Exceptional Children**  
(See also ECED 359, EDUC 359.)

The major variations in intellectual, sensory, and physiological functioning. The causes, psychological impact, and unique problems associated with mental retardation, giftedness, emotional disturbance, speech, visual and hearing problems, orthopedic handicap, and specific learning disability; the legal mandates making educational, equal access, and civil rights provisions for the exceptional person. Three lectures and one laboratory weekly (see PSYC 359L). Required for California Professional Clear teaching credential.

**PSYC 359L 1 S**

**Psychology of Exceptional Children Laboratory**

(See also ECED 359L, EDUC 359L.)

Required for California Professional Clear Teaching Credential. One laboratory to be taken concurrently with PSYC 359.

**PSYC 364 4 A**

**Social Psychology**

(See also SOCI 364.)

The psychological principles underlying group behavior and the effects of the group on individual behavior; attitude change, conformity, aggression, prejudice; and interpersonal attraction, cooperation, and competition. Three lectures and one laboratory weekly.

**PSYC 368 4 A, W**

**Principles of Counseling**

(See also SOWK 368.)

This prepractice course offers an introduction to the work, ethical issues, and theories of counseling. Emphasis on beginning to develop basic helping relationship skills, evaluation of one's personal strengths and weaknesses and establishing a beginning personal philosophy of counseling. Recommended prior course: PSYC 344 or 358; or permission of the instructor.

**PSYC 390 3 W**

**Gender Issues**

(See also SOWK 390.)

Historical, biological, sociological, cultural, and psychological impacts on gender issues, both male and female. Significant emphasis on the effects on the individual, family, workplace, community, and society. Breaking stereotypes and barriers.

**PSYC 394 1 A, W, S**

**Colloquium**

(See also SOWK 394.)

Topics of current interest in social work and psychology. Includes guest speakers, progress reports on student and faculty research, and presentations on current professional issues. Required of all junior and senior majors. Students register once (fall) for the entire year.

**PSYC 399 1-2 A-W**

**Research Seminar**

For students completing a research project with supervision by a research mentor. Emphasis on revision and submission of an APA-style manuscript for professional presentation. Prerequisite: Approval of the instructor.

**PSYC 435 3 A**

**Psychology of Religion**

Religious experience, behavior, and development from the perspective of dynamic and research psychologies. Two hours may be applied toward the general-education requirement in religion. Odd years.

**PSYC 436 4 S**

**Physiological Psychology**

The physiological explanations of behavior; brain-behavior relationships; sensory, neural and motor structures significant to human experience.

**PSYC 444 4 S**

**History and Systems of Psychology**

Greek and medieval background of psychology, the early modern period, the emergence of contemporary experimental work, and special fields of psychology; influential psychological systems.

**PSYC 445 4 W**

**Learning and Cognition**

Comparison and integration of basic research in animal learning and human memory and cognition. Emphasis on the relative roles of mechanistic and mentalistic variables and on the plausibility of universal laws of learning. Three lectures and one laboratory weekly.

**PSYC 457 4 S**

**Psychological Testing**

The purpose, contribution, and problems of psychological testing. Emphasis on understanding the psychometric and clinical characteristics of standardized tests. The major areas of testing, including ability, achievement, intelligence, interest, and personality. Three lectures and one laboratory weekly. Recommended prior course: MATH 222.

**PSYC 490 4 W**

**Issues in Religion, Ethics, and the Human Sciences**

Explorations of tensions in belief, conduct, and identity that arise from being both a Christian and a person changed through contact with the human sciences. Special attention to issues for Christians entering professions in psychology and social work. Open to senior majors in the Behavioral Science department and to others by permission of the instructor.

# Behavioral Science

## **PSYC 491** **1-6 A, W, S** **Field Work in Psychology**

Concentrated field work in an area of special interest. Includes placement in hospitals, correctional agencies, programs for emotionally disturbed children, and other community mental-health programs. Prerequisite: Permission of the instructor. Maximum of six hours applicable toward major.

## **PSYC 495** **1-3 A, W, S** **Independent Study**

Limited to department majors wishing to pursue independent investigations in psychology under the direction of the Behavioral Science faculty. Maximum of three hours applicable toward major.

## **PSYC 499** **4 A** **Systematic Issues in Psychology**

A review of the psychology major, including an in-depth analysis of the experimental foundations of general psychology; orientation to the graduate school application process and preparation for the psychology GRE. Limited to senior psychology majors.

## **Social Work**

### LOWER-DIVISION COURSES:

## **SOWK 121** **4 A, S** **Introduction to Social Work**

Introduction to the profession of social work and social interventions. Fields of practice, practice methods, and the knowledge, values, ethics, and skills of the profession. Focus on social work and populations-at-risk and issues of human diversity. Open to all students interested in the profession of social work and social interventions. Requires community involvement.

## **SOWK 126** **2 A** **Assertive Behavior** (See also PSYC 126.)

Emphasis on developing basic skills and confidence in clarifying one's desires or needs and communicating them to others in socially acceptable and effective ways. Learning through role playing, discussion, and setting personal goals.

## **SOWK 214** **4 S** **The Family** (See also SOCI 214.)

Exploration of the meaning and functions of family systems. The adjustments of premarriage, marriage, and family living viewed as a system, with focus on skills designed to establish and maintain the family institution.

## **SOWK 227** **3 A, W** **Conflict Resolution and Relationship Skills** (See also PSYC 227.)

Skill development in self-understanding and in relating effectively with others. Provides tools for effective communication and conflict resolution. Applicable to personal, work, and social relationships.

## **SOWK 232** **4 W** **American Social Problems** (See also SOCI 232.)

An introduction to major social problems in current American society. Causality, current dynamics, and projections on the future climate of social change related to crime, violence, population, environment, family issues, discrimination, social and economic justice, and health care.

## **SOWK 254** **3 A** **Juvenile Delinquency** (See also SOCI 254.)

The nature and causes of crime and delinquency among minors; the current juvenile justice system and methods of treating offenders. Even years.

## **SOWK 275** **3 A** **History and Philosophy of Social Welfare Institutions**

Based upon changing value systems and philosophies, the attempts of society and social welfare institutions to meet human needs. Examination from both historical and current perspectives. Prerequisites: SOWK 121, PLSC 124, HIST 101-102 or permission of the instructor.

## **SOWK 279** **3 A** **Child and Youth Services**

A comprehensive view of current philosophy, procedures, and structure of the child welfare system. Identification of warning signs of trouble, current intervention strategies, and the roles of teacher, nurse, and social worker in reporting suspected child abuse and neglect. Odd years.

## **SOWK 281** **3 S** **Social Work Practice in Health Care**

Development of knowledge from a generalist social work perspective of the bio-psycho-social components of health and illness, including a strong emphasis on loss, grief, death and dying. A comprehensive view of pertinent topics related to current and future medical social work practice. Open to premedical, nursing and psychology majors without prerequisite; open to others with instructor's permission. Even years.

### UPPER-DIVISION COURSES:

## **SOWK 336** **4 S** **Adult and Geriatric Development** (See PSYC 336.)

## **SOWK 368** **4 A, W** **Principles of Counseling** (See PSYC 368.)

**SOWK 376 3 A**  
**Human Behavior in the Social Environment I**

The bio-psycho-social factors that impact or influence behavior from infancy through young adulthood from the person-in-environment perspective. Focus on the assessment process in generalist practice, with special attention to cultural awareness and factors of human diversity. Emphasis on research relevant to social work practice. Prerequisites: SOWK 275, BIOL 102, PSYC 121.

**SOWK 377 3 W**  
**Human Behavior in the Social Environment II**

The bio-psycho-social factors that influence behaviors of individuals from young adulthood through the elder years from the person-in-environment perspective. Focus on the assessment process in generalist practice, with special attention to cultural awareness and factors of human diversity. Emphasis on research relevant to social work practice. Prerequisite: SOWK 376.

**SOWK 382 4 S**  
**Practice Theory I**

Emphasis on the generalist model of practice with focus on work with individuals. The micro level of intervention as it relates to client engagement, problem assessment, data collection, goals, strategies, action, and evaluation to help the client or client system resolve problems. Three lectures and one laboratory weekly Prerequisites: SOWK 368, 376, 377 or permission of the instructor. Limited to B.S.W. majors.

**SOWK 383 4 A**  
**Practice Theory II**

Emphasis on the generalist model of practice with small groups and family systems. The micro level of intervention as it relates to group goals, structure,

dynamics and processes. Focus on development of basic group work skills and techniques in working with groups of various composition and age. Prerequisites: SOWK 368, 376, 377 or permission of the instructor. Enrollment limited to B.S.W. majors.

**SOWK 390 3 W**  
**Gender Issues**  
 (See PSYC 390.)

**SOWK 394 1 A, W, S**  
**Colloquium**  
 (See PSYC 394.)

**SOWK 465 4 A**  
**Practice Theory III**

Basic knowledge at the macro level necessary for functioning effectively in generalist social work roles. Focus on problem-solving methods for desired change within generalist practice; organizations and communities as they promote, restore, maintain, and enhance social functioning. Emphasis on community organization with diverse populations and on research techniques. Prerequisite: SOWK 382 and 383 or permission of the instructor. Enrollment limited to B.S.W. majors.

**SOWK 468 4 W**  
**Social Welfare Policy and Contemporary Social Issues**

Emphasis on the philosophical and historical development of welfare policy. Analysis and formulation of policy. Contemporary social issues in relationship to policy and its effects upon the people for whom it is intended. The role of the generalist social worker in this process. Prerequisite: SOWK 275, ECON 261 or permission of the instructor.

**SOWK 470 3 W**  
**Introduction to Field Experience**

Provides five hours of practicum per week in community agencies. One seminar session per week to facilitate the transition from theory to practice. Prerequisite: SOWK 382, 383, 465. Enrollment limited to B.S.W. majors with full acceptance into the Social Work program.

**SOWK 471 14 S**  
**Field Experience**

A block placement of 420 clock hours in a social agency with emphasis on integration and active use of content from all areas of the curriculum. Includes agency-based research project. Prerequisite: SOWK 470. Limited to senior B.S.W. majors.

**SOWK 475 2 S**  
**Integrative Field Seminar**

A seminar experience designed to provide opportunity for practicum students to exchange learning from their field settings. Emphasis on continuing integration of theory and practice issues. Taken concurrently with SOWK 471.

**SOWK 495 1-3 A, W, S**  
**Independent Study**

Limited to advanced students wishing to do independent research on a specific topic of current social work interest and its implication for integrative practice.

**Sociology**

LOWER-DIVISION COURSES:

**SOCI 121 4 A, S**  
**Introduction to Sociology**

The relationship of sociology to the total behavioral science field; orientation to the structure and functioning of society; development and social nature of personality; background and development of culture; basic social institutions.

## Behavioral Science

**SOCI 214** **4 S**  
**The Family**  
(See SOWK 214.)

**SOCI 232** **4 W**  
**American Social Problems**  
(See SOWK 232.)

**SOCI 254** **3 A**  
**Juvenile Delinquency**  
(See SOWK 254.)

### UPPER-DIVISION COURSES:

**SOCI 322** **4 W**  
**Research Design**  
(See PSYC 322.)

**SOCI 336** **4 S**  
**Adult and Geriatric Development**  
(See PSYC 336.)

**SOCI 355** **3 A**  
**Racial and Ethnic Relations**

History of ethnic and racial groups in the United States. Ethnic groups studied include African Americans, Jewish Americans, American Indians, Asian Americans, Latin Americans, and European Americans. The nature of prejudice and discrimination, especially as evidenced in contemporary American racial problems; possible solutions of group conflict.

**SOCI 364** **4 A**  
**Social Psychology**  
(See PSYC 364.)

**SOCI 435** **3 A**  
**The Sacred and Profane in Society**

Examination of the social-religious nature of humankind; description and use of concepts in the sociological study of religion; consideration of mainstream and marginal religious organizations and movements. Two hours may apply toward the general-education requirement in religion. Even years.

**SOCI 495** **1-3 A, W, S**  
**Independent Study**

Limited to advanced students wishing to do independent research under direction of the Behavioral Science faculty.



## Faculty

Terrence Trivett, chair; Earl Aagaard, Kenneth Millard, Gilbert Muth, Bryan Ness

Departmental Office: 120 Clark Hall; 965-6227

## Degrees and Programs

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Biologists seek to understand the complexity of the living world through observation and experiment. By offering course work and laboratory experience concerning microorganisms, plants, animals (including humans), and the interrelationships among these living things, the DEPARTMENT OF BIOLOGY encourages the student to consider the study of life an exciting and continuing challenge, whether at the level of molecules, cells, organisms, populations, or ecosystems.

The biology major prepares students for careers in the practice or teaching of the life sciences, for graduate study, or for such professions as dentistry, medicine, and medical technology.

On-campus studies may be enriched by field experiences at the Albion Field Station on the Mendocino Coast.

## Major in Biology, B.S.

► A minimum of 60 hours (30 upper division) including the following:

► Required Core Courses:

BIOL 111-112-113	Biological Foundations	5-5-5
BIOL 320	Cell and Molecular Biology	5
BIOL 333	Principles of Ecology	4
BIOL 348	Animal Physiology	4
BIOL 354	Genetics	4
BIOL 396	Seminar (4 quarters)	2
BIOL 450	Philosophy of Origins	3
MICR 134	General Microbiology	5

6 hours from the following: 6

BIOL 321	Ornithology (3)
BIOL 323	Vertebrate Natural History (3)
BIOL 325	Flowering Plants (3)
BIOL 331	Marine Science (4)
GEOL 233	Geology (4)

8 hours from the following: 8

BIOL 356	Human Genetics (4)
BIOL 469	Immunology (4)
MICR 366	Medical Microbiology (4)

► Required Cognate Courses:

CHEM 111-112-113	General Chemistry	5-5-5
CHEM 371-372-373	Organic Chemistry	4-4-4
CHEM 381	Biochemistry I	4
PHYS 111-112-113	General Physics	4-4-4

► Premedical and predental students:

See adviser for recommended cognates.

## Biology

### Premedical Technology Option for Biology Major, B.S.

The following electives must be added to the core and cognate requirements of the biology major for eligibility to apply to a clinical program in Medical Technology (12 months) that is State of California and Registry approved:

BIOL 330	Introduction to Hematology	1
BIOL 469	Immunology	4
CHEM 324	Analytical Chemistry I	3
CHEM 324L	Analytical Chemistry I Laboratory	2
MICR 366	Medical Microbiology	4
<i>One of the following:</i>		4
MATH 106	College Algebra (4)	
MATH 130	Precalculus (4)	
MATH 131	Calculus (4)	

For further academic or career information, please consult the Medical Technology adviser.

### Major in Biology, B.A.

► A minimum of 48 hours (24 upper division) including the following:

BIOL 111-112-113	Biological Foundations	5-5-5
BIOL 320	Cell and Molecular Biology	5
BIOL 333	Principles of Ecology	4
BIOL 348	Animal Physiology	4
	(or BIOL 102 Human Physiology (5))	
BIOL 354	Genetics	4
BIOL 396	Seminar (4 quarters)	2
BIOL 450	Philosophy of Origins	3
MICR 134	General Microbiology	5

6 hours from the following: 6

BIOL 321	Ornithology (3)	
BIOL 323	Vertebrate Natural History (3)	
BIOL 325	Flowering Plants (3)	
BIOL 331	Marine Science (4)	
GEOL 233	Geology (4)	

► Required Cognate Courses:

CHEM 102	Survey of Organic Chemistry	4
CHEM 103	Survey of Biochemistry	4
CHEM 111-112-113	General Chemistry	5-5-5

► Required Cognates for Prospective Teachers:

PHYS 105	Introduction to Physics	5
PHYS 106L	Introduction to Physics Laboratory	1

### Major in Natural Science, B.S.

This major satisfies the preconditions for science program subject-matter approval by the California Commission on Teacher Credentialing. The core requirement of 64 quarter hours of course work corresponds to science subjects commonly taught in California public schools, and the concentrations available treat the subject matter at a depth more than adequate for teaching the higher secondary science courses in biology, chemistry, and physics.

► Required Core Courses:

ASTR 125	General Astronomy	4
ASTR 299	Meteorology	1
BIOL 111-112-113	Biological Foundations	5-5-5
BIOL 331	Marine Science	4
BIOL 345	Human Ecology	3
BIOL 450	Philosophy of Origins	3
CHEM 111-112-113	General Chemistry	5-5-5
GEOL 233	Geology	4
PHIL 390	History and Philosophy of Science	3
PHYS 111-112-113	General Physics (or PHYS 131-132-133*)	4-4-4

► Emphases: Choose one:

**1. Biology Emphasis** (35-36 hours)

BIOL 320	Cell and Molecular Biology	5
BIOL 333	Principles of Ecology	4
BIOL 348	Animal Physiology	4
	(or BIOL 102 Human Physiology (5))	
BIOL 354	Genetics	4
BIOL 396	Seminar (4 quarters)	2
MICR 134	General Microbiology	5

One of the following courses:

BIOL 321	Ornithology (3)	
BIOL 323	Vertebrate Natural History (3)	
BIOL 325	Flowering Plants (3)	

Required Cognate Courses:

CHEM 102	Survey of Organic Chemistry (4)	
CHEM 103	Survey of Biochemistry (4)	

**2. Chemistry Emphasis** (33 hours)

CHEM 324	Analytical Chemistry	3
CHEM 324L	Analytical Chemistry Laboratory	2

\* Students electing the emphasis in physics must take PHYS 131-132-133.

CHEM 351	Physical Chemistry for Life Sciences (or CHEM 451 Physical Chemistry)	3
CHEM 371-372-373	Organic Chemistry	4-4-4
CHEM 373L	Advanced Organic Chemistry Laboratory	1
CHEM 381	Biochemistry	4

*Required Cognate Course:*

MATH 131-132	Calculus	4-4
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**3. Physics Emphasis** (35 hours)

ELEC 141	Applied Electronics	3
MATH 131-132-133	Calculus	4-4-4
PHYS 234	Elementary Modern Physics	4

*One of the following courses:*

ENGR 217	Engineering Electronics	4
PHYS 256	Applied Optics	4

Additional hours (at least 12 upper division) selected from physics courses that carry credit toward a major in physics and from the following two courses:

ASTR 341-342	Astrophysics	3-3
CHEM 344	Nuclear Physics and Chemistry	3

**Teaching Credential**

Students desiring to enter a program of studies leading to a California teaching credential in science with a concentration in

biology should take the B.S. degree in Natural Science. This program meets the newly established standards of quality and effectiveness and has been approved by the State of California Commission on Teacher Credentialing. A brochure describing the new program and its requirements is available in the Biology department office. Students are invited to discuss the program with the Teacher Education Adviser in the Biology department.

Those who plan to teach on the secondary level should consult with the Credential Analyst in the Department of Education and should become acquainted with the specific requirements for admission to and successful completion of the Teacher Education Program as outlined in the Education section of this CATALOG.

**Minor in Biology**

➤ *A minimum of 30 hours (12 upper division) including the following:*

BIOL 111-112-113	Biological Foundations	5-5-5
BIOL 345	Human Ecology	3
BIOL 450	Philosophy of Origins	3

**Summer Field Study**

The following course is offered on demand during the summer:

BIOL 331	Marine Science	4
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**Agriculture**

LOWER-DIVISION COURSES:

*(May not be used for a major or minor in Biology)*

**AGRI 211 Home Fruit Growing 3 A**

Home fruit production for the backyard gardener. Biology of various fruit plants and the cultural practices essential to growing a wide variety of fruits for home use. Two lectures and one laboratory weekly.

**AGRI 212 Home Greenhouse Gardening 3 A, W**

The greenhouse as a solar energy source for the home. Growth and multiplication of plants for food and home beautification. Two lectures and one laboratory weekly.

**AGRI 213 Home Vegetable Gardening 3 S**

Instruction and experience growing a home vegetable garden. One lecture and two laboratories weekly.

**Biology**

SERVICE COURSES:

*(May not be used for major or minor in this department)*

**BIOL 105 Man and the Natural World 5 W**

The fundamental principles of biology, with emphasis on such practical applications as order and design, natural history, philosophy of creation, adaptation, conservation, and survival. Limited to non-science majors; not available to students who have had a college biology course.



# Biology

## **BIOL 223** **1 A** **Introduction to Medical Terms**

Introducing approximately 20,000 medical terms, this course offers to pre-medical, pre-dental, and nursing students a valuable foundation for more advanced studies.

## **BIOL 227** **3 S** **Natural History of California**

The plants and animals of California as they relate to its diverse topography and geography. Two lectures and one laboratory weekly.

## **BIOL 355** **3 A** **Philosophy of Biology**

(See also PHIL 355.)

Current theories regarding the origin, age, and change of the earth and its life. Methods of interpreting Scripture, theories of origin and age-dating of the earth and its layers, biological problems of evolution, geological history, glaciation, and fossil hominids. Special reference to the bearing of scientific data on evolutionist and creationist philosophies. Two credits applicable toward the general-education requirement in religion.

LOWER-DIVISION COURSES:

## **BIOL 101** **4 A, W** **Human Anatomy**

Human structure as the expression of basic principles of morphology. Each functional system considered in terms of its cell, tissue, and organ types. Three lectures and one laboratory weekly.

## **BIOL 102** **5 W, S** **Human Physiology**

The function of human body systems, emphasizing the relationships among these systems; the role of each system in normal body function and health. Four lectures and one laboratory weekly.

## **BIOL 111-112-113** **5-5-5 A-W;** **Biological Foundations** **W-S; S, A**

An integrated foundation for biology majors and preprofessional students in biomedical sciences. Prerequisite to most biology courses with higher numbers. Should be taken in sequence. Four lectures and one laboratory weekly.

*BIOL 111:* Principles basic to all of biology—cell structure, function and physiology of cellular organelles, and genetics.

*BIOL 112:* Plant structure and function; survey of the different groups of plants; and introduction to ecology.

*BIOL 113:* Emphasis on comparative animal anatomy and physiology; general survey of the different animal groups; discussion of evolution and the evidence given to support it.

UPPER-DIVISION COURSES:

## **BIOL 320** **5 W** **Cell and Molecular Biology**

Composition, structure, and physiology of the cell and its organelles. Topics include bio-membranes, nucleus, chromatin fibers, transcription, translation, genetic coding, regulation of prokaryons and eukaryons, DNA replication and cell division, cell growth, the vacuolar system and membrane-bound granules, secretion, endocytosis, membrane transport, cell movement, impulse conduction, the cell as host of viruses, mitochondria and respiration, chloroplasts, and photosynthesis. Eukaryons are emphasized, although prokaryons are compared with them in numerous particulars. Prerequisites: BIOL 111-112-113, CHEM 103 or 381.

## **BIOL 321** **3 A** **Ornithology**

Field and laboratory studies of the avifauna of the Pacific States in particular, with general attention to the distribu-

tion of birds in North America as a whole. Two lectures and one laboratory weekly. Prerequisite: BIOL 113 or BIOL 227. Odd years.

## **BIOL 323** **3 W** **Vertebrate Natural History**

A comprehensive look at the natural history of the vertebrates, including their relationship to the physical environment and to other species and their social and reproductive patterns. Laboratory surveys vertebrate groups, especially their northern California representatives. Two lectures and one laboratory weekly. Prerequisite: BIOL 113 or BIOL 227.

## **BIOL 325** **3 S** **Flowering Plants**

Structure of typical flowers; methods of analyzing, collecting, identifying, and preserving representative specimens. Two lectures and one laboratory weekly. Prerequisite: BIOL 112 or BIOL 227.

## **BIOL 327** **1 A, W, S** **Methods of Museum Curation**

The student spends three clock hours per week for each hour of credit, preparing specimens for the herbarium. Techniques of mounting, labeling, herbarium organization, and data preparation for the Herbarium Data Retrieval System. Prerequisite: BIOL 325.

## **BIOL 330** **1 W** **Introduction to Hematology**

Morphology and physiology of the cells of the bone marrow and peripheral blood. Hematopoiesis. Survey of anemias and leukemias. One lecture or one laboratory weekly. Offered on demand for Medical Technology majors accepted for the clinical year.

**BIOL 331** **4 A**  
**Marine Science**

Introduction to oceanography, marine life, and humanity's impact on the marine environment. Lecture, laboratory, and project. Prerequisites: BIOL 111, 112, 113 or consent of the instructor.

**BIOL 333** **4 S**  
**Principles of Ecology**

Basic principles of ecology emphasizing the effects of physical and biotic factors in controlling populations and influencing environments. Laboratory emphasizes plant studies. Three lectures and one laboratory weekly. Prerequisite: BIOL 111-112.

**BIOL 345** **3 A, W, S**  
**Human Ecology**

The relationship of human beings to their environment, including such current issues as food and population, air and water quality, energy, land use, housing, transportation, waste disposal, and community health.

**BIOL 348** **4 A**  
**Animal Physiology**

Major functional systems of animals. Emphasis on vertebrate animals, with comparisons to invertebrate groups. Topics include membranes and excitation, signal transmission and processing, sensory transduction, neural processing and behavior, chemical communication, muscle and motility, osmoregulation and excretion, circulation of blood, gas exchange, feeding and digestion, and energetics and temperature control. Prerequisites: BIOL 111-112-113.

**BIOL 354** **4 S**  
**Genetics**

The genetics of bacteria, plants, and animals. Chromosome mapping, population and evolutionary genetics, prokaryotic and eukaryotic genetic control, and

molecular genetics. Emphasis on the study of modern molecular genetic techniques and concepts. Three lectures and one laboratory weekly. Prerequisites: BIOL 111-112-113, 320; MATH 222.

**BIOL 356** **4 A**  
**Human Genetics**

Inheritance patterns of the human organism. Sex linkage, gene mapping, chromosome aberrations, mutations, metabolic disorders, immune system inheritance, and genetic basis of human behavior. Three lectures and one laboratory weekly. Prerequisites: BIOL 111-112-113, 320.

**BIOL 395** **1-3 A, W, S, Su**  
**Special Topics in Biology**

Additional laboratory or library studies correlated with biology courses.

**BIOL 396** **.5 A, W, S**  
**Seminar**

(See also CHEM 396, PHYS 396)  
 Single topics of current interest in mathematics and natural science are presented by guest lecturers. The course is graded S/F. To pass, a student must be on time and attend four out of five course appointments. Biology majors are required to enroll in the course two out of three quarters in each of their junior and senior years. Credit earned only during the junior and senior years counts toward the Seminar requirement for a degree in biology.

**BIOL 415** **1 W**  
**Modern Laboratory Techniques**

Basic skills required in modern research laboratories. Measurement, solution preparation, sterilization, use of equipment, and safe handling of common materials. Useful for students planning on graduate study or employment in research laboratories. One laboratory weekly.

**BIOL 426** **5 S**  
**Histology**

Microscopic structure of the fundamental tissues and organs of humans and other mammals with functional correlations. Three lectures and two laboratories weekly. Prerequisite: BIOL 320.

**BIOL 450** **3 W**  
**Philosophy of Origins**

(See also PHIL 450.)  
 Historical and current issues relating to creation and evolution models of origins. Data and interpretations from anthropology, geology, biology, and radiometric dating with their philosophical, theological, and scientific implications and interactions. Prerequisite: BIOL 111, 112, 113.

**BIOL 469** **4 A**  
**Immunology**

The lymphoid system and its response to foreign substances by humoral or cellular mechanisms that may protect or injure the host. Immunogens, immunoglobulins, complement, antigen-antibody reactions, phagocytosis, inflammation, immediate and delayed allergy, autoimmunity, and the immunology of transplantation, cancer and tolerance. Three lectures and one laboratory weekly. Prerequisite: MICR 134.

**BIOL 491** **0-2**  
**Cooperative Education in Biology**

An individualized contract agreement involving student, faculty and employer to provide practical experience in biology in a professional off-campus work setting. Prerequisite: Approval of the department chair. Graded S/F.

# Biology

## BIOL 495 1-3 A, W, S, Su Independent Study

Properly qualified students in biology whose scholarship is of outstanding quality may undertake a limited amount of individual investigation. Maximum of three hours permitted in any quarter, or six hours total.

## Geology

LOWER-DIVISION COURSE:

## GEOL 233 4 S Geology

The materials, structure, and internal conditions of the earth; the physical and

chemical processes at work upon it. Available for biology elective credit. Three lectures and one laboratory weekly.

## Microbiology

LOWER-DIVISION COURSE:

## MICR 134 5 A, S General Microbiology

An introduction to microorganisms—the bacteria, viruses, and fungi; the usefulness of microorganisms in nature and manufacturing; pathogenesis and immunity. Consideration of each major infectious disease with respect to its causative

agent, characteristics, diagnosis, transmission, and prevention. Four lectures and one laboratory weekly.

UPPER-DIVISION COURSE:

## MICR 366 4 W Medical Microbiology

A systematic study of microorganisms, especially bacteria that relate to humans as normal flora or pathogens. Laboratory emphasizes the isolation, characterization, and identification of unknown bacteria of medical interest. Two lectures and two laboratories weekly. Prerequisite: MICR 134.

## Major in Medical Technology, B.S.M.T.

➤ To include the following:

*Preclinical:*

BIOL 111	Biological Foundations	5
BIOL 113	Biological Foundations	5
BIOL 320	Cell and Molecular Biology (or BIOL 354 Genetics (4))	5
BIOL 330	Introduction to Hematology	1
BIOL 348	Animal Physiology (or BIOL 102 Human Physiology)	4
BIOL 469	Immunology	4
MICR 134	General Microbiology	5
MICR 366	Medical Microbiology	4
CHEM 111-112-113	General Chemistry	5-5-5
CHEM 324	Analytical Chemistry I	3
CHEM 324L	Analytical Chemistry I Laboratory	2
CHEM 371-372,373	Organic Chemistry	4-4-4
CHEM 381	Biochemistry I	4
PHYS 111-112-113	General Physics	4-4-4

Or the following four courses as an alternate to General Physics:

CPTR 105	Introduction to Computers (3)
ELEC 141	Applied Electronics (3)
PHYS 105	Introduction to Physics (5)
PHYS 106	Intro. to Physics Laboratory (1)

One of the following mathematics courses: 4

MATH 106	College Algebra (4)
MATH 130	Precalculus (4)

MATH 131 Calculus (4)

General education courses as required for other B.S. degrees, except for Skills for Daily Living and Health.

*Clinical (Florida Hospital):*

MTCH 402	Blood Collection	1
MTCH 404	Hematology	8
MTCH 406	Immunology and Serology	3
MTCH 408	Bacteriology	8
MTCH 410	Immunochemistry	8
MTCH 412	Clinical Chemistry	10
MTCH 414	Urinalysis and Clinical Microscopy	3
MTCH 416	Parasitology	3
MTCH 418	Mycology	2
MTCH 420	Coagulation	2
MTCH 422	Administration, Management, and Computer Applications in the Clinical Laboratory	1
MTCH 424	Principles of Education	1
MTCH 426	Project	2

### General Information

The medical technology major includes three years of preclinical education at Pacific Union College and twelve months of education in the clinical laboratory. The clinical curriculum is offered by the School of Medical Technology at Florida Hospital (Orlando, FL). The preclinical education includes a variety of courses and experiences to fulfill the basic objectives of a liberal arts education and to provide a scientific foundation for the clinical year.

The clinical curriculum is a blend of theory and practice. The principles of this science learned from lectures and extensive reading assignments are reinforced by actual bench experience with human material. Each student spends forty hours each week in this learning environment.

**Licensure**

Pacific Union College confers a Bachelor of Science in Medical Technology (B.S.M.T.) degree upon a student who successfully completes all program requirements, including the clinical year. This degree makes the student eligible to take the national licensure examination given by the Registry of Medical Technologists of the American Society of Clinical Pathologists and the state licensure examination given by the State of California Department of Health. The degree is conferred regardless of performance on the licensure examination.

**Expenses**

Regular college expenses apply to the preclinical years. During the clinical year, tuition and/or fees are paid to the School of Medical Technology instead of to Pacific Union College. Florida Hospital charges a fee of \$1,000 for hospital insurance, physical examination and diploma, but offers a stipend of \$2,400 per year. The hospital encourages some evening or weekend work to help defray the costs of board and room.

**Admission to the School of Medical Technology**

The School of Medical Technology at Florida Hospital accepts students from several colleges and universities, and admission is competitive. Applicants are selected on the basis of such qualities as scholarship, integrity, dependability, manual dexterity, and motivation for careers in medical technology. Once enrolled, students are expected to maintain high standards of professional conduct and performance. Failure to do so may result in dismissal from the clinical program.

The School of Medical Technology at Florida Hospital begins classes in early August. Application should be made by early December of the preceding (junior) year. *All preclinical graduation requirements must be completed before the student begins the clinical year.* Application forms are available from the adviser.

**Academic Standards**

To be competitive, an applicant for the clinical curriculum should have a minimum grade-point average of 3.0, although students may be accepted with a 2.67 average if space allows. Performance in science subjects should be approximately equal to the over-all average. Grades lower than a C- are not acceptable.

**Transfer Students**

The three quarters (minimum of 36 hours) preceding the clinical year must be completed in residence at the Angwin campus. Curriculum planning and further information are available from the medical technology adviser.

**Clinical Curriculum**

*Florida Hospital (1 year–12 months)*

**MTCH 402**

**Blood Collection**

Techniques of capillary and venous blood collection and proper specimen handling.

**1**

**MTCH 404**

**Hematology**

The structure, function, and formation of blood cells in health and disease. Performance and significance of routine and special tests for blood and bone marrow. Pathogenesis of hematologic disease such as anemia and leukemia.

**8**

**MTCH 406**

**Immunology and Serology**

Normal immune response to infection and the hypersensitivity or deficiency seen in disease. Antigen-antibody reactions, and the performance, interpretation, and clinical significance of in-vitro tests that monitor immune functions.

**3**

**MTCH 408**

**Bacteriology**

The bacteria encountered in the clinical laboratory—both normal flora and common and unusual pathogens. Isolation and identification of bacteria, including rapid methods. Culture, antibiotic sensitivity, staining, sterilization, and disinfection. Introduction to viruses, including their isolation and identification by serological and other techniques.

**8**

**MTCH 410**

**Immuno-hematology**

Blood group antigens and antibodies and their significance in disease and to transfusion therapy. Antigen and antibody detection. Transfusion compatibility testing. Preparation and administration of component fractions from whole blood. Donor selection and screening. HLA typing for transplantation.

**8**

# Biology

## **MTCH 412** **10** **Clinical Chemistry**

Theory, methodology, and clinical significance of the most common procedures for the nitrogenous substances, enzymes, carbohydrates, lipids, electrolytes and acid-base balance, renal function, liver function, pancreatic function, endocrine function, porphyrins and hemoglobin, toxicology, body fluids such as the CSF, urine and amniotic fluid, and tumor markers. Sample collection and processing; operation/maintenance/calibration of specific instrumentation; and quality control. Principles and evaluation of new procedures.

## **MTCH 414** **3** **Urinalysis and Clinical Microscopy**

Composition and physiology of the body fluids. Examination of these fluids by macroscopic, microscopic and chemical means, and the significance of the findings to disease processes.

## **MTCH 416** **3** **Parasitology**

The host-parasite relationship between humans and the animals living in and on them. Life cycles, modes of transmission, and treatment of the infection. Techniques for concentrating, staining, and identifying the common human parasites.

## **MTCH 418** **2** **Mycology**

The fungi pathogenic to humans, with emphasis on their isolation and identification by cultural characteristics, microscopic morphology, and special tests. Lectures supplemented by Kodachromes and case studies.

## **MTCH 420** **2** **Coagulation**

Mechanisms of hemostasis and thrombosis and their relation to health and disease. Tests and assays to aid in diagnosing and treating patients.

## **MTCH 422** **1** **Administration, Management, and Computer Applications in the Clinical Laboratory**

Managing the clinical laboratory for effective delivery of service to physicians and their patients. Topics include problem solving, motivation, communication, leadership styles, interviewing and employee selection, standards and appraisal of laboratory performance, staffing and scheduling, and quality control. Special emphasis on laboratory accreditation, licensure, and regulations. Special projects explore the principles of laboratory finance. Computer use and applications, including systems analysis/design/acquisition and hands-on instruction.

## **MTCH 424** **1** **Principles of Education**

Introduction to teaching methods, including the preparation, administration, and grading of a quiz with evaluation of the results. Taught as a one-day workshop with lectures and projects.

## **MTCH 426** **3** **Project**

Research into both the theoretical and clinical aspects of a laboratory procedure. A documented, written report is presented orally to laboratory personnel as part of a series of continuing education topics.



## Faculty

*Henry Kopitzke, chair; David Bell, Rodney Hardcastle, Daniel Madrid, Keith Neergaard, Lary Taylor, Marcia Toledo, Richard Voth*

*Departmental Office: 317 Irwin Hall; 965-6238*

## Degrees and Programs

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The DEPARTMENT OF BUSINESS ADMINISTRATION AND ECONOMICS offers several programs for students majoring in business. As part of a Seventh-day Adventist college, the Department intends not only to prepare students successfully to meet the everyday challenges of a career in business, but also to prepare its graduates to give effective Christian influence in their communities. To meet these goals, the Department offers several programs of study:

The B.B.A. (Bachelor of Business Administration) is a professional degree designed for the student who intends to enter the job market upon completing the four-year program or be well prepared for graduate studies. This program offers the following emphases: Accounting, Administrative Services, Fashion Marketing, Finance, General Business, Information Systems, International Business, Management, and Marketing.

The B.S. in Business Administration is designed for those who plan to enter a postgraduate or graduate program, specifically, in medicine, law, dentistry, or business. Since most graduates of such professional programs will ultimately have their own business, this degree is for them particularly useful.

The B.S. degree in Long-Term Health Care is designed for the student who desires a career as a manager in a care facility. Demographics tell us that this career field will expand in the future.

The B.A. program in Business Administration is a traditional curriculum for those interested in taking a program that includes study of a foreign language. This major affords more flexibility than do the B.B.A. and the B.S.

The B.S. in Business Education meets the California State requirements for teaching secondary school courses in business or office management.

Finally, the Department also offers a two-year A.S. degree in Office Administration. Three emphases are available: General, Information/Word Processing, Legal, and Medical. The A.S. curriculum is structured so that a student may continue to complete the four-year B.B.A. program in Business Administration with emphasis in Administrative Services.

The preparation offered in the four-year programs (B.B.A., B.S., and B.A.) differs considerably. The first two years of the college program are similar enough, however, that in the process of choosing a field for concentration students have ample time to explore a variety of professions in consultation with departmental faculty and others. Many opportunities and avenues for service are thus available to students majoring in business.

## Major in Business Administration, B.B.A. (Bachelor of Business Administration)

➤ A minimum of 104 hours (45 upper division–35 for Administrative Services and 27 for Fashion Marketing) in the core and emphasis:

➤ Required Core Courses: (64 hours)

ACCT 121	Principles of Accounting I	3
ACCT 122	Principles of Accounting II	4
ACCT 123	Principles of Accounting III	3
ACCT 391	Accounting Systems in Small Businesses	2
BUAD 279	Business Communications/Data Presentation	3
BUAD 325	Business Law I	3
BUAD 326	Business Law II	3
BUAD 490	Seminar in Business	1
ECON 261	Principles of Economics–Macroeconomics	4
ECON 265	Principles of Economics–Microeconomics	4
FIN 341	Finance	5
MGMT 361	Management	4
MGMT 465	Organizational Behavior	3
MGMT 491	Strategic Management	3
MKTG 351	Marketing	4
MATH 106	College Algebra	4
	(or Math 131 Calculus)	
MATH 222	Introduction to Statistics	4
MATH 322	Statistical Methods	3
OFAD 111	Personal/Beginning Keyboarding	2
	<i>(This requirement may be met by completion of a course or satisfactory performance on departmental waiver examination. The waiver option is available only to students with fewer than 75 credit hours and to transfer students if taken within their first quarter at PUC.)</i>	

A minimum of 4 hours from the following: 4

INFS 144	PC Operating Systems (1)	
INFS 148	PC Spreadsheets (1)	
INFS 149	PC Databases (1)	
OFAD 301	Word Processing (2 hours maximum)	

➤ Emphases: (choose one)

### 1. Accounting Emphasis (40 hours)

ACCT 307	Government & Nonprofit Accounting	3
ACCT 311-312-313	Intermediate Accounting	3-3-3
ACCT 321	Cost Accounting I	3
ACCT 322	Cost Accounting II	3
ACCT 341	Taxation for Individuals	4

A minimum of 12 hours from the following: 12\*

ACCT 328	Accounting Information Systems (3)	
ACCT 343	Taxation for Corporations/Partnerships (4)	
ACCT 345	Estate Planning, Gifts & Trust Taxation (3)	
ACCT 451	Advanced Accounting (3)	
ACCT 453	Auditing (5)	
ACCT 461	Accounting Theory (4)	
ACCT 463	CPA Review Problems (4)	

Additional hours (3 upper division) selected from ACCT, BUAD, ECON, FIN, INFS, MGMT, and MKTG courses to total at least 104 hours in the major (core courses and emphasis).\*

### 2. Administrative Services Emphasis (26 hours)

ENGL 134	Review of English Syntax	1
MGMT 472	Human Resources Management	3
OFAD 116	Calculating Machines	1
OFAD 121	Intermediate Keyboarding	2
OFAD 221	Professional Keyboarding	3
OFAD 238	Desktop Publishing	2
OFAD 281	Office Procedures	3
OFAD 281L	Office Procedures Lab	1
OFAD 301	Word Processing	2

One of the following: 3

COMM 223	International Communication (3)	
COMM 330	Intercultural Communication (3)	

One of the following: 3

ENGL 306	Technical Writing (3)	
ENGL 405	Advanced Expository Writing (3)	

Additional hours (6 upper-division) from ACCT, BUAD, ECON, FIN, INFS, MGMT, MKTG, and OFAD courses to total at least 104 hours in the major (core courses and emphasis).\*

### 3. Fashion Marketing Emphasis (40 hours)

CLTX 327	Consumer Textiles	3
CLTX 329	Field Work in Fashion Marketing	1

A minimum of 9 hours from the following: 9

CLTX 144	Visual Presentation Techniques (3)	
CLTX 246	Historical Interiors (3)	
CLTX 385	Apparel Analysis (3)	
DSGN 145	Color and Design (3)	
FCSC 494	Professional Experience (2)	
	(Prerequisite: CLTX 321 Personal Protocol)	

\* Note: Courses used to fulfill requirements in these sections may not also fulfill requirements in another emphasis or business program.

*A minimum of 12 hours from the following:* 12

MGMT 472 Human Resources Management (3)

MGMT 481 Production Management (3)

MGMT 486 Purchasing and Inventory Control (3)

MKTG 371 Marketing Research (3)

MKTG 372 Retailing Management (3)

MKTG 460 Channels of Distribution (3)

*A minimum of 6 hours from the following:* 6

ACCT 311 Intermediate Accounting (3)

ACCT 312 Intermediate Accounting (3)

ACCT 313 Intermediate Accounting (3)

ACCT 321 Cost Accounting I (3)

ACCT 322 Cost Accounting II (3)

ACCT 341 Taxation for Individuals (4)

ACCT 343 Taxation for Corporations/Partnerships (3)

ACCT 345 Estate Planning, Gifts & Trust Taxation (3)

Additional UD hours selected from ACCT, BUAD, ECON, FIN, INFS, MGMT, or MKTG courses to total at least 104 hours in the major (core courses and emphasis).\*

**4. Finance Emphasis** (40 hours)

ACCT 311- Intermediate Accounting 3, 3, 3  
312-313

FIN 380 Capital Markets and Financial Institutions 3

FIN 444 Investments 3

FIN 463 Financial Planning/Budgeting/ Forecasting 3

FIN 488 Problems in Finance 3

MGMT 466 Business and Society 3

*A minimum of 12 hours from the following:* 12\*

BUAD 335 Real Estate (4)

BUAD 371 Insurance and Risk Management (3)

ECON 371 Money and Banking (3)

ECON 457 International Economics (3)

FIN 419 Personal Financial Planning (3)

FIN 436 Real Estate Finance (3)

FIN 457 International Finance (3)

Additional hours (3 upper division) from ACCT, BUAD, ECON, FIN, INFS, MGMT, or MKTG courses to total at least 104 hours in the major (core courses and emphasis).\*

**5. General Business Emphasis** (40 hours)

MGMT 466 Business and Society 3

A minimum of 28 hours (15 upper division) with a minimum of 6 hours in at least three of the following areas:  
ACCT, BUAD, ECON, FIN, INFS, MGMT, and MKTG. 28

*A minimum of 9 hours from the following:* 9

ACCT 311-2-3 Intermediate Accounting (3-3-3)

ACCT 321 Cost Accounting I (3)

ACCT 322 Cost Accounting II (3)

ACCT 341 Taxation for Individuals (4)

ACCT 343 Taxation for Corporations/Partnerships (4)

ACCT 345 Estate Planning, Gifts & Trust Taxation (3)

**6. Information Systems Emphasis** (40 hours)

ACCT 311-312 Intermediate Accounting 3-3

INFS 128 COBOL 3

INFS 149 PC Databases 1

INFS 150 PC Database Programming 3

INFS 465 Fundamentals of Data Communication 3

INFS 470 Management Science 4

INFS 481 Simulation 3

MGMT 328 Management Information Systems 3

MKTG 371 Marketing Research 3

*A minimum of one course from the following:* 3

ACCT 321 Cost Accounting I (3)

ACCT 328 Accounting Information Systems (3)

Additional hours (4 upper division) from ACCT, BUAD, ECON, FIN, INFS, MGMT, MKTG, and CPTR courses to total at least 104 hours in the major (core courses and emphasis).\*

► *Recommended Course:*

ACCT 313 Intermediate Accounting (3)

**7. International Business Emphasis** (40 hours)

ECON 457 International Economics 3

FIN 457 International Finance 3

MGMT 457 International Management 3

MGMT 466 Business and Society 3

MKTG 371 Marketing Research 3

MKTG 458 International Marketing 3

*A minimum of two courses from the following that complement, where possible, the foreign language:* 6-8

ANTH 124 Cultural Anthropology (4)

COMM 330 Intercultural Communication (3)

GEOG 201 World Regional Geography (3)

GEOG 325 Geography of Europe (3)

HIST 335 Europe Since 1914 (4)

HIST 364 Modern Asia (4)

HIST 358 20th Century U.S. History (4)

PLSC 344 Modern Comparative Government (3)

PLSC 364 Issues in International Relations (3)

Competence at the intermediate level in a language other than English. 0-12

This requirement may be met by one of the following options:

1. One-year sequence in college intermediate language course.
2. Study for a minimum of one quarter in a college abroad where



# Business Administration and Economics

classes are conducted in a foreign language. Successful completion of at least 12 quarter units with a grade equal to or higher than C.

3. Passing a competency test in a foreign language.
4. Graduation from a high school in a non-English-speaking country in which classes were conducted in the language of that country.

*A minimum of 9 hours from the following:* 9

ACCT 311-2-3	Intermediate Accounting (3-3-3)	
ACCT 321	Cost Accounting I (3)	
ACCT 322	Cost Accounting II (3)	
ACCT 341	Taxation for Individuals (4)	
ACCT 343	Taxation for Corporations/Partnerships (3)	
ACCT 345	Estate Planning, Gifts & Trust Taxation (3)	
ACCT 451	Advanced Accounting (3)	

Additional hours (3 upper division from the Business department) from ACCT, BUAD, FIN, ECON, INFS, MGMT, MKTG, and Modern Languages to total at least 104 hours in the major (core courses, emphasis, and modern language courses). A maximum of 9 hours may be applied from modern language courses.\*

## 8. Management Emphasis (40 hours)

MGMT 457	International Management	3
MGMT 466	Business and Society	3
MGMT 481	Production Management	3

*A minimum of 12 hours from the following:* 12\*

INFS 470	Management Science (4)	
INFS 481	Simulation (3)	
MGMT 328	Management Information Systems (3)	
MGMT 472	Human Resources Management (3)	
MGMT 473	Labor Law and Legislation (3)	
MGMT 486	Purchasing and Inventory Control (3)	

*A minimum of 9 hours from the following:* 9

ACCT 311-2-3	Intermediate Accounting (3-3-3)	
ACCT 321	Cost Accounting I (3)	
ACCT 322	Cost Accounting II (3)	
ACCT 341	Taxation for Individuals (4)	
ACCT 343	Taxation for Corporations/Partnerships (4)	
ACCT 345	Estate Planning, Gifts & Trust Taxation (3)	

Additional hours (6 upper division) selected from ACCT, BUAD, ECON, FIN, INFS, MGMT, and MKTG courses to total at least 104 hours in the major (core courses and emphasis).\*

## 9. Marketing Emphasis (40 hours)

MKTG 360	Consumer Behavior	3
MKTG 371	Marketing Research	3
MKTG 374	Advertising Management	3

MKTG 481	Marketing Problems	3
MGMT 466	Business and Society	3

*A minimum of 9 hours from the following:* 9\*

MKTG 372	Retailing Management (3)	
MKTG 377	Sales Management (3)	
MKTG 417	Service and Nonprofit Marketing (3)	
MKTG 458	International Marketing (3)	
MKTG 460	Channels of Distribution (3)	

*A minimum of 6 hours from the following:* 6

ACCT 311-2-3	Intermediate Accounting (3-3-3)	
ACCT 321	Cost Accounting I (3)	
ACCT 322	Cost Accounting II (3)	
ACCT 341	Taxation for Individuals (4)	
ACCT 343	Taxation for Corporations/Partnerships (3)	
ACCT 345	Estate Planning, Gifts & Trust Taxation (3)	

Additional hours (4 upper division) from ACCT, BUAD, ECON, FIN, INFS, MGMT, and MKTG courses to total at least 104 hours in the major (core courses and emphasis).\*

► *Recommended supporting courses for all B.B.A. emphases* (unless a higher-level course is required by an emphasis):

BUAD 118	Personal Money Management (3)	
BUAD 223	Personal Law (2)	
OFAD 116	Calculating Machines (1)	
OFAD 121	Intermediate Keyboarding (2)	

► *General-Education Requirements:* The general-education requirements for the B.B.A. are the same as for the B.S. degree except for the changes described in this paragraph. II-B (Philosophy) is not required. In III, take III-A (Great Books) and choose either III-B (Visual Arts) or III-C (Music). The introductory science requirements in life science, chemistry, and physics (IV-A-2, 3, 4) may be satisfied by one secondary school year-long course in life science and one secondary school year-long course in either chemistry or physics. IV-B (Scientific Inquiry) is not required. All B.B.A. students take IV-C (a 4-hour laboratory science course). IV-D (Science, Technology, and Culture) is satisfied by the major.

## Major in Long-Term Health Care, B.S.

► *A minimum of 80 hours (35 upper division) including the following:*

ACCT 121	Principles of Accounting I	3
ACCT 122	Principles of Accounting II	4
ACCT 123	Principles of Accounting III	3
BUAD 325	Business Law I	3

\* *Note: Courses used to fulfill requirements in these sections may not also fulfill requirements in another emphasis or business program.*

ECON 261	Principles of Economics–Macro	4
ECON 265	Principles of Economics–Micro	4
FIN 341	Finance	5
MGMT 361	Management	4
MGMT 465	Organizational Behavior	3
MKTG 351	Marketing	4
LTHC 431	Introduction to Long-Term Care	5
LTHC 432	Long-Term Care Administration	5
LTHC 461	Long-Term Care Financial Management	5
LTHC 484	Long-Term Care Internship	7-7-7
MATH 106	College Algebra (or MATH 131 Calculus)	4
INFS 148	PC Spreadsheets	1
INFS 149	PC Databases	1
OFAD 301	Word Processing	2

Students who hold a bachelor’s degree in Business Administration from an accredited college or university and who have completed all of the other course requirements for the bachelor’s degree in Long-Term Health Care, including six hours of approved courses in religion, may earn a Bachelor of Science in Long-Term Health Care (B.S.) by completing the following 36-hour course of study. The first three courses are offered during the summer; the internship requires 1,000 clock hours of supervised work experience following the summer session.

LTHC 421	Introduction to Long-Term Care	5
LTHC 432	Long-Term Care Administration	5
LTHC 461	Long-Term Care Financial Management	5
LTHC 484	Long-Term Care Internship	21

Those who successfully complete the above four courses but who are not degree candidates receive a Certificate in Long-Term Health Care.

**Major in Business Administration, B.A.**

➤ *A minimum of 67 hours (24 upper division) including the following:*

ACCT 121	Principles of Accounting I	3
ACCT 122	Principles of Accounting II	4
ACCT 123	Principles of Accounting III	3
ACCT 391	Accounting Systems in Small Business	2
BUAD 279	Business Communication/Data Presentation	3
BUAD 325	Business Law I	3
BUAD 326	Business Law II	3
BUAD 490	Seminar in Business I	1
ECON 261	Principles of Economics–Macroeconomics	4
ECON 265	Principles of Economics–Microeconomics	4
FIN 341	Finance	5
MGMT 361	Management	4
MGMT 465	Organizational Behavior	3

MGMT 491	Strategic Management	3
MKTG 351	Marketing	4
MATH 106	College Algebra (or MATH 131 Calculus)	4
MATH 222	Introduction to Statistics	4
MATH 322	Statistical Methods	3
OFAD 111	Personal/Beginning Keyboarding	0-2

*(This requirement may be met by completion of course or satisfactory performance on departmental waiver examination. The waiver option is available only to students with fewer than 75 credit hours or to transfer students if taken within their first quarter at PUC.)*

*A minimum of 3 hours in Accounting from these courses:* 3\*

ACCT 307	Government & Nonprofit Accounting (3)
ACCT 311	Intermediate Accounting (3)
ACCT 321	Cost Accounting I (3)
ACCT 341	Taxation for Individuals (4)

*A minimum of 4 hours from the following:* 4

INFS 144	PC Operating Systems (1)
INFS 148	PC Spreadsheets (1)
INFS 149	PC Databases (1)
OFAD 301	Word Processing (2 hours maximum)

➤ *Recommended supporting courses:*

BUAD 118	Personal Money Management (3)
BUAD 223	Personal Law (2)
OFAD 116	Calculating Machines (1)
OFAD 121	Intermediate Keyboarding (2)

**Major in Business Administration, B.S.**

➤ *A minimum of 74 hours (34 upper division) including the following:*

➤ *Required Core Courses:*

ACCT 121	Principles of Accounting I	3
ACCT 122	Principles of Accounting II	4
ACCT 123	Principles of Accounting III	3
ACCT 391	Acct. Systems in Small Businesses	2
BUAD 325	Business Law I	3
BUAD 326	Business Law II	3
BUAD 490	Seminar in Business	1
ECON 261	Principles of Economics–Macroeconomics	4
ECON 265	Principles of Economics–Microeconomics	4
FIN 341	Finance	5
MGMT 361	Management	4
MGMT 465	Organizational Behavior	3
MGMT 491	Strategic Management	3
MKTG 351	Marketing	4

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MATH 131**	Calculus**	4
MATH 222	Introduction to Statistics	4
MATH 322	Statistical Methods	3
OFAD 111	Personal/Beginning Keyboarding	(0-2)

*(This requirement may be met by completion of course or satisfactory performance on departmental waiver examination. The waiver option is available only to students with fewer than 75 credit hours or to transfer students if taken within their first quarter at PUC.)*

*A minimum of one course from the following:* 3-4

BUAD 345	Real Estate (4)
FIN 419	Personal Financial Planning (3)
FIN 444	Investments (3)
INFS 470	Management Science (4)
MGMT 457	International Management (4)
MKTG 417	Service and Nonprofit Marketing (3)
MKTG 458	International Marketing (4)

*A minimum of 6 hours from the following:* 6

ACCT 311-2-3	Intermediate Accounting (3-3-3)
ACCT 321	Cost Accounting I (3)
ACCT 322	Cost Accounting II (3)
ACCT 341	Taxation for Individuals (4)
ACCT 343	Taxation for Corporations/Partnerships (4)
ACCT 345	Estate Planning, Gifts & Trust Taxation (3)

*A minimum of 4 hours from the following:* 4

INFS 144	PC Operating Systems (1)
INFS 148	PC Spreadsheets (1)
INFS 149	PC Databases (1)
OFAD 301	Word Processing (2 hours maximum)

Additional hours selected from ACCT, BUAD, ECON, FIN, INFS, MGMT, and MKTG courses to total at least 74 hours in the major.

### ► Recommended Supporting Courses:

BUAD 114	Introduction to Business (2)
BUAD 118	Personal Money Management (3)

*\*\*Note: Students completing six additional hours from the following may substitute MATH 106 College Algebra for MATH 131 Calculus:*

ENGL 306	Technical Writing (3)
ENGL 405	Advanced Expository Writing (3)
COMM 327	Argumentation (3)
COMM 328	Small Group Communication (3)
PLSC 444	Constitutional Development of England (4)
SOCI 232	American Social Problems (4)
PSYC 368	Principles of Counseling (4)

BUAD 223	Personal Law (2)
OFAD 116	Calculating Machines (1)
OFAD 121	Intermediate Keyboarding (2)

## Major in Business Education, B.S.

► A minimum of 90 hours (23 upper division) in the core courses and selected emphasis.

► Required Core Courses: (71 hours)

ACCT 121	Principles of Accounting I	3
ACCT 122	Principles of Accounting II	4
ACCT 123	Principles of Accounting III	3
ACCT 391	Accounting Systems in Small Businesses	2
BUAD 118	Personal Money Management	3
BUAD 279	Business Communication/Data Presentation	3
BUAD 325	Business Law I	3
BUAD 326	Business Law II	3
ECON 261	Principles of Economics–Macroeconomics	4
ECON 265	Principles of Economics–Microeconomics	4
FIN 341	Finance	5
INFS 144	PC Operating Systems	1
INFS 148	PC Spreadsheets	1
INFS 149	PC Databases	1
MGMT 361	Management	4
MGMT 465	Organizational Behavior	3
MGMT 491	Strategic Management	3
MKTG 351	Marketing	4
MATH 106	College Algebra	4
MATH 222	Introduction to Statistics	4
MATH 322	Statistical Methods	3
OFAD 111	Personal/Beginning Keyboarding	2

*(This requirement may be met by completion of a course or satisfactory performance on departmental waiver examination. The waiver option is available only to students with fewer than 75 credit hours or to transfer students if taken within their first quarter at PUC.)*

OFAD 116	Calculating Machines	1
OFAD 121	Intermediate Keyboarding	2
OFAD 221	Professional Keyboarding	3
OFAD 238	Desktop Publishing	2
OFAD 281	Office Procedures	3
OFAD 281L	Office Procedures Lab	1
OFAD 301	Word Processing (two courses)	4

*A minimum of 8 hours from the following courses:* 6\*

BUAD 335	Real Estate (4)	
BUAD 371	Insurance and Risk Management (3)	
FIN 444	Investments (3)	
MGMT 472	Human Resources Management (3)	
MGMT 473	Labor Law and Legislation (3)	

Additional upper-division hours from OFAD, ACCT, BUAD, ECON, FIN, INFS, MGMT, and MKTG to total at least 90 hours in the major (core courses and emphasis).\*

**Teaching Credential**

A B.S. in Business Education with an emphasis in either Business Administration or Office Administration is required for a teaching credential. Students who plan to teach at the secondary level should consult the Credential Analyst in the Department of Education and should become acquainted with specific requirements that are outlined in the Education section of this CATALOG.

**Associate Degree in Office Administration, A.S.**

➤ *A minimum of 90 quarter hours, including the major, cognate, and general-education requirements. A total of 56 hours in the core courses and selected emphasis plus required cognates. Four emphases are available.*

➤ *Required Core Courses:* (38 hours)

ACCT 121	Principles of Accounting I	3
ACCT 114	Small Business Accounting	3
BUAD 279	Business Communication & Data Presentation	3
CLTX 321	Personal Protocol	2
ECON 261	Principles of Economics–Macroeconomics	4
ENGL 134	Review of English Syntax	1
INFS 144	PC Operating Systems	1
INFS 145	PC Database	1
INFS 148	PC Spreadsheets	1
MGMT 261	Introduction to Management	3
OFAD 116	Calculating Machines	1
OFAD 121	Intermediate Keyboarding	2
OFAD 221	Professional Keyboarding	3
OFAD 238	Desktop Publishing	2
OFAD 281	Office Procedures	3
OFAD 281L	Office Procedures Lab	1
OFAD 301	Word Processing (two courses)	4

➤ *Emphases:* (choose one)

**1. General**

Courses selected from OFAD, ACCT, BUAD, ECON, FIN, INFS, MGMT, and MKTG to total at least 56 hours in the major (core courses and emphasis).\*

**2. Legal Emphasis**

BUAD 223	Personal Law	2
OFAD 263	Professional Transcription	2
OFAD 263L	Professional Transcription Lab	1
OFAD 281L	Office Procedures Lab	1

*A minimum of 5 hours from the following:* 5\*

ACCT 241	Personal Income Tax Preparation (2)
FIN 241	Introduction to Finance (3)
MGMT 160	Small Business Management (3)

Courses selected from OFAD, ACCT, BUAD, ECON, FIN, INFS, and MGMT to total at least 56 hours in the major (core and emphasis).\*

**3. Medical Emphasis**

BIOL 101	Human Anatomy (or BIOL 102 Human Physiology)	4-5
BIOL 223	Introduction to Medical Terms	1
OFAD 263	Professional Transcription	2
OFAD 263L	Professional Transcription Lab	1
PETH 168	A.R.C. First Aid and Personal Safety	3

Courses selected from OFAD, ACCT, BUAD, ECON, FIN, INFS, and MGMT to total at least 56 hours in the major (core and emphasis).\*

➤ *Required Cognate Course:*

Courses used to fulfill these cognate requirements may not also be used to fulfill a major requirement.

MATH 019	Introductory Algebra	0-3
	(or ACT standard score in Mathematics of 20, or adequate score on PUC Math Waiver Test)	

➤ *General-Education Requirements:*

General-education requirements for the A.S. degree are as listed in the General Studies section of this CATALOG, excluding ENGL 100. ENGL 101 (or 105) College English, COMM 105 Speech Communication, and PSYC 121 General Psychology are required for this A.S. degree and fulfill applicable general-education requirements.

\* *Note: Courses used to fulfill requirements in these sections may not also be used to fulfill requirements in another emphasis or business program.*

## Minor in Business Administration

► A minimum of 30 hours (9 upper division) from ACCT, BUAD, ECON, FIN, INFS, MGMT, MKTG including the following:

ACCT 121	Principles of Accounting I	3
ACCT 122	Principles of Accounting II	4
ACCT 123	Principles of Accounting III	3
ECON 261	Principles of Economics–Macroeconomics	4
ECON 265	Principles of Economics–Microeconomics	4

## Minor in Office Administration

► A minimum of 30 hours (6 in OFAD upper division) including the following:

OFAD 116	Calculating Machines	1
OFAD 121	Intermediate Keyboarding	2
BUAD 279	Business Communications and Data Presentation	3
OFAD 281	Office Procedures	3
OFAD 281L	Office Procedures Lab	1
OFAD 301	Word Processing (two courses)	4

## Accounting

LOWER-DIVISION COURSES:

### ACCT 111 4 S Clerical Accounting

Accounting systems found in professional offices, merchandising firms, and service organizations. Not applicable toward a baccalaureate major or minor in the department. Credit may not be earned in both ACCT 111 and 121.

### ACCT 114 3 A Small Business Accounting

The accounting procedures and practices necessary for efficient and effective small business operation. Not applicable toward a baccalaureate major in the department. Credit may not be earned in both ACCT 114 and ACCT 391.

### ACCT 121 3 A, W, S Principles of Accounting I

Accounting practices and procedures needed in various types of ownership entities for financial reporting. Assumes no prior accounting knowledge. Credit may not be earned in both ACCT 111 and 121.

### ACCT 122 4 W, S Principles of Accounting II

A continuation of ACCT 121 with particular emphasis on the partnership and on the corporate form of organization; income statement and balance sheet analysis. Three lectures and a three-hour computer laboratory weekly. Prerequisite: ACCT 111 or 121.

### ACCT 123 3 S Principles of Accounting III

Use of accounting data for managerial planning, control, and decision-making. Particular emphasis on entities which produce a product. Prerequisite: ACCT 111 or 121.

### ACCT 241 2 W Personal Income Tax Preparation

Designed for the nonbusiness major. Preparing and keeping records for federal and state income-tax purposes; itemized deductions, self-employment taxes, moving expenses, capital gains, sale of personal residence. Not applicable toward a baccalaureate major or minor in the department.

UPPER-DIVISION COURSES:

### ACCT 307 3 S Government and Nonprofit Accounting

Accounting principles and practices unique to state and local units, educational, health care, charity, religious, and other not-for-profit organizations. Financial reporting and record keeping. Prerequisite: ACCT 121, 122.

### ACCT 311-312-313 3-3-3 A-W-S Intermediate Accounting

Accounting theory and practice relating to the valuation and presentation of assets, liabilities, net worth, revenue, and expense accounts. Prerequisites: ACCT 121, 122.

### ACCT 321 3 A Cost Accounting I

Analysis of accounting cost data for management planning, control, and decision-making. Cost behavior concepts, variable and relevant costing, inventory planning and control, budgeting, performance measurement and evaluation, transfer pricing, capital budgeting, and quality control. Prerequisites: ACCT 121, 122, 123; MATH 222, 322.

**ACCT 322 3 W**  
**Cost Accounting II**

Theories and practices of cost accumulation and analysis for management planning and control. Job order and process costing, activity-based cost systems, indirect-cost allocation, standard costs, variance analysis, direct vs. full costing, joint and by-product, and quality issues. Prerequisite: ACCT 121, 122, 123.

**ACCT 328 3 A**  
**Accounting Information Systems**

Analysis, design, and installation of business and accounting systems: illustrations and discussion of methods and procedures used; development of general principles involved in business system formation, testing, and operations. Prerequisites: ACCT 121, 122 and completion of the Business department computer requirements.

**ACCT 341 4 W**  
**Taxation for Individuals**

Federal income taxation and tax planning for individuals. Course is designed for non majors as well as for business majors and minors.

**ACCT 343 4 S**  
**Taxation for Corporations and Partnerships**

Federal taxation and tax planning in relationship to corporations and partnerships. Even years.

**ACCT 345 3 A**  
**Estate Planning, Gifts and Trust Taxation**

Federal taxation and tax planning for gifts, estates, and trusts.

**ACCT 391 2 S**  
**Accounting Systems in Small Businesses**

Setting up and maintaining accounting records for a variety of unincorporated

businesses. Practice sets illustrate single-entry, double-entry, cash-basis, and hybrid cash-accrual-basis accounting systems; periodic financial statements, payroll, sales, and income-tax returns. Prerequisites: ACCT 121, 122.

**ACCT 451 3 S**  
**Advanced Accounting**

Specialized topics including partnerships, branches, consolidated statements, segment reporting. Recommended prior courses: ACCT 311-312.

**ACCT 453 5 W**  
**Auditing**

Study of the internal independent auditor's functions; pronouncements of the American Institute of Certified Public Accountants. Prerequisites: ACCT 311-312-313; MATH 222, 322.

**ACCT 461 4 A**  
**Accounting Theory**

Survey of contemporary financial accounting theory. Emphasis on both current literature and official pronouncements. Prerequisites: ACCT 311-312-313, 451.

**ACCT 463 4 W**  
**CPA Review Problems**

Review of selected areas of financial and managerial accounting in preparation for the Uniform CPA Examination. Prerequisites: ACCT 215, 217, 311-312-313, 321, 322, 341, 343, 451, 453 (or concurrent enrollment in ACCT 453).

**ACCT 495 1-3 A, W, S**  
**Independent Study**

A course designed for students qualified to undertake an advanced and independent project. (*Advanced* is to be understood as being beyond specific courses offered in the department.) The project must be approved by the chair of the department. Maximum of three hours.

**Business Administration**

LOWER-DIVISION COURSES:

**BUAD 118 3 S**  
**Personal Money Management**

Financial decisions facing individuals in society, including installment buying and borrowing, insurance, home ownership, saving, budgeting expenditures, investments, and trusts. Not available to business majors for business credit during the junior or senior year.

**BUAD 223 2 W**  
**Personal Law**

Topics include dealing with an attorney, the court systems, crimes, torts, minors and the law, consumer law, landlord/tenant relationships, the legal responsibilities of owning a motor vehicle, employment relationships, and planning an estate. Not available to business majors for business credit during the junior or senior year.

**BUAD 279 3 S**  
**Business Communication and Data Presentation**

Integrates preparation of charts, graphs, font selection, and computer presentation software with techniques of communicating in speech and writing. Emphasis on effective presentation of documents.

UPPER-DIVISION COURSES:

**BUAD 325 3 A**  
**Business Law I**

A study of the legal system, with emphasis on common-law contracts, sales under Article II of the Uniform Commercial Code, secured transactions, personal property, and bailments.

# Business Administration and Economics

## **BUAD 326** **3 W** **Business Law II**

The legal system in the United States, emphasizing agency relationships, partnerships, corporations, commercial paper under Articles III and IV of the Uniform Commercial Code.

## **BUAD 327** **3 S** **Business Law III**

A review of business law as it relates to the Certified Public Accountant examination. Prerequisites: BUAD 325, 326, and senior class status.

## **BUAD 335** **4 S** **Real Estate**

An introduction to the various aspects of real-estate principles, practices, and ownership. Preparation for the California licensing examination. Designed for the general student.

## **BUAD 371** **3 S** **Insurance and Risk Management**

Recognition and evaluation of property, liability, and personal insurable risks facing a business firm, family, or other economic unit. Basic tools of risk management, loss prevention; selecting and dealing with an insurer; fire, marine, casualty, liability, life, and health insurance. Odd years.

## **BUAD 490** **1 A** **Seminar in Business**

Preparing to meet the demands of the job market: résumé development, interviewing approaches, cover letters. Should be taken during the student's last autumn quarter at PUC before graduation.

## **BUAD 491** **0-2** **Cooperative Education in Business**

An individualized contract agreement involving student, faculty, and employer to provide practical experience in business in a professional off-campus setting.

Limited to upper division majors in business. Prerequisite: Approval of the department chair. Graded S/F.

## **BUAD 493** **1-3 A, W, S** **Special Topics**

An enrichment course treating specific topics not normally covered in the department's Accounting, Business Administration, Economics, Finance, Information Systems, Management, Marketing, and Office Administration courses. A specific title is given to the course when it is taught.

## **BUAD 495** **1-3 A, W, S** **Independent Study**

Designed for students who are qualified to undertake an advanced and independent project. (*Advanced* is understood as being beyond specific courses offered in the department.) The project must be approved by the chairman of the department. Maximum of three hours.

## **Economics**

### LOWER-DIVISION COURSES:

## **ECON 261** **4 A, W** **Principles of Economics-** **Macroeconomics**

An analysis of the structure and functioning of the economy in the United States. Concepts and tools of economics are used to study how decisions of individuals, businesses, and governments relate to growth, income, employment, and inflation.

## **ECON 265** **4 W, S** **Principles of Economics-** **Microeconomics**

An economic analysis of the workings of the market system in the United States. The factors that determine prices, costs, elasticity, utility, demand, supply, and the factors of production (land, labor, capi-

tal) when monopoly and pure competition exist and when conditions between these two models of competition exist.

### UPPER-DIVISION COURSES:

## **ECON 321** **3 W** **Managerial Economics**

Uses of primarily micro-economic theory in managerial decision-making. Prerequisite: ECON 265. Odd years.

## **ECON 332** **3 S** **Government and Business**

Government policies, regulations, and legislation that attempt to maintain competition in the economy and that affect the decisions and the operations of business organizations. Even years.

## **ECON 371** **3 S** **Money and Banking**

Money and the way it affects and is affected by central and commercial banking. Emphasis on the monetary policy of the Federal Reserve System. Prerequisite: ECON 261. Odd years.

## **ECON 457** **3 S** **International Economics**

Theory and principles of international trade and monetary and fiscal policies. Topics include comparative advantage, standard theory, H-O theory, imperfect competition, tariff and nontariff barriers, protectionism, and economic integration. Prerequisites: ECON 261, 265 or permission of instructor. Odd years.

## **ECON 495** **1-3 A, W, S** **Independent Study**

Designed for students who are qualified to undertake an advanced and independent project. (*Advanced* is understood as being beyond specific courses offered in the department.) The project must be approved by the chair of the department. Maximum of three hours.

**Finance**

LOWER-DIVISION COURSE

**FIN 241** **3 W**  
**Introduction to Finance**

Designed for the nonbusiness major who may serve where managerial use of accounting/financial data is necessary. Principles of managing and controlling the finances of different types of institutions. Not applicable toward a baccalaureate major or minor in the department.

UPPER-DIVISION COURSES:

**FIN 341** **5 A**  
**Finance**

Financial policies of corporations in the management of assets, liabilities, and owners' equity. Major topics include risk and return, time value of money, present value, capital budgeting, cost of capital, valuation, leverage, long-term financing, and working capital management. Prerequisites: ACCT 121, 122, 123; ECON 261, 265; INFS 148; MATH 222, 322.

**FIN 380** **3 A**  
**Capital Markets and Financial Institutions**

Evolution, structure, role, regulation and deregulation of financial institutions in the U.S. economy. Prerequisites: ECON 261, 265; FIN 341. Even years.

**FIN 419** **3 S**  
**Personal Financial Planning**

Introduction to the field of personal financial planning and its role in the financial services industry. Emphasis on developing, implementing, and monitoring personal financial plans. Credit may not be earned in BUAD 118 after FIN 419 is taken. Prerequisites: ACCT 341 and FIN 341, or permission of the instructor. Odd years.

**FIN 436** **3 S**  
**Real Estate Finance**

Principles and methods of investing and financing in real estate. Sources of funds, qualifications of investors, property analysis, and settlement procedures. Prerequisites: BUAD 335, ECON 261 or permission of instructor. Even years.

**FIN 444** **3 W**  
**Investments**

Investment alternatives and the development of rational objectives and investment philosophies. Topics include risks, returns, evaluation concepts, technical approaches, portfolio development, the efficient market hypothesis, and decisions relating to different types of investments. Recommended prior courses: ECON 261, FIN 241 or 341. Even years.

**FIN 457** **3 W**  
**International Finance**

Financial management in the international environment. Includes coverage of the IMS, foreign exchange, futures and options markets, managing exposure, banking, direct foreign investment, political risk, import/export operations, and working capital management. Prerequisite: FIN 341 or permission of instructor. Odd years.

**FIN 463** **3 S**  
**Financial Planning and Forecasting**

Planning and forecasting in financial management for business, government, and nonprofit organizations. Construction, analysis, and interpretation of financial plans. Prerequisite: FIN 341 or permission of instructor. Even years.

**FIN 488** **3 W**  
**Problems in Finance**

Study and discussion of selected topics in finance through readings and case studies. Topics include working capital management, capital budgeting, financing

decisions, dividend policy, cost of capital, and capital structure decisions. Prerequisite: FIN 341. Even years.

**FIN 495** **1-3 A, W, S**  
**Independent Study**

Designed for students qualified to undertake an advanced and independent project. (*Advanced* is understood as being beyond specific courses offered in the department.) The project must be approved by the chair of the department. Maximum of three hours.

**Information Systems**

LOWER-DIVISION COURSES:

**INFS 128** **3 W**  
**COBOL**

Data processing using COBOL, stressing business applications. A significant portion of the course involves programming projects illustrating ideas presented in the lectures. Odd years.

**INFS 144** **1 A, W, S**  
**PC Operating Systems**

An introduction to the operating systems for PCs using MS-DOS and Microsoft Windows. System commands, terminology, printer operation, basic Novell network commands, and other routine computer work functions.

**INFS 148** **1 A, W, S**  
**PC Spreadsheets**

Class/laboratory instruction in Lotus 1-2-3 software for microcomputers, combining an electronic spreadsheet with graphics and a database system. Installing, creating, and modifying worksheets, graphs and macros.



# Business Administration and Economics

## **INFS 149** **1 A, W, S** **PC Databases**

Class/laboratory instruction in Microsoft Access database management software for microcomputers. Topics include creating, maintaining, modifying and querying a database, and generating reports and labels.

## **INFS 150** **3 S** **PC Database Programming**

Programming with PC database software, including input and output operations, branching and loops, modular programming, multiple file handling, and integrated database systems. Prerequisite: INFS 149 or permission of instructor. Even years.

UPPER-DIVISION COURSES:

## **CPTR 426** **3 S** **Software Engineering** (See Computer Science.)

## **INFS 465** **3 S** **Fundamentals of Data Communication**

Various methods of data communication: networking, telephony, communications hardware and software.

## **INFS 470** **4 A** **Management Science**

Formal modeling approaches in managerial decision-making. Topics include linear programming, integer programming, decision-making under uncertainty, utility theory, queuing theory, Markov processes, network diagrams, and inventory models. Prerequisites: MATH 106 or 131. Even years.

## **INFS 481** **3 W** **Simulation**

The methodology of simulating management problems and analyzing the alternative actions. The design, valida-

tion, operating procedures, and results of simulation experiments. Prerequisites: MATH 106 or 131; MATH 222 and 322 or 331; INFS 148. Odd years.

## **Long-Term Health Care**

UPPER-DIVISION COURSES:

## **LTHC 431** **5 Su** **Introduction to Long-Term Care**

The history of long-term health-care and an overview of the subject matter in relation to the demographics of a changing population.

## **LTHC 432** **5 Su** **Long-Term Care Administration**

Introduction to management methods in long-term health-care facilities. Includes review of licensing requirements, insurance, organizational behavior, and law.

## **LTHC 461** **5 Su** **Long-Term Care Financial Management**

A review of financial method used for decision-making in long-term care.

## **LTHC 484** **7 A, W, S** **Long-Term Care Internship**

An internship program in the operation of a long-term health-care facility. Minimum of 1,000 clock hours work experience. Placements are normally within 550 miles of Pacific Union College (placements beyond that radius require additional fees). Includes at least three site visits by the course adviser during the internship. Repeatable to a total of 21 hours.

## **Management**

LOWER-DIVISION COURSES:

## **MGMT 160** **3 W** **Small Business Management**

Managerial considerations in owning and operating a small business. Not applicable toward a baccalaureate major or minor in the department.

## **MGMT 261** **3 S** **Introduction to Management**

Introduction to management in profit and nonprofit institutions. Emphasis on the role of the manager. Not applicable toward a baccalaureate major or minor in the department.

UPPER-DIVISION COURSES:

## **MGMT 328** **3 A** **Management Information Systems**

Basic concepts of using information systems in organizations; the role of data processing; fundamental design considerations. Odd years.

## **MGMT 361** **4 W, S** **Management**

The basic concepts and theory of management with particular emphasis on planning, organizing, staffing, leading, and controlling.

## **MGMT 457** **3 W** **International Management**

An analysis of problems encountered in operating businesses across national boundaries. Odd years.

## **MGMT 465** **3 W** **Organizational Behavior**

Emphasis on the human aspects in organizations, including motivation, power, job enrichment, interpersonal and intergroup processes and relationships,

perception, leadership, and organizational change and design.

**MGMT 466 3 A**  
**Business and Society**

The environmental setting of business and its interdependence with other elements of the social order. An assessment of business involvement in urban, community, consumer, and environmental affairs.

**MGMT 472 3 A**  
**Human Resources Management**

Contemporary objectives and problems relating to personnel management in organizations. Recruitment, selection, performance appraisal, training and development, supervision, compensation, pensions, grievances, and disciplinary actions. Odd years.

**MGMT 473 3 A**  
**Labor Law and Legislation**

History and development of labor legislation, including analysis of leading court decisions. Historical background of labor management relations, unfair labor practices of management and unions, collective bargaining, strikes and lock-outs, the National Labor Relations Board, and labor legislation. Even years.

**MGMT 481 3 S**  
**Production Management**

Optimal approaches to the production of goods and services. Planning, scheduling, plant layout, production standards, quality, and cost controls. Even years.

**MGMT 486 3 W**  
**Purchasing and Inventory Control**

Practices, problems and approaches related to purchasing in profit and non-profit institutions. Sources of supply, market information, product specifications, inspection, control records, legal aspects of purchasing, and the interrela-

tionships among purchasing, prices, quality control, and inventory control. Even years.

**MGMT 491 3 S**  
**Strategic Management**

A capstone course integrating various functional areas of business and applying this knowledge to a study of business and institutional problems primarily through the case method. Should be taken during the senior year. Prerequisites: ACCT 121, 122, 123; ECON 261, 265; FIN 341; INFS 148; MATH 222, 322; MGMT 361; MKTG 351.

**MGMT 495 1-3 A, W, S**  
**Independent Study**

Designed for students qualified to undertake an advanced and independent project. (*Advanced* is understood as being beyond specific courses offered in the department.) Required: project approval by the department chair. Maximum of three hours.

**Marketing**

UPPER-DIVISION COURSES:

**MKTG 351 4 A-S**  
**Marketing**

Marketing institutions and marketing decisions in relationship to the achievement of institutional goals. Management issues relating to product, price, promotion, and distribution; effects of marketing decisions on the environment and of the environment on marketing decisions.

**MKTG 360 3 S**  
**Consumer Behavior**

The application of research findings and concepts from such academic disciplines as psychology, anthropology, sociology, economics, and marketing to consumer buying behavior. Even years.

**MKTG 371 3 S**  
**Marketing Research**

Introduction to basic research concepts and techniques useful for determining information needs, conducting research, and making appropriate reports of research findings. Prerequisites: MATH 106, 222, 322. Odd years.

**MKTG 372 3 S**  
**Retailing Management**

The structure and environment in which retailing management occurs. Areas of special emphasis include operations of stores, merchandise decisions, layout, pricing, and promotion decisions. Even years.

**MKTG 374 3 A**  
**Advertising Management**

The advertising function in profit and nonprofit enterprises from management's point of view. The purpose of advertising, media planning, budgeting for advertising, and an evaluation of the effectiveness of advertising. Odd years.

**MKTG 377 3 W**  
**Sales Management**

The role of the sales manager in planning, organizing, developing, directing, controlling, and evaluating the sales force. Personal selling is also emphasized. Odd years.

**MKTG 417 3 A**  
**Service and Nonprofit Marketing**

Application of marketing concepts and principles in service and nonprofit institutions. Identification and study of various constraints, clients, and publics; the special requirements, needs, and desires of those associated with and affected by the organization. Prerequisite: MKTG 351. Odd years.

## **MKTG 458** **3 W** **International Marketing**

Problems and perspectives when marketing across national boundaries. Differences caused by cultural, social, institutional, political, and economic factors. Managerial emphasis on market entry strategies, monitoring and controlling marketing management functions in the international arena. Prerequisite: MKTG 351. Even years.

## **MKTG 460** **3 A** **Channels of Distribution**

The distribution function in marketing goods and services (manufacturer to wholesalers to retailers to end users). Emphasis on intensity of distribution, channel design, power, conflict, and member cooperation. Even years.

## **MKTG 481** **3 W** **Marketing Problems**

Selected areas in marketing, illustrating practical solutions to situations likely to confront marketing managers. Emphasis on developing an understanding of marketing problems and developing approaches to effective decision-making in marketing. Should be taken during the senior year. Prerequisite: MKTG 351.

## **MKTG 495** **1-3 A, W, S** **Independent Study**

Designed for students who are qualified to undertake an advanced and independent project. (*Advanced* is understood as being beyond specific courses offered in the department.) The project must be approved by the chair of the department. Maximum of three hours.

## **Office Administration**

LOWER-DIVISION COURSES:

### **OFAD 111** **2 A, W, S** **Personal/Beginning Keyboarding**

For beginners and reviewers. For those with little or no keyboarding skill, covers touch-typing on the keyboard and document processing. For reviewers, emphasis on development of speed in both straight-copy and production work. Placement by waiver examination or first-week testing in class.

### **OFAD 116** **1 A, W, S** **Calculating Machines**

Instruction and practice in improving speed and accuracy in the use of electronic display and printing calculators for business applications.

### **OFAD 121** **2 W** **Intermediate Keyboarding**

Designed to develop and enhance the typewriting skills of speed, accuracy and proofreading for personal and vocational uses. Prerequisite: Keyboarding placement test with a speed of at least forty words per minute or OFAD 111.

### **OFAD 221** **3 S** **Professional Keyboarding**

Advanced keyboarding for improving speed, judgment, accuracy, decision-making skills, and establishing priorities in a variety of situations. Prerequisite: OFAD 121. Even years.

### **OFAD 238** **2 W** **Desktop Publishing**

Applications in desktop publishing using personal computers to learn text import, page layout, graphics import and manipulation, and printing techniques.

## **OFAD 263** **2 W** **Professional Transcription**

Transcription from a transcription unit to produce documents for the legal and medical professions. Corequisite: OFAD 265L or 267L. Prerequisites: OFAD 121.

### **OFAD 263L** **1 S** **Professional Transcription Lab**

Transcription of dictation with emphasis on vocabulary and format. Labs are integrated with student's emphasis (Legal or Medical). Lab activities are also coordinated with OFAD 263, in which prior or concurrent registration is required. Prerequisites: OFAD 121. Even years.

### **OFAD 281** **3 S** **Office Procedures**

Training in typical office procedures such as mailing processes, records management, telecommunications, travel and conference arrangements, copy preparation and processing, arranging and reporting meetings, working with application forms; personal qualifications of office workers; office ethics. Corequisite: OFAD 281L. Odd years.

### **OFAD 281L** **1 S** **Office Procedures Lab**

Procedures for offices (medical, executive or legal, depending on the student's emphasis). Lab activities are coordinated with OFAD 281, in which prior or concurrent registration is required. Odd years.

UPPER-DIVISION COURSES:

### **OFAD 301** **2 A, W, S** **Word Processing**

Applications designed to increase knowledge of word processing concepts and working skills with specified word-processing software programs. One lecture and one laboratory weekly. May be repeated for credit under separate subtitles. Current subtitles include *WordPerfect* and *Microsoft Word*.

**OFAD 387 3 W**  
**CPS Review**

Study of selected areas in preparation for the Certified Professional Secretary examination. Office technology, administration, communication, accounting, human relations, business law, economics, and management. Odd years or on sufficient demand.

**OFAD 493 1-3 A, W, S**  
**Special Topics in Office Administration**

An enrichment course in selected topics not normally included in Office Administration offerings. (A specific title is given the course when it is taught.)

**OFAD 495 1-3 A, W, S**  
**Independent Study**

Designed for students qualified to undertake an advanced and independent project. (*Advanced* is understood as being beyond specific departmental courses.) Projects must be approved by the department chair. Maximum of three hours.

**Degree-Completion Courses**

*Note: The following courses are available only in the B.S.C.J.A. (Bachelor of Science in Criminal Justice Administration) and the B.S.M. (Bachelor of Science in Management) curricula, off-campus degree-completion programs offered through Extended Learning.*

**CJA 340 4**  
**Introduction to Criminalistics**

Practices and procedures in collection, analysis, interpretation, and preservation of evidence; emphasis on significance of scientifically evaluated evidence.

**CJA 350 4**  
**Forensic Research Methods**

The research process and statistical analysis: reasons for research, various research theories, and issues in formulating research problems. Emphasis on interpretation of statistically significant techniques so as to understand legal and scientific justifications for accepting or rejecting evidence.

**CJA 380 4**  
**Legal Aspects of the Criminal Justice System**

Origins, philosophy, development, and constitutional basis for introducing evidence in the Anglo-American legal system. Emphasis on kinds and forms of evidence and on case decisions that have affected admissibility of certain types of evidence in court.

**CJA 390 4**  
**Courts and Criminal Justice**

The roles and responsibilities of the judiciary as it pertains to the criminal justice system, including its impact on the other criminal justice sectors of law enforcement and corrections; consideration of how court decisions have affected the public, public agencies, and state legislatures.

**CJA 410 4**  
**Police-Community Relations**

The numerous and sometimes conflicting roles, expectations, and societal demands of law-enforcement officers. Review of criteria by which citizens evaluate their law-enforcement agencies; public perceptions and stereotypical views of law enforcement. Emphasis on community-oriented and problem-oriented policing; concepts of successful crime-prevention programs.

**CJA 420 4**  
**Multicultural Issues in Public Safety**

Perspectives on major cultural groups in California. Such theoretical issues as culture, ethnicity, race, prejudice, and ethnocentrism; use of these concepts in comparing groups comprising California's population. How people think about themselves; how self-perceptions influence social behavior; emphasis on shifting established paradigms and expanding world views.

**CJA 470 4**  
**Theories and Concepts of Contemporary Public Safety**

Strategies for community-based problem solving used by public-safety personnel. Emphasis on understanding issues of social change and maintaining social order so that practitioners are prepared to apply appropriate strategies in field situations. Includes models of problem solving, assessment of community needs, and partnerships between public-safety agencies and their communities.

**LBA 310 4**  
**Individual in the Organization**

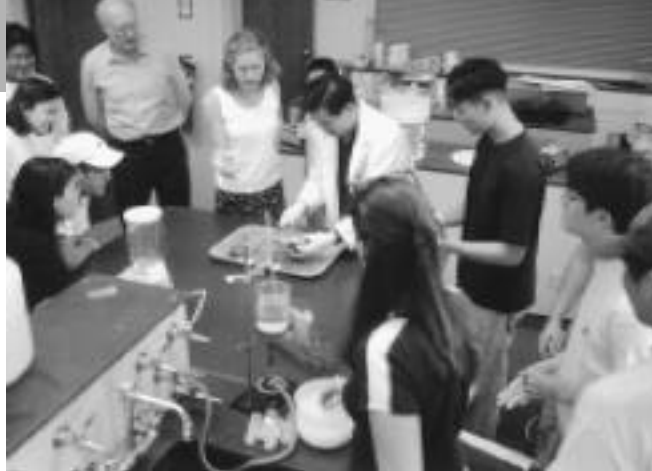
Focuses on organizational behavior as it relates to individual motivation, productivity, job performance, and effectiveness in interpersonal relationships. Students develop understanding of various theories of motivation and develop skills in improving interpersonal relationships.

**LBA 320 4**  
**The Legal Environment of Business**

Laws regulating business activities, principles governing contracts, negotiable instruments, and sales.

# Business Administration and Economics

- LBA 330** **4**  
**Economics for Managers**  
How market economies operate. Economic theory and practice are integrated to aid decision-making through analysis of economic choices, trade-offs, and the rational-person assumption. Attention to managers and consumers maximizing behaviors while subject to constraints. Economic tools and techniques that help managers make decisions, including pricing, branding, and competitive strategy. Macroeconomic forces, including inflation, interest and employment rates, and their effects on decision-making.
- LBA 340** **4**  
**Principles of Marketing**  
Functions and problems of the marketing process, including financing, transportation, distribution, and selected aspects of advertising and salesmanship.
- LBA 350** **3**  
**Data Presentation**  
Integrates preparation of charts, graphs, font selection, and computer-presentation software. Emphasis on effective presentation of documents.
- LBA 360** **3**  
**Budgeting and Fiscal Administration**  
Covers financial administration as it applies to public agencies, including budgeting, taxation, revenue planning, the budget cycle, borrowing, fiscal controls, and development of analytical skills necessary in public fiscal administration.
- LBA 375** **4**  
**Group and Organizational Behavior**  
Group behavior and its influence on organizational effectiveness. Emphasis on decision-making and resolving conflict in groups. Development of strategies for efficient and productive group management; determination of which tasks are best handled by groups or individuals.
- LBA 390** **4**  
**Organizations and Environments**  
Emphasis on the organization as an open system. Organizational diagnosis, using a systems approach, examines organizational structure, design, governing regulations that shape business operations, contingency theory, and the impact of the environment on organizational effectiveness.
- LBA 401** **4**  
**Principles of Finance**  
Principles and problems involved in the finance function of firms, including financial aspects of the form of organization and the allocation of capital.
- LBA 410** **4**  
**Accounting Principles for Managers**  
Manufacturing cost (job order and process), activity-based costing, just-in-time inventories, cost-volume-profit relationships, budgeting, profit analysis, and decision-making analysis.
- LBA 420** **4**  
**Principles of Management**  
Motivational theory and its application to individual and group functioning in work and home situations. Analysis of leadership styles related to particular circumstances. Study of negotiation, through reading and class practice, with analysis of effects on productivity.
- LBA 430** **4**  
**Human Resources Administration**  
The values and perceptions of selected groups affecting social and economic life studied through analysis of policies and practices of recruitment, selection, training, development, and compensation of employees. Through simulations and case studies, special attention to legislation related to the Office of Safety and Health Administration and to Equal Employment Opportunity mandates.
- LBA 480** **4**  
**International Business**  
The nature and management of an international business.
- LBA 485** **4**  
**Business Policy**  
A capstone course in which the student formulates a philosophy of life, providing the base for such concerns as ethics in business, accountability in government, respect for human rights, and a responsible life style in the contemporary world. Ethical theories and personal values examined through readings, analysis of the workplace, and classroom discussion.
- LBA 490** **1-6**  
**Senior Project**  
Each student combines his or her research and practical implementation of theories and concepts and develops an individual project. The project examines a problem in the student's occupation or avocation. The research project is written and is presented orally to the learning group and instructor.
- Note: The following degree-completion courses are offered through Extended Learning by the Religion department:*
- LBA/RELB 305** **4**  
**Biblical Perspectives**  
Designed to foster knowledge and understanding of those historical concepts and themes of the Bible that relate most directly to effectiveness in business practice and public life.
- LBA/RELT 310** **4**  
**Ethics and Personal Values**  
Examination of how personal values in business and public life are shaped by world views, ethics, and spiritual formation.



## Faculty

William Hemmerlin, chair; David Duran, Donald Halenz, Mitchell Menzmer, James Van Hise

Departmental Office: 355 Chan Shun Hall; 965-7597

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The DEPARTMENT OF CHEMISTRY serves students who have an interest in chemical sciences and those planning careers in various medical areas. The department has the following objectives:

- To give a thorough grounding in the principles of chemistry, both in theory and in practical experience within instrumentation currently in use.
- To help the student develop problem-solving abilities through a careful analysis of problems and the application of chemical principles.
- To provide an atmosphere where Christian values are cherished and the use of the intellect is integrated into the learning experience.

The department offers several degree options. The B.S. with a major in chemistry should be selected by the student intending to enter chemistry as a profession. The chemistry major with an emphasis in biochemistry is appropriate for those who intend to enter a professional program in one of the medical sciences.

Students more interested in the liberal arts and languages may choose the B.A. program in chemistry. Those interested in a primary- or secondary-school teaching career may choose the B.S. with a major in natural science.

## Major in Chemistry, B.S.

► A minimum of 60 hours (40 upper division) including the following:

CHEM 111-112-113	General Chemistry	5-5-5
CHEM 324	Analytical Chemistry I	3
CHEM 324L	Analytical Chemistry I Laboratory	2
CHEM 325	Analytical Chemistry II	3
CHEM 371-372-373	Organic Chemistry	4-4-4
CHEM 373L	Advanced Organic Chemistry Laboratory	1
CHEM 396	Seminar	.5-.5-.5-.5
CHEM 414	Inorganic Chemistry	3
CHEM 451-452-453	Physical Chemistry	3-3-3
CHEM 499	Introduction to Research	1

2 hours from the following: 2

CHEM 325L, 344L, 451L, 482L

Additional upper-division hours in chemistry to be chosen in consultation with the major adviser.

► *Required Cognate Courses:*

MATH 131-132-133	Calculus	4-4-4
MATH 265	Elementary Linear Algebra (or MATH 267 Multivariable Calculus; or MATH 269 Elementary Differential Equations; or MATH 371-372 Numerical Analysis)	4
PHYS 131-132-133	Physics with Calculus (or PHYS 111-112-113 General Physics)	4-4-4

► *Recommended Cognate Courses:*

CPTR 115	Computer Programming (4)
PHYS 234	Elementary Modern Physics (4)

# Chemistry

## Major in Chemistry, B.A.

► A minimum of 49 hours (29 upper division) including the following:

CHEM 111-112-113	General Chemistry	5-5-5
CHEM 324	Analytical Chemistry I	3
CHEM 324L	Analytical Chemistry I Laboratory	2
CHEM 325	Analytical Chemistry II	3
CHEM 371-372-373	Organic Chemistry	4-4-4
CHEM 373L	Advanced Organic Chemistry Laboratory	1

CHEM 396	Seminar	.5-.5-.5-.5
CHEM 414	Inorganic Chemistry	3
CHEM 451-452	Physical Chemistry	3-3

2 hours from the following: 2  
CHEM 325L, 344L, 451L, 482L

► Required Cognate Courses:

MATH 131-132	Calculus	4-4
PHYS 111-112-113	General Physics	4-4-4

► Recommended Cognate Courses:

CPTR 115	Computer Programming (4)	
MATH 133	Calculus (4)	
PHYS 234	Elem. Modern Physics (4)	

## Major in Chemistry with an Emphasis in Biochemistry, B.S.

► A minimum of 60 hours (40 upper division) including the following:

CHEM 111-112-113	General Chemistry	5-5-5
CHEM 324	Analytical Chemistry I	3
CHEM 324L	Analytical Chemistry I Laboratory	2
CHEM 351-352	Physical Chemistry for Life Sciences	3-3
CHEM 371-372-373	Organic Chemistry	4-4-4
CHEM 373L	Advanced Organic Chemistry Laboratory	1

CHEM 381	Biochemistry I	4
CHEM 396	Seminar	.5-.5-.5-.5
CHEM 482	Biochemistry II	4
CHEM 482L	Biochemistry II Laboratory	1

1 hour from the following: 1  
CHEM 325L, 344L, 451L

Additional hours may be selected from BIOL 320 and upper-division chemistry courses in consultation with the major adviser.

► Required Cognate Courses:

BIOL 111-112-113	Biological Foundations	5-5-5
MATH 131-132	Calculus	4-4
PHYS 111-112-113	General Physics	4-4-4

► Premedical Students: See adviser for recommended cognates.

## Major in Natural Science, B.S.

This major satisfies the preconditions for science program subject-matter approval by the California Commission on Teacher Credentialing. The core requirement of 64 quarter hours of course work corresponds to science subjects commonly taught in California public schools, and the concentrations available treat the subject matter at a depth more than adequate for teaching the higher secondary science courses in biology, chemistry, and physics.

► Required Core Courses:

ASTR 125	General Astronomy	4
ASTR 299	Meteorology	1
BIOL 111-112-113	Biological Foundations	5-5-5
BIOL 345	Human Ecology	3
BIOL 437	Marine Science	4
BIOL 450	Philosophy of Origins	3
CHEM 111-112-113	General Chemistry	5-5-5
GEO 233	Geology	4
PHIL 390	History and Philosophy of Science	3
PHYS 111-112-113	General Physics (or PHYS 131-132-133*)	4-4-4

► Emphases: Choose one:

### 1. Biology Emphasis (35-36 hours)

BIOL 320	Cell and Molecular Biology	5
BIOL 333	Principles of Ecology	4
BIOL 348	Animal Physiology (or BIOL 102 Human Physiology (5))	4
BIOL 354	Genetics	4
BIOL 494	Seminar (4 quarters)	2
MICR 134	General Microbiology	5

One of the following courses:

BIOL 323	Vertebrate Natural History (3)
BIOL 324	Ornithology (3)
BIOL 325	Flowering Plants (3)

Required Cognate Courses:

CHEM 102	Survey of Organic Chemistry (4)
CHEM 103	Survey of Biochemistry (4)

### 2. Chemistry Emphasis (33 hours)

CHEM 324	Analytical Chemistry	3
CHEM 324L	Analytical Chemistry Laboratory	2

\* Students who elect the emphasis in physics must take PHYS 131-132-133.

CHEM 351	Physical Chemistry for Life Sciences (or CHEM 451 Physical Chemistry (3))	3
CHEM 371- 372-373	Organic Chemistry	4-4-4
CHEM 373L	Advanced Organic Chemistry Laboratory	1
CHEM 381	Biochemistry	4
CHEM 396	Seminar	.5-.5-.5-.5

*Required Cognate Course:*

MATH 131-132	Calculus	4-4
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**3. Physics Emphasis** (35 hours)

ELEC 141	Applied Electronics	3
MATH 131- 132-133	Calculus	4-4-4
PHYS 234	Elementary Modern Physics	4

*One of the following courses:*

ENGR 217	Engineering Electronics	4
PHYS 256	Applied Optics	4

Additional hours (at least 12 upper division) selected from physics courses that carry credit toward a major in physics and from the following two courses:

ASTR 341-342	Astrophysics	3-3
CHEM 344	Nuclear Physics and Chemistry	3

**Teaching Credential**

Students desiring to enter a program of studies leading to a California teaching credential in science with a concentration in chemistry should take the B.S. degree in Natural Science. This program meets the newly established standards of quality and effectiveness and has been approved by the State of California Commission on Teacher Credentialing. A brochure describing the new program and its requirements is available in the Chemistry department office. Students are invited to discuss the program with the Teacher Education Adviser in the Chemistry department.

Those who plan to teach on the secondary level should consult with the Credential Analyst in the Department of Education and should become acquainted with the specific requirements for admission to and successful completion of the Teacher Education Program as outlined in the Education section of this catalog.

**Minor in Chemistry:**

► A minimum of 30 hours (15 upper division) including the following:

CHEM 111-112-113	General Chemistry	5-5-5
CHEM 324	Analytical Chemistry I	3
CHEM 324L	Analytical Chemistry I Laboratory	2

**Chemistry**

## SERVICE COURSES:

(May not be used for major or minor in this department)

**CHEM 101** **4 A**  
**Introductory Chemistry**

An elementary course designed to give an introduction to fundamental principles of general inorganic chemistry. Primarily for students preparing to enter an allied health or related field and/or to enroll in CHEM 102 and 111. Three lectures and one laboratory weekly. Prerequisite: Algebra I, MATH 019 or permission of the instructor.

**CHEM 102** **4 W**  
**Survey of Organic Chemistry**

A survey of the important classes of organic compounds. Emphasis is given to topics related to the health sciences and biochemistry. Intended for students not majoring in chemistry. Three lectures and one laboratory weekly. Prerequisite: Secondary-school chemistry or CHEM 101. Credit cannot be earned in both CHEM 102 and 371.

**CHEM 103** **4 S**  
**Survey of Biochemistry**

A survey of the chemistry of living organisms emphasizing the normal processes occurring in the human body. Three lectures and one laboratory weekly. Prerequisite: CHEM 102. Credit cannot be earned in both CHEM 103 and 373.

**CHEM 105** **4 W**  
**Chemistry for the Consumer**

An introduction to chemistry with practical applications; a course for students with no previous experience in physical science. Not applicable toward a major or minor in any life-science or physical-science curriculum.



# Chemistry

## LOWER-DIVISION COURSE:

### **CHEM 111-112-113 5-5-5 A-W-S** **General Chemistry**

A complete introduction to the fundamental principles of general inorganic chemistry. Includes the following topics: atomic and molecular orbital theory, stoichiometry, gas laws, thermodynamics, kinetics, chemical equilibrium, acid-base theory, pH and introductions to nuclear and organic chemistry. Intended for chemistry majors and preprofessional students in medicine, dentistry and other technical fields. Must be taken in sequence. Four lectures and one laboratory weekly. Prerequisites: Algebra II or MATH 106. A score of 19 on the mathematics section of the ACT (or 500 on the SAT) is expected. High school chemistry (or CHEM 101) and physics are highly recommended. A grade of C- or above is required for continuing in general chemistry each quarter.

## UPPER-DIVISION COURSES:

### **CHEM 324 3 A** **Analytical Chemistry I**

An introduction to the quantitative study of chemical reactions occurring in the aqueous phase, including solubility, acid base equilibria and complex ion formation. Methods of data recording and manipulation, error analysis and statistical treatment of data are also included. Prerequisite: CHEM 113.

### **CHEM 324L 2 W** **Analytical Chemistry I Laboratory**

A series of laboratory experiments to determine unknown quantities of selected chemical substances. The chemical principles in CHEM 324 are reiterated; course emphasis, however, is on laboratory technique. Six hours of laboratory weekly. Prerequisite: CHEM 324.

### **CHEM 325 3 S** **Analytical Chemistry II**

The theoretical basis of chemical analysis using electrochemical, spectrophotometric and chromatographic methods. Introduction to principles of operation of current analytical instrumentation. Concurrent enrollment in CHEM 325L strongly recommended. Prerequisites: CHEM 324L, 373, MATH 132 or permission of the instructor. Odd years.

### **CHEM 325L 1 S** **Analytical Chemistry II Laboratory**

A series of laboratory experiments coordinated with CHEM 325. Prerequisite or corequisite: CHEM 325. Odd years.

### **CHEM 344 3 S** **Nuclear Physics and Chemistry**

Properties of radioactive nuclei, nuclear structure, nuclear reactions, nuclear fission, interactions of radiations with matter and the Mossbauer effect with applications to chemistry and the cosmos. Prerequisites: MATH 131, PHYS 111-112-113. Concurrent enrollment in CHEM 344L strongly recommended. Even years.

### **CHEM 344L 1 S** **Nuclear Physics and Chemistry Laboratory**

A series of laboratory activities coordinated with CHEM 344. Even years.

### **CHEM 351-352 3-3 A-W** **Physical Chemistry for the Life Sciences**

The laws of thermodynamics, physical equilibria, and transport phenomena. Applications of Gibbs' free energy, chemical equilibria, and electrochemistry to biochemical systems; chemical and enzyme kinetics and mechanisms; quantum biochemistry. Prerequisites: CHEM 324, PHYS 113, MATH 132 or equivalent. Credit may not be earned in both CHEM 351-352 and CHEM 451-452.

### **CHEM 371-372 4-4 A-W** **Organic Chemistry**

An introduction to the physical and chemical properties of compounds of carbon. A mechanistic approach to the study of organic reactions with an emphasis on spectroscopic methods of analysis. Must be taken in sequence. Three lectures and one four-hour laboratory weekly. Prerequisite: CHEM 113.

### **CHEM 373 4 S** **Organic Chemistry**

A continuation of CHEM 372 and an introduction to biochemistry (carbohydrates, proteins, and lipids). Four lectures weekly. Concurrent enrollment in CHEM 373L required of all chemistry majors. Prerequisite: CHEM 372.

### **CHEM 373L 1 S** **Advanced Organic Chemistry Laboratory**

A series of lab activities coordinated with CHEM 373, including an independent organic synthesis project.

### **CHEM 381 4 A** **Biochemistry I**

An introduction to the chemistry of biologically-relevant molecules. Includes attention to biological oxidations, energy relationships, and enzyme kinetics. Prerequisite: CHEM 373.

### **CHEM 396 .5 A, W, S** **Seminar** **(See BIOL 396)**

Single topics of current interest in mathematics and natural sciences are presented by guest lecturers. The course is graded S/F. To pass, a student must be on time and attend four of five course sessions. Prerequisite: CHEM 373. Enrollment limited to upper-division students.

**CHEM 414** **3 S**  
**Inorganic Chemistry**

A systematic study of inorganic chemistry with emphasis on chemical theory and bonding, the descriptive chemistry of the elements, and transition-metal chemistry. Three lectures weekly. Prerequisite: CHEM 372 and MATH 132. Even years.

**CHEM 431** **1 W**  
**Recombinant DNA**

Introduction to the principles and practices in use in creating recombinant DNA molecules, including screening DNA libraries and the insertion of genes into various types of cells. Prerequisite: CHEM 381.

**CHEM 451-452** **3-3 A-W**  
**Physical Chemistry**

An integrated approach to the statistical and quantum properties of matter with applications to chemical systems. Thermodynamics, kinetic theory of gases, colligative properties, electrochemistry, diffusion, molecular spectroscopy, and chemical kinetics. Prerequisites: CHEM 113, MATH 133, and PHYS 133 or 113. Credit available in either CHEM 351-352 or CHEM 451-452, but not both.

**CHEM 451L** **1 A**  
**Physical Chemistry Laboratory**

A series of laboratory activities coordinated with CHEM 451.

**CHEM 453** **3 S**  
**Physical Chemistry**

An introduction to the Schrodinger wave equation with applications to chemical systems. Prerequisite: CHEM 452. Odd years.

**CHEM 470** **3 S**  
**Natural Products**

A review of the historical "named reactions" of organic chemistry followed by strategic planning in approaching the

synthesis of complex molecules focusing primarily on retrosynthetic analysis, stereochemical control, and modern synthetic methods. FT NMR techniques ( $C^{13}$ , 2-D COSY, HMBC, and NOESY) are discussed and used in structural analysis of naturally occurring molecules. Prerequisite: CHEM 373.

**CHEM 474** **3 W**  
**Organic Theory and Reaction Mechanisms**

A mechanistic approach to the study of selected topics in organic chemistry, such as orbital symmetry, molecular rearrangements, linear free energy relationships, and photochemistry. Prerequisite: CHEM 373.

**CHEM 482** **4 S**  
**Biochemistry II**

The intermediary metabolism of carbohydrates, lipids and proteins, and an introduction to the replication and transmission of genetic information. Concurrent enrollment in CHEM 482L required of students taking the biochemistry emphasis. Prerequisite: CHEM 381.

**CHEM 482L** **1 S**  
**Biochemistry II Laboratory**

A series of laboratory activities coordinated with CHEM 482.

**CHEM 491** **0-2**  
**Cooperative Education in Chemistry**

An individualized contract agreement involving student, faculty, and employer to provide practical experience in chemistry in a professional off-campus setting. Normally limited to upper division majors in chemistry. Prerequisites: CHEM 373, 324L, and permission of the department chair. Graded S/F.

**CHEM 499** **1-2 A, W, S**  
**Introduction to Research**

A directed research project intended to acquaint students with research problems of current interest. A suitable problem is undertaken with the direction of the faculty. Open to upper-division majors in chemistry and, by permission, to other upper-division students. May be repeated for additional credit. Maximum of four hours in Bachelor of Science curricula.



## Faculty

*Jennifer Wareham Best, chair; Dan Akers, James Chase, Herb Ford, Fred Kinsey*

*Departmental Office: 324 Irwin Hall; 965-6437*

## Degrees and Programs

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The DEPARTMENT OF COMMUNICATION serves the communication needs of students in every department, offering instruction in a variety of communication skills and principles that apply in mass media, public speaking, small group, and interpersonal settings. The department also provides curricula leading to a variety of communication-related careers, with specific preparation for careers in public relations, journalism, international communication and speech pathology. The curriculum in communication is of value to those preparing for careers in business, law, medicine, pastoral or evangelistic ministry, broadcasting, and others.

## Speech Pathology

A preprofessional program in Speech Pathology is offered for those beginning their study of Speech Pathology at Pacific Union College. This program is affiliated with the School of Allied Health at Loma Linda University. The Speech Pathology faculty at LLU provide regular assistance and counseling to the PUC Communication department and to students interested in this program.

The first two years of a baccalaureate degree in Speech Pathology, taken on the Pacific Union College campus, include the following courses:

SPPA 164	Introduction to Speech Pathology	4
SPPA 175	Clinical Observation	2
SPPA 178	Terminology of Communication Disorders	2
SPPA 264	Phonetics and Speech Science	3
SPPA 265	Disorders of Articulation	4

Approved courses in general education complete the preprofessional curriculum.

## Major in Communication, B.A.

► A minimum of 48 hours (24 upper division) including the following:

COMM 134	Media Communication Careers	3
COMM 223	Interpersonal Communication	3
COMM 225	Oral Interpretation	3
COMM 226	Public Speaking	3
COMM 326	Advanced Public Speaking	3
COMM 328	Small Group Communication	3
COMM 330	Intercultural Communication	3
COMM 423	Communication Theory	2
COMM 424	Communication Research I	2
COMM 425	Communication Research II	2
COMM 427	Persuasive Communication	3
	(or COMM 327 Argumentation)	
COMM 450	Senior Seminar in Communication Disciplines	2
JOUR 141	Newswriting and Reporting I	3

# Communication

JOUR 244	Copyediting	2
<i>Select from the following to complete the major:</i>		
Any course designated COMM (except COMM 105), JOUR, or PREL		
SPPA 164	Introduction to Speech Pathology (4)	

## Major in International Communication, B.A.

► A minimum of 48 hours (24 upper division) including the following:

► Required Core Courses:

COMM 134	Mass Media	3
COMM 226	Public Speaking	3
COMM 328	Small Group Communication	3
COMM 330	Intercultural Communication	3
COMM 450	Senior Seminar in Communication Disciplines	2
JOUR 141	Newswriting and Reporting I	3
PREL 231	Public Relations I: Introduction	3
PREL 338	Audiovisual Presentations	2
Elective	(Select any upper-division course designated COMM, PREL or JOUR)	4

This major requires one full academic year abroad\* to develop fluency in one of the following language emphases:

### 1. French Emphasis

(21 hours including 12 upper-division hours):

A minimum of 12 hours of advanced-level French (courses numbered 300 and above) at S  minaire Adventiste du Sal  ve, Collonges, France.

► Required PUC Courses:

FREN 385	Business French	4
FREN 441	Readings in 19th Century French Literature	4
FREN 442	Readings in 20th Century French Literature	4
FREN 443	Contemporary Francophone Literature	4

\* Students whose dominant cultural heritage is Spanish or French and who can pass an advanced-level language examination offered by the Department of Modern Languages may, upon written approval of the faculty of the Department of Communication, elect not to spend one full academic year abroad. Such students must, however, (a) complete all Pacific Union College language and cognate requirements and (b) complete a total of 48 hours of coursework offered by the Department of Communication (23 required plus 25 elective credits). Students whose dominant cultural heritage is German and who can pass an intermediate level German examination offered by the Department of Modern Languages may, upon written approval of the faculty of the Department of Communication, elect to complete a minimum of one academic semester at Seminar Schloss Bogenhofen, Austria, and complete a minimum of 12 upper-division hours of German while there.

► Required Cognate Course:

FREN 367	French Culture and Civilization	4
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### 2. Spanish Emphasis

(21 hours including 12 upper-division hours):

A minimum of 12 hours of advanced-level Spanish (courses numbered 300 and above) at Colegio Adventista de Sagunto, Spain; or at Universidad Adventista del Plata, Villa Libertador St. Martin, Argentina.

► Required PUC Courses:

SPAN 385	Business Spanish	4
SPAN 442	Readings in Latin-American Literature I (or SPAN 443 Readings...II)	4

► Required Cognate Course:

SPAN 367	Spanish and Latin-American Culture and Civilization	4
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### 3. German Emphasis

(21 hours including 12 upper-division hours):

A minimum of 21 hours of intermediate- and advanced-level German at Seminar Schloss Bogenhofen, Austria.

► Required Cognate Courses for International Communication Major:

ANTH 124**	Cultural Anthropology	4
CPTR 105**	Introduction to Computers (or OFAD 301 Word Processing)	3
HIST 101-102**	History of World Civilizations (or secondary-level equivalent or equivalent course work taken in Europe)	4-4
MGMT 374	Advertising Management	3
MGMT 457	International Management (or FIN 241 Introduction to Finance)	3
RELH 311**	World Religions	3
SOCI 355**	Racial and Ethnic Relations	3

One course from International Political Structure area:

PLSC 328	Critical World Issues (3)
PLSC 344	Modern Comparative Government (3)
PLSC 364	Issues in International Relations (3)
PLSC 485	Foreign Relations of the United States (3)

One course from Diplomatic History area:

HIST 358	Twentieth Century America (4)
HIST 364	Modern Asia (4)
HIST 434	The History of Modern Russia (5)

\*\* Courses marked with a double asterisk also fulfill general-education requirements.

► *Recommended Cognate Courses:*

- FREN 151-2-3 Intermediate French (3-4, 3-4, 3-4)
- SPAN 151-2-3 Intermediate Spanish (3-4, 3-4, 3-4)
- GRMN 151-2-3 Intermediate German (3-3-3)

**Major in Journalism, B.S.**

► *A minimum of 60 hours (30 upper division) including the following:*

COMM 134	Media Communication Careers	3
COMM 223	Interpersonal Communication	3
COMM 424	Communication Research I	2
COMM 425	Communication Research II	2
COMM 450	Senior Seminar in Communication Disciplines	2
JOUR 141	Newswriting and Reporting I	3
JOUR 142	Newswriting and Reporting II	3
JOUR 242	Photojournalism	3
JOUR 244	Copyediting	2
JOUR 434	Media Law and Ethics	3
JOUR 443	Investigative Reporting and Writing	3
JOUR 448	History of Journalism	3
JOUR 494	Journalism Internship	3-6
	(or JOUR 492 Practicum in Journalism)	

*Print/Editorial Emphasis*

JOUR 253	Publication Technology I	3
JOUR 256	Publications: Design Techniques	3
JOUR 343	Magazine and Feature Article Writing	3
JOUR 444	Editorial and Interpretive Writing	3
JOUR 455	Specialized Journalistic Writing	3
JOUR 458	Computer-Assisted Reporting	3

*Broadcast Emphasis*

JOUR 354	Broadcast Journalism I	3
JOUR 355	Broadcast Journalism II	3
JOUR 356	Broadcast Journalism III	3
JOUR 358	Broadcast Scriptwriting	3
JOUR 465	Documentary Journalism	3
JOUR 468	The Broadcast News Magazine	3

*Select from the following to complete the major:*

- Any course designated JOUR, COMM, or
- PREL 231 Public Relations I: Introduction (3)
- PREL 338 Audiovisual Presentations (2)

► *Required Cognate Courses:*

ART 241	Photography—Black and White	3
MDIA 158	Media Production Concepts	2
A minimum of nine hours from ECON, PLSC, and SOCI		9

► *Recommended Cognate Courses:*

- A minor in a related discipline
- ART 261 Graphic Design I (3)
- ART 262 Graphic Design II (3)
- ART 317 Design for the Web (2)
- MDIA 154 Video Technology (2)

**Major in Public Relations, B.S.**

► *A minimum of 60 hours (30 upper division) including the following:*

COMM 134	Media Communication Careers	3
COMM 223	Interpersonal Communication	3
COMM 226	Public Speaking	3
COMM 328	Small Group Communication	3
COMM 424	Communication Research I	2
COMM 425	Communication Research II	2
COMM 427	Persuasive Communication	3
COMM 450	Senior Seminar in Communication Disciplines	2
JOUR 141	Newswriting and Reporting I	3
JOUR 142	Newswriting and Reporting II	3
JOUR 242	Photojournalism	3
JOUR 244	Copyediting	2
JOUR 253	Publication Technology I	3
JOUR 256	Publications: Design Techniques	3
JOUR 434	Media Law and Ethics	3
PREL 231	Public Relations I: Introduction	3
PREL 232	Public Relations II: Applications and Crises	3
PREL 337	Fund-Raising	3
PREL 338	Audiovisual Presentations	2
PREL 339	Public Relations III: Campaigns and Practices	3
PREL 494	Public Relations Internship	3-6
	(or PREL 492 Practicum in Public Relations)	

*Select from the following to complete the major:* 0-3

JOUR 343	Magazine and Feature Article Writing (3)	
JOUR 354	Broadcast Journalism I (3)	
JOUR 358	Broadcast Scriptwriting (3)	
PREL 342	Public Relations in the Religious Culture (2)	
PREL 492	Practicum in Public Relations (1-3)	
PREL 495	Independent Study (1-3)	

► *Required Cognate Courses:*

ART 241	Photography—Black and White	3
MDIA 158	Media Production Concepts	2
MGMT 261	Introduction to Management	3
	(or MGMT 361 Management)	
MKTG 374	Advertising Management	3

## Communication

### ► Recommended Cognate Courses:

A minor in Business Administration

ART 261 Graphic Design I (3)

ART 262 Graphic Design II (3)

FIN 241 Introduction to Finance (3)

### Minor in Communication

#### ► A minimum of 30 hours (12 upper division) including the following:

COMM 134 Media Communication Careers 3

COMM 223 Interpersonal Communication 3

COMM 226 Public Speaking 3

COMM 326 Advanced Public Speaking 3

COMM 328 Small Group Communication 3

COMM 423 Communication Theory 2

COMM 427 Persuasive Communication 3

(or COMM 327 Argumentation)

COMM 450 Senior Seminar in Communication Disciplines 2

To complete the minor select 8 hours from courses

designated COMM, JOUR or PREL (except COMM 105) 8

### Minor in Journalism

#### ► A minimum of 30 hours (12 upper division) including the following:

COMM 134 Media Communication Careers 3

COMM 450 Senior Seminar in Communication Disciplines 2

JOUR 141 Newswriting and Reporting I 3

JOUR 142 Newswriting and Reporting II 3

JOUR 244 Copyediting 2

JOUR 253 Publication Technology I 3

JOUR 256 Publications: Design Techniques 3

JOUR 343 Magazine and Feature Article Writing 3

JOUR 434 Media Law and Ethics 3

Select from the following to complete the minor: 5

Any course designated JOUR

PREL 231 Introduction to Public Relations (3)

### Minor in Public Relations

#### ► A minimum of 30 hours (12 upper division) including the following:

COMM 134 Media Communication Careers 3

COMM 427 Persuasive Communication 3

COMM 450 Senior Seminar in Communication Disciplines 2

JOUR 141 Newswriting and Reporting I 3

PREL 231 Public Relations I: Introduction 3

PREL 337 Fund-Raising 3

Select from the following to complete the minor: 13

Any course designated PREL

JOUR 242 Photojournalism (3)

JOUR 253 Publication Technology I (3)

JOUR 256 Publications: Design Techniques (3)

JOUR 343 Magazine and Feature Article Writing (3)

JOUR 434 Media Law and Ethics (3)

## Communication

### SERVICE COURSE:

(May not be used for major or minor in this department)

### COMM 105 3 A, W, S, Su Speech Communication

A general-education course that develops skill in oral communication, surveys the human communication process, and encourages responsible speaking and listening. Focuses on intrapersonal, interpersonal, small group, and public communication. Two lectures and one laboratory weekly. Required in the freshman or sophomore year to fulfill the general-education requirement in Communication.

### LOWER-DIVISION COURSES:

### COMM 134 3 A Media Communication Careers

Survey of print and broadcast media in contemporary society: the roles of radio, television, newspapers, magazines, books, and emerging mass media technologies.

### COMM 223 3 A Interpersonal Communication

Transactional nature of interpersonal communication, including the roles of both verbal and nonverbal communication, empathic listening, and self-disclosure as means of building trusting relationships and developing rhetorical sensitivities.

### COMM 225 3 W Oral Interpretation

Development of skills in reading aloud from prose, poetry, plays, and expository material. Emphasis on developing the ability to create and sustain mood and on learning the various methods of creating meaning through vocal expression.

### COMM 226 3 A, W, S Public Speaking

Instruction and skill-development in composing speeches and delivering them before groups. Fulfills general-education requirement in communication for juniors and seniors. (Freshmen and sophomores take COMM 105.)

**COMM 227** **3 S**  
**Voice and Articulation**

Development of habits and skills that lead to communicative speech, using voice analysis, appropriate exercises, and interpretative readings. Even years.

**COMM 229** **3 A**  
**Fundamentals of Dramatic Performance**

(See DRMA 229.)

UPPER-DIVISION COURSES:

**COMM 326** **3 S**  
**Advanced Public Speaking**

Theory of and practice in effective public address. Preparation and delivery of personal manuscripts. Includes relevant issues of speech evaluation and audience analysis. Offers the advanced student practical experience in speaking before a group. Prerequisite: COMM 226 or consent of the instructor. Odd years.

**COMM 327** **3 A**  
**Argumentation**

Logical reasoning, fallacies in reasoning, the structure of arguments, and methods of analyzing and evaluating arguments. Examination of classical and contemporary models; application in preparing persuasive messages, advertising strategies, and public speeches.

**COMM 328** **3 S**  
**Small Group Communication**

Effective use of communication in small groups; analysis of the nature of group productivity, cohesiveness, and organization; experience in group discussion and problem-solving.

**COMM 329** **3 W**  
**Organizational Communication**

Study of and practice in communication in the work setting, emphasizing

leadership, decision-making, conflict resolution, and the management of behavior in human organizations. Focuses on communication problems and variables unique to the organizational environment, and reviewing traditional and current theories. Even years.

**COMM 330** **3 S**  
**Intercultural Communication**

Variables and effects of both verbal and nonverbal communication between cultures. Practical applications for careers in education, mission service, international business, social work, and foreign relations.

**COMM 423** **2 A**  
**Communication Theory**

Conceptual foundation for studying the human communication process. Includes types of theories and models used in communication research. Explores variables relevant to human communication behavior. Applies theory to the scientific method in communication research. Odd years.

**COMM 424** **2 W**  
**Communication Research I**

Development of skills in planning communication research and designing research instruments. Includes overview of current research topics, procedures, and findings. Odd years.

**COMM 425** **2 S**  
**Communication Research II**

Implementing a communication research plan. Survey techniques, content analysis, tabulation procedures, and reporting of findings. Odd years. Prerequisite: COMM 424.

**COMM 427** **3 S**  
**Persuasive Communication**

Rhetorical principles of ethical persuasion in public speaking, interpersonal

relationships, public relations, and advertising. Development of skills in logical argument, emotive influence, and psychological appeal and in achieving source credibility. Even years.

**COMM 450** **2 W**  
**Senior Seminar in Communication Disciplines**

Capstone course emphasizing professional skills, ethics, creation of portfolio, and career planning.

**COMM 480** **3 Su**  
**Classroom Communication**

Effective teacher-student interaction in both verbal and nonverbal areas. Communication research findings applied to such topics as student motivation, self-concept, sequencing of instruction, small group processes, classroom environments, and parent/student conferences.

**COMM 490** **1-3 A, W, S, Su**  
**Issues in Communication**

(See also JOUR 490, PREL 490.)

Specific issues in various areas of communication research. Such areas may include, though are not limited to, rhetoric and public address, small group communication, interpersonal communication, organizational communication, journalism, and public relations.

**COMM 492** **1-3 A, W, S, Su**  
**Practicum in Communication**

Supervised experience in speech, drama, or broadcasting. Thirty clock hours of experience required for each hour of credit. Advance approval of the department required. May be repeated to a maximum of nine hours.

**COMM 495** **1-3 A, W, S, Su**  
**Independent Study**

Opportunity for the advanced student to investigate special interests under the direction of departmental faculty.

# Communication

## Journalism

### LOWER-DIVISION COURSES:

#### **JOUR 141** **3 A** **Newswriting and Reporting I**

(See also ENGL 141.)

Basic course in gathering information and writing news stories for mass-media news audiences. Two lectures and one laboratory weekly.

#### **JOUR 142** **3 W** **Newswriting and Reporting II**

(See also ENGL 142.)

Extended practice in news coverage and media writing. Introduction to computer-assisted reporting and news media. Extensive practice in writing and career-related skills specific to professions in journalism, public relations, and communications. Two lectures and one laboratory weekly. Prerequisite: JOUR 141.

#### **JOUR 242** **3 S** **Photojournalism**

Application of photography to the specific problems of the journalist or public relations officer; using images to give graphic impact to news and feature stories; processing and editing of pictures taken by the student. Prerequisite: ART 241. Odd years.

#### **JOUR 244** **2 W** **Copyediting**

Practice in editing copy to Associated Press guidelines, writing headlines and captions, basic layout. Extensive rewriting and editing for clarity, conciseness, and appropriateness for chosen media.

#### **JOUR 253** **3 A** **Publication Technology I**

(See GRPH 253.)

Electronic typesetting and composition for formatting and interfacing word processing. The basics of importing text and

graphics from other applications, including scanners; evaluation of desktop publishing software. Lab projects with Adobe PageMaker. Lab fee. Two lectures and one laboratory weekly.

#### **JOUR 256** **3 W** **Publications: Design Techniques**

Practice in designing and preparing camera-ready materials for newspapers, magazines, brochures, and posters. One lecture and one laboratory weekly.

### UPPER-DIVISION COURSES:

#### **JOUR 343** **3 W** **Magazine and Feature Article Writing**

Study of and practice with feature-writing style for newspapers, magazines and broadcast. Emphasizes preparation and marketing of nonfiction manuscripts for magazines and newspapers. Prerequisite: JOUR 141.

#### **JOUR 346** **4** **Creative Writing** (See ENGL 346.)

#### **JOUR 354** **3 A** **Broadcast Journalism I**

Principles of and practice in journalistic broadcast writing; development of basic announcing skills for radio and television. Emphasis on news copy and documentary programming. Secondary emphasis on public service and religious spots and programming. Prerequisite: JOUR 141.

#### **JOUR 355** **3 W** **Broadcast Journalism II**

Continuing development of news-writing and announcing abilities, with emphasis on writing, announcing, and producing radio news and documentary programming. Students work as news staff for KCDS radio news broadcasts. Prerequisite: JOUR 354.

#### **JOUR 356** **3 S** **Broadcast Journalism III**

Advanced journalistic skills in television reporting and production. Emphasizes on-camera reporting, interviewing, studio and field production, and professional journalism skills in television news. Students work with various video media to provide television news for the local community and for other productions. Prerequisite: JOUR 355.

#### **JOUR 358** **3 W** **Broadcast Scriptwriting**

Preparation of manuscripts for news features and full-length feature and documentary productions on radio and television. Emphasizes correct manuscript format and writing for impact in broadcast media. Odd years. Prerequisite: JOUR 354.

#### **JOUR 405** **3** **Advanced Expository Writing** (See ENGL 405.)

#### **JOUR 434** **3 A** **Media Law and Ethics**

Current issues involving personal rights and corporate responsibilities as related to concepts of free speech and responsible journalism. Even years.

#### **JOUR 443** **3 A** **Investigative Reporting and Writing**

Tools, techniques, and skills for conducting ethical journalistic investigations. Emphasis on using public records and "the paper trail" to document complex issues. Prerequisite: JOUR 141. Odd years.

#### **JOUR 444** **3 A** **Editorial and Interpretive Reporting and Writing**

The role of the editorial and opinion in journalism. Writing editorials, opinion



features, and in-depth, complex news stories. Prerequisite: JOUR 141. Odd years.

**JOUR 448** **3 A**  
**History of Journalism**

History of trends in American journalism, recounting successes and failures of the press to achieve free and responsible communication with the public. Even years.

**JOUR 455** **3 S**  
**Specialized Journalistic Writing**

In-depth writing and reporting skills for journalistic writing in such areas as the humanities, sciences, government, business, technology, literature and the arts. Even years. Prerequisite: JOUR 142.

**JOUR 458** **3 W**  
**Computer-Assisted Reporting**

Understanding of and practice in journalistic uses of computers and specialized software as advanced journalism tools. Uses of database managers, spreadsheets, and statistical software to manage and interpret data. Even years. Prerequisite: JOUR 142.

**JOUR 465** **3 S**  
**Documentary Journalism**

Aspects of producing program-length documentaries or segments: topic selection, scripting, dramatic focus, coordinating the creative and technical team, directing, editing, and marketing the final product. Students are project-team members for a class-produced documentary project. Odd years. Prerequisites: JOUR 340, 355.

**JOUR 468** **3 S**  
**The Broadcast News Magazine**

The market audience, content balance, and production skills necessary for a successful broadcast magazine. Students are the creative team in charge of all

elements of producing a campus broadcast magazine or other news-magazine project. Even years. Prerequisites: JOUR 340, 355.

**JOUR 490** **1-3 A, W, S, Su**  
**Issues in Communication**  
(See COMM 490.)

**JOUR 492** **1-3 A, W, S, Su**  
**Practicum in Journalism**

Supervised experience under the direction of a journalism professional, usually involving work on a specific project. Approval of the department required in advance. May be repeated to a total of three hours. Thirty clock hours of experience required for each hour of credit.

**JOUR 494** **3-6 A, W, S, Su**  
**Journalism Internship**

Supervised experience in journalism. The student is assigned for one quarter to a newspaper or magazine office. Enrollment restricted to journalism majors.

**JOUR 495** **1-3 A, W, S, Su**  
**Independent Study**

Offers the advanced student opportunity to pursue investigation in fields of special interest under the direction of departmental faculty.

**Public Relations**

LOWER-DIVISION COURSES:

**PREL 231** **3 A**  
**Public Relations I: Introduction**

Fundamental values and procedures of the public-relations profession. Research techniques, communication theory, public relations management, writing, and media relations.

**PREL 232** **3 W**  
**Public Relations II: Applications and Crises**

Applications of public relations to specific publics including employees, multicultural communities, consumers, and government. Management of public relations in crises; exploiting PR opportunities created by crisis situations. Prerequisite: PREL 231.

UPPER-DIVISION COURSES:

**PREL 337** **3 S**  
**Fund-Raising**

Philosophy of philanthropic giving and the techniques that lead to successful fund-raising, particularly as applied to the Seventh-day Adventist denomination. Fund-raising executives are guest lecturers for the course. Even years.

**PREL 338** **2 S**  
**Audiovisual Presentations**

Preparing and producing traditional and new media audiovisual presentations useful to the public relations practitioner and other business and professional people. Conceptualizing, scripting, and executing AV tools, including Web-page creation, video production, and presentation software such as Power-Point. Odd years.

**PREL 339** **3 S**  
**Public Relations III: Campaigns and Practices**

The media of public relations and their incorporation into a public-relations plan. The elements, development, and structuring of a public-relations plan. Prerequisite: PREL 232.

## Communication

### **PREL 342** **2 S** **Public Relations in the Religious Culture**

The special challenges religion offers to public relations. Perspectives and techniques that enhance the value of public relations in a religious setting, such as a local congregation. Prerequisite: PREL 231.

### **PREL 490** **1-3 A, W, S, Su** **Issues in Communication** (See COMM 490.)

### **PREL 492** **1-3 A, W, S, Su** **Practicum in Public Relations**

Supervised experience under the direction of a public-relations professional, usually involving work on a specific project. Approval of the department required in advance. May be repeated to a total of three hours. Thirty clock hours of experience required for each hour of credit.

### **PREL 494** **3-6 A, W, S, Su** **Public Relations Internship**

One academic quarter of supervised work experience in a public relations-related office. Enrollment limited to public relations and communication majors.

### **PREL 495** **1-3 A, W, S, Su** **Independent Study**

Offers the advanced student opportunity to pursue investigation in a field of special interest under the direction of departmental faculty.

## Speech Pathology and Audiology

LOWER-DIVISION COURSES:

### **SPPA 001** **1 A, W, S** **Speech Clinic**

For college students who desire correction of their own speech problems. Individual and/or group therapy sessions twice weekly. May be repeated up to three quarters for credit. Enrollment by permission of instructor following oral speech evaluation.

### **SPPA 164** **4 A** **Introduction to Speech Pathology**

Introduction to the major types of speech disorders and their etiology and treatment. A survey course for majors in speech pathology and audiology and for those entering professions in education, behavioral science, social welfare, and related fields who may encounter persons with speech disorders.

### **SPPA 175** **2 W** **Clinical Observation**

Laboratory experience designed to acquaint the student with the therapy process. Students observe clients during the quarter and meet regularly with the clinic supervisor to discuss clinical procedures used.

### **SPPA 178** **2 S** **Terminology of Communication Disorders**

Introduction and application of terms used in the fields of Speech, Language, Hearing and allied areas. Odd years.

### **SPPA 250** **3 S** **Speech and Language of Young Children**

(See also ECED 250.)

Normal development of speech and language in children from birth to six years. An introduction to differential diagnosis and treatment planning for children with delayed language development. Designed for majors in the Early Childhood Education curriculum and fifth-year Elementary Education programs. Odd years.

### **SPPA 264** **3 W** **Phonetics and Speech Science**

Knowledge of the International Phonetic Alphabet is used as a means of sensitizing the ear for the accurate learning of speech sounds and introduction to the acoustics of consonant and vowel production. Emphasis on transcription phonetics.

### **SPPA 265** **4 S** **Disorders of Articulation**

Identification and etiology of disorders of articulation with emphasis on phonemic aspects. Introduction to the major approaches to individual and group therapy.



## Faculty

Steve Waters, chair; Bruce Ivey, Stephen Thorman

Departmental Office: 238 Chan Shun Hall; 965-7260

## Degrees and Programs

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COMPUTER SCIENCE is the study of solving problems with the aid of computers. It deals with the design of algorithms (i.e., effective procedures) for the solution of problems, with the structures of languages for the efficient expression of these algorithms, and with computer systems, both hardware and software, for implementing these languages.

Several degree options are offered. Students whose main interest is the discipline of computer science, perhaps leading to graduate study, choose the B.S. in Computer Science. This degree is also appropriate for those wanting careers in systems or application programming. The B.A. in Computer Science prepares students for careers applying computers to other fields of interest. Students whose career goals include the use of computers in a business or corporate environment choose the B.S. in Computer Science with Emphasis in Data Processing and Management. The department also offers a minor in computer science.

The curriculum is modeled on the guidelines of the Association for Computing Machinery.

## Major in Computer Science, B.S.

► A minimum of 60 hours (36 upper division) including the following:

CPTR 131-132	Computer Science	4-4
CPTR 224	Assembler	3
CPTR 236	Microprocessor Systems	3
CPTR 326	Computer Languages	4
CPTR 346	Data Structures and Algorithms	4
CPTR 356	Digital Logic	4
CPTR 357	Computer Architecture	3
CPTR 396	Seminar (2 quarters)	.5-.5
CPTR 398	Indiv. Programming Language Study	2
CPTR 446	Compiler Construction	4
CPTR 447	Operating Systems	3
CPTR 455	Advanced Topics in Computer Science	3
MATH 275	Logic and Sets	4
MATH 355	Discrete Methods	4

*The remaining hours may be selected from the following:*

Other CPTR courses		
INFS 335	Business Computer Applications (4)	
MATH 265	Elementary Linear Algebra (4)	
MATH 331	Probability Theory (3)	
MATH 351-352	Introduction to Abstract Algebra (3-3)	
MATH 354	Number Theory (3)	
MATH 375	Numerical Analysis (4)	

A maximum of twenty-six hours of MATH courses, including the required courses, may apply.

► *Required Cognate Courses:*

ENGR 217	Electronics	4
MATH 131-132-133	Calculus	4-4-4
OFAD 111	Personal/Beginning Keyboarding*	0-2

► *Recommended Cognate Course:*

PHYS 131-132-133	Physics with Calculus (4-4-4)
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\*See footnote, next page.

## Computer Science

The B.S. program described above is designed to prepare the student for graduate study in computer science or for a career in scientific computation or software development.

### Major in Computer Science, B.A.

► A minimum of 45 hours (22 upper division) including the following:

CPTR 131-132	Computer Science	4-4
CPTR 224	Assembler	3
CPTR 236	Microprocessor Systems	3
CPTR 326	Computer Languages	4
CPTR 346	Data Structures and Algorithms	4
CPTR 396	Seminar (2 quarters)	.5-.5
CPTR 447	Operating Systems	3
MATH 355	Discrete Methods	4

The remaining hours may be selected from the following:

Other CPTR or INFS courses

MATH 265	Elementary Linear Algebra (4)
MATH 331	Probability Theory (3)
MATH 351-352	Introduction to Abstract Algebra (3-3)
MATH 354	Number Theory (3)
MATH 375	Numerical Analysis (4)

No more than eighteen hours from the MATH selections may apply.

► Required Cognate Courses:

ENGR 217	Electronics	4
MATH 131	Calculus	4
OFAD 111	Personal/Beginning Keyboarding*	0-2

► Recommended Cognate Courses:

MATH 132-133	Calculus (4-4)
PHYS 111-112-113	General Physics (4-4-4)

French or German is recommended for meeting the language requirement.

This program permits an emphasis in the computer-science field and is designed to prepare one to be a knowledgeable user of computers in business or other applications.

An alternative for a business major is to include a minor in computer science. For continuing with graduate studies, or for a greater emphasis in computer science, a student should choose one of the B.S. options.

### Major in Computer Science with Emphasis in Data Processing and Management, B.S.

► A minimum of 60 hours (33 upper division) including the following:

CPTR 131-132	Computer Science	4-4
CPTR 224	Assembler	3
CPTR 326	Computer Languages	4
CPTR 346	Data Structures and Algorithms	4
CPTR 347	Database Systems	3
CPTR 396	Seminar (2 quarters)	.5-.5
CPTR 398	Individual Programming Lang. Study	3
CPTR 426	Software Engineering	3
CPTR 447	Operating Systems	3
CPTR 455	Advanced Topics in Computer Science	3
INFS 481	Simulation	3
MATH 355	Discrete Methods	4
MGMT 261	Introduction to Management (or MGMT 361 Management)	3
MGMT 465	Organizational Behavior	3

The remaining hours may be selected from the following:

Other CPTR or INFS courses

ACCT 321	Cost Accounting I (3)
ACCT 322	Cost Accounting II (3)
ACCT 328	Accounting Information Systems (3)
FIN 341	Finance (5) (or FIN 241 Introduction to Finance)
MATH 132-133	Calculus (4-4)
MATH 275	Logic and Sets (4)
MATH 331	Probability Theory (3)
MATH 375	Numerical Analysis (4)

► Required Cognate Courses:

ACCT 121	Principles of Accounting I	3
ACCT 122	Principles of Accounting II	4
ACCT 123	Principles of Accounting III	3
ENGR 217	Electronics	4
MATH 131	Calculus	4
OFAD 111	Personal/Beginning Keyboarding*	0-2

This program prepares the student for management and administration in industrial, business, and institutional positions requiring competence in data processing.

\* This requirement may be met by completion of a course or satisfactory performance on a departmental waiver examination. The waiver option is available only to students with fewer than 75 credit hours and to transfer students if taken during their first quarter at PUC.

**Minor in Computer Science**

➤ *A minimum of 30 hours (15 upper division) including the following:*

CPTR 131-132      Computer Science      4-4

*The remaining hours may be selected from the following:*

Other CPTR or INFS courses

MATH 265      Elementary Linear Algebra (4)

MATH 275      Logic and Sets (4)

MATH 331      Probability Theory (3)

MATH 351-352      Introduction to Abstract Algebra (3-3)

MATH 355      Discrete Methods (4)

MATH 375      Numerical Analysis (4)

A maximum of nine hours from the MATH selections may apply.

➤ *Required Cognate Courses:*

OFAD 111      Personal/Beginning Keyboarding\*      0-2

➤ *Recommended Cognate Courses:*

ENGR 217      Engineering Electronics (4)

MATH 131      Calculus (4)

**Computer Science**

SERVICE COURSE:

*(May not be used for major or minor in this department)*

**CPTR 105      3 A, S**  
**Introduction to Computers**

An introductory course for the liberal arts student explaining computers and their history and use. Includes a survey of and practice with simple applications typically used with microcomputers, such as word processing, spreadsheets, and business graphics. No prerequisites; but a knowledge of mathematics equivalent to high-school algebra is assumed. Two lectures and one laboratory per week.

LOWER-DIVISION COURSES:

**CPTR 115      4 A**  
**Computers and Computer Programming**

An introduction to computer systems, problem solving with computers, and computer programming using C. Emphasis on program design, structured programming techniques, elementary data structures and their applications, and standard algorithms of note. Problem solving and program implementation

on the computer are required throughout the quarter. No previous programming experience is assumed. Three lectures and one laboratory per week.

**CPTR 131-132      4-4 W-S**  
**Computer Science**

A first course for computer science majors and others seriously interested in the foundation principles of computer science. Topics include an introduction to the study of algorithms, structure, and functions of computer hardware components, operating systems, data structures, sorting, computer languages, and computer programming. Three lectures and one laboratory per week. Prerequisite: CPTR 115 or equivalent programming experience and MATH 106.

**CPTR 224      3 A**  
**Assembler**

Techniques of assembly language programming; low-level program interaction with an operating system. Emphasis: low-level data manipulation and implementation of structured programming forms in assembly language. Prerequisite: CPTR 115 or equivalent programming experience.

**CPTR 234      3 W**  
**Programming in C++**

Structure of the C++ programming language, including data abstraction, classes, constructors and destructors, overloading, inheritance and polymorphism, templates, exceptions, and iostream methods. Two lectures and one laboratory per week. Prerequisites: CPTR 131-132.

**CPTR 236      3 W**  
**Microprocessor Systems**

Introduction to the architecture of microprocessors and the organization and functioning of a microcomputer. The operation of each functional block of the system (timing, logic, decoding, I/O, and memory); the instruction set, stack operation, and programming of a single-board computer at the machine-instruction level. Two lectures and one laboratory per week. Prerequisites: CPTR 224; ENGR 217.

**CPTR 246      3 S**  
**Object-Oriented Programming**

Methodology of object-oriented analysis, design, and programming. Object-oriented languages, responsibility, modules, class libraries, application frameworks, and highly reusable types in the context of a large object-oriented system. Two lectures and one laboratory per week. Prerequisite: CPTR 234.

\*See footnote on previous page.

# Computer Science

## **CPTR 299** **Mini-Course**

**1 Arr.**

A short course on a selected computer science-related topic of interest to the general student. Course format depends on the particular topic selected but usually consists of several lectures over approximately two or three weeks on a subject of current interest. With approval of the department chair, credit may apply toward a computer-science major.

UPPER-DIVISION COURSES:

## **CPTR 326** **Computer Languages**

**4 A**

Significant features of existing programming languages, with particular emphasis on the underlying concepts embodied in these languages. The student should expect to obtain at least a reading knowledge of current major programming languages. Prerequisites: CPTR 131-132, 224. Odd years.

## **CPTR 346** **Data Structures and Algorithms**

**4 W**

Basic concepts of data and the representation of data in a computer system. Linear lists, strings, arrays, trees, and other data structures in programming languages; applications in database management. Detailed study of techniques for sorting and searching; analysis of algorithms to determine their efficiencies in given situations. Prerequisites: CPTR 131-132, 224; MATH 355. Even years.

## **CPTR 347** **Database Systems**

**3 W**

Objectives and methods of organizing files into databases. Facilities for extraction of information from a database; hierarchical, network, and relational models; data description, internal file organization, and security. Prerequisites: CPTR 131-132. Odd years.

## **CPTR 356** **Digital Logic**

**4 A**

Number systems and coding, Boolean algebra, gates and switching circuits, analysis of networks using canonical forms. Implementation of combinational logic: gates, decoding, arithmetic functions. Systematic synthesis of functions (Karnaugh, Quine-McClusky). Sequential circuits: analysis, synthesis, implementation. Three lectures and one laboratory per week. Prerequisite: ENGR 217. Even years.

## **CPTR 357** **Computer Architecture**

**3 W**

Elements of a digital computer—organization, information flow. Storage of information, registers, and memory. Addressing modes. The ALU. Clocking and control. Input/output, interrupts, DMA. Prerequisites: CPTR 224, 356. Even years.

## **CPTR 367** **Communications and Networking**

**4 S**

Data transmission—serial, parallel, hand-shaking. Major protocols for communications. Data encryption, error detection/correction. Slave processors, packet switching. Networks of interacting computers. Problems of distributed processing and databases. Three lectures and one laboratory per week. Prerequisite: CPTR 131-132. Even years.

## **CPTR 396** **Seminar**

**.5 A**

This course for computer science majors includes general-interest topics, presentations from current literature, guest speakers, progress reports on student projects, and attendance at professional meetings. Maximum of two hours. Graded S/F.

## **CPTR 398** **Individual Programming Language Study**

**1-3**

Supervised individual study of a particular programming language not normally taught in an existing course. The study typically consists of developing solutions to a series of programming problems that are then implemented in the selected language. Languages suitable for this course include, but are not limited to, LISP, SCHEME, Ada, Smalltalk, Prolog, and Database programming languages. A minimum of 30 hours of programming activity is expected for each unit of credit. May be repeated for additional credit. Prerequisites: CPTR 131-132, 224.

## **CPTR 426** **Software Engineering**

**3 S**

Principles of organization and execution of a multiperson programming project including issues in managing and organizing people, and the tools and language features available to aid the development of large projects. Ethics in the software area. A suitable project is undertaken by the class as a whole. The project varies from year to year depending upon class size, background, and interest. Prerequisite: CPTR 131-132. Even years.

## **CPTR 437** **Computer Graphics**

**3 A**

Principles of graphic displays with the mathematical techniques of scaling, translation, rotation, clipping, filling, and projection of two- and three-dimensional objects; stereo projections, curve and surface fitting; animation. The student is also introduced to the techniques of image-processing, digitization, and filtering. Two lectures and one laboratory per week. Prerequisites: CPTR 131-132 (MATH 265 recommended). Odd years.

**CPTR 446** **4 W**  
**Compiler Construction**

Techniques of analyzing source language and generating efficient object code. Although some theoretical topics are considered, the course has the practical objective of teaching how to construct assemblers, interpreters, and compilers. Prerequisite: CPTR 326 (MATH 355 recommended). Odd years.

**CPTR 447** **3 S**  
**Operating Systems**

Multiprogramming and time-sharing system-design principles. Topics include processes and process communication, control of input-output, memory management, scheduling, file systems, protection, and resource allocation. Prerequisites: CPTR 131-132, 224; MATH 131 (MATH 331 recommended). Odd years.

**CPTR 455** **3 S**  
**Advanced Topics in Computer Science**

This required course for seniors addresses topics in artificial intelligence (philosophy and methods of AI, heuristics, machine learning, search strategies, and expert systems), theoretical computer science (computability, formal languages and grammars, automata, the Church-Turing thesis, methods of proof, and determinism), and a summary of the field of computer science. Prerequisite: CPTR 346 and senior standing. Corequisite: CPTR 447.

**CPTR 491** **0-2**  
**Cooperative Education**

An individual contract arrangement involving students, faculty, and industry to gain practical computer science experience in an off-campus setting. Prerequisite: Permission of the department chair. Graded S/F.

**CPTR 495** **1-3 A, W, S**  
**Independent Study**

With the approval of the department chair, qualified students majoring in computer science may undertake independent, directed study of a problem suited to their background and experience. Maximum of three hours.

**CPTR 499** **1-3 A, W, S**  
**Independent Research**

With the approval of the department chair, qualified students majoring in computer science may undertake a research problem suited to their background and experience. Maximum of nine hours permitted.

**Computer Science-Related Courses Offered by Other Departments:**

*Business Administration and Economics:*  
 INFS 128      COBOL

*Mathematics:*  
 MATH 355      Discrete Methods  
 MATH 375      Numerical Analysis  
 MATH 385      Mathematical Modeling

*Technology:*  
 ELEC 342      Microcomputer Design  
 GRPH 153      Introduction to Macintosh



**Faculty**

*Jean Buller, chair; Sandra Balli, Marsha Crow, Ginger Ketting, Marvin Mitchell*

*Departmental Office: 203 Education Building; 965-7265*

**Degrees and Programs**

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The Teacher Education Program is approved by the California Commission on Teacher Credentialing and by the Office of Education, General Conference of Seventh-day Adventists. Students may complete the first stage of credentialing requirements and qualify for both the State Preliminary and SDA Basic credentials within a normal bachelor’s degree program and may be employed at that point. The Education department has proposed a Crosscultural, Language, and Academic Development (CLAD) emphasis program for both the multiple-subject and single-subject credentials and expects State approval by Autumn quarter 1998. The Credential Analyst can provide additional information.

The second stage of credentialing may be met by an approved 45-quarter-hour fifth year or by a Master of Arts degree, which can be completed in four quarters. A Master of Arts in Education with emphasis in reading is available to students who would like to earn a master’s degree in the certification process (see “Master of Arts Degree in Education” in this catalog). The nondegree fifth year includes 19 hours of professional education core courses (see Master’s Degree section) and 26 hours of approved electives. Students should consult the Credential Analyst in the Education department prior to enrollment in either fifth-year option.

A reading/language arts specialist credential program is available. Consult the Education department for current information.

**General Requirements for Both Elementary and Secondary Credentials**

**1.** Select a baccalaureate degree with an appropriate teaching major.

**Elementary**

Complete the Subject-Matter Program for Elementary Education (SPEED) outlined in the following pages, which includes the Liberal-Studies major (fulfills requirements for California Multiple Subject and Seventh-day Adventist Elementary Credentials). Students who do not complete this approved subject matter program must pass the MSAT examination (Multiple Subject Assessment for Teachers).

**Secondary**

Complete an approved subject-matter program in one of the following areas as outlined in the respective sections of this publication or pass the PRAXIS/SSAT in an approved subject-matter area. In most cases specific and/or additional courses are required for a teaching credential that may not be needed for a bachelor’s degree. In addition, a student is normally expected to have a second teaching endorsement. To qualify for a state credential, majors in theology or religion must demonstrate subject-matter competence in a second area. They may do so by completing an approved subject-matter program or by passing the PRAXIS/SSAT examinations in a state-approved area. They must also complete a significant public school experience. Interested students should consult the Education department adviser for further details.

- Business Education
- English
- Home Economics
- Industrial Technology Education
- Mathematics
- Modern Language: French
- Modern Language: Spanish

*(Continues)*



## Education

Music Education  
 Physical Education  
 Science (Biology/Chemistry/Physics)  
 Social Science  
 Theology/Religion

Students qualifying for Seventh-day Adventist teaching credentials with majors other than those listed above should consult with the Credential Analyst.

It is possible to earn *additional teaching endorsements* for both California and SDA credentials. Consult the Credential Analyst for specific course requirements.

- 2.** Apply for Admission to the Teacher Education Program (see prerequisites listed in next section).
- 3.** Pass a test of minimum competency in reading, writing, and mathematics (CBEST). Students must pass this test prior to regular admission into the Teacher Education program and before their enrollment in curriculum and instruction (C/I) courses.
- 4.** Pass the U.S. Constitution examination or complete one of the following: (a) HIST 134-135, (b) HIST 140-141, (c) HIST 356, or (d) PLSC 124.
- 5.** Complete HLED 166 Health Education or FDNT 175 Personal Nutrition with a grade of C- or better.
- 6.** Complete 18 hours of religion (9 upper division) with at least a 2.0 grade-point average and with no grade lower than C-: 6 hours of RELB prefix courses; 3 hours of Doctrinal Studies (RELT 331, 332, or 333); HIST 340 (or RELT 381-382); and 5 hours of electives. A student in the SPEED program must select 3 hours of these electives from RELB 315, RELH 311, RELT 216, 218, 320, 355, and 440.
- 7.** Complete one course in technology: CPTR 105, GRPH 153, MUTH 201, or any word-processing course.
- 8.** For elementary credential: Provide documentation of a four-week laboratory experience in a multigrade classroom of at least three grades. This should be done at the beginning of the junior or senior year from approximately August 26 to September 20. Prerequisites: cumulative GPA of 2.5; major upper-division GPA of 2.7; completion of Education 482L.
- 9.** For elementary credential: Pass the Reading Instruction Competence Assessment (RICA). This should be done before completing student teaching.

**10.** After completing the first PUC C/I course with a lab: Apply for midprogram review by the Education department faculty for

approval to continue in the Teacher Education program. The faculty review will incorporate the following evaluations, as applicable:

- a. lab evaluation
- b. residence hall dean's evaluation
- c. major department evaluation
- d. Vice President for Student Life Administration evaluation
- e. work supervisor evaluation

The application with accompanying evaluations is brought by the Education adviser to the Education department faculty for approval, approval with reservations, or denial.

**11.** Complete professional education courses as outlined below with a grade of C- or better in each course and a grade of B or better in each lab.

EDUC 101	Introduction to Teaching	1
EDUC 101L	Introduction to Teaching Lab	1
EDUC 333	Educational Psychology	2
EDUC 335	Principles of Christian Education	2
EDUC 336	Social and Multicultural Education	2

In addition, the following courses are required for elementary and secondary credentials:

### Elementary

EDUC 245	Elem. School C/I: Math/Science	4
EDUC 353	Elem. School C/I: Beginning Reading and Writing	3
EDUC 355	Elem. School C/I: Reading/Language Arts	2
EDUC 356	Elem. School C/I: Reading/Social Studies	3
EDUC 390	K-12 C/I Bible	2
EDUC 482	Student Teaching Seminar	3
EDUC 482L	Student Teaching, Elementary (1 hr. concurrent registration with EDUC 245, 355, and 356; 12 hrs. full-time one quarter senior year)	15
September Experience		0
ENGL 335	Survey of Linguistics	4
ENGL 337	ESL Teaching Methodology (optional; required for CLAD) Language Requirement (optional; required for CLAD)	4

*One course from the following:* 3-4

ART 314	Art for Children (3)
EDUC 438-438L	Computers in the Classroom and Lab (2-1)
ENGL 330	Literature for Children (4)
MUED 338	Music for Children I plus Lab (3)
PETH 476	Physical Education for Children (3)

**Secondary**

EDUC 358	C/I Reading—Secondary	3
EDUC 358L	C/I Reading—Secondary Lab	1
EDUC 360	C/I Secondary Methods I*	2
EDUC 361	C/I Middle-School Methods*	2
EDUC 361L	C/I Middle-School Methods Lab*	1
EDUC 362	C/I Secondary Methods II*	2
EDUC 362L	C/I Secondary Methods II Lab*	1
EDUC 390	K-12 C/I Bible (optional; required for Religion endorsement)	2
EDUC 485	Student Teaching Seminar	3
EDUC 485L	Student Teaching	15
	9 hrs. Junior High—9 weeks	
	9 hrs. Senior High—9 weeks	
ENGL 335	Survey of Linguistics	4
ENGL 337	ESL Teaching Methodology (optional; required for CLAD)	4
	Language requirement (optional; required for CLAD)	
ANTH 124	Cultural Anthropology	3-4
	(or COMM 330 Intercultural Communication or SOCI 121 Introduction to Sociology)	

**Criteria for Preliminary Admission to the Teacher Education Program**

1. Complete EDUC 101 Introduction to Teaching and EDUC 101L, preferably in the freshman year.
2. Submit an application to the Education department.
3. Submit to the Education department a Certificate of Clearance application to the California Commission on Teacher Credentialing (prerequisite to C/I courses with field components). Application includes fingerprinting and fee.
4. Make appointments for interviews with the chair of the Education department and the assigned Education department adviser.
5. Arrange for a teacher or the academic adviser to complete the recommendation form and return it to the Education department.
6. Meet cumulative GPA requirement: 2.5.
7. Satisfy residence requirement: One quarter at PUC or acceptance into a Teacher Education Program in another accredited college or university.

**Criteria for Regular Admission to the Teacher Education Program**

1. Items 1-6 above.
2. Pass CBEST (California Basic Educational Skills Test) and

submit a Permanent Verification Card. This examination, given at PUC six times each year, covers reading, writing, and mathematics. One can retake it if necessary. Candidates must pass the CBEST before achieving regular admission and clearance to register for curriculum and instruction (C/I) courses. Application packets are available at the Education department (fee required).

3. Have a Certificate of Clearance on file in the Education department.
4. Maintain a cumulative GPA of 2.5 to retain regular status.

**Restrictions on Accepted Courses**

1. C/I courses with fieldwork may not be taken by correspondence or directed study. C/I courses with fieldwork being transferred will require the fieldwork to be completed here.
2. C/I courses without fieldwork may be taken by correspondence or directed study if approved by the department. Limit of one approved course.
3. Limit of 12 approved hours for transfer toward a master's degree or Reading/Language Arts credential program.
4. All core courses in the fifth-year program must be taken at Pacific Union College with the following exceptions: PSYC 359/L and EDUC 438/L.

**Prerequisites for Student Teaching**

1. Regular acceptance into the Teacher-Education program.
2. A minimum cumulative grade-point average of 2.5 and of 2.7 in upper-division courses in the major.
3. Satisfactory completion of adequate preparation in the teaching areas. (Secondary: 80% of subject-matter courses, or pass PRAXIS/SSAT examinations; elementary: 101 hours in the SPEED waiver program, 80% of subject-matter program, or pass MSAT.)
4. Complete the U.S. Constitution and health-education requirements (or their inclusion in the Senior Contract).
5. Meet PUC residence requirement: two upper-division courses in the major and two courses in Education.
6. Elementary: complete required courses—14 hours: EDUC 101/ 101L, 245, 353, 355, 356, 482L (3 hours), multigrade experience.
7. Secondary: complete required courses—12 hours: EDUC 101/101L, 358/358L, 360, 361/361L, 362/362L.
8. Submit a Student Teaching Application by March 1 prior to the school year during which full-time student teaching will take place, including the following:
  - a) Application form
  - b) Major department recommendation
  - c) Employer recommendation (or equivalent)

\* Not to be taken before the junior year.

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- d) Health clearance (including TB)
- e) Résumé
- f) Approval of the Department of Education
- 9. Receive clearance from the Vice President for Student Life Administration

### Subject-Matter Program for Elementary Education (SPEED)

The Subject-Matter Program for Elementary Education with the Liberal Studies major as its core has been designed in harmony with the educational philosophy of Pacific Union College to meet the objectives of SDA and public education at the elementary level. It has been approved by the California Commission on Teacher Credentialing as the multiple-subject-matter program for students who plan to teach in a self-contained elementary-school classroom. The program requires a minimum of 126 quarter hours (including the Liberal Studies major of 60 hours, 38 of which must be upper-division).

Students should consult with credential advisers in the Education department in developing their program of studies. General-education requirements, the Subject-Matter Program for Elementary Education, the Liberal Studies major, and the professional education courses must be carefully scheduled if one is to complete the graduation requirements and qualify for both the California Preliminary and the SDA Basic credentials within the normal four-year bachelor's degree program.

### General Education Foundation Courses

The courses listed below fulfill general-education requirements for all B.A. degree programs. All may also be applied to SPEED. Specific courses or course options required by general education or by SPEED are listed by course number. The 92-95 hour total assumes a full year each of biology, chemistry, physics, and two years of a foreign language at the secondary level and an ACT Standard Score of 19 or a satisfactory score on a Mathematics department placement test. Students lacking these college-preparatory courses will have to use elective hours to make up the deficiencies in their foundational course work.

#### I. Foundations of Learning

15

ENGL 101-102 or 105-106 College English (8)

*One of the following Communication courses:*

- COMM 105 Speech Communication (3)
- COMM 225 Oral Interpretation (3)
- COMM 226 Public Speaking (3)
- COMM 336 Advanced Public Speaking (3)
- COMM 327 Argumentation (3)
- COMM 427 Persuasive Communication (3)

MATH 222 Introduction to Statistics (4)

#### II. Human Identity in Cultural Contexts

27-30

HIST 101-102 History of World Civilization (8)

*One of the following Philosophy courses:*

- PHIL 101 Introduction to Philosophy (4)
- PHIL 451 History of Western Thought (3)

PSYC 121 General Psychology (4)

PLSC 124 Introduction to American Government (3)

Foreign language: intermediate level or first year of a second foreign language (9-12)

#### III. Insights of the Imagination

10

ENGL 301 Great Books (4)

*One of the following:*

- ART 105 History of Western Art (4)
- ART 107 American Art (3)
- ART 108 History of Far Eastern Art (3)

*One of the following:*

- MUED 104 The Christian and Music (3)
- MUED 105 Survey of Music (3)

#### IV. The Natural World

10-12

GSCI 205 Scientific Revolutions (3)

Laboratory course in chemistry or physics (not PHYS 105) (4-6)

*One of the following:*

- BIOL 345 Human Ecology (3)
- BIOL 355 Philosophy of Biology (3)
- PHIL 390 History and Philosophy of Science (3)

#### V. Revelation, Belief, and Action

18

Any RELB courses (6)

RELT 331, 332, or 333 (3)

RELT 381-382 or HIST 340 (4)

RELT 216, 355, or 440; or RELB 315 (3)

Any REL\_\_ (2)

#### VI. Health and Fitness

8

HLED 166 or FDNT 175 (2)

PETH 476 (3)

PEAC (3), including one aerobics course

#### VII. Skills for Daily Living

4

Applied Arts (see page 27) (2)

*One of the following:*

- CPTR 105 Introduction to Computers (3)
- GRPH 153 Introduction to Macintosh (2)
- OFAD 301 Word Processing (2)

*Total General Education Hours*

92-95

## Liberal Studies Major, B.A.

As offered by the Liberal Studies department, this diversified major is designed for those who want a flexible program involving both academic rigor and breadth of exposure. It also provides the baccalaureate degree major for candidates seeking the elementary teaching credential. Requirements are restated here with special applications for SPEED students.

**1.** A minimum of 60 hours (38 in the upper division) selected with the approval of a department adviser to satisfy the following requirements:

All students must complete a minimum of 15 hours *excluding courses used to satisfy general-education requirements* from each of the three areas listed. The required courses for SPEED candidates are listed in each area. The recommended courses and options listed may be used to fulfill the 15 hours required or to complete the concentration as described under (2) below.

### Arts and Humanities

Art, Drama, Ethics, Foreign Language, Linguistics, Literature, Music, Philosophy, Religion, and Rhetoric

DRMA 229	Fundamentals of Dramatic Performance (3)
ENGL 335	Survey of Linguistics (4)
PHIL 101	Introduction to Philosophy (4)

#### ► Recommended courses:

ART 124	Design and Composition (3)
ART 314	Art for Children (3)
COMM 328	Small Group Communication (3)
COMM 330	Intercultural Communication (3)
COMM 480	Classroom Communication (3)
ENGL 330	Literature for Children (4)
ENGL 331	Literature for Adolescents (4)
ENGL 337	ESL Teaching Methodology (4)
ENGL 405	Advanced Expository Writing (3)
ENGL 434	Advanced English Syntax (4)
ENGL 484	Literature of the Bible (4)
MUED 338	Music for Children (2)
PHIL/RELT 440	Christian Bioethics (3)
PHIL 460	Moral Philosophy (3)
PHIL 485	Issues in Science and Religion (3)
RELH 311	World Religions (3)
RELT 355	Christian Social Ethics (3)

### Natural Science and Mathematics

Astronomy, Biology, Chemistry, Computer Science, Geology, Mathematics, and Physics. The student must include at least one biology course and one earth science course in the major or in general education.

MATH 211-212	Foundations of School Mathematics	3-3
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#### One of the following:

BIOL 227	Natural History of California (3)
BIOL 323	Vertebrate Natural History (3)
BIOL 324	Ornithology (field oriented) (3)
BIOL 325	Flowering Plants (3)
GEOL 233	Geology (4)

#### ► Recommended Courses:

ASTR 105	Introduction to Astronomy (5)
BIOL 345	Human Ecology (3)
BIOL/PHIL 355	Philosophy of Biology (3)
PHIL 390	History and Philosophy of Science (3)

### Social and Behavioral Science

Anthropology, Economics, Geography, History, Political Science, Psychology, and Sociology

ANTH 124	Cultural Anthropology (4)
HIST 134-135	History of the United States (4-4) (or one U. S. History course (upper division recommended) (4)) and a course in the U.S. Constitution.
PSYC 234	Human Development (4) (or PSYC 334 Child Development (4))

#### ► Recommended Courses:

HIST/ENGL 365	Seminar in American Slavery and Freedom (3)
HIST/ENGL 485	The Classical World (5)
PSYC 359	Psychology of Exceptional Children (4)
PSYC 390	Gender Issues (3)
PSYC 490	Issues in Psychology and Religion (3)
SOCI 121	Introduction to Sociology (4)
SOCI 232	American Social Problems (4)
SOCI 355	Racial and Ethnic Relations (3)
SOCI 435	The Sacred and Profane in Society (3)

**2.** A concentration in a field of knowledge consisting of a minimum of 27 hours in a discipline or from courses from the areas listed above that relate to a well-defined theme, chosen in consultation with a department adviser.

SPEED students must also meet the following concentration requirements:

- A minimum of 18 upper-division hours of the concentration must be selected from courses that relate to a subject area of the elementary school curriculum (i.e., language, literature, mathematics, science, social science, history, humanities, the arts, physical education and human development.)
- None of the required 18 upper-division hours may include a course required of all candidates in the elementary education credential program.
- The concentration must include the completion of a research

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project, independent study, production, performance, project or similar significant activity involving independent creative effort.

**3.** At least one interdisciplinary or integrative course of at least three credit hours involving the examination of relationships between two or more disciplines, the synthesis of major themes, and the comparison of various forms of inquiry. Courses qualifying as interdisciplinary or integrated are listed under the Interdisciplinary Studies major in the Liberal Studies section of this publication.

**4.** A student choosing the Liberal Studies major develops the program of studies in consultation with an academic adviser.

The program must be approved by the Liberal Studies faculty. Because the major is largely comprised of courses offered by other departments, the student should apply for approval of the course program no later than the beginning of the junior year.

### Master of Arts in Elementary Education

A program leading to a Master of Arts degree in Elementary Education with an emphasis in Reading is available. Students interested in this degree should see the section in this catalog describing the Master's Degree Program. Specific questions should be referred to the Chair of the Department of Education.

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### GENERAL COURSES:

#### **EDUC 101** **1 A, W, S** **Introduction to Teaching**

A general overview of the history of education and teaching as a profession. Effective teaching techniques, including the fundamental steps in presenting a lesson. Concurrent enrollment in EDUC 101L required.

#### **EDUC 101L** **1 A, W, S** **Introduction to Teaching Lab**

A thirty-hour field experience in the PUC area that provides practical information for the student who is making a decision about teaching and affords opportunity for the student to imagine himself or herself in the role of teacher. Students who wish to apply credit for this course toward the requirements for a teaching credential must earn a grade of B or better. Concurrent enrollment in EDUC 101 required. Prerequisite: 2.5 grade-point average.

#### **EDUC 333** **2 W** **Educational Psychology**

A survey course applying psychological principles to the classroom setting.

Effects on learning of such student characteristics as intelligence, personality, cognitive and moral development, sex, and exceptionality. Major learning theories, motivation, information processing, classroom management, educational objectives, evaluation, and measurement.

#### **EDUC 335** **2 A** **Ethical Dimensions of Teaching**

Examination of the ethical and moral components of the teaching profession. Emphasis on ideals and principles of Christian education and their application in Seventh-day Adventist schools. Philosophy of American and Adventist education compared and contrasted. Emphasis on integrating faith and learning.

#### **EDUC 336** **2 S** **Social and Multicultural Education**

Designed to help present and future educators acquire the concepts, paradigms, and explanations needed to be effective practitioners in a culturally diverse society. Concepts, strategies, and resources are examined that contribute to building an atmosphere of positive human relations and removing negative stereotypes and prejudices from the classroom.

#### **EDUC 359** **3 A** **Psychology of Exceptional Children** (See PSYC 359.)

#### **EDUC 359L** **1 A** **Psychology of Exceptional Children Laboratory** (See PSYC 359L.)

#### **EDUC 390** **2 W** **K-12 Curriculum and Instruction: Bible**

Development of teaching objectives, materials, and strategies in biblical education. The SDA Bible curriculum with special attention to spiritual development and the teaching methods of Christ the Master Teacher. Includes teaching in multigrade classrooms. Fulfills requirement for elementary or junior-academy endorsement as well as an additional secondary Bible endorsement.

#### **EDUC 438** **2 S** **Computers in the Classroom**

An introduction to the use and evaluation of computers in the elementary and secondary classroom. Application and evaluation of databases, word processing, spread sheets, utility programs and computer-assisted instruction. Concurrent enrollment in EDUC 438L required.

Prerequisite: CPTR 105, GRPH 153, or a word processing course, or computer competency demonstrated by application and test.

**EDUC 438L** **1 S**  
**Computers in the Classroom Lab**

Opportunity to demonstrate a basic understanding of computer applications in the classroom and to use, evaluate, and develop instructional programs appropriate to subject area and grade level. Emphasis on creative processes and development of problem-solving and critical-thinking skills. Concurrent enrollment required in EDUC 438.

**EDUC 495** **1-3 A, W, S**  
**Independent Study**

ELEMENTARY COURSES:

*(Prerequisite for the courses listed below: Regular Admission Status in the Teacher Education program, which includes EDUC 101/101L, passing the CBEST, and maintaining a cumulative GPA of 2.5 and an upper-division major GPA of 2.7.)*

**EDUC 245** **4 S**  
**Elementary School Curriculum and Instruction: Mathematics/Science**

The teaching of mathematics in the elementary school with emphasis on problem solving and the use of manipulatives. Covers the application of observation, inquiry, discovery, and problem solving in the sciences. Includes teaching in the multigrade classroom. Concurrent enrollment for one hour of credit in EDUC 482L required. Prerequisite: MATH 211-212.

**EDUC 353** **3 A**  
**Elementary School Curriculum and Instruction: Beginning Reading and Writing**

A balanced, comprehensive approach to teaching reading and writing in pre-kindergarten through grade three, including research on how children learn to read, diagnosis of reading difficulties, phonics, stages of writing development, and planning and delivery of appropriate reading and writing instruction based on assessment and evaluation. Emphasis on CLAD and early prevention of failure in literacy for at-risk children. Requires regular observation in a diverse K-3 classroom.

**EDUC 355** **2 A**  
**Elementary School Curriculum and Instruction: Reading/Language Arts**

A basic course defining the nature of language acquisition and the principles related to beginning and intermediate reading/language arts instruction. Includes instructional strategies for developing ability to transmit meaning through talking and writing and to comprehend meaning through listening and reading. Also emphasizes assessment and management techniques. Concurrent enrollment for one hour of credit in EDUC 482L each quarter required.

**EDUC 356** **3 W**  
**Elementary School Curriculum and Instruction: Reading/Social Studies**

A basic course defining the nature of language acquisition and the principles related to intermediate reading/language arts instruction. Includes instructional strategies for developing ability to transmit meaning through talking and writing and to comprehend meaning through listening and reading. Emphasis on using the content of social studies to develop instructional objectives and activities. Also emphasizes assessment and manage-

ment techniques and teaching to diverse groups of students. Includes multigrade teaching. Concurrent enrollment required in EDUC 482L for 1 credit.

**EDUC 482** **1 A, W, S**  
**Student Teaching: Elementary School Seminar**

Register for one hour each quarter of the senior year. Presentation and discussion of topics of current interest, such as school law, classroom discipline, comparative teaching styles, staff, administrative and parent relationships, and other topics relating specifically to the student-teaching experience.

**EDUC 482L** **1-15 A-W-S**  
**Student Teaching, Elementary**

Student teaching is divided into two components:

- a) Three hours: one hour concurrent registration for student teaching with each of three methods course—EDUC 245, 355, 356.
- b) Twelve hours full-time participation in an elementary-school classroom during one quarter of the senior year. Requirements include weekly participation in the student-teaching seminar (EDUC 482). Application is required by March 1 prior to the school year during which one's student teaching is scheduled. Graded S/F basis. See prerequisites for student teaching on page 107 of this catalog. Students must provide their own transportation to and from the teaching assignment.

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### SECONDARY COURSES:

*(Prerequisite for the courses listed below: Regular Admission Status in the Teacher Education program; junior-year status (see "Classification of Students," page 40); includes EDUC 101/101L and passing CBEST.)*

#### **EDUC 358** **3 A** **Curriculum and Instruction: Teaching of Reading in the Secondary School**

Major emphasis on teaching vocabulary, comprehension, and study skills in grades 7-12. The role of reading in the secondary school, the reading process, language acquisition, needs of students from various cultural and ethnic backgrounds, adaptation of content to reading abilities of students, motivation, diagnosis, and evaluation. Concurrent enrollment in EDUC 358L required.

#### **EDUC 358L** **1 A** **Curriculum and Instruction: Teaching of Reading in the Secondary School Lab**

Thirty hours of laboratory experience tutoring students with reading difficulties and/or ESL students. The purpose of this fieldwork is to demonstrate reading skills learned in EDUC 358.

#### **EDUC 360** **2 A** **Curriculum and Instruction: Secondary Methods I**

Introduction to the secondary school curriculum. Curriculum characteristics, instructional objectives, teaching methods, lesson planning, classroom management, audio-visual materials, and grouping and evaluation.

#### **EDUC 361** **2 W** **Curriculum and Instruction: Middle-School Methods**

Introduction to the middle-school curriculum. Middle-school teaching methods, classroom management skills,

lesson and unit planning. Critical thinking and problem-solving skills directly related to the intellectual, physical, psychological and social development of middle-school students. Concurrent enrollment in EDUC 361L required. Prerequisite: EDUC 360; major upper-division GPA of 2.7.

#### **EDUC 361L** **1 W** **Curriculum and Instruction: Middle School Methods Lab**

Field experience giving candidates an opportunity to observe, help, and teach at the middle-school level for thirty class periods, with six class periods of solo teaching. Concurrent enrollment in EDUC 361 required. Prerequisite: EDUC 360; major upper-division GPA of 2.7.

#### **EDUC 362** **2 S** **Curriculum and Instruction: Secondary Methods II**

Specific teaching skills, methods, and strategies for the following majors: Business Education, English, Home Economics (see Family and Consumer Sciences), Mathematics, French, Spanish, Music Education, Physical Education, Religion, Science (Biology, Chemistry, and Physics), Social Science, and Technology Education. Topics include writing appropriate objectives, current instructional materials, curriculum guides, methods of subject presentation, preparation of lesson plans, and use of computers. Concurrent enrollment required in EDUC 362L. Prerequisite: EDUC 360; major upper-division GPA of 2.7.

#### **EDUC 362L** **1 S** **Curriculum and Instruction: Secondary Methods II Lab**

Thirty hours of laboratory work with a grade of B or better is required. The lab experience includes observing in local schools and developing content-area instructional materials in one of the disciplines listed under EDUC 362.

Concurrent enrollment required in EDUC 362. Prerequisite: EDUC 360; major upper-division GPA of 2.7.

#### **EDUC 485** **1 A, W, S** **Student Teaching, Middle- and Senior-High School: Seminar**

Register for one hour each quarter of the senior year. Presentation and discussion of topics of current interest, such as school law, classroom discipline, comparative teaching styles, staff, administrative, and parent relationships, and other topics relating specifically to the student-teaching experience.

#### **EDUC 485L** **1-17 A-W-S** **Student Teaching, Middle and Senior High School**

Student teaching in junior and senior high schools is organized on a semester basis and includes nine weeks of full-time work at each level. Requirements include weekly participation in the Student Teaching Seminar (EDUC 485). Application is required by March 1 prior to the school year during which student teaching is scheduled. Graded S/F. See prerequisites for student teaching on page 107 of this catalog. Students must provide their own transportation to and from the teaching assignment. Concurrent enrollment is required in EDUC 485 Student Teaching Seminar.

### GRADUATE COURSES:

*(Prerequisite: Admission to MA, fifth-year, or Reading/Language Arts Specialist program, or departmental approval)*

#### **EDUC 514** **3 S** **Advanced Learning Theory**

Examination of the major theoretical and experimental contributions in learning as applied to the educational process. Prerequisite: EDUC 333 or permission of the instructor.

**EDUC 515** **3 A**  
**Educational and Psychological Evaluation**

Measurement procedures in education and of commonly used teacher-made and standardized tests. The past, present, and future of testing and grading.

**EDUC 516** **3 W**  
**Curriculum Planning and Development**

A study of K-12 curricula including an historical review, curriculum theory, curriculum processes, curriculum management, and current issues and trends.

**EDUC 517** **3 W**  
**Current Issues in Education**

Contemporary controversial issues in public and private education. Students are challenged to understand controversial educational issues better, to become aware of possible alternatives in handling the issues, and to use their creativity to search for alternate solutions for the problems.

*(Prerequisite to the following: Admission to M.A. or Reading/Language Arts Specialist Credential Program)*

**EDUC 522** **3 A**  
**Reading as Cognitive Process**

A critical examination of current investigations of the cognitive aspects of learning to read. Prerequisites: EDUC 353, 355, 356. Odd years.

**EDUC 523** **2 W**  
**Strategies for Authentic Literacy Assessment and Instruction**

Principles and practices of selecting methods and materials for literacy instruction and ongoing assessment for all ages. Prerequisites: EDUC 353, 355, 356. Corequisite: Concurrent enrollment in EDUC 523L. Even years.

**EDUC 523L** **1 W**  
**Fieldwork**

**EDUC 524** **2 S**  
**Seminar in Language and Literacy Instruction**

A critical analysis and development of learner-centered language and literacy instructional techniques, including evaluation and selection of printed materials and computer software. Prerequisite: EDUC 523. Corequisite: Concurrent enrollment in EDUC 524L. Even years.

**EDUC 524L** **1 S**  
**Fieldwork**

**EDUC 526** **3 W**  
**Integrated Language Arts Curriculum**

How speaking, reading, writing, and listening can be taught across the curriculum. Includes reading and writing workshops. Stresses staff development and organization of reading programs. Leadership role of the Reading/Language Arts Specialist. Prerequisites: EDUC 353, 355, 356. Odd years.

**EDUC 527** **2 Su**  
**Trends and Issues in Children's Literature**

Trends and issues in the classroom use of literature for children and adolescents. Prerequisite: ENGL 330 or Literature Seminar.

**EDUC 528** **1 Su**  
**Reading and Language Arts for Diverse Students**

How best to meet the literary needs of diverse students: ethnic, linguistic, cultural, socioeconomic, gender, and learning-different. Corequisite: Concurrent enrollment in EDUC 528L required.

**EDUC 528L** **1 Su**  
**Fieldwork**

A minimum of 30 hours of fieldwork observing, working with, and developing teaching styles to reach the needs of diverse students.

**EDUC 595** **1-3 A, W, S**  
**Independent Study**

Individual studies open to students with adequate preparation in the area of proposed study. Maximum of three hours credit.

**EDUC 596** **1 A**  
**Seminar: Research in Teaching Literacy**

A review of literacy research and an introduction to methods of literacy research.

**EDUC 597** **1-4 A, W, S**  
**Graduate Project**

The culmination of the master's degree program, involving a practical application of theoretical concepts in an actual classroom situation. Research methods and literature review presented at the beginning of the winter quarter. After receiving formal project approval, students implement the project and, upon completing the implementation, prepare a formal written report to be shared orally with the Education faculty and other graduate students during the spring or summer quarter. Prerequisite or corequisite: EDUC 596.

**EDUC 598** **1-4 A, W, S**  
**Fieldwork**

Fieldwork involving practical classroom application of the theoretical concepts of teaching reading/language arts.





## Faculty

Nancy Lecourt, chair; Janet Borisevich (on study leave),  
Linda Gill, Marilyn Glaim, Sandra Ingram, Isaac Johnson,  
Edwin Moore, Monique Pittman, Andrew Wheat

Departmental Office: Stauffer Hall; 965-7559

Chair's Office: 965-7550

## Degrees and Programs

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ENGLISH majors discover a great variety of literature, including traditional English and American texts as well as newly appreciated works by women and minority writers. They explore all the genres from many perspectives: recent critical approaches, history of ideas, classical studies, and Christianity and literature. They develop and refine their writing in both critical and creative writing courses.

English majors may select one of four emphases: British and American Literature, English-Education, Teaching English as a Second Language, and Writing.

The Department of English also maintains a four-level English Language Program for students whose native language is not English and who have a score below 525 on the TOEFL (Test of English as a Foreign Language).

## Major in English, B.A.

A minimum of 53 hours, except for the Emphasis in English Education, which must meet State requirements:

► Required core courses for all majors in English (35-37 hours):

ENGL 224	Literary Theory	4
ENGL 335	Survey of Linguistics	4
	(Prerequisite: ENGL 134)	

One of the following writing courses: 3-4

ENGL 346	Creative Writing (4)	
ENGL 306	Technical Writing (3)	
ENGL 405	Advanced Expository Writing (3)	

These two courses in British and American literature:

ENGL 465	English Medieval and Renaissance	4
ENGL 355	American Colonial and Romantic Periods	4

Two of the following period courses in British literature: 8

ENGL 466	The Restoration and the Eighteenth Century (4)	
ENGL 467	The Romantic Age (4)	
ENGL 468	The Victorian Age (4)	
ENGL 469	The Modern and Postmodern Ages (4)	

One of these American literature courses: 4

ENGL 356	American Realism and Naturalism (4)	
ENGL 357	American Twentieth Century (4)	

One of the following context courses: 4-5

ENGL 484	Literature of the Bible (4)	
ENGL 485	The Classical World (5)	

► Emphases (choose one):

### 1. Emphasis in British & American Literature (18 hours)

ENGL 389	Junior Seminar	1
ENGL 474	Shakespeare	4
ENGL 490	Senior Seminar	2

To complete the 18 hours, select from upper-division literature courses in British periods, American periods, or genre and theme courses; at least one genre or theme course is required.

# English

## 2. Emphasis in Writing (18 hours)

ENGL 389	Junior Seminar	1
ENGL 490	Senior Seminar	2

*Additional selections from the following (at least nine hours from courses with ENGL prefix):* 15

ENGL 306	Technical Writing (3)	
ENGL 307	Composition Theory (3)	
ENGL 346	Creative Writing (4)	
ENGL 348	Literary Genres (4)	
ENGL 405	Advanced Expository Writing (3)	
ENGL 434	Advanced English Syntax (4)	
JOUR 244	Copyediting (2)	
JOUR 343	Magazine and Feature-Article Writing (3)	
JOUR 354	Broadcast Journalism I (3)	
JOUR 444	Editorial & Interpretive Reporting & Writing (3)	
JOUR 455	Specialized Journalistic Writing (3)	

*(Note: Some journalism courses list JOUR 141, 142 as prerequisites.)*

## 3. Emphasis in English Education (36 hours)

COMM 225	Oral Interpretation*	3
ENGL 101-102	College English*	4-4
ENGL 141	Newswriting and Reporting I	3
ENGL 301	Great Books: Global Perspectives*	4
ENGL 307	Rhetorical Theory	3
ENGL 330	Literature for Children	4
ENGL 331	Literature for Adolescents	4
ENGL 336	Second Language Acquisition	4
ENGL 434	Advanced English Syntax	4
ENGL 474	Shakespeare	4
ENGL 493	Senior Education Seminar	1

## 4. Emphasis in Teaching English as a Second Language

(18 hours)		
ENGL 336	Second Language Acquisition	4
ENGL 337	ESL Teaching Methodology	4
ENGL 443	ESL Curriculum Development and Classroom Management	4
ENGL 444	ESL Testing	2
ENGL 445	Cultural & Psychological Learner Differences	2
ENGL 491	ESL Teaching Practicum	2

## TESL Certificate

► (26-31 hours)

ENGL 336	Second Language Acquisition	4
ENGL 337	ESL Teaching Methodology	4

ENGL 443	ESL Curriculum Development and Classroom Management	4
ENGL 444	ESL Testing	2
ENGL 445	Cultural and Psychological Learner Differences	2
ENGL 491	ESL Teaching Practicum	2

*From the following courses, 8 hours:* 8

ENGL 291:	ESL Tutoring Practicum (1)	
ENGL 434	Advanced English Syntax (4)	
ANTH 124	Cultural Anthropology (4)	
COMM 330	Intercultural Communication (3)	
SPPA 264	Phonetics and Speech Science (3)	

*Students seeking the TESL Certificate but not majoring in English will also take ENGL 134 Review of English Syntax (1) and ENGL 335 Survey of Linguistics (4).*

## Teaching Credential

Students desiring to enter a program of studies leading to a California teaching credential in English should take the English Education Emphasis. This program meets established standards of quality and effectiveness and has been approved by the State of California Commission on Teacher Credentialing. A brochure describing the new program and its requirements is available in the English department.

Those who plan to teach English on the secondary level should consult with the Credential Analyst in the Department of Education and should become acquainted with the specific requirements for admission to and successful completion of the Teacher Education Program as outlined in the Education section of this catalog.

## Minor in English

► *A minimum of 30 hours (12 upper division) including the following:*

ENGL 224	Literary Theory	4
ENGL 355	American Colonial and Romantic Periods	4
ENGL 465	English Medieval and Renaissance	4

► *A minimum of twelve hours from the following:* 12

ENGL 356	American Realism and Naturalism (4)	
ENGL 357	American Twentieth Century (4)	
ENGL 466	The Restoration & the Eighteenth Century (4)	
ENGL 467	The Romantic Age (4)	
ENGL 468	The Victorian Age (4)	
ENGL 469	The Modern and Postmodern Ages (4)	

\*Also satisfies general studies requirements.

## Minor in Writing

► A minimum of 30 hours (12 upper division) including the following:

ENGL 346	Creative Writing	4-12
ENGL 389	Junior Seminar	1
ENGL 405	Advanced Expository Writing	3
ENGL 490	Senior Seminar	2

*Selections from the following:* 12-20

ENGL 306	Technical Writing (3)
ENGL 307	Composition Theory (3)
ENGL 348	Literary Genres (4)
JOUR 141	Newswriting and Reporting I (3)
JOUR 142	Newswriting and Reporting II (3)*
JOUR 244	Copyediting (2)
JOUR 343	Magazine and Feature-Article Writing (3)*
JOUR 354	Broadcast Journalism I (3)*
JOUR 444	Editorial & Interpretive Reporting & Writing (3)*
JOUR 455	Specialized Journalistic Writing (3)*

(\*These journalism courses have prerequisites. See course descriptions.)

## English Language Program

Intensive English language study for international students who need to improve their English-language skills before entering a college degree program or before working or traveling in

the United States. Also for American residents whose primary language is not English and who need to improve their second-language skills in English. (See “Admission of International Students,” page 20.)

Students who wish to enter the English Language Program should have completed beginning English before coming to the College. Instruction is given at the low-intermediate, intermediate, high-intermediate and advanced levels of proficiency. The lower and intermediate levels emphasize the development of social communication skills as well as reading and composition. The advanced level emphasizes the academic skills of reading selected literature, writing a library research paper, lecture note-taking, academic communication and test-taking.

Because the English Language Program is intensive, students enrolling in it should expect to take other college courses only *after* they have completed the advanced level of language proficiency. Advanced students who show adequate proficiency may enroll in supplementary college courses with the permission of the program director/adviser while they complete their language requirements. Students with TOEFL scores of 500–524 are required to plan their programs with two advisers, ESL and academic major; to take ESL support courses; and to take the TOEFL at the beginning and end of each quarter in residence. They may enroll for selected regular academic courses as approved by both the ESL adviser and the academic major adviser.

## English as a Second Language

SERVICE COURSES:

(May not be used for major or minor in this department)

### ENSL 020 1 A, W, S, Su ESL Laboratory

Practical language support in a laboratory setting customized according to the ESL student’s needs and interests in the following areas: personal and academic listening (L), pronunciation (P), vocabulary and idioms (V), test-taking practice (T), ESL computer practice (C). Three hours per week. May be repeated for credit.

### ENSL 042 4 A, W, S, Su Grammar II

For low-intermediate ESL students who need to review basic grammatical structures, word classes, verb tenses, and basic sentence patterns of the English language. Emphasis on accurate grammar usage in sentences and basic paragraphs.

### ENSL 043 4 A, W, S, Su Grammar III

For ESL students at the intermediate level of grammar proficiency. Intensive classroom instruction and homework provide a broad foundation of functional English grammar. Practice in identifying and writing various sentence structures.

### ENSL 044 4 A, W, S, Su Grammar IV

A high-intermediate course providing the ESL student instruction and experience in more complex grammatical structures of English in various types of composition.

### ENSL 045 4 A, W, S, Su Academic Grammar V

An advanced course providing intensive guidance in understanding and applying appropriate patterns of English grammar for academic purposes. Emphasis on self-editing.

# English

## **ENSL 062** **6 A, W, S, Su** **Reading and Composition II**

A course introducing the student with low-intermediate English skills to reading simplified literature for comprehension, vocabulary development, and various reading strategies. Selected topics motivate ESL students to improve their reading, to discuss what they have read, and to write simple essays about it.

## **ENSL 063** **6 A, W, S, Su** **Reading and Composition III**

An intermediate reading course that develops the ESL student's appreciation for literature in English. In-class discussions and intensive homework assignments strengthen reading skills and develop the student's skill in writing in response to the literature.

## **ENSL 064** **6 A, W, S, Su** **Reading and Composition IV**

A high-intermediate course that provides a challenging variety of reading that allows the ESL student to develop reading techniques. Encouragement of reading literature for pleasure and a focus on writing a variety of compositions, such as comparison-contrast, cause and effect, and persuasion in response to the literature.

## **ENSL 065** **3-6 A, W, S, Su** **Academic Reading and Composition**

An advanced ESL course that further develops reading, writing, and discussion skills needed for success in college. Covers a variety of literature to improve reading comprehension and speed. Advanced writing of college essays in response to the literature.

## **ENSL 082** **4 A, W, S, Su** **Communication II**

A low-intermediate course providing intensive classroom practice and homework exercises focusing on pronuncia-

tion, speaking and listening for practical needs in an English-speaking environment.

## **ENSL 083** **4 A, W, S, Su** **Communication III**

An intermediate course providing intensive classroom practice and functional homework exercises to improve pronunciation, intonation, and fluency; to improve the ability to understand conversational English spoken at normal speed; and to develop speaking and listening skills for daily social needs and communication requirements at school, at work, and in common business interaction.

## **ENSL 084** **4 A, W, S, Su** **Communication IV**

A high-intermediate course offering intensive classroom practice, homework exercises and projects, and cassette recordings; develops listening and speaking skills dealing with practical, social, professional, and academic topics.

## **ENSL 085** **2-4 A, W, S, Su** **Academic Listening and Speaking**

An advanced course providing intensive classroom practice and outside exposure to academic communication situations such as lecture note-taking, asking and answering questions, making academic requests, negotiating, and clarifying. Prepares the precollege ESL student through role-playing of academic situations and visiting college classes.

## **ENSL 098** **3 A, W, S, Su** **English Language Test Preparation**

Designed especially for ESL students preparing to pass the Test of English as a Foreign Language (TOEFL). A review of test-taking strategies and practice in testing in the following skill areas: listening comprehension, structure, written expression, reading, and vocabulary.

## **ENSL 100** **1-3 A, W, S, Su** **English for Special Purposes**

Practical language application for ESL and other international students. Customized in response to student needs and interests in the following areas: advanced ESL composition, academic skills, foundations in general education, professional pronunciation, American culture and institutions, and understanding the Christian culture. May be repeated for credit under different subtitles.

## English

### SERVICE COURSES:

*(Not applicable toward a major or minor in this department)*

### Course Placement

The Department of English places students according to ACT scores and reserves the right not to place a student without ACT scores.

International students with a score of at least 500 on the TOEFL will be placed in English by means of a placement test given by the department. Placement may be in either ENGL or ENSL courses.

In either placement, students with language difficulties may need to take more than one English course each quarter, since College policy requires completion of ENGL 102 or 106 by the end of the sophomore year (see page 24).

## **ENGL 011** **4 A** **Reading and Study Skills**

Concentrates on effective study skills and personal vocabulary development. Study schedules, outlining, note-taking, summarizing, reviewing, retention and other skills are emphasized. A personal vocabulary program aids students in improving their vocabulary efficiency. Required of students who do not meet minimums for admission to ENGL 019.

**ENGL 012** **4 W**  
**Developmental Reading**

Emphasis is on reading for significant details, reading for the main idea, scanning, critical reading, rate flexibility, and vocabulary development.

**ENGL 100** **4 A, W, S**  
**Introduction to Composition**

For students shown by national test scores, secondary-school grades, and diagnostic testing to need strengthening in their command of basic reading and writing skills. Emphasis on analytical reading, writing, and usage. Required of students who do not meet minimum standards for admission to ENGL 101.

**ENGL 101-102** **4-4 A-W, W-S, Su**  
**College English**

An integrated course in composition and reading. ENGL 101 emphasizes critical reading of thematic units, examining expository essays, short stories, drama, and poetry. Writing includes the personal essay but culminates in the use of library source materials and standard documentation. Course includes study of a film and one full-length book in addition to other readings. ENGL 102 continues the critical reading of thematic units, including study of expository essays, short stories, drama, and poetry. Use of library source materials is expanded and refined in the production of a research paper. ENGL 101 or equivalent is prerequisite to ENGL 102.

**ENGL 105-106** **4-4 A-W**  
**College English (Honors)**

Differs from ENGL 101-102 in aiming to develop a more sophisticated level of writing proficiency and in study of more challenging materials. Admission limited to students enrolled in the Honors Program. ENGL 105 or equivalent is prerequisite to ENGL 106. Three fifty-minute lecture/discussion meetings per week.

**ENGL 301** **4 A, W, S**  
**Great Books**

Thematically organized courses in works generally recognized as distinguished explorations and expressions of significant issues. Literature is selected from several genres, countries and time periods. Readings, lectures, discussions, reports and papers. May be repeated for credit under different subtitles. Prerequisite: ENGL 102 or 106.

Current subtitles include the following:

*Boundaries*  
*Class and Gender*  
*Global Perspectives\**  
*Literature and Film\*\**  
*Literature and Religion*  
*Quest*

## LOWER-DIVISION COURSES:

(ENGL 101-102 or 105-106 is prerequisite to ENGL 224 and courses beyond.)

**ENGL 134** **1 A**  
**Review of English Syntax**

The classification and application of English grammar. Covers the following sentence components: subjects, objects, verbs, adverbs, adjectives, prepositions, connectors, phrases, clauses, etc.

**ENGL 141** **3 W**  
**Newswriting and Reporting I**  
(See JOUR 141.)**ENGL 142** **3 S**  
**Newswriting and Reporting II**  
(See JOUR 142.)**ENGL 224** **4 A**  
**Literary Theory**

Major literary theories of the twentieth century and their application to selected

*\*This section is required of students seeking the California State credential in the teaching of English.*

*\*\*This section includes laboratory.*

texts. Students begin developing a writing portfolio that is continued throughout the major and is presented during the Senior Seminar, ENGL 490.

**ENGL 291** **1 A, W, S, Su**  
**ESL Tutoring Practicum**

Methods in assisting ESL learners one-on-one in listening, speaking, pronunciation, reading, vocabulary, grammar, writing and American customs.

## UPPER-DIVISION COURSES:

**ENGL 306** **3 S**  
**Technical Writing**

Instruction and practice in writing letters, research papers, instructions and manuals, proposals, and various kinds of technical reports. Includes collaborative writing, oral presentation of papers, and integration of graphic design elements in texts.

**ENGL 307** **3 A**  
**Composition Theory**

Emphasizes contemporary theories of composition. The writing process: inventing, composing, revising, and editing. Also includes establishing writing labs, computer-based writing programs, and assessment of student writing. Odd years.

**ENGL 330** **4 W**  
**Literature for Children**  
(See also ECED 330.)

A survey of literature for children from infancy through grade six. Emphasizes literary quality and a broad knowledge of the best that has been written for children. Even years.

## English

- ENGL 331** **4 W**  
**Literature for Adolescents**  
(See also ECED 331.)  
A survey of literature for children and adolescents from grade seven through senior high school. Emphasizes literary quality and a broad knowledge of the best that has been written for young readers. Odd years.
- ENGL 335** **4 W**  
**Survey of Linguistics**  
Survey of linguistic concepts and methods: language development and second language acquisition; physiology of human speech; elementary phonology, morphology, syntax, and semantics; language change; dialectology; language and thought; ethical issues in language use. Prerequisite: ENGL 134 or permission of the instructor.
- ENGL 336** **4 W**  
**Second Language Acquisition**  
How English is learned as a second language. Examination of each aspect of language learning: speaking, pronunciation, listening, grammar, reading, writing, and vocabulary development. Includes attention to cultural and individual learning differences. Opportunities are provided to tutor students of English as a Second Language. Required in Concentration in English Education and Concentration in ESL. Prerequisites: ENGL 134, 335. Odd years.
- ENGL 337** **4 S**  
**ESL Teaching Methodology**  
Overview of current methods of teaching English as a Second Language. Concentrates on practical, innovative techniques that foster development of the ESL student's listening, speaking, pronunciation, grammar, reading, writing, and vocabulary.
- ENGL 346** **4 A, W**  
**Creative Writing**  
(See also JOUR 346 and MDIA 346.)  
Techniques of and practice in writing various literary forms. May be repeated for up to twelve credits under different subtitles:  
*Poetry*  
*Short Story\**  
*Introduction to Screenwriting\*\**
- ENGL 348** **4**  
**Literary Genres**  
May be repeated for credit under various subtitles: drama, novel, modern poetry, epic, myth and fairy tale, and short story. Each course includes representative works from the genre under study. (May not be available every year. See each year's Class Schedule for current offerings.)
- ENGL 352** **3**  
**Theme Courses**  
Courses with an interdisciplinary focus, which may be repeated for credit under different subtitles: Northern California "Local Color" Writers; Twentieth-Century Christian Writers; and Women and Literature. (May not be available every year. See each year's Class Schedule for current offerings.)
- ENGL 355** **4 A**  
**American Colonial and Romantic Periods**  
A survey of American authors from colonial times through the romantic era, emphasizing historical context.
- ENGL 356** **4 S**  
**American Realism and Naturalism**  
Selected authors from American realists and naturalists. Even years.
- ENGL 357** **4 W**  
**American Twentieth Century**  
Selected twentieth century American authors. Odd years.
- ENGL 365** **3 W**  
**Seminar in American Slavery and Freedom**  
(See HIST 365.)  
Even years.
- ENGL 389** **1 S**  
**Junior Seminar**  
Techniques of literary research; choice of research topic for completion in ENGL 490 Senior Seminar.
- ENGL 405** **3 W**  
**Advanced Expository Writing**  
(See also JOUR 405.)  
Instruction and practice in different expository forms used in academic writing; workshop/seminar format. For students planning study in graduate or professional school. Odd years.
- ENGL 434** **4 S**  
**Advanced English Syntax**  
A study of English sentence structure emphasizing transformational-generative techniques. Prerequisites: ENGL 134, 335, or permission of the instructor. Odd years.
- ENGL 443** **4 S**  
**ESL Curriculum Development and Classroom Management**  
Assessing and adapting current ESL teaching materials that meet specific learner needs. Includes techniques in successful ESL classroom management. Prerequisites: ENGL 336, 337. Odd years.

\* See also JOUR 346.

\*\* See MDIA 346 for course description.

**ENGL 444** **2 A**  
**ESL Testing**

Techniques for assessing all ESL skill areas. Language program placement testing; emphasis on classroom evaluation techniques. Prerequisites: ENGL 336, 337. Even years.

**ENGL 445** **2 A**  
**Cultural and Psychological Learner Differences**

Effects on language learning of customs, values, language aptitude, motivation, learner strategies, personality, and interaction between learner characteristics and types of instruction. Even years.

### The Period Courses in English Literature, ENGL 465-469

*These courses explore a variety of genres and authors representing each "period" in the literature of Great Britain. Though the emphasis is on the reading of primary works, students also apply a variety of interpretive approaches to the literature.*

**ENGL 465** **4 A**  
**English Medieval and Renaissance**

Selected British writers from the major authors in Medieval through Renaissance Ages, excluding Shakespeare.

**ENGL 466** **4 W**  
**The Restoration and the Eighteenth Century**

The "Enlightenment"—selected British writers from the Restoration and Neoclassic tradition. Even years.

**ENGL 467** **4 S**  
**The Romantic Age**

Selected British writers of the first third of the nineteenth century. Odd years.

**ENGL 468** **4 S**  
**The Victorian Age**

Selected British writers from 1830 to 1880. Even years.

**ENGL 469** **4 S**  
**The Modern and Postmodern Ages**

Selected British writers since 1880. Odd years.

**ENGL 474** **4 W**  
**Shakespeare**

A selection of Shakespeare's histories, romances, tragedies, comedies, and poetry in the context of his times.

**ENGL 484** **4 S**  
**Literature of the Bible**

A study of the literary forms and themes in the Bible. Odd years.

**ENGL 485** **5 S**  
**The Classical World**  
(See HIST 485.)**ENGL 490** **2 A**  
**Senior Seminar**

Research and writing begun in ENGL 389 is completed during the fall quarter of the student's senior year. Senior majors in English also complete and present the writing portfolios begun in ENGL 224 and continued throughout their major courses.

**ENGL 491** **2**  
**ESL Teaching Practicum**

Guided exposure to the ESL classroom through observation and supervised teaching. Prerequisites: ENGL 336 and 337.

**ENGL 493** **1 A**  
**Senior Education Seminar**

Senior majors with a concentration in English Education prepare an edited portfolio of papers written for their major courses.

**ENGL 495** **1-3 A, W, S**  
**Independent Study**

Maximum of three hours.

**Drama**

## SERVICE COURSES:

*(May not be used for major or minor in this department)*

## LOWER-DIVISION COURSES:

**DRMA 128** **3 A**  
**Introduction to Dramatic Arts**

An introduction to drama as an art form: its relationship to the other arts; values of dramatic productions; origins, history, nature, and styles of dramatic productions; roles and functions of playwrights, actors, and technicians. Includes guest lectures and discussions of the mutual influence of religious beliefs and the dramatic arts.

**DRMA 229** **3 W**  
**Fundamentals of Dramatic Performance**  
(See also COMM 229.)

Fundamentals of improvisation, voice, movement, and acting. Development of stage presence. Introduction to characterization and dramatic text. Includes public performance.

**DRMA 239** **3 S**  
**Techniques of Stage Production**

Introduction to the technical aspects of theater. Includes but is not limited to the stage and its equipment, planning and designing scenery, methods of shifting and handling scenery, construction of scenic units, interpreting mechanical drawings, styles in theater, lighting, properties, stage-management, and crew structures.

UPPER-DIVISION COURSE:

**DRMA 492**                      **1-2 A, W, S**  
**Practicum in Drama**

Supervised experience directed by a professional in drama, involving work on a dramatic production. Approval of the departmental faculty required in advance. Thirty clock hours of experience required for each hour of credit. Prerequisites: DRMA 128, 229.





## Faculty

*Kenneth James, chair; Jane Berry, Betty Muth, Judy Osborne*  
 Departmental Office: 102 Graf Hall; 965-6331

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The objective of the DEPARTMENT OF FAMILY AND CONSUMER SCIENCES is to help students develop their technical knowledge and skills for entry-level professional positions, prepare them for Christian living in contemporary society, and help enrich the family and society.

The Family and Consumer Sciences major includes content from each of the other majors offered in this department. It provides general knowledge of family life and preparation for teaching and entrepreneurial enterprises.

The Fashion Merchandising major combines courses in fashion, business and public relations. This program prepares students to manage their own businesses and to work in the fashion industry, one of the nation's largest sectors of employment.

The Residential Interior Design major, combining courses in design, art, technology and business, provides "hands-on" internship experience in an active design setting. It prepares students to be residential interior designers in a variety of settings.

The Early Childhood Education major prepares for teaching

or directing in a center for children from infancy to six years of age. Combining this major with prescribed courses in education can qualify the candidate for a California State preliminary teaching credential.

The major in Foods and Nutrition combines courses in food science, nutrition and food service administration with a strong foundation in chemistry, biology and the social sciences. The curriculum includes a *Didactic Program in Dietetics*, approved by the American Dietetic Association, completion of which is required for competitive placement in a dietetic internship and for taking the national Registered Dietitian (RD) examination. This major also provides a comprehensive foundation for pre-medicine, pre-dentistry, and institutional management practice in the food service and hospitality industries.

## Major in Family and Consumer Sciences, B.S.

➤ A minimum of 60 hours (24 upper division) including:

CLTX 226	Basic Sewing Techniques	2
CLTX 321	Personal Protocol	2
DSGN 145	Color and Design	3
DSGN 242-243	Materials for Interiors I and II	3-2
FCSC 394	Seminar in Professional Relations	2
FCSC 415	Demonstration Techniques	2
FDNT 135	Food Science	3
FDNT 136	Gourmet Entertaining	3
FDNT 235	Nutrition	4
FLHD 360	Dynamics of Love and Marriage	3
FLHD 365	Parent-Child Relationships	3
FLHD 490	Issues in Contemporary Society	2

Electives, including a minimum of 4 hours each from the following areas:

- Clothing and Textiles
- Family Life & Human Development/Early Childhood Ed.
- Foods and Nutrition
- Interior Design

## Family and Consumer Sciences

### ► Required Cognate Courses:

BUAD 118	Personal Money Management	3
MGMT 160	Small Business Management (or MGMT 261 Introduction to Management)	3
PSYC 234	Human Development (or PSYC 334 Child Development)	4

*A minimum of 3 hours from the following:* 3

INFS 144	PC Operating Systems (1)
INFS 148	PC Spreadsheets (1)
INFS 149	PC Databases (1)
OFAD 301	Word Processing (2)

### Teaching Credential

A B.S. in Family and Consumer Sciences is required. The following courses must be included: CLTX 245, 326, 327; DSGN 143, 246; FCSC 492 (1 hour); FDNT 337; CHEM 101, 102, 103; ECON 261.

Students who plan to teach at the secondary level should consult the Credential Analyst in the Department of Education and should become acquainted with specific requirements outlined in the Education section of this catalog.

Students taking a B.S. in Family and Consumer Sciences should take a minor in another area to broaden their teaching range.

### Major in Early Childhood Education, B.S.

This major meets the course requirements for the California Child Development Permit Matrix. Students interested in a B.S. in Early Childhood Education and also wishing to obtain the California State and the SDA Standard Credential in Elementary Education may do so by combining the Early Childhood Education requirements with those for Elementary Education. (See the Education section of this publication for those requirements.) Student may qualify for the California State preliminary teaching credential by passing the Multiple Subjects Assessment for Teachers (MSAT).

► *In addition to the requirements for the A.S. degree in Early Childhood Education, a minimum of 31 hours (28 upper division) including the following:*

ECED 314	Art for Children	3
ECED 330	Literature for Children	4
ECED 359	Psychology of Exceptional Children	3
ECED 361-362-363	Administration and Supervision of Early Childhood Programs	3-3-3
ECED 365	Parent-Child Relationships	3
ECED 482	Directed Teaching, Early Childhood	6
MGMT 216	Introduction to Management	3

### ► Required Cognate Courses:

ACCT 114	Small Business Accounting	3
FCSC 394	Seminar in Professional Relations	2
FLHD 360	Dynamics of Love and Marriage	3
INFS 148	PC Spreadsheets	1
OFAD 301	Word Processing	2

### Major in Business Administration With Emphasis in Fashion Marketing, B.B.A.

► *See page 72, in the Business Administration and Economics section of this catalog.*

### Major in Fashion Merchandising, B.S.

► *A minimum of 66 hours (25 upper division) including the following:*

ACCT 114	Small Business Accounting	3
BUAD 279	Business Communications/Data Presentation	3
BUAD 325	Business Law I	3
BUAD 490	Seminar in Business (or FCSC 494 Professional Experience)	1
CLTX 144	Visual Presentation Techniques	2
CLTX 145	Color and Design	3
CLTX 226	Basic Sewing Techniques	2
CLTX 245	Historical Fashions	3
CLTX 321	Personal Protocol	2
CLTX 325	Consumer Textiles I	3
CLTX 326	Consumer Textiles II	3
CLTX 384	Consulting in Fashion Merchandising	1
CLTX 385	Apparel Analysis	3
ECON 261	Principles of Economics-Macroeconomics	4
ECON 265	Principles of Economics-Microeconomics	4
FCSC 494	Professional Experience (Internship)	2
FIN 341	Finance (or FIN 241 Introduction to Finance)	5
MGMT 361	Management (or MGMT 261 Intro. to Management)	4
MKTG 351	Marketing	4
OFAD 111	Personal/Beginning Keyboarding	0-2

*A minimum of three hours from the following:* 3

INFS 144	PC Operating Systems (1)
INFS 148	PC Spreadsheets (1)
INFS 149	PC Databases (1)
OFAD 301	Word Processing (2 hours maximum)

*Additional upper-division hours from ACCT, BUAD, FIN, INFS, MGMT, MKTG and FLHD.*

**Major in Residential Interior Design, B.S.**

An interdisciplinary major combining a core of interior design studies with courses in art, technology, and business.

► A minimum of 61 hours (30 upper division) including the following:

CLTX 321	Personal Protocol	2
CLTX 326-327	Consumer Textiles I and II	3-3
DSGN 142	Interior Design as a Profession	1
DSGN 143	Interior Space Planning	2
DSGN 144L	Presentation Techniques	1
DSGN 145	Color and Design	3
DSGN 148L	Perspective Drawing	1
DSGN 242-243	Materials for Interiors I and II	3-2
DSGN 244	Lighting Design	2
DSGN 246	Historical Interiors	3
DSGN 249L	Studio I	2
DSGN 342	Residential Interiors	3
DSGN 346	Interior Design Business Practices	3
DSGN 349L	Studio II	2
DSGN 449L	Studio III	3
DSGN 458	Portfolio	1
FCSC 394	Seminar in Professional Relations	2
FCSC 494	Professional Experience	4
DRFD 134-135	Architectural Drafting	3-3
DRFD 331	Architectural Design	3
DRFD 334	Architectural CADD	3
MFG 184	Building Construction	3

► Required Cognate Courses:

ACCT 114	Small Business Accounting	3
ART 105*	History of Western Art	4
ART 107	American Art	3
ART 121-122	Drawing Fundamentals	2-2
ART 127	Three-Dimensional Design	2
ART 268	Illustration	3
ART 478	Contemporary Art (or ART 477 Twentieth-Century Art)	3
FLHD 490*	Issues in Contemporary Society	2
MGMT 160	Small Business Management	3

\* Courses marked with an asterisk meet general-education requirements.

\*\* Students planning to do a dietetic internship or graduate work in nutrition or a related field should choose these courses.

**Major in Foods and Nutrition, B.S.**

This major constitutes a Didactic Program in Dietetics (DPD) approved by the American Dietetic Association.

► A minimum of 61 hours (36 upper division) including the following:

FDNT 132	Careers in Foods and Nutrition	1
FDNT 135	Food Science	3
FDNT 136	Gourmet Entertaining	3
FDNT 230	Food, Culture and Society	2
FDNT 235	Nutrition	4
FDNT 331	Quantity Food Management	4
FDNT 334	Food Systems Administration	4
FDNT 335	Nutritious Lifestyles	1
FDNT 336	Nutrition Throughout the Lifecycle	3
FDNT 337	Advanced Food Science	4
FDNT 435	Advanced Nutrition	5
FDNT 436	Medical Nutrition Therapy	5
FDNT 437	Community Nutrition	3
FDNT 494	Seminar in Dietetics	1
FCSC 394	Seminar in Professional Relations	2
FCSC 415	Demonstration Techniques	2
BIOL 101	Human Anatomy	4
BIOL 102	Human Physiology	5
EDUC 333	Educational Psychology	2

Additional hours to be selected from the following:

MGMT 160	Small Business Management (3)	3
MGMT 261	Introduction to Management (3)	

► Required Cognate Courses:

PSYC 121	General Psychology	4
SOCI 121	Introduction to Sociology (or ANTH 124 Cultural Anthropology)	4
CHEM 101	Introductory Chemistry (or CHEM 111-112-113 General Chemistry)**	4
CHEM 102	Survey of Organic Chemistry (or CHEM 371-372, 373 Organic Chemistry with laboratory)**	4
CHEM 103	Survey of Biochemistry (or CHEM 381 Biochemistry I)**	4
MICR134	General Microbiology	5
ACCT 114	Small Business Accounting (or ACCT 121 Principles of Accounting)	3
PLSC 124	Introduction to American Government (or PLSC 344 Modern Comparative Government)	3
COMM 223	Interpersonal Communication	3
MATH 222	Introduction to Statistics	4

## Family and Consumer Sciences

*A minimum of 3 hours from the following:*

INFS 144	PC Operating Systems (1)	3
INFS 148	PC Spreadsheets (1)	
INFS 149	PC Databases (1)	
OFAD 301	Word Processing (2)	

To become a Registered Dietitian (R.D.), one must complete a B.S. degree that includes a Didactic Program in Dietetics curriculum (the B.S. in Foods and Nutrition meets this requirement); complete an American Dietetic Association-accredited Dietetic Internship; and pass the national registration examination administered by the Commission on Dietetic Registration. Since placement in dietetic internships is highly competitive, and since many internships are associated with graduate school programs, a strong academic record and thorough preparation in basic sciences are necessary. As a minimum, the candidate should complete CHEM 111-112-113, 371-372-373, and 381.

Most nutrition-related careers within health care require Registered Dietitian credentials. Most food-service management careers in health care, school food service, and commercial food service do not require these credentials.

### Minor in Family and Consumer Sciences

➤ *A minimum of 30 hours (12 upper division) including the following:*

CLTX 226	Basic Sewing Techniques	2
CLTX 321	Personal Protocol	2
DSGN 145	Color and Design	3
FDNT 136	Gourmet Entertaining	3
FDNT 235	Nutrition	4
FLHD 365	Parent-Child Relationships	3

*A minimum of 2 additional hours each from the following four areas:*

- Clothing and Textiles
- Family Life and Human Development
- Foods and Nutrition
- Interior Design

### Minor in Fashion Merchandising

➤ *A minimum of 30 hours (15 upper division) including the following:*

CLTX 144	Visual Presentation Techniques	2
CLTX 245	Historical Fashions	3
CLTX 321	Personal Protocol	2
CLTX 326-327	Consumer Textiles I and II	3-3
CLTX 385	Apparel Analysis	3
DSGN 145	Color and Design	3

*Additional hours to be selected from the following:*

ACCT 114, ART 261, CLTX 226, ECON 265, FLHD 490, MKTG 351, MGMT 465.	6
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### Minor in Residential Interior Design

➤ *A minimum of 30 hours (6 upper division) including the following:*

DSGN 142	Interior Design as a Profession	1
DSGN 143	Interior Space Planning	2
DSGN 145	Color and Design	3
DSGN 242-243	Materials for Interiors I and II	3-2
DSGN 244	Lighting Design	2
DSGN 246	Historical Fashions	3
DSGN 342	Residential Interiors	3
CLTX 326	Consumer Textiles I	3

*Additional hours to be selected from the following:* ART 107, ART 478, CLTX 321, CLTX 327, DRFD 134, DRFD 135, DRFD 334, DSGN 144, DSGN 148L, DSGN 246, DSGN 249L, and FCSC 294.

### Minor in Foods and Nutrition

➤ *A minimum of 30 hours (12 upper division) including the following:*

FDNT 135	Food Science (or FDNT 136 Gourmet Entertaining)	3
FDNT 235	Nutrition	4
FDNT 334	Food Systems Administration	4
FDNT 336	Nutrition Throughout the Life Cycle (or FDNT 437 Community Nutrition)	3

### Associate Degree in Early Childhood Education, A.S.

A two-year program designed to meet the requirements for the California Child Development Permit Matrix.

➤ *A minimum of 36 hours including the following:*

ECED 181	Introduction to Early Childhood Education	3
ECED 182	Creative Activities for Early Childhood	3
ECED 183	Play and Environments	3
ECED 184	Health, Safety and Nutrition	2
ECED 189	Behavior Management for Young Children	2
ECED 250	Speech and Language of Young Children	3
ECED 255	Curriculum Planning	2
ECED 260	Field Experiences Practicum (6 quarters)*	6
ECED 262	Music & Movement for Early Childhood	2
ECED 265	Child Study	1

\*Fulfills the work-experience requirement for the Permit Matrix.

ECED 266	Field Observation in Early Childhood Education	1
ECED 267	Observation and Evaluation	1
ECED 280	Infant/Toddler Care	3
ECED 334	Child Development*	4

► *Required Cognate Courses:*

BIOL 227	Natural History of California	3
CLTX 321	Personal Protocol	2
COMM 105	Speech Communication	3
FDNT 235	Nutrition	4
	A valid American Red Cross Standard First Aid certificate	
	A valid certificate in Basic Life Support Cardiopulmonary Resuscitation	
PSYC 121	General Psychology	4

**Associate Degree in Fashion Merchandising, A.S.**

This two-year program prepares the student to work in the fashion merchandising and retailing fields beginning at such entry-level positions as display manager, assistant manager in retail sales, color coordinator, fashion consultant, and executive trainee. The degree includes the courses listed below plus general education and electives to total 90 hours.

► *A minimum of 30 hours including the following:*

CLTX 144	Visual Presentation Techniques	2
CLTX 226	Basic Sewing Techniques	2
CLTX 245	Historical Fashions	3
CLTX 321	Personal Protocol	2
CLTX 326-327	Consumer Textiles I- II	3-3
CLTX 384	Consulting in Fashion Merchandising	1
CLTX 385	Apparel Analysis	3
DSGN 145	Color and Design	3
FCSC 294	Professional Experience	2-4
MGMT 160	Small Business Management	3

► *Required Cognate Courses:*

<i>A minimum of 3 hours from the following:</i>		3
INFS 144	PC Operating Systems (1)	
INFS 148	PC Spreadsheets (1)	
INFS 149	PC Databases (1)	
OFAD 301	Word Processing (2)	

\_\_\_\_\_  
\*Qualifies as a general-education elective course.

**Associate Degree in Foods and Nutrition, A.S.**

A progressive program leading to the A.S. degree after two years, following which the student may continue with the four-year Foods and Nutrition major or complete the Coordinated Program requirements (CP) at an ADA-accredited university\*. Students electing to take an A.S. degree can pursue professional careers in hospital, restaurant, and school nutrition and dietary departments.

► *A minimum of 31 hours including the following:*

FDNT 132	Careers in Foods and Nutrition	1
FDNT 135	Food Science	3
FDNT 136	Gourmet Entertaining	3
FDNT 235	Nutrition	4
FLHD 490	Issues in Contemporary Society	2

*Additional hours to be selected from the following:* 18  
FDNT 230, FDNT 331, FDNT 334, FDNT 335, FDNT 336, FDNT 337, FDNT 435, FDNT 436, FCSC 415, CLTX 321, MGMT 160.

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\*To meet the requirements of the Loma Linda University ADA-accredited Coordinated Program, the following cognate courses must be taken, bringing the total number of hours for the major plus electives and general education to 102 hours:

ANTH 124	Cultural Anthropology	4
BIOL 101	Human Anatomy	4
BIOL 102	Human Physiology	5
CHEM 111-112	General Chemistry	4-4-4
	113	
COMM 105	Speech Communication	3
MICR 134	General Microbiology	5
PSYC 121	General Psychology	4
SOCI 121	Introduction to Sociology	4
<i>Additional hours in humanities</i>		8

## Associate Degree in Residential Interior Design, A.S.

This two-year program prepares the student as an assistant to professionals in interior design.

► A minimum of 35 hours including the following:

CLTX 326-327	Consumer Textiles I-II	3-3
DSGN 142	Interior Design as a Profession	1
DSGN 143	Interior Space Planning	2
DSGN 144	Presentation Techniques	1
DSGN 145	Color and Design	3
DSGN 148L	Perspective Drawing	1
DSGN 242-243	Materials for Interiors I-II	3-2
DSGN 244	Lighting Design	2

DSGN 246	Historical Interiors	3
DSGN 248	Portfolio	1
DSGN 249L	Studio I	2
DSGN 342	Residential Interiors	3
FCSC 294	Professional Experience	3

► Required Cognate Courses:

ART 105**	History of Western Art	4
ART 107	American Art (or ART 478 Contemporary Art)	3
ART 121-122	Drawing Fundamentals	2-2
CLTX 321	Personal Protocol	2
DRFD 134	Architectural Drafting	3
DRFD 334	Architectural CADD	3

## Clothing and Textiles

LOWER-DIVISION COURSES:

### CLTX 144 2

#### Visual Presentation Techniques

The study and application of principles and practices in arranging visual displays for fashion merchandising. One lecture and one laboratory weekly. Prerequisite: DSGN 145. Odd years.

### CLTX 224 2 W

#### Creative Needlework

A selection of techniques such as quilting, appliqué, needlepoint, cross-stitch, embroidery, and other yarn methods of the student's choice. One lecture and one laboratory weekly. May be repeated once for credit. Odd years.

### CLTX 226 2 W

#### Basic Sewing Techniques

Individualized instruction for beginning and intermediate students. Depending on student skill level and sewing goals, projects may involve basic clothing or soft furnishings for the home. One lecture and one laboratory weekly. Even years.

### CLTX 245 3 W

#### Historical Fashions

An overview of clothing and adornment as they evolved under the social, economic, religious, and political influences from ancient times to the twentieth century.

UPPER-DIVISION COURSES:

### CLTX 321 2 W

#### Personal Protocol

Provides the tools for developing one's uniqueness and individuality. Includes topics on self-esteem, personal integrity, and etiquette in a global society.

### CLTX 326-327 3-3 W-S

#### Consumer Textiles I-II

Textiles used in interiors and fashion, including the study of fibers, yarns, fabric, finishes, and coloring methods. The concepts of durability, care, comfort, and aesthetic appearances applied to the evaluation of textiles for various uses. CLTX 326 is prerequisite to CLTX 327. Two lectures and one laboratory weekly. Even years.

### CLTX 329 1

#### Field Work in Fashion Marketing

An orientation to the fashion industry in California. For the advanced fashion merchandising/marketing student. Field trips, reports, and papers. Prerequisite: A.S. in Fashion Merchandising/Marketing (or equivalent) or permission of the instructor.

### CLTX 384 1

#### Consulting in Fashion Merchandising

Principles of establishing a fashion-consulting business. Includes advertising, private consulting, personal analysis, and personal shopping. Odd years.

### CLTX 385 3 S

#### Apparel Analysis

An in-depth examination of the fabric and structure of apparel as related to ultimate quality and product pricing in America. Even years.

\*\* Courses marked with a double asterisk meet general-education requirements.

**Early Childhood Education**

LOWER-DIVISION COURSES:

**ECED 181** **3 W**  
**Introduction to Early Childhood Education**

The history, types of programs, facilities, teacher qualifications and duties, career opportunities, and issues in Early Childhood Education. Recommended concurrent course: ECED 260.

**ECED 182** **3 A**  
**Creative Activities for Early Childhood**

The creative and aesthetic development of young children; planning and implementing activities that promote this development; practical experience with various materials used in art and craft centers. Two lectures and one laboratory weekly.

**ECED 183** **3 S**  
**Play and Environments**

The importance of play in the learning and development of the young child. Methods useful in setting up materials and centers which facilitate a learning environment. ECED 260 required concurrently.

**ECED 184** **2 A**  
**Health, Safety, and Nutrition**

Prepares students working in a child-care setting to assist young children to develop good habits and attitudes affecting their health and safety. Helps meet State requirements for specified training in preservative health practices. Odd years.

**ECED 189** **2 S**  
**Behavior Management of Young Children**

Methods and techniques that lead to the successful management of young children.

**ECED 250** **3 S**  
**Speech and Language of Young Children**

(See SPPA 250.)

**ECED 255** **2 A**  
**Curriculum Planning**

Early childhood curriculum philosophies, organizational methods, developmentally appropriate practices, and teaching methods. Development of yearly, unit, and daily working lesson plans. Prerequisites: ECED 260 (three quarters) and ECED 183.

**ECED 260** **1 A, W, S**  
**Field Experience Practicum**

Offers a variety of supervisory and teaching experiences in the College's child-care center. Required each of six consecutive quarters. The final quarter must be of concentrated hours and consecutive days. Some holiday or summer sessions are available. Arrangements in advance must be made with the instructor. One hour required concurrently with each of the following courses: ECED 181, 182, 183, 255.

**ECED 262** **2 W**  
**Music and Movement for Early Childhood**

Review of music, rhythm, and movement activities appropriate for young children. Includes available resources, practice, and implementation in the early childhood curriculum. Odd years.

**ECED 265** **1 A**  
**Child Study**

Knowledge of the young child's behavior and growth that can help the teacher meet the needs of each child. Practice in different methods of observation.

**ECED 266** **1 W**  
**Field Observation in Early Childhood Education**

Analytical observation of a variety of off-campus preschool environments.

**ECED 267** **1 S**  
**Observation and Evaluation**

Evaluation techniques for charting a child's development and using this information to build a developmentally appropriate curriculum.

**ECED 280** **3 S**  
**Infant/Toddler Care**

The environment, curriculum, and management of infant/toddler programs. Includes observation of children between the ages of birth and three years. Even years.

UPPER-DIVISION COURSES:

**ECED 314** **3 S**  
**Art for Children**  
 (See ART 314.)

**ECED 330** **4**  
**Literature for Children**  
 (See ENGL 330.)

**ECED 334** **4 A**  
**Child Development**  
 (See PSYC 334.)

**ECED 338** **2 A**  
**Music for Children**  
 (See MUED 338.)

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**ECED 338L** **1 A, W, S**  
**Music for Children Lab**  
(See MUED338L.)

**ECED 359** **3 A**  
**Psychology of Exceptional Children**  
(See PSYC 359.)

**ECED 359L** **1 A**  
**Psychology of Exceptional Children Laboratory**  
(See PSYC 359L.)

**ECED 361-362-363** **3-3-3 A-W-S**  
**Administration and Supervision of Early Childhood Programs**  
An in-depth study of the administrative and supervisory responsibilities of the early childhood program director. Odd years.

**ECED 365** **3 A**  
**Parent-Child Relationships**  
(See FLHD 365.)

**ECED 482** **6 S**  
**Directed Teaching, Early Childhood**  
Full-time participation in an off-campus early childhood classroom. Application and arrangements must be made at least one quarter before registering for the course. Students must have transportation to and from teaching assignment. Graded S/F. Prerequisites: A minimum overall GPA of 2.25 and upper-division GPA of 2.5.

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#### LOWER-DIVISION COURSES:

**FCSC 292** **1-8 A, W, S**  
**Independent Project**  
Independent projects open to students with adequate preparation in the area of proposed study.

**FCSC 294** **2-4**  
**Professional Experience (Internship)**  
(See FCSC 494.)

#### UPPER-DIVISION COURSES:

**FCSC 394** **2 S**  
**Seminar in Professional Relations**  
Designed to prepare the student to meet the demands of the job market. Strategies for job-seeking, résumé/portfolio and cover letter development, preparation for interviews, professionalism on the job, and professional development and advancement during employment; learning to write successfully in one's major field. Should be taken in the junior or senior year. Odd years.

**FCSC 415** **2 A**  
**Demonstration Techniques**  
Selection and organization of professional materials for presentation, using a variety of techniques. One lecture and one laboratory weekly. Even years.

**FCSC 492** **1-8 A, W, S**  
**Independent Project**  
Independent projects open to students with adequate preparation in the area of proposed study.

**FCSC 494** **2-4**  
**Professional Experience (Internship)**  
Opportunity for professional experience working in a business, community, or government setting. Each academic credit hour requires 30 clock hours of work in a professional setting. Prerequisites: For Fashioning Merchandising majors, CLTX 321, 385; for Residential Interior Design majors, DSGN 342. Graded S/F.

**FCSC 495** **1-3 A, W, S**  
**Independent Study**  
Individual studies open to students with adequate preparation in the area of

proposed study. (For independent study requirements see ACADEMIC INFORMATION AND POLICIES section of this catalog.)

### Family Life and Human Development

#### UPPER-DIVISION COURSES:

**FLHD 360** **3 W**  
**Dynamics of Love and Marriage**  
Love and its dynamics within a vital marriage relationship. Emphasis on Christian philosophy and principles. Topics include love, courtship, premarital intimacy, emotional maturity and compatibility, communication between the couple, conflict resolution, marital adjustments, and divorce.

**FLHD 365** **3 A**  
**Parent-Child Relationships**  
(See also ECED 365.)  
Parenting and child-rearing in today's society. Family structure, parenting styles, family disruptions, family values and self-esteem, symptoms and causes of child abuse, and its lasting effects on the child. Meets the child, family, and community requirement for ECED.

**FLHD 375** **2 S**  
**Sexuality and Family**  
Establishing a healthy sexual relationship within a marriage, including phases of sexual development and teaching one's children about sexuality. Includes consideration of sexual abuses that may occur in the family and various influences on sexual behavior. Helps students establish values concerning sexuality.

**FLHD 490** **2 W**  
**Issues in Contemporary Society**  
The impact of Christian values on the family and the individual in modern society. Two hours of credit may be



applied toward the general-education requirement in religion.

**Foods and Nutrition**

LOWER-DIVISION COURSES:

**FDNT 130L** **1 W**  
**Microwave Basics**

An introductory course in home microwaving techniques. Adaptation of traditional home recipes for microwave use. One laboratory weekly.

**FDNT 132** **1 S**  
**Careers in Foods and Nutrition**

The development, scope, and characteristics of professions associated with foods, nutrition, dietetics, and food-systems management; introduction to professional organizations and literature; awareness of career opportunities.

**FDNT 134** **2 S**  
**Creative Cuisine**

Principles of food selection, preparation, and garnishing; service of dinner parties. One lecture and one laboratory weekly. Lab fee.

**FDNT 135** **3 A**  
**Food Science**

An experimental approach to the fundamentals of food production, composition, selection, and preparation. Emphasis on sanitation, energy conservation, and healthful preparation techniques. Two lectures and one laboratory weekly. Lab fee.

**FDNT 136** **3 W**  
**Gourmet Entertaining**

Basic principles of purchasing food and making menus; of preparing and serving family and entertainment meals, including receptions. Emphasis on nutritional, aesthetic, psychological, and economic aspects. Two lectures and one laboratory

weekly. Lab fee. Prerequisite: FDNT 135 or permission of the instructor.

**FDNT 175** **2 A, W, S**  
**Personal Nutrition**

The basic principles of nutrition, drug use and abuse, and physical fitness. Provides a factual knowledge-base for the consumer of nutrition information to evaluate nutrition issues accurately. Seeks to motivate individual responsibility for a positive lifestyle. (Not applicable toward an A.S. or B.S. in Nursing. May not be substituted for FDNT 235.)

**FDNT 187** **3**  
**Catering Management**

Special-occasion catering, emphasizing costing and menu planning. Arranged laboratory involves catering a function, including planning through preparation and service of the meal. Even years.

**FDNT 230** **2 S**  
**Food, Culture, and Society**

The role of culture, religion, socioeconomic status, ethnicity, and psychological and symbolic factors that affect food and nutrition behavior. One lecture and one laboratory weekly. Lab fee. Prerequisite: PSYC 121 or permission of the instructor. Odd years.

**FDNT 235** **4 A, W, S**  
**Nutrition**

Principles of nutrition, emphasizing nutritional requirements, dietary sources of nutrients, nutrient utilization, effects of nutrition on energy intake and weight control, fitness, disease prevention, and life cycle.

UPPER-DIVISION COURSES:

**FDNT 331** **4 W**  
**Quantity Food Management**

Application of food-systems operation to include quantity food procurement,

production planning, preparation, and evaluation in institutional settings; use and care of large equipment; HACCP sanitation principles; use of standardized recipes in quality assurance; computer-assisted food-service management. Three lectures and one laboratory weekly. Prerequisites: FDNT 135, 334, or permission of the instructor. Even years.

**FDNT 334** **4 W**  
**Food Systems Administration**

Organization, staffing, management, and administration of institutional food-service operations. Includes design, layout, and equipping of institutional food services. Three lectures and one laboratory weekly. Prerequisite: FDNT 135. Even years.

**FDNT 335** **1 W**  
**Nutritious Lifestyles**

Energy metabolism in relationship to body composition, fitness, and performance. Survey of current literature on weight management.

**FDNT 336** **3 W**  
**Nutrition Throughout the Lifecycle**

A study of the nutritional needs of the individual throughout the lifecycle from fetal development to old age. Prerequisite: FDNT 235 or permission of the instructor. Even years.

**FDNT 337** **4 S**  
**Advanced Food Science**

Scientific principles and procedures concerned with complex phases of food components, selection, preparation, and preservation. Includes individual experimentation. Three lectures and one laboratory weekly. Prerequisites: FDNT 135 and CHEM 102 or equivalent. Odd years.

## **FDNT 435** **5 A** **Advanced Nutrition**

In-depth study of nutrients and their role in human metabolism, with application to meeting human needs under various world conditions. Includes the nutritional care process and assessment, care planning, methods of nutrition support, drug-nutrient interaction, and nutrition for health and fitness. Prerequisites: FDNT 235; majors in Foods and Nutrition must have BIOL 102 or 346 and CHEM 103 or 373. Odd years.

## **FDNT 436** **5 W** **Medical Nutrition Therapy**

The effect of disease on body metabolism with emphasis on the dietary adjustments necessary to maintain or restore health. Prerequisites: FDNT 435, CHEM 103, BIOL 102, or instructor's permission. Odd years.

## **FDNT 437** **3 S** **Community Nutrition**

Survey of national and local nutrition needs and of programs designed to alleviate nutrition problems. Field experience in the local area. Two lectures and one laboratory weekly. Prerequisites: FCSC 415, FDNT 235, PSYC 121. Even years.

## **FDNT 494** **1 A** **Seminar in Dietetics**

The laws, regulations, standards, and ethics affecting dietetics practice. Fundamentals of marketing food and nutrition services. Examination of recent research in dietetics practice. One lecture weekly. Prerequisite: FDNT 334, 436. Odd years.

## **Interior Design**

LOWER-DIVISION COURSES:

### **DSGN 142** **1 A** **Interior Design as a Profession**

Introduction to interior design as a profession, including responsibilities, skills, career preparation, and career options. Includes field trips and guest speakers.

### **DSGN 143** **2 W** **Interior Space Planning**

Principles of space planning as used by interior designers. Includes zoning, circulation, space analysis and measurement, graphic communication techniques, simple floor plans, elevations, human dimensioning, and furniture arrangements. One lecture and one laboratory weekly.

### **DSGN 144L** **1 S** **Presentation Techniques**

Practice of techniques interior designers use to present design ideas to clients. Includes presentation of floor plans and elevations in ink and color, lettering, sample preparation and mounting, mat cutting, and presentation boards. One laboratory weekly. Limited to majors in Interior Design.

### **DSGN 145** **3 A** **Color and Design**

Principles and elements of design as applied to fashions, costuming, interiors, and set design. Special emphasis on color theory and application. Two lectures and one laboratory weekly.

### **DSGN 148L** **1 W** **Perspective Drawing**

Practical experience in quick sketching and perspective drawing of interior components and rooms. Prerequisite: DSGN 143, 144.

## **DSGN 242** **3 W** **Materials for Interiors I**

The materials and components used in decorating residential interiors, including building materials, floor coverings, wall coverings, window treatments, and finishes. Two lectures and one laboratory weekly.

## **DSGN 243** **2 S** **Materials for Interiors II**

A continuation of the study of the materials and components used in the decoration of residential interiors, with an emphasis on furniture and accessories. Includes work with estimating, sources, and schedules. Prerequisite: DSGN 242.

## **DSGN 244** **2 A** **Lighting Design**

The basics of lighting design applied to the home environment, including sources, hardware, aesthetic techniques and specifications. Odd years.

## **DSGN 246** **3 S** **Historical Interiors**

The major furniture and interior styles of the western world from ancient times through modern history. Application of these styles to enhance a residential interior or a stage set. Odd years.

## **DSGN 248** **1 W-S** **Portfolio**

Collection, completion, and presentation of the student's best interior design work to demonstrate creative and technical skills to future employers. Due the final quarter of the student's program.

## **DSGN 249L** **2 S** **Studio I**

Introduction to the design process as followed by professional interior designers. Involves the development of a design project from start to finish including design statement, floor plans, elevations,

perspectives, sample boards, and specifications. Two laboratories weekly. Prerequisites: DRFD 134; DSGN 143, 144, 145, 148L, 242, 243, 246.

UPPER-DIVISION COURSES:

**DSGN 342 3 A**  
**Residential Interiors**

A room-by-room study of the special design characteristics and needs in the home, including barrier-free considerations. Two lectures and one laboratory weekly. Prerequisites: DSGN 249L or permission of the instructor.

**DSGN 346 3 A**  
**Interior Design Business Practices**

Business aspects of interior design, including budgeting, mark-up, governing agencies, trade sources, contracts, proposals, client relations, salesmanship, marketing, professional organization, licensing, establishing a design business, and project management. Prerequisites: DSGN 249L. Even years.

**DSGN 349L 2 W**  
**Studio II**

Application of the design process in a residential design project as arranged with the instructor. Two laboratories weekly. Prerequisite: DSGN 249L, 342.

**DSGN 449L 3 A**  
**Studio III**

Independent design projects as arranged with instructor. Prerequisites: DSGN 349L, FCSC 494.

**DSGN 458 1 S**  
**Portfolio**

Collection, completion, and presentation of the student's best interior design work to demonstrate creative and technical skills to future employers. Due the final quarter of the student's program. Prerequisite: DSGN 449L.

**Degree-Completion Courses**

*Note: The following courses are available only in the B.S.E.C.E. (Bachelor of Science in Early Childhood Education) curricula, off-campus degree-completion programs offered through Extended Learning.*

**ECE 311 4**  
**Young Children's Developmental Speech**

Normal development of speech and language in children from birth to age six. An introduction to differential language diagnosis and treatment planning for children with delayed language development.

**ECE 330 4**  
**Literature for Children**

A survey of literature for children from infancy through grade six. Emphasis on literary quality and a broad knowledge of the best that has been written for children.

**ECE 359 4**  
**Exceptional Children**

Assessing children with such exceptions to "normal" as mental retardation, giftedness, emotional disturbance, speech, visual, and hearing problems. Includes handicaps and learning disabilities.

**ECE 365 4**  
**Parent/Child Relationships**

Issues in parenting and child-rearing in today's society.

**ECE 380 4**  
**Infant/Toddler Programs**

The environment, curriculum, and management of infant/toddler programs. Includes observation of children between six months and three years of age.

**ECE 382 4**  
**Art and Creative Activities**

The creative and aesthetic development of young children: art, music, movement, and drama.

**ECE 383 4**  
**Play and Environments**

The importance of play in the learning and development of the young child. Development, analysis, and evaluation of various learning centers intended to enhance the learning environment of a child-care center. Includes curriculum development necessary for integrated learning.

**ECE 384 2**  
**Healthy Child Care**

How to keep children safe and healthy in a child-care setting; how to recognize symptoms of diseases; appropriate control methods; developing good health habits in young children through example and learning activities.

**ECE 386 2**  
**Diversified Early-Childhood Programs**

The philosophy of a variety of early-childhood programs unique to the profession. Includes the Montessori and Reggio Emilia curriculum.

**ECE 389 4**  
**Behavior Management and Observation**

Methods and techniques that lead to successful management of young children. Analysis and evaluation of case studies and experience to determine most effective methods of achieving positive outcomes. Includes observation assignments and techniques.

## Family and Consumer Sciences

### **ECE 425** **4** **Adult Supervision and Management**

Function and management of adults in child-care settings; values and goals, making decisions, and solving problems; management process as applied to the individual and the organization. Principles and guidelines for developing a good mentor-teaching program.

### **ECE 431** **4** **Administration and Supervision I**

Starting a child-care center. Budgeting and financial planning for a successful business.

### **ECE 432** **4** **Administration and Supervision II**

Marketing; recruiting and enrolling children in the child-care center. Developing good relationships with parents and staff. Creating and maintaining a safe, healthful, and developmentally appropriate environment and curriculum.

### **ECE 450** **2** **Counseling for Early-Childhood Teachers**

Developing relationship skills with parents and children to counsel and to direct a good parent-teacher conference. Advice on referrals for professional help on sensitive issues.

### **ECE 492** **2** **Senior Project-Seminar**

An individual project, examining a problem from the student's occupation or avocation, that combines research with implementation of theories and concepts studied in course work. The project is presented both orally and as a formal paper.

*Note: The following degree-completion courses are cognate requirements of the ECE major offered through Extended Learning by other departments.*

### **RELB 305** **4** **Biblical Perspectives**

Historical concepts and themes of the Bible that relate most directly to effectiveness in early childhood education practice and public life.

### **RELT 310** **4** **Ethics and Personal Values**

Spiritual formation, ethics and world view, and their shaping influence on personal values, early childhood education, and public life.



## Faculty

*Keith Francis, chair; Eric Anderson, John Christian, Lorne Glaim, Donald John, Paul McGraw, Gordon Thomas*  
 Departmental Office: 209 Irwin Hall; 965-6403

## Degrees and Programs

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Students in the DEPARTMENT OF HISTORY AND SOCIAL STUDIES explore the civilizations of Africa, Asia, Europe, North America, and South America. Using original and secondary written sources, films, and other documents, and through field trips and summer study programs outside the United States, departmental faculty work with their students in the study of geography, history, and political science.

Scholarship is encouraged and recognized by membership in Phi Alpha Theta, the history honors society, and through debates, lectures, and student and faculty presentations sponsored by Pacific Union College's Alpha Zeta Theta Chapter.

Students have access to the Utt Memorial Library in the department's seminar room and the adjacent Honors Program Common Room. Faculty-student suppers and discussion groups complete the collegial and friendly atmosphere, the hallmark of the department.

## Major in History, B.A.

► A minimum of 50 hours (30 upper division) including the following:

### Basic Courses:

HIST 101-102	A History of World Civilizations	4-4
HIST 134-135	History of the United States	4-4
HIST 290-291	Seminar in the Study of History	1-1
HIST 320	Christian History: To 1500 (or HIST 321 Christian History: 1500 to the Present)	3
HIST 490	Seminar in Philosophy of History	3
HIST 491	Readings in Historiography	3
HIST 499	Senior Thesis	2

Students completing HIST 140-141 are not required to take HIST 101-102 and HIST 134-135.

### *The Americas: two of the following:* 7-8

HIST 355	From Colony to Nation: 1600-1783 (4)
HIST 356	Early Federal Period (4)
HIST 357	Division and Reunion: 1848-1901 (4)
HIST 358	Twentieth-Century America (4)
HIST 365	Seminar in American Slavery and Freedom (3)
HIST 366	Modern Latin America (4)

Students who take the sequence HIST 355, 356, 357, and 358 are not required to take HIST 134-135.

### *The World: one of the following:* 4-5

HIST 423	Renaissance Europe (4)
HIST 424	Medieval Europe (4)
HIST 485	The Classical World (5)

### *Two of the following:* 8

HIST 334	Nineteenth-Century Europe (4)
HIST 335	Europe Since 1914 (4)
HIST 364	Modern Asia (4)
HIST 425	Reason and Revolution (4)
HIST 434	The History of Modern Russia (4)
HIST 445	Modern Britain (4)

## History and Social Studies

- A minimum of nine hours in upper-division European or Asian history 9
- A minimum of nine hours in upper-division American history 9
- Students with superior secondary-school grades in history and English and superior ACT scores may take HIST 140-141 in place of the lower-division courses.
- Up to nine hours of political science may apply toward a history major.

### ► Recommended Cognate Courses:

ART 107	American Art	3
ART 477	Twentieth-Century Art	3

## Major in Social Studies, B.S.

### ► A minimum of 62 hours (27 upper division) including the following:

HIST 290-291	Seminar in the Study of History	1-1
HIST 490	Seminar in Philosophy of History	3
HIST 499	Senior Thesis	2

- Twenty-seven additional hours of history or 30 hours of political science 27-30
- Six hours each from three other areas of social studies: (economics, geography, history, political science and sociology) 18
- Electives for those interested in social work, law, teaching, or medicine should be chosen in counsel with the major adviser.

## Teaching Credential: Subject Matter Program in Social Science

The program leading to the teacher education credential in Social Science, which follows, satisfies the standards mandated by the Department of Education, State of California. The program includes a basic core of at least 53 quarter hours of course work in history and social science subjects that are commonly taught in California public schools (history and geography of the world, the United States and California; government; economics; and the behavioral sciences), and at least 34 additional quarter hours to provide breadth and perspective, for a minimum of 87 hours. Students completing the program will also have met the requirements for the B.S. degree in Social Studies offered by the department.

## Subject-Matter Program in Social Science

### ► Required core courses: a minimum of 53 quarter hours:

ECON 261	Principles of Economics - Macroeconomics	4
GEOG 301	World Regional Geography	3
GEOG 327	Geography of the Americas	3
HIST 101-102	A History of World Civilizations	4-4
HIST 134-135	History of the United States	4-4
HIST 290-291	Seminar in the Study of History	1-1
HIST 337	History of California	3
HIST 490	Seminar in the Philosophy of History	3
HIST 499	Senior Thesis	2
PLSC 124	Introduction to American Government	3
PLSC 344	Modern Comparative Government	3

Two of the following: 8

ANTH 124	Cultural Anthropology (4)
PSYC 121	General Psychology (4)
SOCI 121	Introduction to Sociology (4)

At least one of the following: 3-4

ECON 265	Principles of Economics - Microeconomics (4)
ECON 332	Government and Business (3)

### ► Required courses for breadth, perspective: at least 34 hours:

HIST 364	Modern Asia	4
HIST 365	Seminar in American Slavery and Freedom	3
HIST 366	Modern Latin America	4
HIST 491	Readings in Historiography	3

At least two of the following: 7-8

HIST 355	From Colony to Nation: 1600-1783 (4)
HIST 356	The Early Federal Period (4)
HIST 357	Division and Reunion 1848-1901 (4)
HIST 358	Twentieth-Century America (4)
PLSC 488	History of the American Legal System (3)

At least one of the following: 4-5

HIST 334	Nineteenth-Century Europe (4)
HIST 335	Europe Since 1914 (4)
HIST 423	Medieval Europe (4)
HIST 424	Renaissance Europe (4)
HIST 425	Reason and Revolution (4)
HIST 485	The Classical World (5)

At least one of the following: 3

HIST 321	Christian History: 1500 to the Present (3)
RELH 311	World Religions (3)
RELH 329	American Denominations (3)

At least one of the following: 3

ECON 457	International Economics (3)	
PLSC 328	Critical World Issues (3)	
PLSC 364	Issues in International Relations (3)	

At least one of the following: 3

PHIL 440	Christian Bioethics (3)	
PHIL 460	Moral Philosophy (3)	
PHIL 485	Issues in Science and Religion (3)	
RELT 218	Values: Formation and Clarification (3)	
RELT 355	Christian Social Ethics (3)	

► Additional selections from courses offered by the Department.

### Additional Requirements for the Subject-Matter Program in Social Science:

In addition to the specific courses that meet the requirements mandated by the State of California for single subject-matter programs in Social Science, the teacher-education program in Social Science includes teaching experience and the development of a portfolio.

Within the first two years of the program each student must complete *EDUC 101 Introduction to Teaching* and *EDUC 101L Introduction to Teaching Lab*.

Throughout the course of study each student under departmental supervision develops a portfolio demonstrating his or her knowledge and work in social science. The portfolio includes a research essay from *HIST 290-291 Seminar in the Study of History*; a critical essay from *HIST 490 Seminar in the Philosophy of History*; a research paper from *HIST 499 Senior Thesis*; a project from *GEOG 301 World Regional Geography*; and other selected work.

### Major in History and Government, B.S.

► A minimum of 61 hours (30 upper division) including the following:

HIST 101-102	A History of World Civilizations	4-4
HIST 134-135	History of the United States	4-4
HIST 290-291	Seminar in the Study of History	1-1
HIST 490	Seminar in Philosophy of History	3
HIST 491	Readings in Historiography	3
HIST 499	Senior Thesis	2
PLSC 124	Introduction to American Government	3
PLSC 274	Introduction to Political Thought	3
PLSC 334-335-336	History of Political Thought I, II, III	3-3-3
PLSC 344	Modern Comparative Government	3
PLSC 444	Constitutional Development of England	4
PLSC 488	History of the American Legal System	3

► Required Cognate Courses:

BUAD 325	Business Law I (or BUAD 326 Business Law II)	3
COMM 226	Public Speaking	3
ECON 261	Principles of Economics–Macroeconomics (or ECON 265 Principles of Economics–Microeconomics)	4
ENGL 405	Advanced Expository Writing	3

► Recommended Cognate Courses:

ACCT 121	Principles of Accounting I (3)	
ACCT 122	Principles of Accounting II (4)	
COMM 327	Argumentation (3)	
ECON 332	Government and Business (3)	

- A minimum of 24 hours each must be taken in history and political science.
- HIST 355, 356 may replace HIST 134; HIST 357, 358 may be taken in place of HIST 135. Students with superior secondary-school grades in history and English and superior ACT scores may take HIST 140-141 in place of the lower-division history courses.

### Minor in History

► A minimum of 30 hours (12 upper division) including the following:

HIST 101-102	A History of World Civilizations	4-4
HIST 134-135	History of the United States	4-4
HIST 290-291	Seminar in the Study of History	1-1
HIST 490	Seminar in Philosophy of History	3

Students with superior secondary-school grades in history and English and superior ACT scores may take HIST 140-141 in place of the lower-division history courses.

### Minor in Political Science

► A minimum of 30 hours (15 upper division).

# History and Social Studies

## Economics

(See *Business Administration and Economics* for course descriptions.)

## Geography

UPPER-DIVISION COURSES:

### **GEOG 301** **3 W** **World Regional Geography**

A survey of regions of the world, demonstrating cultural, historical, climatic, and economic similarities or diversities. Emphasis on current developments. Even years.

### **GEOG 327** **3 W** **Geography of the Americas**

A study of climate, natural resources, political, and economic geography of North and South America. Odd years.

## History

LOWER-DIVISION COURSES:

### **HIST 101-102** **4-4 A-W, W-S** **A History of World Civilizations**

An examination, based on secondary and primary texts, of the major characteristics and developments in world civilizations. Equal emphasis on nonwestern and nontraditional texts and on “great” texts. Also integral: discussion of history’s place in the liberal arts and of the problems of the historical method.

### **HIST 134-135** **4-4 A-W** **History of the United States**

A survey of the United States from colonial beginnings to the present time. The central theme is the growth of American democracy with its implications for government and society, racial and religious minorities and the emergence of the nation as a world power.

A student taking HIST 140-141 may not then take HIST 134-135.

### **HIST 140-141** **4-4 A-W** **Honors in History**

Selected topics illustrating the nature of historical problems. Admission is limited to those with superior grades in secondary-school history and English and superior ACT scores. Students who take HIST 140-141 may not then take HIST 134-135. This sequence meets the general-education requirement in history.

### **HIST 290-291** **1-1 A-W** **Seminar in the Study of History**

An introduction to writing history, featuring research techniques and use of style manuals and culminating in a paper based on original sources.

UPPER-DIVISION COURSES:

### **HIST 320** **3 A** **Christian History: To 1500**

Developments in the Christian Church from its pre-Christian origins to the Renaissance. Special emphasis on those social, political, intellectual, and religious pressures that brought significant change to the Church and its teachings. Detailed examination of significant works by major Christian figures.

### **HIST 321** **3 W** **Christian History: 1500 to the Present**

Developments in the Christian Church from the beginnings of “the modern world” to the present day. Emphasis on the effects on the Church of major cultural movements, such as the Reformation, the Enlightenment, colonization and imperialism, modern warfare, and ecumenism. Detailed examination of significant works by Christians in response to “the modern world.”

### **HIST 334** **4 A** **Nineteenth-Century Europe**

An examination of political, social, and religious trends during the century following the Treaty of Vienna, including the decline of absolutism and the rise of parliamentary democracy, socialism, and nationalism. Odd years.

### **HIST 335** **4 A** **Europe Since 1914**

The contemporary world with Europe as the focal point. Problems of ideology and power politics in relation to the two world wars, as well as efforts at international organization and the impact of the Cold War. Even years.

### **HIST 337** **3 S** **History of California**

An introduction to geographic, economic, social, and historical factors which have contributed to the development of California. Even years.

### **HIST 340** **4 S** **Adventist History and the Ministry of Ellen G. White**

An interdisciplinary course covering theological and historical issues important to an understanding of the Advent Movement and the ministry of Ellen G. White. Special treatment of an adequate hermeneutic for the writings of Ellen G. White. Meets the requirement in Prophetic Guidance and Denominational History for SDA teaching credentials.

### **HIST 355** **4 W** **From Colony to Nation: 1600-1783**

A survey of the discovery, settlement, and growth of the European colonies in North America, emphasizing those religious, political, and economic developments in the English colonies which prepared the way for independence. Even years.



**HIST 356** **4 W**  
**The Early Federal Period**

A survey of the formative period of American national identity between 1783 and 1848. Includes intensive study of the creation and development of the U.S. Constitution. Odd years.

**HIST 357** **4 A**  
**Division and Reunion: 1848-1901**

The basic issues of the nature of the Union and of slavery, the immediate and permanent effects of the Reconstruction on America's society and government, industrialization, and the close of the frontier. Even years.

**HIST 358** **4 S**  
**Twentieth-Century America**

A study of the rapid changes in American society, economy, and politics in the modern era, with particular emphasis on the nation's emergence as a world power. Odd years.

**HIST 364** **4 W**  
**Modern Asia**

A survey of historical, political, social, and cultural developments, emphasizing the nineteenth and twentieth centuries and the rise and decline of European imperialism. Odd years.

**HIST 365** **3 W**  
**Seminar in American Slavery and Freedom**

(See also ENGL 365.)

A cultural and political study of African-Americans in the history of the United States. Primary texts, including novels, essays, poetry, and biography, are used to examine the impact of slavery, emancipation, and segregation upon American democracy. Even years.

**HIST 366** **4 S**  
**Modern Latin America**

A history of Latin America since the early nineteenth century. Emphasis on cultural, political, and economic trends. Odd years.

**HIST 423** **4 W**  
**Medieval Europe**

The vital period from A.D. 300 to 1500 saw the creation of Europe. The priorities and characteristics of the civilization were determined in the emergence of a multifaceted medieval society, a discrete historical entity, and ancestor of the modern world. Even years.

**HIST 424** **4 S**  
**Renaissance Europe**

The thirteenth to sixteenth centuries, when Europe experimented with diverse political theories and religious systems, attempted to recover the civilization of ancient Greece and Rome, and sought to rediscover European identity and possibilities. Odd years.

**HIST 425** **4 W**  
**Reason and Revolution**

European history from 1648 to 1815, with special attention to the effect of the Age of Reason on the modern mind, the growth of the bureaucratic state, and the impact of the era of revolution. Even years.

**HIST 434** **4 S**  
**The History of Modern Russia**

A survey of Russian political, social, and intellectual development in the nineteenth and twentieth centuries. Odd years.

**HIST 445** **4 A**  
**Modern Britain**

Survey of the political, social, and economic history of Britain in the nineteenth and twentieth centuries. Treats such major themes of the period as imperialism,

the Irish question, the reform of Parliament, the changing role of women in society, the development of the Labour Party, the Welfare State, and the secularization of Britain. Even years.

**HIST 485** **5 S**  
**The Classical World**

(See also ENGL 485.)

Ancient Greece and Rome studied through primary texts, including Greek and Roman epics, dramas, histories, and philosophical works. Even years.

**HIST 490** **3 W**  
**Seminar in the Philosophy of History**

(See also PHIL 490.)

A survey of various approaches to interpreting history and social studies. Designed to assist in the development of a Christian philosophy of history. Required for departmental majors. Two hours of credit may be applied toward the general-education requirement in religion. Odd years.

**HIST 491** **3 S**  
**Readings in Historiography**

An examination of the writings of representative historians and consideration of the problems faced by historical writers in the selection and interpretation of their materials. Admission by permission of the instructor. Required for majors in History and in History and Government. Even years.

**HIST 495** **1-3 A, W, S**  
**Independent Study**

An individual research course open by permission of the department chair to advanced students with an adequate background in appropriate social studies. Maximum of three hours.

# History and Social Studies

## **HIST 499** **2 A, W, S** **Senior Thesis**

Continuation of the study of research methods introduced in HIST 290 Seminar in the Study of History. Requires completion of an individual research project based on primary sources. Enrollment limited to upper-division students.

## **Political Science**

LOWER-DIVISION COURSES:

## **PLSC 124** **3 A** **Introduction to American Government**

The basic elements of the development and functioning of the American machinery of government and a study of the political processes, both formal and informal, in which the citizen is involved.

## **PLSC 274** **3 A** **Introduction to Political Thought** (See also PHIL 274.)

An introduction to the perennial questions and major thinkers in this area of philosophy.

UPPER-DIVISION COURSES:

## **PLSC 328** **3 S** **Critical World Issues**

An important issue will be selected by the instructor, discussed in class, and studied as a research topic. Even years.

## **PLSC 334** **3 W** **History of Political Thought I** (See also PHIL 334.)

A study of selected ancient and medieval political theorists. Prerequisite: PLSC 274. Odd years.

## **PLSC 335** **3 S** **History of Political Thought II** (See also PHIL 335.)

A study of the political philosophy of selected modern political thinkers. Prerequisite: PLSC 274. Odd years.

## **PLSC 336** **3 S** **History of Political Thought III** (See also PHIL 336.)

A study of two essential texts in American political philosophy: *The Federalist* and *Democracy in America*. Prerequisite: PLSC 274. Even years.

## **PLSC 344** **3 W** **Modern Comparative Government**

The theory and function of typical governments, with special attention to their effects upon their citizens and the relative success with which they meet the needs of their societies. Even years.

## **PLSC 364** **3 W** **Issues in International Relations**

The elements of national power, the dynamics of state conflict, and national traits and policy patterns. Discussion of the problems of human perceptions and misperceptions, and of the role of ideologies and moral considerations in the decision-making process. Odd years.

## **PLSC 444** **4 A** **Constitutional Development of England**

The growth of British institutions from Roman times to the present, with special emphasis on the development of parliamentary and legal systems. Odd years.

## **PLSC 485** **3 W** **Foreign Relations of the United States**

A study in depth of episodes selected from the history of American foreign relations to illustrate the development of U.S. foreign policy. Odd years.

## **PLSC 488** **3 S** **History of the American Legal System**

The development of the American legal system, its relationship to the national and state constitutions and its functioning in present-day society. Odd years.

## **PLSC 495** **1-3 A, W, S** **Independent Study**

An individual research course open only by permission of the department chair to advanced students with an adequate background in appropriate social studies. Maximum of three hours.

## **Sociology**

(See *Behavioral Science, Sociology area, for course descriptions.*)



**Faculty**

*John Christian, chair; Eric Anderson, Jean Buller, Donald John, Marilyn Glaim, William Mundy*

*Departmental Office: 211 Irwin Hall; 965-6301*

**Degrees and Programs**

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The DEPARTMENT OF LIBERAL STUDIES directs two baccalaureate degree programs for students who are intellectually curious and who desire the broadest possible liberal education. A two-year degree is also offered for those who wish to augment their secondary education but are not committed to a four-year degree program. These courses of study are planned to provide an exposure to a greater variety of academic disciplines than is provided in the typical academic major and a more flexible program for meeting the student’s personal educational goals.

The B.A. in Liberal Studies is an interdisciplinary degree involving study in the humanities, sciences, mathematics, and the social sciences. It is primarily designed for students desiring a breadth of academic experience as well as reasonable depth and rigor in a single academic discipline or study area. This degree program not only offers a sound undergraduate education but also serves as preparation for entry into professional schools in such fields as law and the health sciences.

The Liberal Studies major also serves as the core of the Subject-Matter Program for Elementary Education (SPEED) approved by the State of California for those desiring a waiver for the Multiple-Subject Assessment for Teachers (MSAT) for the Elementary Teaching Credential. Students taking the Liberal Studies major for this purpose should consult the Education section of this catalog.

The B.A. or B.S. degree in Interdisciplinary Studies is an individualized study program available for students with unusual

and clearly defined vocational interests who seek a curriculum emphasizing individual growth and development. The proposed course of studies designed by the student is selected from disciplines offered by the College.

The department offers a minor in Philosophy for students interested in understanding the assumptions and methods of various systems of thought; in developing greater skills in critical thinking, analysis, and logical reasoning; and in investigating and clarifying the grounds and implications of moral choice in today’s world.

The A.A. degree in General Studies provides an introduction to the liberal arts. The two-year program offers a general foundation for supporting further studies leading to a baccalaureate degree. The exposure to several areas of knowledge enhances the student’s grasp of the broader intellectual spectrum and provides a context of meaning and value for more specialized career objectives.

**Major in Liberal Studies, B.A.**

➤ *A minimum of 60 hours (38 upper division) to meet the following requirements:*

**1.** A minimum of 15 hours of course work from each of the following three General Academic Areas. (Note: Courses used to meet General Education requirements do not apply toward these 15-hour requirements. In each General Academic Area, 15 hours must be completed in addition to any General Education requirements.)

- A. *Arts and Humanities* (General Academic Area A)  
This Area includes the disciplines of Art, Drama, Ethics, Foreign Language, Linguistics, Literature, Music, Philosophy, Religion, and Rhetoric. Any music ensemble may be repeated once, for a total of two quarter credits.
- B. *Natural Science and Mathematics* (General Academic Area B)  
This Area includes the disciplines of Astronomy, Biology, Chemistry, Computer Science, Geology, Mathematics, and Physics.

## C. *Social and Behavioral Sciences* (General Academic Area C)

This Area includes the disciplines of Anthropology, Economics, Geography, History, Political Science, Psychology, and Sociology.

**2.** A “concentration” consisting of at least 27 hours (15 upper division) is required in a suitable field of knowledge. This field of knowledge might be a traditional discipline selected from those in one of the three lists given above (for example, Anthropology). Or it might be an interdisciplinary “field” created by the student in consultation with a Liberal Studies faculty adviser (for example, Individual and Society, or Premedicine, or Language Arts, to list a few recently elected concentrations). The chief requirement is that the courses chosen to make up the concentration must be centered in a well-defined theme. To repeat: That theme may be a traditional discipline or a combination of two related disciplines; or it may be specially chosen and designed by the student and adviser working together.

**3.** The student must take a minimum of three hours of interdisciplinary or integrative courses. Such courses must involve the examination of relationships between two or more disciplines, the synthesis of major themes, and the comparison of various forms of inquiry. Courses qualifying as interdisciplinary or integrated are listed below under the Interdisciplinary Studies major. Courses used to fulfill this requirement may not also fulfill requirements for the Concentration or General Academic areas of the Liberal Studies major. This restriction does not apply to students completing the SPEED program, who should consult the Education section of this catalog.

**4.** The overall course program for a student choosing the Liberal Studies major is developed in consultation with the student’s academic adviser and must be approved by the Liberal Studies faculty, or, for a student in the Subject-matter Program for Elementary Education, by the Teacher Education Council. Each student must present a program of studies formally approved by the Liberal Studies faculty at least five quarters (80 hours) before graduation.

## Major in Interdisciplinary Studies, B.A./B.S.

➤ *A minimum of 60 hours (30 upper division) in the associated major areas of concentration, including 30 hours in one area and the remainder balanced between not more than two other areas.*

The minimums may be increased substantially by recommendation of the supervising department chairs or the Liberal Studies faculty. The proposed course of studies will be selected from disciplines offered by the College and must meet the following requirements:

**1.** To meet the interdisciplinary objectives, courses must have a unifying academic topic or vocational objectives. The degree is integrative rather than multidisciplinary. Each student must present a program of studies formally approved by the Liberal Studies faculty at least five quarters (80 hours) before graduation. The program must include a comprehensive rationale and must have been approved by the chairs of the departments offering the major courses.

**2.** Two quarters before expected graduation the student must present to the faculty of the Department of Liberal Studies a proposal for an independent-study project which has been approved by the chairs of the departments in which the concentrations are offered. The three-hour independent study project must be integrative in nature, making use of the materials and methods from each of the complementary disciplines studied in the program. The project report is presented in writing and is defended orally before a panel consisting of the chair of the Department of Liberal Studies and the chairs of the supervising departments.

**3.** The proposed course of study must also meet the residence, major, and general requirements that apply to all baccalaureate-degree programs. Service courses, or courses that do not apply toward a major in the department in which they are offered, may not apply toward the interdisciplinary major. No more than 20 hours may apply both to the general-education requirements and to an interdisciplinary major.

**4.** The program of studies must include a minimum of two interdisciplinary courses, one of which must integrate at least two of the areas of concentration.

### Interdisciplinary Courses

The following have been approved as integrative or interdisciplinary courses for the Liberal Studies and Interdisciplinary Studies majors:

ENGL 352	Theme Courses	3
FLHD 490	Issues in Contemporary Society	2
HIST 340	Adventist History and the Ministry of Ellen G. White	4
HIST 365	Seminar in American Slavery and Freedom (ENGL 365)	3
HIST 485	The Classical World (ENGL 485)	5
PETH 490	Ethics in Physical Education	2
PHIL 390	History and Philosophy of Science	3
PHIL 485	Issues in Science and Religion	3
PSYC 435	Psychology of Religion	3
PSYC 490	Issues in Religion, Ethics, & Human Sciences	3
SOCI 435	The Sacred and Profane in Society	3



## Liberal Studies

### UPPER-DIVISION COURSES:

#### **PHIL 320** **3 A**

##### **Philosophy of Religion**

(See RELT 320.)

An introduction to some of the issues raised by a rational analysis of religion. Emphasis on the nature and validity of Judeo-Christian world views.

#### **PHIL 334** **3 W**

##### **History of Political Thought I**

(See PLSC 334.)

Selected ancient and medieval political theorists. Prerequisite: PHIL/PLSC 274. Odd years.

#### **PHIL 335** **3 W**

##### **History of Political Thought II**

(See PLSC 335.)

The political philosophy of selected modern political thinkers. Prerequisite: PHIL/PLSC 274. Even years.

#### **PHIL 336** **3 S**

##### **History of Political Thought III**

(See PLSC 336.)

Two essential texts in American philosophy: *The Federalist* and *Democracy in America*. Prerequisite: PHIL/PLSC 274. Even years.

#### **PHIL 355** **3 A**

##### **Philosophy of Biology**

(See BIOL 355.)

Current theories regarding the origin, age, and change of the earth and its life. Methods of interpreting Scripture, theories of origin and age-dating of the earth and its layers, biological problems of evolution, geological history, glaciation, and fossil hominids. Special reference to the bearing of scientific data on evolutionist and creationist philosophies. Two hours of credit may be applied toward the general-education requirement in religion.

#### **PHIL 390** **3 S**

##### **History and Philosophy of Science**

The historical roots of modern science, the nature of scientific knowledge, its development and methodology, the impact of science on culture (and vice versa), and the influence of philosophical and theological concepts on science. Meets in part the college-level Science/Mathematics general-education requirement and is one of the electives of the Honors Program. Prerequisites: PHYS 105 or CHEM 105, or equivalent, and PHIL 101 or permission of the instructor. Even years.

#### **PHIL 440** **3 W**

##### **Christian Bioethics**

(See RELT 440.)

Contemporary ethical issues in the biomedical sciences from the perspective of Christian ethics. Topics include abortion, euthanasia, eugenics, new reproductive technologies, and human experimentation.

#### **PHIL 450** **3 W**

##### **Philosophy of Origins**

(See BIOL 450.)

Historical and current issues in creation and evolution models of origins. Data and interpretations from anthropology, geology, biology, and radiometric dating, with philosophical, theological, and scientific implications and interactions.

#### **PHIL 451** **3 A**

##### **History of Western Thought**

Survey of philosophy in Western civilization from the pre-Socratic era to the present.

#### **PHIL 460** **3 W**

##### **Moral Philosophy**

A philosophical investigation of such major moral concepts as duty, the good, the right and the just, and their application to problems of the individual and society. Readings include the works of moral philosophers, both ancient and

modern. Prerequisite: One of the following courses or permission of the instructor: PHIL 101, RELT 216, or RELT 355.

#### **PHIL 470** **3 W**

##### **Readings in Philosophy**

An analysis and critique of selected primary sources of Western philosophers from Plato to the twentieth century. Prerequisite: PHIL 101 or permission of the instructor. Odd years.

#### **PHIL 485** **3 A**

##### **Issues in Science and Religion**

The relationship and interaction between science and religion; epistemology, the methods, languages, scope and limitations of science and religion; problems of ethics and science. Meets in part the college-level Science/Mathematics general-education requirement and is an elective in the Honors Program. Two hours of credit may be applied toward the general-education requirement in religion. Prerequisites: PHYS 105 or CHEM 105, or equivalent, and PHIL 101 or permission of the instructor. Odd years.

#### **PHIL 490** **3 W**

##### **Seminar in the Philosophy of History**

(See HIST 490.)

A survey of various approaches to interpreting history and social studies. Designed to assist in developing a Christian philosophy of history. Required for departmental majors and for those meeting the history requirement by means of an external examination. Two hours of credit may be applied toward the general-education requirement in religion. Even years.

#### **PHIL 495** **1-3 A, W, S**

##### **Independent Study**

With the approval of the department chair and the Liberal Studies faculty qualified students may investigate a problem suited to their background and experience. Maximum of nine hours.



## Faculty

*Steve Waters, chair; Lloyd Best, George Hilton, Richard Rockwell*  
 Departmental Office: 238 Chan Shun Hall; 965-6590

## Degrees and Programs

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MATHEMATICS is a science of pattern and order. Its domain is not molecules or cells, but numbers, chance, form, algorithms, and change. As a science of abstract objects, mathematics relies on logic rather than on observation as its standard of truth, yet employs observation, simulation, and even experimentation as means of discovering truth. Modern mathematics is a creative counterpoint of computation and deduction, rooted in data while unfolding in abstraction.

The Department of Mathematics provides courses for future mathematicians, teacher education, general education, and programs in other departments. A common goal of each course is that each student, through mathematical reasoning, will solve problems with confidence.

Students majoring in mathematics will have experience with mathematical modes of thought which include modeling, abstraction, optimization, logical analysis, inference from data, and use of symbols. They will be prepared to solve mathematical problems, analyze abstract arguments, synthesize and write careful proofs, and apply mathematical reasoning to other settings.

## Actuarial Certification

Students interested in passing the examinations for actuarial certification should confer with departmental faculty. The following courses are recommended: MATH 131-132-133, 222, 265, 267, 322, 331, 332, 371-372, and INFS 470.

## Teaching Credential

The State of California Commission on Teacher Credentialing mandates that all teacher-education programs in mathematics meet newly established standards of quality and effectiveness. The Mathematics department has received approval for its revised teacher-education program in mathematics. Students desiring to enter a program of studies leading to a California teaching credential in mathematics should take the Mathematics Education Emphasis. Students are invited to discuss the requirements for a teaching credential with the Teacher Education Adviser in the Mathematics department. A brochure describing the program and its requirements is available upon request.

Students who plan to teach on the secondary level should consult with the Credential Analyst in the Department of Education and should become acquainted with the specific requirements for admission to and successful completion of the Teacher Education Program as outlined in the Education section of this catalog.

# Mathematics

## Major in Mathematics, B.S.

► A minimum of 60 hours (30 upper division) in mathematics and related electives including the following:

MATH 131-132-133	Calculus I-II-III	4-4-4
MATH 222	Introduction to Statistics	4
MATH 265	Elementary Linear Algebra	4
MATH 269	Elementary Differential Equations	4
MATH 275	Logic and Sets	4
MATH 331	Probability and Statistical Theory I	3
MATH 351	Introduction to Abstract Algebra I	3
MATH 390	Seminar	1
MATH 421	Elementary Real Analysis I	3
MATH 490	Senior Seminar	1

Elective hours may be selected from Mathematics courses, upper-division Computer Science courses, and courses listed in Required Cognate Courses (below).

► Required Cognate Courses:

CPTR 115	Computer Programming (or CPTR 131 Computer Science)	4
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A minimum of 4 hours from the following courses, which use mathematical methods in other disciplines: 4

BIOL 354	Genetics (4)	
BIOL 396	Seminar (may be repeated) (.5)	
CHEM 351-352	Physical Chemistry for Life Sciences (3-3)	
CHEM 451-452-453	Physical Chemistry (3-3-3)	
ENGR 211-212	Engineering Mechanics (3-3)	
FIN 341	Finance (5)	
INFS 470	Management Science (4)	
INFS 481	Simulation (3)	
MKTG 371	Marketing Research (3)	
PHYS 131-132	Physics with Calculus (4-4)	
PSYC 322	Research Design (4)	
PSYC 323	Intro. to Experimental Psychology (4)	

► Emphases (choose one):

### 1. Pure Mathematics Emphasis

This emphasis provides a theoretical background for advanced studies in mathematics and related areas, such as statistics, computer science, and physics. Such advanced studies serve as preparation for college and university teaching as well as mathematical and other scientific research.

MATH 267	Multivariable Calculus	4
MATH 352	Introduction to Abstract Algebra II	3
MATH 422	Elementary Real Analysis II	3

Two of the following courses: 7-8

MATH 332	Probability and Statistical Theory II (3)
MATH 425	Complex Variables (4)
MATH 465	Linear Algebra (4)

### 2. Applied Mathematics Emphasis

This emphasis is designed for mathematics-related careers in medicine, government, business, and industry. It provides appropriate background for further study leading to specialties in actuarial science, operations research, and applied statistics.

Highly recommended: Completion of a minor in Biology, Business Administration, Chemistry, Computer Science, Physics, or Psychology.

MATH 322	Statistical Methods	3
MATH 332	Probability and Statistical Theory II	3
MATH 355	Discrete Methods	4
MATH 375	Numerical Analysis	4
MATH 385	Mathematical Modeling	4

### 3. Mathematics Education Emphasis

This emphasis satisfies the mathematics course requirements for a California secondary teaching credential. (For additional credential requirements, refer to the Teacher Education Program as outlined in the Education section of this catalog).

MATH 341-342	Geometries I-II	3-3
MATH 354	Number Theory	3
MATH 355	Discrete Methods	4
MATH 385	Mathematical Modeling	4
MATH 451	History of Mathematics	3

## Minor in Mathematics

► A minimum of 30 hours (6 upper division) including the following:

MATH 131-132-133	Calculus	4-4-4
MATH 265	Elementary Linear Algebra	4

The following elective courses are especially recommended for those planning on secondary level teaching:

MATH 275	Logic and Sets (4)
MATH 341-342	Geometries (3-3)
MATH 351	Introduction to Abstract Algebra (3)

The following elective courses are especially recommended for those majoring in engineering or a physical science:

MATH 267	Multivariable Calculus (4)
MATH 269	Elementary Differential Equations (4)



**Mathematics**

SERVICE COURSES:

*(May not be used for major or minor in this department)*

**MATH 001 3 A**  
**Essential Mathematics**

A prealgebra course including review of whole numbers, fractions, decimals, percentages, ratios and proportions, areas and volumes, variables, exponents, and simple equations.

**MATH 019 4 A, W, S**  
**Introductory Algebra**

Basic concepts and techniques of algebra for students without recent experience in algebra. Integers, algebraic expressions, first-degree equations, simple rational expressions and proportions, integer exponents, scientific notation, polynomials and factoring, solving equations by factoring, graphing, and systems of linear equations. Prerequisite: MATH 001 or equivalent.

**MATH 096 4 A, W, S**  
**Intermediate Algebra**

For students needing additional experience with algebra before enrolling in MATH 106. Factoring, linear and quadratic equations, linear inequalities, functions, graphs, rational expressions, rational exponents and radicals, equations involving rational and radical expressions, complex numbers, and systems of equations. Prerequisite: MATH 019 or equivalent.

**MATH 106 4 A, W, S**  
**College Algebra**

Begins with a quick review of intermediate algebra, including rational exponents and radicals, complex number, linear and quadratic equations, and inequalities. Also includes binomial theo-

rem, graphical linear and programming, composition and inverse of functions, exponentials and logarithms, arithmetic, and geometric series. Prerequisite: MATH 096 or equivalent.

**MATH 130 4 A, S**  
**Precalculus**

Functions and graphs emphasized as tools to prepare the student for calculus. Included are polynomial and rational functions, logarithmic and exponential functions, as well as a thorough treatment of the six trigonometric functions and their inverses. Prerequisite: MATH 106 or a strong background in algebra.

**MATH 211-212 3-3 A-W**  
**Foundations of School Mathematics I-II**

The logic and structure underlying school mathematics. Concepts, procedures, problem-solving and applications at concrete, pictorial, and abstract levels.

MATH 211 includes problem-solving techniques, sets, logic and deductive reasoning, the arithmetic of whole numbers, fractions, decimals, integers, rational and real numbers, ratio and proportion, and percent. Prerequisite: MATH 019 or equivalent.

MATH 212 includes geometry and measurement. Prerequisite: MATH 211.

LOWER-DIVISION COURSES:

**MATH 131-132-133 4-4-4 A-W-S, W-S-Su**  
**Calculus I-II-III**

MATH 131: Introduction to the techniques of differentiation and integration. Includes the chain rule, fundamental theorem and maximizing/minimizing applications. Graphing calculators and mathematical software tools are used extensively. Prerequisite: MATH 130 or a strong background in algebra and trigonometry.

MATH 132: Further skills in integra-

tion and its applications. Includes inverse functions, integration by parts, partial fractions, trigonometric substitutions, surfaces of revolution, volumes, centroids, infinite series, and Taylor expansions. Prerequisite: MATH 131.

MATH 133: Includes plane curves, parametrizations, polar coordinates, solid analytic geometry, partial derivatives, and multiple integrals. Prerequisite: MATH 132.

**MATH 222 4 A, W, S, Su**  
**Introduction to Statistics**

Descriptive statistics, graphical methods, basic concepts of probability, binomial and normal probability distributions, central limit theorem, hypothesis testing involving means, confidence intervals, introduction to correlation and regression, and chi-square testing. Examples from a wide variety of disciplines, including business, the social sciences, and the life sciences, to prepare students with varying backgrounds and interests to become intelligent consumers and users of statistics. Prerequisite: MATH 019 or equivalent.

**MATH 265 4 A**  
**Elementary Linear Algebra**

Matrix algebra and determinants, applications to solving systems of linear equations, vector spaces, linear transformations, eigenvalues, and eigenvectors. Prerequisite: MATH 131.

**MATH 267 4 S**  
**Multivariable Calculus**

Functions of more than one variable including the general chain rule, line and surface integrals, divergence, curl, gradient, and Stokes' theorem. Prerequisite: MATH 133.

# Mathematics

## **MATH 269** **4 W** **Elementary Differential Equations**

Ordinary differential equations balancing analytic techniques, qualitative methods, and basic modeling. Topics include eigenvalue methods for linear systems, Laplace transforms, phase plane, null-clines, equilibria, harmonic oscillator, and population models. Prerequisites: MATH 132, 265.

## **MATH 275** **4 W** **Logic and Sets**

A bridge to upper-division mathematics, developing the student's ability to handle abstract concepts and careful proofs. Propositional and predicate logic, types of proofs such as induction, algebra of sets and functions, equivalence relations, and countable sets. Prerequisite: MATH 131.

UPPER-DIVISION COURSES:

## **MATH 322** **3 W, S, Su** **Statistical Methods**

Linear and multiple regression and correlation, analysis of variance, time series analysis and forecasting, and non-parametric methods. Prerequisites: MATH 222, INFS 148.

## **MATH 331-332** **3-3 W-S** **Probability and Statistical Theory I-II**

MATH 331 introduces the theory and applications of probability theory. Probability distributions and densities including multivariate, marginal, and conditional distributions. Expected value, Chebyshev's and Bayes' theorems. Moment-generating functions and product moments. Special discrete and continuous distributions and densities. Prerequisites: MATH 133, 222, 275. Odd years.

MATH 332 studies theory and application of sampling distributions, transformation of variables, central limit theory,

estimation, hypothesis testing, Bayesian inference, and decision theory. Prerequisites: MATH 222, 331. Odd years.

## **MATH 341-342** **3-3 W-S** **Geometries I-II**

A two-quarter study of the development and history of Euclidean geometry, the discovery of non-Euclidean geometry and the subsequent reformulation of the foundations of geometry.

MATH 341 reviews basic Euclidean geometry, introduces non-Euclidean geometries, and investigates geometric applications through problems and projects.

MATH 342 focuses on the axiomatic method, logic, flaws in Euclid, Hilbert's axioms, neutral geometry, history of the parallel postulate, discovery of non-Euclidean geometry, hyperbolic geometry, and philosophical implications.

Prerequisites: MATH 275 or permission of the instructor. Even years.

## **MATH 351-352** **3-3 A-W** **Introduction to Abstract Algebra I-II**

MATH 351 is a basic introduction to groups, rings, integral domains, fields, and isomorphisms. Also included are mappings, equivalence relations, and modular arithmetic. MATH 352 is a continuation of MATH 351 that stresses applications. Topics studied include polynomials, elementary Galois theory, geometric constructions, algebraic coding, lattices, and Boolean algebras. Prerequisite: MATH 275. Odd years.

## **MATH 354** **3 S** **Number Theory**

A selection of topics from Diophantine equations, theorems and conjectures about prime numbers, congruences, the theorems of Euler and Fermat, perfect numbers, Fibonacci numbers, continued fractions and Pythagorean triples. Prerequisite: MATH 275. Odd years.

## **MATH 355** **4 A** **Discrete Methods**

Introduction to the theory and applications of combinatorics (counting methods) and graph theory. Topics included are permutations, combinations, generating functions, recurrence relations, principle of inclusion and exclusion, pigeonhole principle, Euler and Hamiltonian paths, chromatic number, trees, network flows, and optimization. Optimization algorithms include shortest distance, minimal spanning tree, maximal matching, and maximum flow. Prerequisite: MATH 275. Even years.

## **MATH 375** **4 W** **Numerical Analysis**

Theory and techniques for finding approximate solutions to mathematical problems, including error analysis, interpolation, approximation, fixed-point iteration, nonlinear equations, systems of equations, integration, and ordinary differential equations. Prerequisites: MATH 132, 265. Some knowledge of computer programming would be helpful. Even years.

## **MATH 385** **4 A** **Mathematical Modeling**

Mathematical modeling of problems selected from a variety of applied areas, including industry, biology, business, and the social sciences. Both deterministic and stochastic models are considered, with an emphasis on practical problem-solving. Includes exploration of the computer as a problem-solving tool. Prerequisite: MATH 269 or permission of the instructor. Odd years.

## **MATH 390** **1 S** **Seminar**

Topics of current interest in mathematics and mathematics education, including applications of mathematics in other fields, introduced through lectures,

reports, and periodicals. Discussion of professional mathematics organizations, conferences, and publications. Prerequisite: upper-division standing. Graded S/F.

**MATH 421-422                      3-3 A-W**  
**Elementary Real Analysis I-II**

The fundamental definitions and theorems underlying single-variable calculus and related topics. MATH 421 includes the completeness property, limits of sequences and functions, and continuity. MATH 422 is a continuation that covers derivatives, the Riemann integral, and infinite series. Prerequisites: MATH 132, MATH 275. Even years.

**MATH 425                              4 S**  
**Complex Variables**

The elements of the theory of analytic functions including Cauchy's theorem, calculus of residues, conformality, and applications. Prerequisite: MATH 133. Recommended: a background in multi-variable calculus and real analysis. Even years.

**MATH 451                              3 S**  
**History of Mathematics**

A survey of major developments in mathematics from antiquity to modern times. The course involves historically relevant problem sets, films, class discussions, and presentations by students and teacher. Prerequisite: MATH 131. Odd years.

**MATH 465                              4 S**  
**Linear Algebra**

A deeper study than given in MATH 265, including Jordan form, inner product spaces, quadratic forms, Hamilton-Cayley theorem, and normal operators. Prerequisites: MATH 265, 351. Odd years.

**MATH 485                              2-3 S**  
**Special Topics in Mathematics**

Study of a selected topic not covered elsewhere in the curriculum. Course content varies from year to year, reflecting current interest. Topics studied in recent years have been Differential Geometry, Set Theory and Cardinal Numbers, Formal Logic and Godel's Theorem, Topology, Chaos and Fractals. May be repeated for credit. Normally offered every other year. Further information is available at the departmental office.

**MATH 490                              1 S**  
**Senior Seminar**

Topics of current interest in mathematics and mathematics education, including applications of mathematics in other fields. Under supervision of departmental faculty, each student prepares and presents a paper on a topic of interest. Prerequisite: MATH 390.

**MATH 491                              0-2**  
**Cooperative Education in Mathematics**

An individualized contract agreement involving student, faculty, and employer to provide practical experience in mathematics in a professional off-campus work setting. Prerequisite: Approval by the department chair. Graded S/F.

**MATH 495                              1-3 A, W, S**  
**Independent Study**



## Faculty

*Sylvia Rasi Gregorutti, chair; Charo Caballero-Chambers, William Van Grit*

*Departmental Office: 212 Irwin Hall; 965-6573*

*Chair's Office: 965-6509*

## Degrees and Programs

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The DEPARTMENT OF MODERN LANGUAGES offers instruction in French, German, and Spanish. Majors are available in Spanish and French, and minors are available in French, German, and Spanish.

Pacific Union College participates in the Adventist Colleges Abroad Program (ACA), which provides opportunity for students to study the language of their choice in a foreign country. Participating campuses are in Argentina, Austria, Brazil, France, Greece, Italy, Kenya, Spain, and Taiwan.

It will be necessary for a student majoring in French to spend one year in the Adventist Colleges Abroad Program in France and to take the courses prescribed by the major adviser.

A student majoring in Spanish will be asked to spend from one to three quarters, as needed, in the Adventist Colleges Abroad Program in Spain or in Argentina and to take the courses prescribed by the major adviser.

## Major in Spanish, B.A.

► *A minimum of 48 hours (30 upper division)*

All students majoring in Spanish must complete in residence at Angwin at least three upper-division Spanish courses (minimum of twelve hours).

Students with a background in the Spanish language will be placed in the program in accordance with their ability. Those who achieve advanced placement on a proficiency examination may complete a Spanish major by taking 30 hours of upper-division Spanish and a minor in any field.

A student may choose from the following courses, all of which apply toward the major:

SPAN 151	Intermediate Spanish	3-4
SPAN 152	Intermediate Spanish (or SPAN 132 Intensive Intermed. Spanish)	3-4
SPAN 153	Intermediate Spanish (or SPAN 133 Intensive Intermed. Spanish)	3-4
SPAN 251	Spanish Conversation and Composition	3
SPAN 252	Spanish Conversation and Composition	3
SPAN 253	Spanish Conversation and Composition	3
SPAN 367	Spanish and Latin-American Culture and Civilization	4
SPAN 382	Applied Spanish Linguistics	4
SPAN 385	Business Spanish	4
SPAN 441	Readings in Spanish Literature	4
SPAN 442	Readings in Latin-American Literature I	4
SPAN 443	Readings in Latin-American Literature II	4
SPAN 495	Independent Study	1-3
SPAN 496	Directed Group Study	2-4
	Upper-division electives taken at ACA Campus*	

\*See section entitled "Adventist Colleges Abroad (ACA)."

## Modern Languages

### ► Recommended Cognate Courses:

A beginning full-year course in French or German (12)	
ART 105	History of Western Art (4)
ART 476	Nineteenth-Century Art (3) (or ART 477 Twentieth-Century Art)
MGMT 457	International Management (3)
PLSC 364	Issues in International Relations (3)
PLSC 485	Foreign Relations of the United States (3)

In Spain or Argentina a student may select a program from a variety of courses that apply toward the major in Spanish. See the current *Adventist Colleges Abroad Bulletin*, available in the Modern Languages departmental office, for descriptions of these courses.

### Major in French, B.A.

#### ► A minimum of 48 hours (30 in the upper division)

Students majoring in French must complete in residence at Angwin at least three upper-division French courses (twelve hours minimum). Selections are made from the following courses, all of which apply toward the major:

FREN 151	Intermediate French	3-4
FREN 152	Intermediate French	3-4
FREN 153	Intermediate French	3-4
FREN 367	French Culture and Civilization	4
FREN 381	Applied French Linguistics	4
FREN 385	Business French	4
FREN 441	Readings in 19th century French Literature	4
FREN 442	Readings in 20th century French Literature	4
FREN 443	Contemporary Francophone Literature	4
FREN 495	Independent Study	1-3
FREN 496	Directed Group Study	2-4
	Upper-division electives at ACA Campus	

#### ► Recommended Cognate Courses:

A beginning full-year course in Spanish or German (12)	
ART 105	History of Western Art (4)
ART 476	Nineteenth-Century Art (3) (or ART 477 Twentieth-Century Art)
MGMT 457	International Management (3)
PLSC 364	Issues in International Relations (3)
PLSC 485	Foreign Relations of the United States (3)

In France a student may select a program from a variety of courses that apply toward the major in French. See the current *Adventist Colleges Abroad Bulletin*, available in the departmental office, for descriptions of these courses.

## Teaching Credential

The State of California Commission on Teacher Credentialing mandates that all teacher education programs in languages other than English meet newly established standards of quality and effectiveness. The Department of Modern Languages has revised its language program for the secondary teaching credential and expects State approval of the new program. Students desiring a California secondary teaching credential are invited to discuss the new teacher education program with the Teacher-Education Adviser in the Modern Languages department.

Students presently enrolled in the previous program must complete their work by September 1, 1999. All students who plan to teach on the secondary level should consult the Credential Analyst in the Education department.

Courses are taken at both PUC and the appropriate ACA campus in Spain, Argentina, or France (see "Adventist Colleges Abroad" below).

## Minors in French, German, and Spanish

#### ► A minimum of 30 hours at the intermediate level or higher (15 upper division)

A student desiring a minor in German must spend one year abroad.

## Language Placement

Students who have had previous work in a given language and wish to take a beginning course in that language must obtain the consent of the instructor.

Students from a Spanish background taking Spanish will normally enroll in SPAN 251-252-253 Spanish Conversation and Composition. Those unsure of what course to enroll in may take a Spanish Language Placement test. Those scoring below the 50th percentile in most areas will enroll in SPAN 151-152-153 for either three or four credits per quarter, depending on the instructor's recommendation.

## Adventist Colleges Abroad (ACA)

Pacific Union College is a member of Adventist Colleges Abroad (ACA), a consortium of colleges and universities operated by the Board of Higher Education of the North American Division of the Seventh-day Adventist Church. This consortium affords opportunity to qualified students for international study while completing the requirements of their programs at their home campus. The program allows students to immerse themselves in the culture and life of the host country and become conversant in the language; to mature socially, spiritually, and intellectually; and to develop sensitivity to cultural differences

and a sense of responsibility for and mission to other peoples of the world. The following institutions are international affiliates of ACA offering academic-year programs of study:

Argentina:	Universidad Adventista del Plata, Libertador San Martín: Spanish Language and Latin American Culture
Austria:	Seminar Schloss Bogenhofen, St. Peter am Hart: German Language and Culture
France:	Centre Universitaire et Pédagogique du Salève, Collonges-sous-Salève: French Language and Culture
Kenya:	The University of Eastern Africa, Baraton, Eldoret: African Culture and Kiswahili
Spain:	Colegio Adventista de Sagunto: Spanish Language and Culture

In addition to academic-year programs, ACA offers six- or ten-week summer terms at the following international study centers:

Austria:	Seminar Schloss Bogenhofen, St. Peter am Hart: German
Brazil:	Instituto Adventista de Ensino, São Paulo: Portuguese
France:	Centre Universitaire et Pédagogique du Salève, Collonges-sous-Salève: French
Greece:	La Sierra University Study Center, Athens: Intermediate New Testament Greek
Italy:	Istituto Adventista Villa Aurora, Florence: Italian
Spain:	Colegio Adventista de Sagunto, Sagunto: Spanish
Taiwan:	Taiwan Adventist College, Yu Chih: Chinese-Mandarin

Applicants for international study need not be language majors or minors. Students majoring in various disciplines that allow for one or more elective years within the four-year curriculum may study in the year-abroad and summer session programs without losing credits or prolonging time before graduation by carefully planning the year(s) preceding and following their international study experience. Prerequisites for admission to ACA study-abroad programs are as follows:

1. Admission as a regular student to Pacific Union College for the summer or academic year abroad.
2. Competence in the language of the host country (minimum: one year of college or two years of secondary study with a language

GPA of 3.00). Not required of students studying in summer programs. This level of language competence is prerequisite to one's being considered for admission.

3. An over-all college or university GPA of 2.50.
4. A good citizenship record that gives evidence of better-than-average maturity, adjustability, and congeniality.
5. Presentation of the application with all required information and signatures (academic and financial arrangements) to the PUC Admissions office.
6. Attendance at an ACA orientation meeting at PUC.

College freshmen with competence in the language are not specifically excluded from ACA academic-year programs, but the course of study is usually more beneficial to sophomores and juniors, especially those who plan to major or minor in the language or specialized area of study. Although enrolled on an international campus, students are registered at PUC; are considered in residence at this college; and are eligible for all external grants, loans, scholarships, and financial aid offered to students in attendance at PUC. Credit earned abroad is recorded each term in the PUC Records office.

The Adventist Colleges Abroad program offers a wide variety of language courses at intermediate and advanced levels concentrating on grammar, orthography, composition, dictation, phonetics, conversation, reading, pronunciation, literature, culture, civilization, and folklore as well as courses in art, education, geography, history, music, physical education, and religion. Applicants must consult with their major professors, the Modern Language faculty, and the ACA Coordinator before enrollment. Pacific Union College personnel advise students about courses to take abroad and determine how the credits will apply toward graduation requirements. Those who carefully plan their academic-year programs with PUC advisers may earn up to 54 quarter hours toward a baccalaureate degree. ACA courses may apply toward the major, minor, general-education, and elective requirements; credit is awarded on the basis of course prefix.

ACA courses are in high demand; applications are processed in the order received. Applications are available at the Admissions office and the Modern Language department. Deadline for summer applications is March 31; for the academic year, thirty days before the end of the prior spring quarter.

For further information: Adventist Colleges Abroad, Board of Higher Education, 12501 Old Columbia Pike, Silver Spring, MD 20904-6600; telephone (301) 680-6444.

## Modern Languages

### French

#### SERVICE COURSE:

(Not applicable toward a major or minor in this department)

#### **FREN 111-112-113 4-4-4 A-W-S** **Beginning French**

Designed to develop speaking, listening, reading, and writing skills in the language studied. Basic grammar and vocabulary presented through a proficiency-oriented approach emphasizing the practical use of the language. Individual laboratory work provides additional opportunity to practice and develop the communicative skills that can be expanded in subsequent study and use of the language. Introduction to selected elements of the cultures in countries where the language under study is used.

#### LOWER-DIVISION COURSE:

#### **FREN 151-152-153 3/4-3/4-3/4** **Intermediate French A-W-S**

Designed to increase proficiency in speaking, listening, reading, and writing in the language studied. Focus on reinforcing control of basic grammar and on vocabulary expansion. Selected cultural features of countries where the language is used. Individualized laboratory practice. (Students having completed a year of college study of the language with a grade of B or better take the three-hour sequence. Those who have had secondary-school exposure to the language but who need more practice in basic skills take the four-hour sequence.) Prerequisites: FREN 111-112-113, its equivalent or permission of the instructor.

#### UPPER-DIVISION COURSES:

(Taught in French)

#### **FREN 367 4 A** **French Culture and Civilization**

Contemporary French culture and civilization dealing with social, political, and economic trends. Even years.

#### **FREN 381 4 A** **Applied French Linguistics**

Introduces principles of phonetics, phonology, morphology, and syntax. Special reference to foreign language teaching methodology and the particular problems of teaching French. Odd years.

#### **FREN 385 4 W** **Business French**

Practice and vocabulary building in French as used in business, commerce, and economics. Even years.

#### **FREN 441 4 W** **Readings in 19th-Century French Literature**

Readings in representative poets, novelists, and playwrights. Odd years.

#### **FREN 442 4 S** **Readings in 20th-Century French Literature**

Readings in representative poets, novelists, and playwrights. Odd years.

#### **FREN 443 4 S** **Contemporary Francophone Literature**

Readings in representative French-speaking authors from around the world. Even years.

#### **FREN 495 1-3 A, W, S** **Independent Study**

Thirty-six hours of reading per hour of credit. A weekly conference with the instructor. Limited to French majors. Admission by permission of the instructor. Maximum of three hours.

### German

#### SERVICE COURSE:

(Not applicable toward a major or minor in this department)

#### **GRMN 111-112-113 4-4-4 A-W-S** **Beginning German**

See course description under FREN 111-112-113.

#### LOWER-DIVISION COURSE:

#### **GRMN 151-152-153 3-3-3 A-W-S** **Intermediate German**

See course description under FREN 151-152-153. Prerequisites: GRMN 111-112-113, its equivalent, or permission of the instructor.

### Spanish

#### SERVICE COURSE:

(May not be used for major or minor in this department)

#### **SPAN 111-112-113 4-4-4 A-W-S** **Beginning Spanish**

See course description under French 111-112-113. This course is not for students who have had two or more years of secondary Spanish.

LOWER-DIVISION COURSES:

**SPAN 131** **5 A**  
**Intensive Spanish Review**

An intensive “bridge” course for students who have completed a beginning course in Spanish but need review and practice before taking intermediate-level courses. Includes two hours of laboratory each week. Prerequisite: One or two years of high-school Spanish.

**SPAN 132-133** **5-5 W-S**  
**Intensive Intermediate Spanish**

Continuation of SPAN 131, featuring intensive study of Intermediate Spanish (see course description under SPAN 151-152-153). Includes two hours of laboratory per week. Prerequisite: Passing grade in SPAN 131 or equivalent. SPAN 132 is prerequisite to SPAN 133.

**SPAN 151-152-153** **3/4-3/4-3/4**  
**Intermediate Spanish** **A-W-S**

See course description under FREN 151-152-153. Prerequisite: Two years of high-school Spanish or SPAN 111-112-113 or its equivalent.

**SPAN 251-252-253** **3-3-3 A-W-S**  
**Spanish Conversation and Composition**

Emphasis on oral and written expression in Spanish. For students having completed several years of secondary Spanish or whose native language is Spanish. Fulfills the intermediate-level language requirement for general education.

UPPER-DIVISION COURSES:

*(Taught in Spanish)*

**SPAN 367** **4 A**  
**Spanish and Latin-American Culture and Civilization**

A study of Spanish and Latin-American culture and civilization throughout the ages. Even years.

**SPAN 382** **4 A**  
**Applied Spanish Linguistics**

Introduction to principles of phonetics, phonology, morphology, and syntax. Special reference to foreign-language teaching methodology and the particular problems of teaching Spanish. Taught in Spanish. Odd years.

**SPAN 385** **4 W**  
**Business Spanish**

Practice and vocabulary building in Spanish as used in business, commerce, and economics. Odd years.

**SPAN 441** **4 S**  
**Readings in Spanish Literature**

Readings in representative poets, novelists, and playwrights. Odd years.

**SPAN 442** **4 W**  
**Readings in Latin-American Literature I**

Readings in representative poets, novelists and playwrights. Even years.

**SPAN 443** **4 S**  
**Readings in Latin-American Literature II**

Readings in representative poets, novelists, and playwrights. Even years.

**SPAN 495** **1-3 A, W, S**  
**Independent Study**

Thirty-six hours of reading per hour of credit. A weekly conference with the instructor. Limited to Spanish majors; admission by approval of the instructor. Maximum of three hours.

**Extended Learning Courses**

*Note: The courses described below are scheduled on an as-needed or sufficient-demand basis through Extended Learning. Full-time PUC students may pay for these courses through the regular flat-rate tuition plan.*

**ITAL 101-102-103** **2-2-2**  
**Beginning Conversational Italian**

An introductory course in conversational language stressing practical applications in daily life. Does not meet the foreign-language requirement for the B.A. degree.

**JAPN 101-102-103** **2-2-2**  
**Beginning Conversational Japanese**

For description, see ITAL 101-102-103.

**JAPN 221-222-223** **2-2-2**  
**Conversational Japanese**

An intermediate course in conversational language stressing practical applications in daily life. Does not meet the foreign-language requirement for the B.A. degree.

**RUSS 101-102-103** **2-2-2**  
**Beginning Conversational Russian**

For description, see ITAL 101-102-103.

**SIGN 101-102-103** **2-2-2**  
**Sign Language I**

An introductory course in sign language for communication with the deaf. Begins with basic methods of finger spelling; proceeds to more advanced skills of numbering, signing, and comprehending American Sign Language.



## Modern Languages

### **SPAN 123-124-125                      2-2-2**

#### **Spanish for Medical Personnel**

The fundamentals of Spanish grammar and vocabulary for students preparing for careers in health care. Listening, speaking, and writing in Spanish; emphasizes the vocabulary of health-care professions.

Objective: Basic language skills for communication in routine career-related situations.



**Faculty**

Lynn Wheeler, chair; Genevieve Brown-Kibble (on study leave), Del Case, Lois Case, James Kempster, James McGee, Kenneth Narducci, LeRoy Peterson

Departmental Office: 102 Paulin Hall; 965-6201

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The DEPARTMENT OF MUSIC offers a two-year Associate of Science degree and two four-year curricula leading to the Bachelor of Music and Bachelor of Science degrees. Emphasis in the Bachelor of Music degree may be in Music Education or in Performance.

**Entrance Requirements**

1. Music majors and minors must pass an entrance examination in the elements of music before admission to MUTH 121. Failing the examination necessitates enrollment in MUTH 101.
2. Students in the A.S. and B.Mus. programs must take a functional keyboard facility examination the first quarter in residence. Unsatisfactory performance mandates enrollment in MUSP 121 each quarter in residence until the students pass the examination. Students must pass this test before they may receive upper-division credit in their primary area of performance.

**General Performance Requirements**

Study in the major performance area is required each quarter of residence for Bachelor of Music majors. Performance emphasis majors must take an additional 6 hours of secondary performance credit. Secondary performance studies are usually permitted only after the student has reached upper-division status in the major performance area. Credit is based upon a half-hour lesson and four hours of practice per week for each credit hour earned.

All new or transfer music majors and minors must perform before a jury the first quarter of residence. In addition, juried performances are required periodically of all majors and minors to evaluate progress and to determine eligibility for upper-division credit. A student preparing a required recital must perform the program for a faculty audition committee one month prior to the projected recital date. Specific year-by-year requirements in the various performance areas and details regarding jury evaluations are available at the Music department office and in the *Music Department Student Handbook*.

**Ensemble**

All majors are required to register for ensemble credit each quarter in residence except while doing student teaching.

**Recital Attendance**

Attendance at a minimum number of concerts and recitals is required of all music majors and minors during each quarter of residence. Details are available at the Music department office and in the *Music Department Student Handbook*.

**Required Recitals**

Performance emphasis majors present a half-hour recital (MUSP 390) during the junior year and a one-hour recital (MUSP 490) the senior year.

Music education emphasis majors present a half-hour recital (MUSP 489) in the senior year. Bachelor of Science majors present a half-hour recital (MUSP 489) the senior year or complete a special project (MUED 489) in an area of particular interest. The topic is chosen in consultation with the department chair and a teacher in the area of the project, and with the approval of the music faculty.

Music minors present a fifteen-minute recital (MUSP 385) during the last quarter of performance studies.

All majors and minors must periodically perform in general student recitals. For details, see the *Music Department Student Handbook*.

The Major Field Achievement Test in music is required of all seniors during their final quarter before graduation.

# Music

## Certificate of Achievement

To encourage excellence in performance, the department may award the Certificate of Achievement to any outstanding music major who presents a recital or is soloist in a major performance of particularly high quality during each of the four years in residence. The student must apply to the music faculty for this award after giving the final recital.

### ► Required Core Courses

38 hours required for all baccalaureate degrees in music:

MUED 241	Basic Conducting	2
MUHL 131	Introduction to Vocal/Choral Literature	2
MUHL 132	Introduction to Keyboard Literature	2
MUHL 133	Introduction to Symphonic/Chamber Music Literature	2
MUHL 331	Music from Antiquity through the Baroque	3
MUHL 332	Music of the Classic and Romantic Eras	3
MUHL 333	Music of the Twentieth Century	3
MUTH 121-122-123	Theory I	3-3-3
MUTH 201	Music, Computers, and MIDI	1-1-1
MUTH 221-222-223	Theory II	3-3-3

## Major in Music, B.Mus. (Bachelor of Music)

Besides baccalaureate degree requirements listed elsewhere in this catalog, students working toward the Bachelor of Music degree take the required core courses listed above and meet the requirements of one of the two emphases listed below.

### ► General Education Requirements

The general-education requirements for the B.Mus. degree are the same as for other baccalaureate degrees except as indicated below. See the general-education section of this catalog.

- I. Foundations of Learning: MATH 222 not required.
- II. Human Identity in Cultural Contexts: II-B Philosophy not required; III-C Social Sciences: one course required; III-D Foreign Language: Voice performance emphasis majors are required to complete satisfactorily one year of either French or German. Teacher candidates take ANTH 124 (or SOCI 121) and must pass a test or take a course in U.S. Constitution (this requirement is satisfied by HIST 134-135 or HIST 140-141 or HIST 356 or PLSC 124).
- III. Insights of the Imagination. Same as for B.S. degree
- IV. The Natural World: Select two of IV-B, IV-C, and IV-D. All students must meet the Introductory-Level Mathematics and Science requirements outlined in IV-A.

V. Revelation, Belief, and Action: Same as for B.S. degree. Music education emphasis majors must complete 19 hours of religion (9 upper division): 9 hours of RELB prefix courses, 3 hours of Doctrinal Studies (RELT 331, 332 and/or 333), HIST 340, and 3 hours selected from RELH 311, RELT 216, 218, 320, 355, and 440.

VI. Health and Fitness: Same as for B.S. degree, except that music education emphasis majors must take HLED 166.

VII. Skills for Daily Living: Not required.

*Other Requirements:* Teacher candidates must take ENGL 335.

## Music Education Emphasis

► 93 hours including core courses and the following:

### 1. Music Education

MUED 338	Music for Children	2
MUED 338L	Music for Children Lab	1
MUED 342	Instrumental Conducting	3
MUED 343	Choral Conducting	3
MUED 381-382-383	Music in Elementary Schools	2-2-2
Additional courses		10

► Select 10 hours from the following list of techniques and pedagogy courses. Exceptions are MUED 473-474, required of all piano majors, and MUED 475-476, required of all organ majors.

MUED 370	Handbell Techniques and Methods (1)
MUED 371*	Trumpet Techniques and Methods (1)
MUED 372*	Trombone Techniques and Methods (1)
MUED 373	Horn/Tuba Techniques and Methods (1)
MUED 374*	Flute Techniques and Methods (1)
MUED 375*	Single-Reed Techniques and Methods (1)
MUED 376	Double-Reed Techniques and Methods (1)
MUED 377*	Percussion Techniques and Methods (1)
MUED 378*	Violin/Viola Techniques and Methods (1)
MUED 379	Cello/Double Bass Techniques and Methods (1)
MUED 473-474	Piano Pedagogy (1-1)
MUED 475-476	Organ Pedagogy (1-1)
MUED 477*	Voice Pedagogy (2)

### 2. Music Ensemble

One large ensemble for each quarter in residence except the student-teaching quarter. Participation in both choral and instrumental ensembles for a minimum of three quarters each and in a small ensemble in the area of one's specialty for a minimum of one quarter. For keyboard majors, three of the total hours must

\* Unless they are in the major performance area, these courses are required.

be in MUEN 359 Keyboard Ensemble. When MUEN 359 is taken, the large ensemble is not required.

**3. Music Performance**

MUSP 125-144	Performance Studies: Major-Minor	11
MUSP 225-244	(maximum 6 hours lower division)	
MUSP 325-344		
MUSP 425-444		
MUSP 489	Senior Recital	1
	(or MUED 489 Senior Project)	

**4. Music Theory**

MUTH 321-322-323	Theory III	3-3-3
MUTH 421-422-423	Seminar in Theory	1-1-1

**5. Required Cognate Courses in Professional Education 36**

See the Education section of this catalog for further information about prerequisites and admission to the teacher education program.

EDUC 101	Introduction to Teaching (1)
EDUC 101L	Introduction to Teaching Lab (1)
EDUC 333	Educational Psychology (2)
EDUC 335	Principles of Christian Education (2)
EDUC 336	Social and Multicultural Education (2)
EDUC 358	C/I Teaching of Reading—Secondary (3)
EDUC 358L	C/I Teaching of Reading—Secondary Lab (1)
EDUC 360	C/I Secondary Methods I (2)
EDUC 361	C/I Secondary Methods II (2)
EDUC 361L	C/I Secondary Methods II Lab (1)
EDUC 362	C/I Secondary Methods III (2)
EDUC 362L	C/I Secondary Methods III Lab (2)
EDUC 485L	Student Teaching (18)

► *Recommendation for Directed Teaching*

Before acceptance into the Directed Teaching program, students must have passed the Keyboard Proficiency, Keyboard Harmony, and Fretted-String Instrument Proficiency Examinations as prerequisites for recommendation by the music faculty. For details, see the *Music Department Student Handbook*.

**Teaching Credential**

The State of California Commission on Teacher Credentialing mandates that all teacher-education programs in Music meet recently established standards of quality and effectiveness. The Music department has revised the music education program and expects State approval before fall quarter of 1998. Those presently enrolled in the previous program must complete their work by September 1, 1999.

Students are invited to discuss the requirements for a teach-

ing credential with the Teacher Education Adviser in the Music department. All students who plan to teach should also consult with the Credential Analyst in the Department of Education and should become acquainted with specific requirements outlined in the Education section of this catalog.

**Performance Emphasis**

► *A minimum of 119 hours including core courses and the following:*

**1. Music Education**

MUED 342	Instrumental Conducting	3
	(or MUED 343 Choral Conducting)	

Additional hours	4
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Select four hours from the following list of techniques and pedagogy courses. Voice majors must take MUED 477; piano majors must take MUED 473-474; organ majors must take MUED 475-476; and all other majors must take two hours of MUED 495, studying the pedagogy and literature of their area of performance emphasis.

MUED 370	Handbell Techniques and Methods (1)
MUED 371	Trumpet Techniques and Methods (1)
MUED 372	Trombone Techniques and Methods (1)
MUED 373	Horn/Tuba Techniques and Methods (1)
MUED 374	Flute Techniques and Methods (1)
MUED 375	Single-Reed Techniques and Methods (1)
MUED 376	Double-Reed Techniques and Methods (1)
MUED 377	Percussion Techniques and Methods (1)
MUED 378	Violin/Viola Techniques and Methods (1)
MUED 379	Cello/Double Bass Techniques and Methods (1)
MUED 473-474	Piano Pedagogy (1-1)
MUED 475-476	Organ Pedagogy (1-1)
MUED 477	Voice Pedagogy (2)

**2. Music Ensemble**

One large ensemble for each quarter in residence 12  
 For keyboard majors, three of the twelve hours must be in MUEN 359, Keyboard Ensemble. When MUEN 359 is taken, the large ensemble is not required.

Chamber music in the major area	3
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# Music

## 3. Music Performance

MUSP 145-164	Performance Studies: Emphasis Major	36
MUSP 245-264	(maximum of 18 hours lower division)	
MUSP 345-364		
MUSP 445-464		
MUSP 365-384	Performance Studies: Secondary Area	6
MUSP 390	Junior Recital	1
MUSP 490	Senior Recital: Emphasis Major	1
MUSP 495	Independent Study in Performance	3
	(in the major area; piano majors take one hour of MUSP 495, two of MUHL 337.)	

## 4. Music Theory

MUTH 321-322-323	Theory III	3-3-3
MUTH 421-422-423	Seminar in Theory	1-1-1

## Major in Music, B.S.

► A minimum of 62 hours (21 upper division)

In addition to music courses, the Bachelor of Science degree with a music major has general-education requirements as listed in this catalog under General Education for the Baccalaureate Degree. MUHL 105 and MUED 104 do not apply toward the degree requirements.

► *Required Courses*

The core courses for all music majors, listed above, and the following:

### 1. Music Ensemble

One large ensemble for each quarter in residence 6  
A maximum of six hours is applied toward the major (at least three must be upper division). The balance of credit is applied to general-education electives.

### 2. Music Performance

MUSP 125-144	Performance Studies: Major-Minor	7
MUSP 225-244	(maximum of six hours lower division)	
MUSP 325-344		
MUSP 425-444		

### 3. Music Theory

MUTH 421-422-423	Seminar in Theory	1-1-1
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### 4. Music Electives

MUSP 489	Senior Recital (or MUED 489 Senior Project)	1
Additional hours		7

Seven additional hours selected in consultation with the adviser and approved by the music faculty to develop a solid background in the area of the student's recital or project.

## Associate Degree in Piano Pedagogy, A.S.

► A minimum of 61 hours including the following:

### 1. Music Education

MUED 338	Music for Children	2
MUED 349	Directed Teaching: Piano	3
MUED 473-474	Piano Pedagogy	1-1
Electives (in consultation with adviser)		9

### 2. Music Ensemble

One ensemble each quarter in residence 6  
Three hours must be in MUEN 159.

### 3. Music History and Literature

MUHL 132	Introduction to Keyboard Literature	2
MUHL 337	Keyboard Literature	2
<i>One course from the following:</i>		
MUHL 131	Introduction to Vocal/Choral Literature (2)	2
MUHL 133	Introduction to Symphonic/ Chamber Music Literature (2)	2

### 4. Music Performance

MUSP 125-144	Performance Studies: Piano	12
MUSP 225-244		
MUSP 365-384	Performance Studies: Secondary Area	2

### 5. Music Theory

MUTH 121-122-123	Theory I	3-3-3
MUTH 201	Music, Computers and MIDI	1-1
MUTH 221-222	Theory II	3-3
MUTH 326	Keyboard Harmony	2

A.S. in Piano Pedagogy majors must perform in at least four general recitals. In addition, their pupils must perform in at least two Paulin Center recitals.

► *General Education Requirements*

General-education requirements for the A.S. degree are listed in the Associate Degree Program section of this catalog. It is recommended that PSYC 121 General Psychology be included as part of the 12 hours of electives.

**Minor in Music**

► A minimum of 32 hours, 6 of which must be upper division (2 of these may be ensemble), including:

MUEN	Selection of three hours of ensemble	3
MUHL 131	Introduction to Vocal/Choral Literature	2
MUHL 132	Introduction to Keyboard Literature	2
MUHL 133	Introduction to Symphonic/Chamber Music Literature	2
MUSP 125-144	Performance Studies (5 hours in any one area)	5
MUSP 225-244		
MUSP 325-344		
MUSP 425-444		

MUSP 385	Minor Recital	1
MUTH 121-122-123	Theory I	3-3-3
Music electives		8

► Recommended course:

MUED 241 Basic Conducting (2)  
 Music minors are expected to take Theory I and MUHL 131, 132, 133 during their first two years in the program to qualify for nonfee lessons in the major area of performance.

**Music Education**

LOWER-DIVISION COURSES:

**MUED 104 3 A, W, S**  
**The Christian and Music**

The role of music in the Christian's life. Emphasizes developing a Christian philosophy of aesthetics. Includes both a survey of music history and practical problems of laity in society. Not applicable to a music major or minor. Meets general-education requirement in music.

**MUED 241 2 A**  
**Basic Conducting**

The foundation for the development of skill in the art of conducting various ensembles.

**MUED 256 2 W**  
**Music Recording Techniques**

Technical aspects of sound reproduction with particular emphasis on the actual recording process. Laboratory experience and recording of live musical and dramatic programs are required. Odd years.

UPPER-DIVISION COURSES:

**MUED 338 2 A**  
**Music for Children**

(See also ECED 338.)

Music for children from infancy through lower elementary school grades, based on Kodály method. Emphasizes development of child's voice through folk materials and sol-fa and covers teaching methods for singing, rhythmic activities and listening skills. MUTH 101 Elements of Music recommended for those without musical background.

**MUED 338L 1 A, W, S**  
**Music for Children Lab**

(See also ECED 338L.)

Observation and practical experience with young children, using methods discussed in MUED 338. Highly recommended complement to MUED 338. May be taken any quarter. Prerequisite: MUED 338.

**MUED 342 3 W**  
**Instrumental Conducting**

Practical work with instrumental groups. Baton techniques, score reading, methods of rehearsal and group administration. Prerequisite: MUED 241. Even years.

**MUED 343 3 W**  
**Choral Conducting**

Conducting techniques, rehearsal procedures, tone quality, blend and balance, and diction appropriate for college, secondary school, and church choirs. Prerequisite: MUED 241. Odd years.

**MUED 349 1 A, W, S**  
**Directed Teaching: Piano**

Lessons taught by students in studio or classroom. Supervised and evaluated. Usually taken in conjunction with MUED 473 and continued winter and spring quarters.

**MUED 370 1 W**  
**Handbell Techniques and Methods**

Basic and advanced ringing techniques, handbell literature, group organization, solo and ensemble ringing, bell assignments, and bell maintenance. Even years.

**MUED 371 1 A**  
**Trumpet Techniques and Methods**

Introduction to teaching and performing trumpet through the intermediate level. Performance techniques, pedagogical methods and materials, maintenance, and practical teaching experience. Two classes weekly. Odd years.

## Music

**MUED 372** **1 W**  
**Trombone Techniques and Methods**  
Objectives similar to those of MUED 371. Odd years.

**MUED 373** **1 S**  
**Horn/Tuba Techniques and Methods**  
Objectives similar to those of MUED 371. Odd years.

**MUED 374** **1 A**  
**Flute Techniques and Methods**  
Objectives similar to those of MUED 371. Even years.

**MUED 375** **1 W**  
**Single-Reed Techniques and Methods**  
Objectives similar to those of MUED 371. Even years.

**MUED 376** **1 S**  
**Double-Reed Techniques and Methods**  
Objectives similar to those of MUED 371. Even years.

**MUED 377** **1 A**  
**Percussion Techniques and Methods**  
Objectives similar to those of MUED 371. Emphasis on snare drum, timpani, and mallets. Solo and ensemble playing. Even years.

**MUED 378** **1 A**  
**Violin/Viola Techniques and Methods**  
Ability to play and teach violin and viola at the beginning and intermediate levels. Elementary individual and class methods of instruction and basic maintenance. Odd years.

**MUED 379** **1 W**  
**Cello/Double Bass Techniques and Methods**  
Objectives similar to those of MUED 378. Even years.

**MUED 381** **2 A**  
**Music in Elementary and Secondary Schools I**  
Examination and evaluation of music-education philosophies and their practical applications for designing and building a dynamic secondary-school choral program. Topics include recruitment, administration, classroom management, and repertoire selection. Prerequisites: MUED 241, 338. Even years.

**MUED 382** **2 W**  
**Music in Elementary and Secondary Schools II**  
Theories of and practice with musical development. Emphasizes the Kodály approach to teaching music in the elementary school. Deals with vocal development of children from the nonsinger to the junior-high chorister and other challenges related to the elementary music classroom. Prerequisite: MUED 338. Even years.

**MUED 383** **2 S**  
**Music in Elementary and Secondary Schools III**  
Development and maintenance of instrumental programs in elementary, middle, and secondary schools. Behavioral objectives, evaluative techniques, motivation, administration, recruiting, scheduling, and technology. Prerequisite: MUED 338. Even years.

**MUED 470, 480** **2, 2 Su**  
**Music Workshops**  
During the summer session various workshops are offered in piano, choral music and strings.

**MUED 473-474** **1-1 A-W**  
**Piano Pedagogy**  
Science of piano teaching, including materials and methods of instruction. Concurrent registration in MUED 349 recommended. Odd years.

**MUED 475-476** **1-1 W-S**  
**Organ Pedagogy**  
The science of teaching organ at beginning and intermediate levels. Survey of materials and methods of instruction. Odd years.

**MUED 477** **2 S**  
**Voice Pedagogy**  
Proper voice development and methods of vocal production. Emphasizes pedagogical techniques. Even years.

**MUED 489** **1 A, W, S**  
**Senior Project**  
Special project for B.S. majors and, in lieu of MUSP 489, for B.Mus. education emphasis majors in unusual circumstances. By permission of the music faculty and in consultation with the adviser and the department chair.

**MUED 495** **1-3 A, W, S**  
**Independent Study**  
Advanced independent project in music education. Requires approval of the department chair. Three hours maximum.

### Music Ensembles

The following satisfy the music major and minor large-ensemble requirements: Bel Canto, Kantorei, Pro Musica, Orchestra, Symphonic Wind Ensemble, and Keyboard Ensemble. Additional small ensembles are also offered. Unless indicated otherwise, each ensemble is available any quarter and is repeatable.

Upper-division credit for juniors and seniors is determined by the student's proficiency and previous experience in college-level music.

LOWER-DIVISION COURSES:

**MUEN 141 1 A, W, S**  
**Bel Canto**

The study and performance of selected choral literature for women's voices. Performance opportunities are mostly on campus and include a major work each year with orchestra and combined choral ensembles. Auditions held each quarter.

**MUEN 142 1 A, W, S**  
**Kantorei**

The study and performance of selected choral literature for men's voices. Performance opportunities are mostly on campus and include a major work each year with orchestra and combined choral ensembles. Auditions held each quarter.

**MUEN 154 1 A, W, S**  
**Pro Musica**

A carefully balanced choral ensemble that studies and performs a variety of challenging repertoire from the major stylistic periods. Students in Pro Musica are also members of either Bel Canto or Kantorei. Performance opportunities include off-campus tours. Auditions are held at the beginning of Autumn quarter.

**MUEN 155 1 A, W, S**  
**Symphonic Wind Ensemble**

Advanced instrumentalists rehearse and perform a wide variety of music in various settings. Tours and workshops on alternate-year basis. Members are selected by audition.

**MUEN 156 1 A, W, S**  
**Orchestra**

Orchestral masterworks performed in quarterly concerts and other events. For advanced instrumentalists, both college students and community residents. Members are selected by audition.

**MUEN 157 1 A, W, S**  
**String and Piano Chamber Music**

Experience with chamber music for piano with strings under the direction of a Music faculty member. Includes duos, trios, and larger groups.

**MUEN 159 1 A, W, S**  
**Keyboard Ensemble**

Literature for keyboard duets, duos, and groups with instruments or voices and keyboard accompaniment. Three quarters required of all B.Mus. or A.S. keyboard majors.

**MUEN 175 1 A, W, S**  
**Flute Quartet**

Limited to members of Symphonic Wind Ensemble. By audition.

**MUEN 176 1 A, W, S**  
**Flute Choir**

For the general student. By audition.

**MUEN 177 1 A, W, S**  
**Clarinet Choir**

Limited to members of Symphonic Wind Ensemble. By audition.

**MUEN 178 1 A, W, S**  
**Saxophone Quartet**

Limited to members of Symphonic Wind Ensemble. By audition.

**MUEN 179 1 A, W, S**  
**Woodwind Quintet**

Limited to members of Symphonic Wind Ensemble. By audition.

**MUEN 180 1 A, W, S**  
**Brass Quintet**

Limited to members of Symphonic Wind Ensemble. By audition.

**MUEN 181 1 A, W, S**  
**Brass Choir**

Limited to members of Symphonic Wind Ensemble. By audition.

**MUEN 182 1 A, W, S**  
**Trombone Choir**  
By audition.

**MUEN 183 1 A, W, S**  
**Percussion Ensemble**

Limited to members of Symphonic Wind Ensemble. By audition.

**MUEN 184 1 A, W, S**  
**String Quartet**

Limited to members of the Orchestra. By audition.

**MUEN 185 1 A, W, S**  
**Small Vocal Ensemble**

Study and performance of various types of musical literature for small groups of vocalists. By audition.

**MUEN 186 1 A, W, S**  
**Beginning Handbell Choir**

Open to any student with music reading skills.

UPPER-DIVISION COURSES:

**MUEN 341 1 A, W, S**  
**Bel Canto**  
(See description of MUEN 141.)

**MUEN 342 1 A, W, S**  
**Kantorei**  
(See description of MUEN 142.)

**MUEN 354 1 A, W, S**  
**Pro Musica**  
(See description of MUEN 154.)

**MUEN 355 1 A, W, S**  
**Symphonic Wind Ensemble**  
(See description of MUEN 155.)

**MUEN 356 1 A, W, S**  
**Orchestra**  
(See description of MUEN 156.)



# Music

**MUEN 357** 1 A, W, S  
**String and Piano Chamber Music**  
(See description of MUEN 157.)

**MUEN 359** 1 A, W, S  
**Keyboard Ensemble**  
(See description of MUEN 159.)

**MUEN 375** 1 A, W, S  
**Flute Quartet**  
(See description of MUEN 175.)

**MUEN 376** 1 A, W, S  
**Flute Choir**  
(See description of MUEN 176.)

**MUEN 377** 1 A, W, S  
**Clarinet Choir**  
(See description of MUEN 177.)

**MUEN 378** 1 A, W, S  
**Saxophone Quartet**  
(See description of MUEN 178.)

**MUEN 379** 1 A, W, S  
**Woodwind Quintet**  
(See description of MUEN 179.)

**MUEN 380** 1 A, W, S  
**Brass Quintet**  
(See description of MUEN 180.)

**MUEN 381** 1 A, W, S  
**Brass Choir**  
(See description of MUEN 181.)

**MUEN 382** 1 A, W, S  
**Trombone Choir**  
(See description of MUEN 182.)

**MUEN 383** 1 A, W, S  
**Percussion Ensemble**  
(See description of MUEN 183.)

**MUEN 384** 1 A, W, S  
**String Quartet**  
(See description of MUEN 184.)

**MUEN 385** 1 A, W, S  
**Small Vocal Ensemble**  
(See description of MUEN 185.)

**MUEN 386** 1 A, W, S  
**Advanced Handbell Choir**  
By audition.

## Music History and Literature

### LOWER-DIVISION COURSES:

**MUHL 105** 3 A, W, S  
**Survey of Music**

Music in western civilization, including music fundamentals and a brief history from antiquity to the present. Presented by recordings, visual aids, and lectures. Not applicable to music major or minor. Meets the general-education requirement in music.

**MUHL 131** 2 A  
**Introduction to Vocal/Choral Literature**

Listening skills developed by study of styles, terminology, notation, and performance practices of important vocal/choral works.

**MUHL 132** 2 W  
**Introduction to Keyboard Literature**

Repertoire, style, terminology, notation, and performance practices in music for harpsichord, piano and organ.

**MUHL 133** 2 S  
**Introduction to Symphonic/Chamber Music Literature**

Instrumental repertoire studied to develop listening skills, understanding of style, terminology, notation, and performance practices.

### UPPER-DIVISION COURSES:

**MUHL 331** 3 A  
**Music from Antiquity Through the Baroque**

Music history through the Baroque Era. Development of forms and styles, cultural backgrounds and biographies, and analysis of basic musicological methods. Prerequisite: MUTH 123.

**MUHL 332** 3 W  
**Music of the Classic and Romantic Eras**

Music history of the Classic and Romantic Eras. See description of MUHL 331.

**MUHL 333** 3 S  
**Music of the Twentieth Century**

Music history from the Post-Romantics to the present. See MUHL 331.

**MUHL 336** 3 S  
**Popular Music in the Twentieth Century**

Ethnic backgrounds of American “vernacular” music and the reactions toward emerging “popular” form. In-depth survey of popular song and its absorption of world musics. Appraisal of current trends. Admission by permission of the instructor. Odd years.

**MUHL 337** 2 W  
**Keyboard Literature**

The development of keyboard instruments; forms and literature pertaining to teaching and performance. Even years.

**MUHL 495** 1-3 A, W, S  
**Independent Study**

Advanced, independent project in music history. Requires approval of the department chair. Three hours maximum.

**Music Performance**

*(Each course is available any quarter and, except for recitals, is repeatable.)*

LOWER-DIVISION COURSES:

**MUSP 101-119** **1-2 A, W, S**  
**Performance Studies: General**

Elementary instruction in voice, harpsichord, organ, piano, guitar, orchestral, and band instruments. Not applicable toward the principal performance area of a music major or minor.

**MUSP 120-124** **1 A, W, S**  
**Performance Studies: Class Instruction**

Lessons for groups of four or more students in voice or instruments. Meets one clock hour per week. Not applicable toward the principal performance area of a music major or minor.

**MUSP 125-144** **1-2 A, W, S**  
**Performance Studies: Major-Minor**

Private lessons in voice, harpsichord, organ, piano, guitar, orchestral, and band instruments. Applicable to all majors and minors except B.Mus. performance emphasis. One hour is usually taken each quarter.

**MUSP 145-164** **1-3 A, W, S**  
**Performance Studies: Emphasis Major**

Private lessons in voice, harpsichord, organ, piano, guitar, orchestral, and band instruments. Applicable to B.Mus. performance emphasis. Three hours are usually taken each quarter.

**MUSP 225-244** **1-2 A, W, S**  
**Performance Studies: Major-Minor**  
(See description of MUSP 125-144.)

**MUSP 245-264** **1-3 A, W, S**  
**Performance Studies: Emphasis Major**

(See description of MUSP 145-164.)

UPPER-DIVISION COURSES:

**MUSP 301-319** **1-2 A, W, S**  
**Performance Studies: General**  
(See description of MUSP 101-119.)

**MUSP 320-324** **1 A, W, S**  
**Performance Studies: Class Instruction**  
(See description of MUSP 120-124.)

**MUSP 325-344** **1-2 A, W, S**  
**Performance Studies: Major-Minor**  
(See description of MUSP 125-144.)

**MUSP 345-364** **1-3 A, W, S**  
**Performance Studies: Emphasis Major**  
(See description of MUSP 145-164.)

**MUSP 365-384** **1-2 A, W, S**  
**Performance Studies: Secondary Area**

Private lessons for majors in secondary areas. Performance majors take 6 hours; piano pedagogy majors, 2 hours; music education majors, up to 6 hours by request. Available to students with upper-division status in the major performance area (except piano pedagogy majors, who enroll when lower-division). Normally limited to one area and one hour credit per quarter. Selected in consultation with the major adviser.

**MUSP 385** **1 A, W, S**  
**Minor Recital**

Required of music minors, the final quarter of lessons culminating in this recital. Minimum of 15 minutes.

**MUSP 390** **1 A, W, S**  
**Junior Recital**

Required of performance emphasis majors in the junior year. Minimum of 30 minutes.

**MUSP 425-444** **1-2 A, W, S**  
**Performance Studies: Major-Minor**  
(See description of MUSP 125-144.)

**MUSP 445-464** **1-3 A, W, S**  
**Performance Studies: Emphasis Major**  
(See description of MUSP 145-164.)

**MUSP 489** **1 A, W, S**  
**Senior Recital**

Required of music-education emphasis and B.S. music majors, the final quarter of lessons culminating in this recital. (See MUED 489 for exception.) Minimum of 30 minutes.

**MUSP 490** **1 A, W, S**  
**Senior Recital: Emphasis Major**

Required of performance emphasis majors, the final quarter of lessons culminating in this recital. Minimum of 60 minutes.

**MUSP 495** **1-3 A, W, S**  
**Independent Study in Performance**

Advanced, independent research project in music performance. Requires approval of department chair. Three hours maximum.

# Music

## Music Theory

### LOWER-DIVISION COURSES:

#### **MUTH 101** **2 S** **Elements of Music**

Rudiments of music including notation, rhythm, melody, harmony, timbre, and form.

#### **MUTH 121-122-123** **3-3-3 A-W-S** **Theory I**

An integrated study of the parameters of music within a wide spectrum of cultures and historical periods. Exploration of the simpler forms and textures. Introduction to composition and arranging in vocal and instrumental applications. Singing, listening, and keyboard skills. Three classes and one laboratory per week.

#### **MUTH 201** **1 S** **Music, Computers, and MIDI**

Practical work with music software and MIDI. May be repeated for credit.

#### **MUTH 221-222-223** **3-3-3 A-W-S** **Theory II**

Continued, more-advanced study of musical parameters begun in Theory I. Movement toward more complex forms and textures. Singing, listening, and keyboard skills. Three classes and one laboratory per week.

### UPPER-DIVISION COURSES:

#### **MUTH 321-322-323** **3-3-3 A-W-S** **Theory III**

A culmination of the study of musical parameters studied in Theory I and II within more advanced applications, stressing twentieth-century music. Strong emphasis on composition in the vocal, instrumental, and electronic media. Singing, listening, and keyboard skills. Three classes and one laboratory per week.

#### **MUTH 326** **2 W** **Keyboard Harmony**

For pianists and organists. Learning to transpose, modulate, and harmonize melodies; developing ability to improvise. Admission by permission of the instructor. Odd years.

#### **MUTH 421-422-423** **1-1-1 A-W-S** **Seminar in Theory**

Synthesis and applications of musical concepts studied in Theory I, II, and III. Discussion of published literature. Research and writing. Applications of theoretical principles to performance and teaching. Prerequisite: MUTH 223.

#### **MUTH 495** **1-3 A, W, S** **Independent Study**

Advanced independent project in composition or theory. Requires approval of the department chair. Three hours maximum.



## Faculty

*Julia Pearce, chair; Nancy Tucker, associate chair; Nita Campbell, Carole Caylor, Linda Cochran, Lenora Follett, Cherie Goulard, Mae Holland, Joan Hughson, Sharon Millard, Lillian Moore, Karen Nielsen-Menicucci, Beverly Reynolds-O'Keefe, Kathryn Schneider, Rita Van Horn, Joyce Wallace, Carol Williams, Debbie Winkle*

*Departmental Office: 116 Davidian Hall; 965-7262*

## Degrees and Programs

Nursing, A.S. ....	169, 172
Nursing, B.S.N. ....	174, 175

The faculty of the DEPARTMENT OF NURSING is committed to providing a broad, liberal and professional education to a diverse population of traditional and adult nursing students in multiple settings. This task is undertaken in a climate of Christian service, dedicated to the development of the whole person, and designed to serve the health needs of individuals, families, and the community at large. The curriculum and activities of the nursing program are planned in harmony with the mission of the College and of the Seventh-day Adventist Church, which it represents.

The department offers both Associate of Science and Bachelor of Science in Nursing. The senior year of the Baccalaureate program is on the White Memorial Medical Center campus in Los Angeles, the main campus in Angwin, or at other selected sites.\* Applicants are accepted into the A.S. and B.S.N. programs Autumn, Winter, and Spring quarters.

Persons considering nursing are encouraged to include in their general education program courses in medical terminology, computer skills, and Spanish or the language of any Pacific Rim country.

\* *Note: Nursing students in both the A.S. and B.S.N. programs must provide or arrange for their own transportation to and from clinical sites.*

## Associate of Science Degree in Nursing, A.S.

*The Mission of the Associate of Science Program in Nursing*

The purposes of the program include the following:

- To prepare students to provide competent nursing care for patients of all ages by utilizing the nursing process while functioning in the roles of the Associate-Degree nurse.
- To provide students with opportunities to develop a Christian philosophy of life that conveys tolerance of others and concern for them.
- To maintain a curriculum based on scientific principles, current concepts of nursing, community health needs, and trends in nursing education, a curriculum that provides students the knowledge and competencies to meet successfully the established standards required for Registered Nurse Licensure.
- To provide a foundation for upward mobility in nursing education.
- To provide experiences that stimulate students toward optimal personal and professional growth through life-long learning.
- To create an environment that fosters critical thinking and instills a desire for ongoing inquiry.

### ► Admission Requirements:

Admission requirements to be met are those published in the *General Catalog* in effect during the year of the student's admission to the nursing program.

1. ENGL 101 or ENGL 105 College English (4)
2. COMM 105 or COMM 226 (3)
3. BIOL 101 Human Anatomy (4) or BIOL 102 Human Physiology (5)\*\*
4. Secondary-school chemistry or physics or CHEM 101 or PHYS 105 and 106 with no grade lower than a C. Both physics and chemistry are recommended.\*\*

\*\* *If there has been a lapse of more than five years since science courses were taken, the student may be evaluated to determine current proficiency.*

5. Mathematics skills (0-7 hrs.). These skills, normally acquired through three years of mathematics at the secondary level, may be verified by satisfactory scores on national or Mathematics department tests. An ACT standard score of 19 (or SAT score of 500) in mathematics ensures satisfaction of this requirement. Students lacking this score may need to complete one or both of MATH 001 Essential Mathematics and MATH 019 Introductory Algebra, as indicated by other test scores.
6. Admission is based upon ACT scores, college GPA, and other factors. All general-education and cognate courses required for the A.S. degree in Nursing must be completed with no grade lower than C.
7. Current certification in cardiopulmonary resuscitation for the professional rescuer.
8. Documentation certifying completion of a full physical examination within the past twelve months and indicating acceptable health. Documentation showing proof of currency must be provided for the following:
  - a) Immunization for Rubella, or Rubella titer if immunization is not within ten years.
  - b) Tuberculosis skin test within the last twelve months or appropriate chest X-ray documentation (available at the PUC Health Service).
  - c) Hepatitis B immunization series should be started upon acceptance into the program.
9. NET (Nurse Entrance Test). Applicants must pass the NET at the NET testing service's suggested level.
10. An admissions interview with the Admissions Committee.
11. Acceptable recommendation from a residence-hall dean, as appropriate. Nonresident students should provide a personal reference.
12. One professional reference.
13. Current malpractice insurance.

► *Admission Procedure for Nursing:*

1. File applications for admission to both the College and the Department of Nursing. The nursing program application fee is \$20. (Note: R.N. licensure may be denied for crimes, abusive behavior, or any illegal acts that are substantially related to the practice of nursing. Before applying to the nursing program, any applicant who has ever been convicted of a crime should ask the department secretary for a copy of the Board of Registered Nursing Regulations Relating to Denial of Licensure.)
2. File application and all supporting documents for admission to the nursing program with the Department of Nursing.

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*\*\*If there has been a lapse of more than five years since science courses were taken, the student may be evaluated to determine current proficiency.*

Applicants should file early; applications are processed in the order in which they are received.

3. Provide to both the Office of Enrollment Services and the Nursing department ACT (or SAT) scores and transcripts from high school or academy and each college or university attended.
4. Send a copy of both sides of a current cardiopulmonary resuscitation certification card.
5. Arrange to take the NET Test at the Counseling and Career Center.
6. Provide the Nursing department evidence of a physical examination completed within the last twelve months, including the required immunizations and chest X-ray or T.B. skin-test results.
7. Provide one professional reference and (for resident students) a reference from a residence-hall dean; (for nonresident students) a personal reference. Recommendations written by relatives and those presented directly to the Nursing department by the applicants themselves are not acceptable.

After the applicant has filed all the pertinent documents (see items 1-7) with the appropriate department, has completed the Nurse Entrance Test (NET), and all grades have been received for prerequisite work, the application will be processed and the student notified of the action taken.

► *Readmission Procedure for Nursing:*

Students who withdraw from the program in good academic standing may apply for readmission as follows:

1. Reapply for admission to the College, if necessary.
2. Present completed reapplication form to the Nursing Admissions Committee (forms are available at the Nursing department office).
3. Provide one professional reference.
4. Those requesting readmission after an absence of one through three years will be required to validate their current knowledge of nursing at the level of the *last* nursing course completed. Definitions of current requirements are available at the department office.
5. Students requesting readmission after an absence of more than three years will be required to validate their current nursing knowledge for *each* nursing course they have completed.

The following policies apply to the above category of reapplicants:

1. Knowledge validation results determine appropriate course-level placement.
2. A per-hour fee is charged for knowledge validation testing.
3. Students are limited to one nursing course repeat in the program, including withdrawals for failing performance.
4. Before progressing in the nursing course sequence, students

must repeat any required course in which they have earned a grade lower than C (2.0).

5. Reapplicants must provide evidence that whatever issue motivated their previous withdrawal has been resolved or is no longer a threat to their successful completion of the program.
6. Students must meet all other “Requirements for Continuation in and Graduation from the Associate Degree Program in Nursing.”
7. Readmission is on a space-available basis.\*

Students who withdraw from the nursing program because of failing performance, or who fail a nursing course, may apply for readmission as follows:

1. Reapply for admission to the College, if necessary.
2. Submit completed reapplication form to the Nursing Admissions Committee. (Forms are available at the Nursing department office.)
3. Provide evidence that any identified problems have been corrected.
4. Provide one professional reference.
5. Those requesting readmission after an absence of one through three years will be required to validate their current knowledge of nursing at the level of the *last* nursing course completed. Definitions of current requirements are available at the department office.
6. Students requesting readmission after an absence of more than three years will be required to validate their current nursing knowledge for *each* nursing course they have completed.

The following policies apply to students reapplying after failing academic performance:

1. Knowledge validation results determine appropriate course-level placement.
2. A per-hour fee is charged for knowledge-validation testing.
3. Students will be limited to one nursing course repeat in the program, including withdrawals for failing performance.
4. Before progressing in the nursing course sequence, the student must repeat any nursing course in which a grade lower than C (2.0) was earned.
5. Students must show evidence for potential success by having corrected identified problem areas.
6. Students must meet all other “Requirements for Continuation in and Graduation from the Associate Degree Program in Nursing.”
7. Readmission is on a space-available basis.\*

\* Because of enrollment limits in clinical sections, students may experience delays of one quarter or more before they are readmitted to the program or before they may repeat a nursing course.

#### ► Admissions Committee Procedure on Reapplications:

1. After all grades for the preceding quarter are recorded in the College Records Office, the committee will review reapplications. This review will include a comprehensive study of student performance and evidence that problem areas have been addressed.
2. Notification of committee decisions will be in writing.

#### ► Transfer, Challenge, and Waiver Options:\*\*

Applicants wishing to transfer, challenge or waiver must meet the same admission or readmission requirements as generic students. In addition to applying for admission to the College, applicants are required to supply recommendations, transcripts and other required documents directly to the Department of Nursing.

For their previous educational experience, L.V.N.’s or transfer students are given credit toward qualifying to sit for licensure examinations. They may establish additional academic credit for acquired knowledge through challenge examinations or other methods of evaluation. The options available for L.V.N.’s to qualify to take the California licensure examination for registered nurses are as follows:

- Full A.S. option: Refer to page 172 for required courses.
- The Advanced-Placement option: L.V.N.s desiring the A.S. degree who have a current L.V.N. license are given credit for first-year nursing courses. NURS 221, 222, 252, 253, 254, and 262 are the required nursing courses.
- The 30-semester/45-quarter unit option: This option does not earn a degree in nursing from Pacific Union College. Required courses for this option are MICR 134, BIOL 102, NURS 221, 222, 254, and 262 only. Applicants desiring this option are not subject to any evaluative processes for admission. An R.N. license obtained through this nondegree option is not recognized in some other states. Those electing this option should know that they may encounter some difficulty attempting to articulate from this nondegree option into B.S. nursing programs.
- L.V.N.-to-R.N. Program: L.V.N.s may enter either the traditional College program on campus or the satellite program with intensive core weeks. Applicants must meet the same admission, A.S. degree, and 30-unit option requirements. The L.V.N.-to-R.N. satellite programs are offered in selected off-campus sites. Intensive core weeks are conducted three times per quarter for the nursing courses with clinical hours scheduled at specified intervals that allow working L.V.N.s to meet their employment commitments.

\*\* Specific information and materials about transfer, challenge, waiver, and the 30-semester/45-quarter unit option are available in the Department of Nursing and will be sent upon request.

Associate degree L.V.N. applicants must have had at least one year of clinical experience

Applicants meeting admission and degree requirements through transfer, challenge, or waiver will all have equal access for open space in all clinical nursing courses.

Requests for acceptance by transfer from another nursing program are evaluated on an individual and space-available basis. Transfer courses must be equivalent to the courses in the Pacific Union College generic program.

Students who have not been continuously enrolled in an academic program may have previous course work, knowledge, and skills evaluated to determine current proficiency levels. Those desiring evaluation or placement may schedule arrangements with the Admissions Committee of the Department of Nursing and may buy selected copies of course outlines at the College Bookstore. Nursing examinations will include both written and “practical” sections.

Proficiency evaluations in nursing are available to:

1. Students transferring from another program for educating registered nurses.
2. Students transferring from programs educating licensed vocational nurses.
3. Those individuals already licensed as vocational nurses.
4. Those individuals having developed skills during previous employment that are similar to those expected of students in the required nursing courses.

► *Requirements for Continuation in and Graduation from the Associate Degree Program in Nursing:*

1. Satisfaction of the requirements for the Associate of Science degree as specified in the current Pacific Union College catalog.
2. (Angwin Campus) Before entering the second year of the Associate Degree program, completion of all general education and cognate requirements (with the possible exception of religion or physical education).
3. A minimum grade of C (2.0) in the required nursing, cognate, and general-education courses.
4. A maximum of one nursing course repeat.
5. Maintenance of current certification in cardiopulmonary resuscitation for the professional. (The certification must be presented at registration every quarter.)
6. Current malpractice insurance.
7. Acceptable physical and mental health.\*
8. Compliance with all policies and procedures in the *Nursing Department Student Handbook*.

\* See Board of Registered Nursing Guidelines on substance abuse and mental illness, available in the Department of Nursing.

► *Required Standardized Testing*

Subject tests are administered during NURS 124, 125, 221, 222, 252, 253, 254, and 262.

## Associate of Science Degree in Nursing, A.S.

► *A minimum of 105 hours including the following\*:*

► *Required Core Courses:*

NURS 121	Nursing I	7
NURS 124	Nursing II	6
NURS 125	Nursing III	7
NURS 154	Mental Health Nursing I	1
NURS 221	Nursing IV	7
NURS 222	Nursing V	7
NURS 252	Maternal-Newborn Nursing	5
NURS 253	Pediatric Nursing	5
NURS 254	Mental Health Nursing II	5
NURS 262	Nursing VI	7

► *Required Cognate Courses:*

BIOL 101	Human Anatomy	4
BIOL 102	Human Physiology	5
FDNT 235	Nutrition	4
MICR 134	General Microbiology	5
PSYC 121	General Psychology I	4
PSYC 234	Human Development	4
SOCI 121	Introduction to Sociology	4

► *Required General Education Courses:*

ENGL 101 or 105 (College English), 4 hours; COMM 105 or 226 (Speech Communication or Public Speaking), 3 hours; Religion, 9 hours, including four with RELB prefix; Physical Education, two activity courses, one in the aerobic area.

\* Nursing fees are charged each quarter. See FINANCIAL INFORMATION in this catalog for details.

## Nursing

### SERVICE COURSE

*Note: In addition to the content described in each nursing course, the concepts of aging, communication, pharmacology, and therapeutic nutrition are integrated throughout the curriculum.*

#### **NURS 141** **2 A, S** **Venipuncture**

Introduction to basic procedures and equipment in the medical laboratory emphasizing the techniques of venipuncture. With skills gained in this class the student is employable on a part-time or summer basis in a medical laboratory.

### LOWER-DIVISION COURSES:

**Course Evaluation:** Each nursing course is composed of both theory and clinical hours. Passing the course and progressing to the next nursing course require *passing grades in both the theory and clinical components*. If the clinical portion of a course is failed, a grade of F will be recorded for the entire course. See the Clinical Evaluation Policy in the *Nursing Department Student Handbook*.

#### **NURS 121** **7 A, W, S** **Nursing I**

Basic nursing theory, with a focus on concepts of wholeness. The nursing process as a framework for meeting needs of patients and their families. The concept of functional health patterns. Opportunity to apply theoretical concepts and nursing skills in both simulated and clinical settings. Four theory units (40 clock hours) and three clinical units (90 clock hours). Prerequisites: ENGL 101 or ENGL 105; BIOL 101 or BIOL 102.

#### **NURS 124** **6 A, W, S** **Nursing II**

Application of the nursing process and the concept of wholeness to care for patients with variations in functional health patterns. Concepts focus on age-related changes that affect the functioning and quality of life of older adults. Clinical experiences include acute medical-surgical and skilled-nursing patient care. Three theory units (30 clock hours) and three clinical units (90 clock hours). Prerequisites: NURS 121, BIOL 101, and 102. Corequisite: NURS 154.

#### **NURS 125** **7 A, W, S** **Nursing III**

Application of the nursing process and the concept of wholeness to caring for adult clients with acute alterations of functional health patterns. Opportunity to apply theoretical concepts and skills in acute care and community settings. Four theory units (40 clock hours) and three clinical units (90 clock hours). Prerequisites: NURS 124.

#### **NURS 154** **1 A, W, S** **Mental Health Nursing I**

Builds on basic behavioral, interpersonal, and communication concepts. Focuses on normal and variations of interpersonal functional health patterns. One theory unit (10 clock hours). Prerequisite: NURS 121. Corequisite: NURS 124.

#### **NURS 221** **7 A, W, S** **Nursing IV**

Application of the nursing process to adult clients experiencing acute/chronic alteration in functional health patterns. Clinical practicum includes acute care and outpatient settings. Four theory units (40 clock hours) and three clinical units (90 clock hours). Prerequisite: NURS 125. Corequisite: NURS 254.

#### **NURS 222** **7 A, W, S** **Nursing V**

Applications of the nursing process with adult clients with increasingly acute and chronic alterations in functional health patterns. Clinical practicum includes acute care and outpatient settings. Three theory units (30 clock hours) and four clinical units (120 clock hours). Prerequisite: NURS 221. Corequisite: NURS 252.

#### **NURS 252** **5 A, W, S** **Maternal-Newborn Nursing**

Application of the nursing process to the childbearing family with normal and variations in functional health patterns. Experiences in acute and community settings. Three theory units (30 clock hours) and two clinical units (60 clock hours). Prerequisites: NURS 221. Corequisite: NURS 222.

#### **NURS 253** **5 A, W, S** **Pediatric Nursing**

Nursings concepts of functional health patterns applied to the child with normal, acute, and chronic needs from one month through adolescence. Emphasis on meeting the needs of the child within the family unit. Clinical practicum includes inpatient and community settings. Three theory units (30 clock hours) and two clinical units (60 clock hours). Prerequisite: NURS 222. Corequisite: NURS 262.

#### **NURS 254** **5 A, W, S** **Mental Health Nursing II**

Nursing care of patients with psychiatric disorders. Theory and clinical application with geropsychiatric patients and in inpatient psychiatric units of an acute-care medical center. Two theory units (20 clock hours) and three clinical units (90 clock hours). Prerequisite: NURS 125. Corequisite: NURS 221.



# Nursing

## **NURS 262 Nursing VI**

**7 A, W, S**

Builds on basic concepts and introduces new concepts to enable direct management of care for a group of patients

by a nurse in a beginning staff position. Focuses on self-management and leadership skills necessary in the R.N. role. Preceptorship experience in selected units in an acute-care medical center. Two

theory units (20 clock hours) and five clinical units (150 clock hours). Prerequisites: NURS 221, 222, 252, 254. Corequisite: NURS 253.

## **Major in Nursing, B.S.N. (Second-Step Program in Nursing)**

The purposes of the Second-Step program include the following:

- To prepare registered-nurse students to provide professional nursing care to clients, families, and communities within the context of Christian values and human service.
- To provide a broad liberal and professional education to registered nurse students, which will enhance professional growth and career mobility and serve as a foundation for graduate education.
- To provide educational opportunities for nurses who have limited access to existing nursing programs in order to strengthen professional outreach to clients and communities.
- To provide maximum flexibility to adult learners to pursue baccalaureate education.

This upper-division program for registered nurses leading to the Bachelor of Science in Nursing degree is designed to articulate with a two-year associate degree program. A registered nurse graduate of an associate degree or diploma program will normally have completed the nursing prerequisites for the program and may transfer in a maximum of 57 lower division nursing credits. A student enrolled in full-time study may sequence general education and nursing courses to complete degree requirements in three to six quarters.

### ► *Admission Requirements:*

In addition to the requirements for admission to the College, the following criteria must be met:

1. Junior academic standing.
2. Completion of an associate degree, or its equivalent, in nursing.
3. Possession of a current registered nurse license.
4. Completion of the following:
  - Communication (oral and written): 9 hours
  - Sciences (natural, including Introductory Chemistry, and behavioral): 24 hours
5. Students accepted for full-time enrollment will lack no more than 12 hours of general education required for the baccalaureate degree in nursing. Students accepted for part-time enrollment will lack no more than 33 hours of general education required for the baccalaureate degree in nursing.

### ► *Requirements for registration for clinical courses:*

1. Current certification in cardiopulmonary resuscitation for the professional.
2. Proof of current malpractice insurance.
3. Documentation certifying completion of a full physical examination with T.B. skin test or chest x-ray within the past 12 months and status of current immunizations.

Clinical placement is evaluated and approved by the nursing faculty.

### ► *Transportation Policies:*

Students are expected to provide their own transportation to, during, and from off-campus clinical labs. Faculty will not provide transportation. Students are advised not to transport clients in their own vehicles under any circumstances. This policy protects both the client and the student. State law requires proof of automobile liability insurance.

### ► *Admission Procedure:*

1. File applications for admission both to the College and to the Department of Nursing.
2. Official transcripts from schools of nursing and all colleges or universities attended are to be sent to the Office of Enrollment Services on the Angwin campus.
3. A personal interview is required, either by office appointment or telephone, with a faculty member of the Department of Nursing.
4. Two recommendations regarding professional performance in nursing from the applicant's current or recent place of employment and/or from a former instructor are to be sent to the Department of Nursing.
5. Notification of acceptance to the College will be in writing from the Office of Enrollment Services.
6. Notification of acceptance into the Bachelor of Science in Nursing program will be in writing from the Department of Nursing.
7. Students may enroll in up to 12 units of upper-division nursing theory courses without being accepted to the B.S.N. program.

► *Academic Requirements for Continuation in and Graduation from the Second-Step Program in Nursing:*

1. The general-education requirements for the B.S.N. are the same as for the B.S. degree (see pages 23-27 of this *General Catalog*) except for the following changes: II-A, Historical Contexts: 8 hours. II-B, Philosophy: not required. II-C: PSYC 121, PSYC 234, SOCI 121, and a course in cultural diversity. III-A, B, C: 8 hours selected from two areas. IV-A-2, IV-A-4, and IV-B: not required. IV-C requires BIOL 101, BIOL 102, and MICR 134. IV-D: not required. FDNT 235 meets requirements for VI and VII.
2. Students who receive a grade lower than a C- in a nursing course must repeat the course. Students are limited to a total of two nursing-course repeats in the program, including withdrawals for failing performance, with no course repeated more than once.

**Major in Nursing, B.S.N.**

► *A total of 192 quarter hours (60 in the upper division) including specified nursing courses, cognates, general education, and electives. A maximum of 108 community college credits may be transferred, with up to 57 credits in nursing.*

Cognates, general-education, and elective courses are to be selected in consultation with the nursing faculty adviser. All nursing theory courses and corequisite practicums are to be taken concurrently.

► *Required Core Courses:*

NURS 349	Professional Issues in Nursing	4
NURS 335	Health Assessment	4
NURS 384	Health Care Delivery System	4
NURS 390	Pathophysiology of Human Responses	4
NURS 393	Health Education, Promotion and Self-Care	4
NURS 394	Health Education Promotion and Self-Care Practicum	3
NURS 420	Social Issues in Health Care	4
NURS 431	Community Health Nursing	4
NURS 432	Community Health Nursing Practicum	3
NURS 461	Health Care Management	4
NURS 462	Health Care Management Practicum	3
NURS 485	Introduction to Nursing Research	4

► *Required Cognate Courses:*

BIOL 101	Human Anatomy	4
BIOL 102	Human Physiology	5
CHEM 101	Introductory Chemistry	4
FDNT 235	Nutrition	4
MICR 134	General Microbiology	5
PSYC 121	General Psychology I	4
PSYC 234	Human Development	4
SOCI 121	Introduction to Sociology	4
	A course in cultural diversity	4

UPPER-DIVISION COURSES:

**NURS 335** **4 W**  
**Health Assessment**

Enhancement of health assessment skills and history-taking techniques by theory and practice. Complete health history and integrated physical examination. Includes laboratory.

**NURS 349** **4 A**  
**Professional Issues in Nursing**

Issues in development of the nursing profession: historical influences, theory development, changing professional roles, evolution of expanded practice.

**NURS 373** **1-2 A, W, S**  
**Hospice Nursing**

Care of terminally ill clients and their families in the hospice experience.\*

**NURS 374**  
**Nursing and Epidemiology in Vaccine-Preventable Diseases**

Vaccine-preventable diseases, recommended immunization practices, and the Childhood Immunization Initiative. Integration and application of concepts of immunity, pathogenesis, and levels of prevention.

**NURS 376** **1-2 A, W, S**  
**Transcultural Nursing**

Models and issues in assessing, plan-

ning and implementing nursing care of clients and families from diverse cultures.\*

**NURS 378** **1-2 A, W, S**  
**Grief Process**

Nursing clients and families who have experienced a recent significant loss. Models of grief recovery in recent literature, with therapeutic approaches to grief resolution.\*

**NURS 384** **4 S**  
**Health Care Delivery Systems**

National health-care issues and the impact of health-care systems on the delivery of health services and on nursing practice. Emphasis on the nurse's role in national health-care issues.

\*Offered on sufficient demand.

# Nursing

## **NURS 390** **4 W** **Pathophysiology of Human Responses**

Responses to actual and potential health problems across the life span. Builds on the biophysical and psychosocial sciences and on the content of previous nursing courses. Emphasis on nursing interventions that address human responses related to acute and chronic illness.

## **NURS 393** **4 W** **Health Education, Promotion, and Self-Care**

Health education as a major strategy in nursing for health promotion and self-care. Learning theories and models of client education. Corequisite: NURS 394.

## **NURS 394** **3 W** **Health Education, Promotion, and Self-Care Practicum**

Application of NURS 393 in a variety of settings. Corequisite: NURS 393.

## **NURS 420** **4 A** **Social Issues in Health Care**

Exploration of current social issues that have implications for health-care professionals. Includes the origins, assessment and interventions associated with problems that affect the individual, the family, and society. Emphasis on the relationship between health care and related sciences and cultural-societal issues.

## **NURS 431** **4 A, S\*\*** **Community Health Nursing**

Nursing roles in applying community health concepts in promoting and maintaining health and in preventing illness in individuals, families, and communities. Corequisite: NURS 432.

## **NURS 432** **3 A, S\*\*** **Community Health Nursing Practicum** Applications of NURS 431. Corequisite: NURS 431.

## **NURS 461** **4 S, A\*\*\*** **Health-Care Management**

Theories of leadership and management related to the organization and delivery of nursing care in a variety of settings. Corequisite: NURS 462.

## **NURS 462** **3 S, A\*\*\*** **Health-Care Management Practicum**

Applies leadership and management theories and concepts in selected clinical settings. Corequisite: NURS 461.

## **NURS 485** **4 S** **Introduction to Nursing Research**

Introduction to the concepts and process of research and its implications for nursing. Designed to help students become consumers of nursing research by developing basic skills for interpreting and using nursing research. Recommended: MATH 222.

## **NURS 495** **1-3** **Independent Study**

An individual research course for advanced students with adequate background in appropriate nursing studies. Three hours maximum. Prerequisite: Permission of chair or associate chair.

## **Extended-Learning Course**

*Note: The course described below is available as an off-campus program offered through Extended Learning.*

## **NURS 119** **8.5** **Nursing Assistant Program**

Training for direct patient care in a variety of health-care settings: nursing homes, doctors' offices, clinics, and home-care facilities. Prerequisites for California licensing examination: candidates must be at least sixteen years of age and must have completed at least 150 hours of theory and clinical experience.

*\*\* Offered autumn; offerings may vary on satellite campuses.*

*\*\*\* Offered spring; autumn on sufficient demand.*



**Faculty**

*Charles Evans, chair; Michael Hellie, Bryan Kasper, Elaine Neudeck, Robert Paulson*

*Departmental Office: 114 Pacific Auditorium; 965-6344*

**Degrees and Programs**

Physical Education with Teacher Education  
 Emphasis, B.S. .... 177

Physical Education with Emphasis in Commercial  
 Fitness Management, B.S. .... 178

The DEPARTMENT OF PHYSICAL EDUCATION, HEALTH AND RECREATION serves the Pacific Union College community by providing opportunities for career development in sports professions, for instruction, and for participation.

The department has the following objectives:

- to give thorough instruction in the requirements for participation and leadership in sports activities,
- to develop a knowledge and understanding of health and safety concepts,
- to offer a wide variety of suitable activities, in and out of the classroom, in an environment that supports Christian values,
- to encourage each individual to achieve a high level of total fitness and neuromuscular coordination supporting a wholesome lifestyle, and
- to encourage daily vigorous exercise for everyone in all stages of life.

The department offers two types of curricula:

The Physical Education degree with emphasis in Teacher Education is designed for students wishing to become sports teachers.

The Physical Education degree with emphasis in Commercial Fitness Management prepares students for employment in sports businesses.

Each curriculum consists of core courses and emphases defining areas of specialization. Students are further assisted in career preparation through advising materials and personal counseling.

**Major in Physical Education with Teacher Education Emphasis, B.S.**

➤ 69 hours of professional and theory courses (40 upper division):

➤ Required Core Courses:

HLED 166	Health Education	2
PEAC 368D	Water Safety Instructor	2
PEAC 370D	Lifeguard Training	2
PETH 166	Historical Foundations of Physical Education	2
PETH 168	First Aid and Personal Safety/CPR	2
PETH 181	Basic Movement	2
PETH 182	Theory and Technique of Gymnastics	2
PETH 183	Theory and Technique of Track and Field	2
PETH 260	Theory and Technique of Football	2
PETH 261	Theory and Technique of Volleyball	2
PETH 262	Theory and Technique of Basketball	2
PETH 263	Theory and Technique of Softball	2
PETH 264	Theory and Technique of Soccer	2
PETH 271-272-273	Theory and Technique of Officiating	2-2-1
PETH 287	Theory and Technique of Individual Sports	2
PETH 365	Backpacking	3
PETH 371	Kinesiology	3
PETH 372	Physiology of Exercise	3
PETH 373	Corrective Physical Education	3
PETH 374	Motor Learning	3
PETH 381	Theory and Technique of Racquet Sports	2
PETH 384	Theory and Technique of Rhythmic and Combative Activities	2
PETH 470	Management of Physical Education Programs	3
PETH 471	Evaluation in Physical Education	3
PETH 476	Physical Education for Children	3

# Physical Education, Health & Recreation

PETH 483	Theory and Technique of Weight Training and Developmental Physical Education	2
PETH 461	Coaching I	2
PETH 462	Coaching II	1
PETH 463	Coaching III	1
PETH 490	Ethics in Physical Education	2
➤ <i>Required Cognate Courses:</i>		
BIOL 101	Human Anatomy	4
BIOL 102	Human Physiology	5
COMM 330	Intercultural Communication	3
FDNT 235	Nutrition	4

Students majoring in physical education are expected to choose a minor in consultation with their major professor.

## Major in Physical Education with Emphasis in Commercial Fitness Management, B.S.

➤ *A minimum of 60 hours of professional and theory courses (31 upper division) including the following:*

ACCT 114	Small Business Accounting	3
ECON 265	Principles of Economics—Microeconomics	4
FDNT 335	Nutritious Lifestyles	1
HLED 162	Fitness for Life	2
MGMT 261	Introduction to Management	3
PETH 166	Historical Foundations of Physical Education	2
PETH 168	First Aid and Personal Safety/CPR	2
PETH 271	Theory and Technique of Officiating	2
PETH 272	Theory and Technique of Officiating	2
PETH 273	Theory and Technique of Officiating	1
PETH 287	Theory and Technique of Individual Sports	2
PETH 366	Sports, Culture and the Individual	4
PETH 371	Kinesiology (or PETH 372 Physiology of Exercise)	3
PETH 381	Theory and Technique of Racquet Sports	2

PETH 384	Theory and Technique of Rhythmic and Combative Activities	2
PETH 466	Legal and Financial Aspects of Recreation	4
PETH 470	Management of Physical Education Programs	3
PETH 483	Theory and Technique of Weight Training	2
➤ <i>Required Cognate Courses:</i>		
BIOL 101	Human Anatomy	4
BIOL 102	Human Physiology	5

## Minor in Physical Education

➤ *A minimum of 30 hours (12 upper division) including the following:*

PETH 166	Historical Foundations of Physical Education	2
PETH 168	First Aid and Personal Safety/CPR	2
PETH 470	Management of Physical Education Programs	3
PETH 471	Evaluation in Physical Education	3
PETH	Theory and Technique courses chosen in consultation with P.E. department adviser	10
PETH	Electives chosen in consultation with P.E. department adviser	10

## Teaching Credential

The State of California Commission on Teacher Credentialing mandates that all teacher-education programs in Physical Education meet recently established standards of quality and effectiveness. The Department of Physical Education, Health and Recreation has revised its physical education program for the secondary credential in harmony with the new standards. Students enrolled in the previous program must complete their work by September 1, 1999.

Students are invited to discuss the requirements for a teaching credential with the Teacher-Education Adviser in the department. Those who plan to teach on the secondary level should consult the Credential Analyst in the Department of Education and should become acquainted with specific requirements outlined in the Education section of this catalog.

## Health

### HLED 162 2 A, W, S Fitness for Life

An introduction to the philosophy of health, aimed at lasting nutritional and physical conditioning patterns that promote a high level of well-being. Emphasis

on the prevention of heart disease, obesity, and stress. Laboratory evaluation in body composition, blood analysis, stress testing, and the treadmill.

### HLED 166 2 A, W, S Health Education

A course designed to encourage the development of self-awareness and to

promote “wellness” as a life-long personal investment. Emphasis on protection and effective use of human and ecological resources, acquiring skills for individual responsibility, and decision-making for health. Emphasis on Seventh-day Adventist health principles. Treats substance abuse and nutrition as required for SDA and California teaching credentials.

**HLED 169** **2 W**  
**Current Health Concerns**

Emphasis on the background and cause of common health problems of the adult as well as prevention and treatment. Designed to promote physical vitality and a sense of well-being.

**Physical Education Activity**

**PEAC 100** **1**  
**Adaptive Physical Education**

Requires physician's certification of need.

NONCREDIT COURSES:

**PEAC 458** **0**  
**Noncredit Work Activity**

Supervised vigorous outdoor work such as woodcutting, rock hauling, etc. Satisfactory completion satisfies one quarter of the general-education activity requirement.

**PEAC 459** **0**  
**Noncredit Recreational Activity**

Supervised independent participation in a variety of recreational activities arranged in consultation with the physical education faculty. Satisfactory completion satisfies one quarter of the general-education activity requirement.

**Aerobics**

LOWER-DIVISION COURSES:

**PEAC 101A** **1**  
**Jogging**

**PEAC 103A** **1**  
**Physical Fitness**

**PEAC 105A** **1**  
**Fitness for Women**

**PEAC 107A** **1**  
**Swim and Stay Fit**

**PEAC 109A** **1**  
**Hydro-Aerobics**

UPPER-DIVISION COURSES:

**PEAC 302A** **1**  
**Road Racing**

Prerequisite: PEAC 101A or permission of instructor.

**PEAC 304A** **1**  
**Cycling**

**PEAC 305A** **1**  
**Intermediate Mountain Biking**

Even years.

**PEAC 308A** **1**  
**Aerobics**

**Aquatics**

LOWER-DIVISION COURSES:

**PEAC 150** **1**  
**Elementary Diving**

**PEAC 154** **1**  
**Skin Diving**

**PEAC 156** **2**  
**Elementary Scuba**

Prerequisite: PEAC 154D.

**PEAC 158** **1**  
**Elementary Swimming**

UPPER-DIVISION COURSES:

**PEAC 358** **1**  
**Intermediate Swimming**

**PEAC 360** **1**  
**Advanced Swimming**

**PEAC 368** **2**  
**Water Safety Instructor**  
Prerequisite: PEAC 370D.

**PEAC 370** **2**  
**Lifeguard Training**  
Prerequisite: PETH 168 or CPR & FA certificates.

**Individual and Dual Sports**

LOWER-DIVISION COURSES:

**PEAC 133** **1**  
**Mountain Biking**

**PEAC 171** **1**  
**Pickleball**

**PEAC 172** **1**  
**Elementary Archery**

**PEAC 174** **1**  
**Elementary Badminton**

**PEAC 176** **1**  
**Elementary Weight Training**

**PEAC 178** **1**  
**Canoeing**

**PEAC 180** **1**  
**Elementary Golf**

**PEAC 190** **1**  
**Elementary Self-Defense Activities**

**PEAC 192** **1**  
**Elementary Skiing**

**PEAC 194** **1**  
**Elementary Tennis**

**PEAC 196** **1**  
**Advanced Beginning Tennis**

# Physical Education, Health & Recreation

**PEAC 198** 1  
**Track and Field**

**PEAC 199** 1  
**Elementary Tumbling**

UPPER-DIVISION COURSES:

**PEAC 374** 1  
**Intermediate Badminton**

**PEAC 376** 1  
**Intermediate Weight Training**

**PEAC 380** 1  
**Intermediate Golf**

**PEAC 390** 1  
**Intermediate Self-Defense Activities**

**PEAC 392** 1  
**Intermediate Skiing**

**PEAC 393** 1  
**Advanced Skiing**

**PEAC 394** 1  
**Intermediate Tennis**

**PEAC 396** 1  
**Advanced Tennis**

**PEAC 426** 1  
**Cross-Country Skiing**

## Team Sports

LOWER-DIVISION COURSES:

**PEAC 120** 1  
**Elementary Basketball**

**PEAC 123** 1  
**Baseball**

**PEAC 124** 1  
**Flag Football**

**PEAC 128** 1  
**Soccer**

**PEAC 130** 1  
**Softball**

**PEAC 132** 1  
**Elementary Volleyball**

**PEAC 136** 1  
**Water Polo**

**PEAC 140** 1  
**Gymnastic Team I**

**PEAC 186** 1  
**Rock Climbing**

UPPER-DIVISION COURSES:

**PEAC 320** 1  
**Intermediate Basketball**

**PEAC 321** 1  
**Intermediate Flag Football**

**PEAC 332** 1  
**Intermediate Volleyball**

**PEAC 333V** 1  
**Advanced Volleyball-Women**

**PEAC 334V** 1  
**Advanced Volleyball-Men**

**PEAC 335V** 1  
**Advanced Basketball-Women**

**PEAC 336V** 1  
**Advanced Basketball-Men**

**PEAC 337V** 1  
**Advanced Softball-Women**

**PEAC 338** 1  
**Ultimate (Team Frisbee)**

**PEAC 340** 1  
**Gymnastic Team II**

**PEAC 386** 1  
**Intermediate Rock Climbing**

## Professional and Theory

LOWER-DIVISION COURSES:

**PETH 166** 2 A  
**Historical Foundations of Physical Education**

History of physical education, health and recreation. Effects of social expectations and world events on views of physical education and sports. An introduction to careers in these and related fields.

**PETH 168** 2 A  
**First Aid and Personal Safety/CPR**

Covers the requirements for the Standard First Aid, Community CPR and BLS certificates, and civil-defense activities.

**PETH 181** 2 A  
**Basic Movement**

Fundamentals of body movement, posture, conditioning exercises, self-testing activities; selection, evaluation, and organization of social recreational activities. Odd years.

**PETH 182** 2 W  
**Theory and Technique of Gymnastics**

Analysis of and practice in elementary stunts in tumbling, pyramid building, apparatus, and methods of spotting for safety. Odd years.

**PETH 183** 2 S  
**Theory and Technique of Track and Field**

Practice sessions and drills for developing fundamental skills and special abilities; study of rules and officiating techniques; consideration of practice scheduling and strategy. Odd years.

**PETH 260 2 A**  
**Theory and Technique of Football**

Practice in and theory of flag football. Development of fundamental skills of the game; analysis of skills, techniques, team strategy, and rules. Even years.

**PETH 261 2 A**  
**Theory and Technique of Volleyball**

Practice in and theory of volleyball. Development of fundamental skills of the game; analysis of skills, techniques, team strategy, and rules. Even years.

**PETH 262 2 W**  
**Theory and Technique of Basketball**

Analysis and practice of skills and team play; interpretation of rules; strategy and techniques of teaching. Even years.

**PETH 263 2 S**  
**Theory and Technique of Softball**

Practice in and theory of softball. Development of fundamental skills of the game; analysis of skills, techniques, team strategy, rules and officiating procedures. Even years.

**PETH 264 2 S**  
**Theory and Technique of Soccer**

Practice and theory of soccer. Development of fundamental skills of the game; analysis of skills, techniques, team strategy and rules.

**PETH 271-272-273 2-2-1 A-W-S**  
**Theory and Practice of Officiating**

Theory of and practice in officiating at team sports, interpretation of rules, officiating techniques, examinations, and ratings. Prerequisite: Previous experience in playing football, volleyball, basketball, and softball. Two lectures and two laboratories weekly.

**PETH 274 1 S**  
**Officiating: Water Sports**

Theory of and practice in officiating at water polo, springboard diving, sprints and relays; officiating techniques, examinations, and ratings. One lecture and one laboratory weekly. Odd years.

**PETH 287 2 S**  
**Theory and Technique of Individual Sports**

Development of fundamental skills and strategies in various individual activities such as handball, golf, racquetball, and archery. Emphasis on teaching techniques, officiating, rules, and organization of materials for school programs.

UPPER-DIVISION COURSES:

**PETH 365 3 S**  
**Backpacking**

Theory and techniques of backpacking; ecological considerations; equipment; practical experience in backpacking skills: orienteering, hiking, use of tools, outdoor living, food selection, and outdoor cooking.

**PETH 366 3 S**  
**Sports, Culture, and the Individual**

The implications of sports in society and on individual development. Emphasis on analysis of sports phenomena with a view to understanding individual and group dynamics. Odd years.

**PETH 371 3 A**  
**Kinesiology**

A study of joints and muscular structure and their relation to physical exercise.

**PETH 372 3 W**  
**Physiology of Exercise**

A nonlaboratory course emphasizing the physiological effects of muscular exercise, physical conditioning, and training. Significance of these effects for

health and for performance in activity programs. Prerequisite: PETH 371 or permission of the instructor. Odd years.

**PETH 373 3 S**  
**Corrective Physical Education**

Common deviations of posture and feet; functional disturbances and crippling conditions found in school children. Survey of source material needed to plan and conduct individual, developmental, and special courses in physical education in the schools. Odd years.

**PETH 374 3 W**  
**Motor Learning**

Physiological and psychological instructional considerations for learning, skill acquisition, and performance as applied to motor skills. Prerequisites: PSYC 121, BIOL 101, 102. Even years.

**PETH 381 2 A**  
**Theory and Technique of Racquet Sports**

Analysis of and practice in strokes and tactics; rules, history and skill progression for various levels of instruction. Odd years.

**PETH 384 2 W**  
**Theory and Technique of Rhythmic and Combative Activities**

Development of personal and teaching skills for theoretical and practical application of rhythms: the leadership of aerobic exercise, dramatic and creative play, folk rounds, and other activities. Development of skills for personal combative activities and techniques for teaching such skills. Odd years.



# Physical Education, Health & Recreation

## **PETH 461** **2** **Coaching I**

Designed to develop skills for coaching athletic teams. Development of philosophies in harmony with Seventh-day Adventist principles concerning athletic events. Skills in team building and strategies. Practical experience included. Odd years.

## **PETH 462** **1** **Coaching II**

Skills in team building and strategies. Practical experience included.

## **PETH 463** **1** **Coaching III**

Skills in team building and strategies. Practical experience included.

## **PETH 466** **4 W** **Legal and Financial Aspects of Recreation**

Budgeting practices and law as it applies in sports professions. Even years.

## **PETH 467** **1 W** **CPR Instruction**

Meets the American Red Cross requirements for Instructor of Cardiopulmonary Resuscitation. Odd years.

## **PETH 470** **3 A** **Management of Physical Education Programs**

Relationship of physical education to modern education theory. The organization of physical education activities, organization and classification of pupils; emphasis on the arrangement and construction of equipment and planning of school programs suitable to denominational schools. Odd years.

## **PETH 471** **3 W** **Evaluation in Physical Education**

Scientific testing in physical education: analysis and study of tests, diagnosis of

physical efficiency, and physiological reactions to exercise. Evaluation of programs and student achievement through measurement technique. Odd years.

## **PETH 476** **3 A** **Physical Education for Children**

(See also ECED 476.)

Activity interests of children and appropriate materials for different age levels; selection of materials and methods of presentation. Satisfies one quarter of the general-education activity requirement. Two lectures and one laboratory weekly.

## **PETH 483** **2 S** **Theory and Technique of Weight Training and Developmental Physical Education**

Theory and technique of weight training, analysis of exercises for the atypical student and correction of postural deviations. Open to department majors and minors. Prerequisite: PETH 373 or permission of instructor. Even years.

## **PETH 490** **2 W** **Ethics in Physical Education**

The power of religion in developing Christian professionals in health, physical education and recreation. Concepts of the way God, man and Spirit relate to one another; development of Christlike leadership qualities in both instructors and students.

## **PETH 495** **1-3 A, W, S, Su** **Independent Study**

Open by permission of the department chair to advanced students with adequate background and experience. Maximum of three hours.

## **Extended Learning Courses**

*Note: Unless otherwise specified, the courses described below are scheduled for elective credit on an as-needed basis through Extended Learning. Full-time PUC students may pay for these courses through the regular flat-rate tuition plan. Additional information is available at both the Extended Learning office and the Physical Education, Health and Recreation department.*

## **PEAC 101** **1** **Walking**

An introduction to the walking lifestyle as a method of weight management and a means of achieving and maintaining cardiovascular fitness. Designed specifically for full- or part-time students enrolled in the B.S. program in Nursing; also available to students at least 30 years old and to those enrolled for fewer than 10 credits. Not applicable toward the general-education requirements in physical education.

## **PEAC 190** **1** **Elementary Self-Defense Activity**

An introductory self-defense course meeting one evening per week. Applicable toward general-education PE activity requirement (nonaerobic). Prerequisite: High-school junior status or above.

## **PEAC 390** **1** **Intermediate Self-Defense Activity**

Builds upon skills learned in PEAC 190. Applicable toward general-education PE activity requirement (nonaerobic). Prerequisite: PEAC 190 or equivalent.

**PEAC 490 1**

**Advanced Self-Defense Activity**

Builds upon skills learned in PEAC 190 and 390. Applicable toward general-education PE activity requirement (non-aerobic). Prerequisite: PEAC 390 or equivalent.

**PETH 146 1**

**Introduction to Massage Therapy**

Beginning skills in the art of therapeutic massage. Twelve clock hours: each two-hour evening session includes 30 minutes of lecture, 15 minutes of demonstration and 75 minutes of practice.



## Faculty

Steve Waters, chair; Bruce Ivey, Bill Mundy, Stephen Thorman, Richard Webb

Departmental Office: 238 Chan Shun Hall; 965-7269

## Degrees and Programs

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PHYSICS is the search for the fundamental physical laws of nature. In particular, physics is the study of forces and motion of physical entities, seeking to find basic relations that synthesize these phenomena. The goal is to discover ways to control and predict natural occurrences and to understand and explain the physical universe. To achieve this goal involves observation and experimentation from which physical and mathematical models are developed that suggest concepts and theories. Although modern science limits itself to a naturalistic view of reality and to experimental ways of obtaining knowledge, this department takes the view that physical phenomena are consistent with the concept of an intelligent Designer and divine Creator.

Degrees offered in physics include a four-year B.S. with a variety of emphases to suit the graduate scholar, applied researcher, secondary-school teacher and those proceeding to professional education in medical and allied health fields. The department offers a minor in physics.

This department houses the first two years of the engineering program that is affiliated with the School of Engineering at Walla Walla College.

## Major in Physics, B.S.

► A minimum of 60 hours (36 in the upper division) chosen from physics and astronomy courses including the following:

PHYS 131-132-133	Physics with Calculus	4-4-4
PHYS 234	Elementary Modern Physics	4
PHYS 341-342	Classical Dynamics	3-3
PHYS 361-362-363	Electromagnetic Theory	3-3-3
PHYS 396	Seminar (4 quarters)	.5-.5-.5-.5
PHYS 445	Thermal Physics	4
PHYS 461-462	Quantum Physics	3-3
6 hours of upper-division laboratory, project and/or independent research		6

The remaining hours may be chosen from physics and astronomy courses and the following:

CHEM 344	Nuclear Physics and Chemistry (3)
PHIL 390	History and Philosophy of Science (3)
PHIL 485	Issues in Science and Religion (3)

► Required Cognate Courses:

CHEM 111-112-113	General Chemistry	5-5-5
CPTR 115	Computer Programming	4
ENGR 216	Circuit Theory	4
ENGR 217	Engineering Electronics	4
MATH 131-132-133	Calculus	4-4-4
MATH 265	Elementary Linear Algebra	4
MATH 267	Multivariable Calculus	4
MATH 269	Elementary Differential Equations	4

► Recommended Cognate:

Modern-language proficiency comparable to a one-year college course in French, German or Russian

This course of study is adequate for the student who is preparing for graduate study in physics.

# Physics and Engineering

## Major in Biophysics, B.S.

► A minimum of 60 hours (21 upper division) chosen from physics and biology courses including the following:

BIOL 111-112-113	Biological Foundations	5-5-5
BIOL 320	Cell and Molecular Biology	5
BIOL 348	Animal Physiology	4
PHYS 131-132-133	Physics with Calculus	4-4-4
PHYS 234	Elementary Modern Physics	4
PHYS 321-322	Biophysics	3-3
PHYS 396	Seminar (4 quarters)	.5-.5-.5-.5

Four hours of upper-division physics including at least 1 hour of laboratory

or CHEM 344, 344L Nuclear Physics and Chemistry (Laboratory) 3-1  
or CHEM 451, 451L Physical Chemistry (Laboratory) 3-1

The remaining hours may be chosen from physics and biology courses, the preceding chemistry courses and the following:

CHEM 452	Physical Chemistry (3)
PHIL 390	History and Philosophy of Science (3)
PHIL 485	Issues in Science and Religion (3)

► Recommended Courses:

BIOL 345	Human Ecology (3)
BIOL 415	Modern Laboratory Techniques (1)
MICR 134	General Microbiology (5)
PHYS 256	Optics (4)
PHYS 389L	Experimental Physics (1)

► Required Cognate Courses:

CHEM 111-112-113	General Chemistry	5-5-5
ENGR 216	Circuit Theory	4
ENGR 217	Engineering Electronics	4
MATH 131-132-133	Calculus	4-4-4

plus one of the following sets of courses:

Set one (recommended for all premedical students):

CHEM 371-372-373	Organic Chemistry (4-4-4)
CHEM 381	Biochemistry I (4)

Set two (option for some nonmedical students):

CHEM 102	Survey of Organic Chemistry (4)
CHEM 103	Survey of Biochemistry (4)

plus two of the following courses:

MATH 265	Elementary Linear Algebra (4)
MATH 267	Multivariable Calculus (4)
MATH 269	Elementary Differential Equations (4)

► Recommended Cognate Course:

CPTR 115	Computer Programming (4)
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This program provides the additional emphasis in the physical sciences demanded for graduate study in biophysics, physiology, medicine, radiation biology and molecular biology, especially when a career in academic medicine or medical research is contemplated. This program is also recommended as a broad major for teaching at the secondary-school level.

## Major in Medical Physics, B.S.

► A minimum of 60 hours (36 upper division) including the following:

CHEM 344	Nuclear Physics and Chemistry	3
CHEM 344L	Nuclear Physics and Chemistry Lab	1
ENGR 216	Circuit Theory	4
ENGR 217	Engineering Electronics	4
PHYS 131-132-133	Physics with Calculus	4-4-4
PHYS 234	Elementary Modern Physics	4
PHYS 361-362-363	Electromagnetic Theory	3-3-3
PHYS 396	Seminar (4 quarters)	.5-.5-.5-.5
PHYS 461-462	Quantum Physics	3-3

Five additional hours of upper-division laboratory, project and/or independent research 5

The additional hours may be chosen from physics courses and the following:

PHIL 390	History and Philosophy of Science (3)
PHIL 485	Issues in Science and Religion (3)

► Recommended Courses:

PHYS 321-322	Biophysics (3-3)
PHYS 341-342	Classical Dynamics (3-3)
PHYS 445	Thermal Physics (4)

► Required Cognate Courses:

BIOL 101	Human Anatomy	4
BIOL 102	Human Physiology	5
CHEM 111-112-113	General Chemistry	5-5-5
CPTR 115	Computer Programming	4
MATH 131-132-133	Calculus	4-4-4
MATH 265	Elementary Linear Algebra	4
MATH 267	Multivariable Calculus	4
MATH 269	Elementary Differential Equations	4

► *Recommended Cognate Courses:*

BIOL 111	Biological Foundations (5)
BIOL 223	Introduction to Medical Terms (1)
CPTR 234	Programming in C and C++ (3)
MATH 222	Introduction to Statistics (4)
MATH 375	Numerical Analysis (4)

This major is designed to prepare students for graduate study in medical physics.

**Major in Natural Science, B.S.**

This major satisfies the preconditions for science program subject-matter approval by the California Commission on Teacher Credentialing. The core requirement of 64 quarter hours corresponds to science subjects commonly taught in California public schools, and the concentrations available treat the subject matter at a depth more than adequate for teaching the higher secondary science courses in biology, chemistry, and physics.

► *Required Core Courses:*

ASTR 125	General Astronomy	4
ASTR 299	Meteorology	1
BIOL 111-112-113	Biological Foundations	5-5-5
BIOL 345	Human Ecology	3
BIOL 437	Marine Science	4
BIOL 450	Philosophy of Origins	3
CHEM 111-112-113	General Chemistry	5-5-5
GEOL 233	Geology	4
PHIL 390	History and Philosophy of Science	3
PHYS 111-112-113	General Physics (or PHYS 131-132-133*)	4-4-4

► *Emphases: Choose one:*

**1. Biology Emphasis** (35-36 hours)

BIOL 320	Cell and Molecular Biology	5
BIOL 333	Principles of Ecology	4
BIOL 348	Animal Physiology or BIOL 102 Human Physiology (5)	4
BIOL 354	Genetics	4
BIOL 494	Seminar (4 quarters)	2
MICR 134	General Microbiology	5

*One of the following courses:*

BIOL 323	Vertebrate Natural History (3)
BIOL 324	Ornithology (3)
BIOL 325	Flowering Plants (3)

*Required Cognate Courses:*

CHEM 102	Survey of Organic Chemistry (4)
CHEM 103	Survey of Biochemistry (4)

**2. Chemistry Emphasis** (33 hours)

CHEM 324	Analytical Chemistry	3
CHEM 324L	Analytical Chemistry Laboratory	2
CHEM 351	Physical Chemistry for Life Sciences or CHEM 451 Physical Chemistry (3)	3
CHEM 371-372-373	Organic Chemistry	4-4-4
CHEM 373L	Advanced Organic Chemistry Laboratory	1
CHEM 381	Biochemistry	4

► *Required Cognate Course:*

MATH 131-132	Calculus	4-4
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**3. Physics Emphasis** (35 hours)

ELEC 141	Applied Electronics	3
MATH 131-132-133	Calculus	4-4-4
PHYS 234	Elementary Modern Physics	4

*One of the following courses:*

ENGR 217	Engineering Electronics	4
PHYS 256	Applied Optics	4

Additional hours (at least 12 upper division) selected from physics courses that carry credit toward a major in physics and from the following two courses:

ASTR 341-342	Astrophysics	3-3
CHEM 344	Nuclear Physics and Chemistry	3

**Minor in Physics**

► *A minimum of 30 hours (12 upper division) chosen from physics, astronomy, and engineering courses (except ENGR 105).*

**Engineering**

Engineering courses are offered for those who wish to begin studies in engineering that meet the requirements of the first two years of the engineering degree of Walla Walla College. PUC has an affiliation with the School of Engineering of Walla Walla College for this purpose. Faculty of the WWC School of Engineering visit PUC regularly for guidance and counseling of students. The Bachelor of Science in Engineering degree, of which this program is a part, prepares the student to enter professional

\* Students electing the physics emphasis must take PHYS 131-132-133.

## Physics and Engineering

practice in civil, mechanical or electrical engineering. The following courses may be taken at Pacific Union College to satisfy the requirements of the affiliation plan:

CHEM 111-112-113	General Chemistry	5-5-5
CPTR 115	Computer Programming	4
ENGL 101-102	College English (or ENGL 105-106 College English (Honors) (3-3))	4-4
DRFD 131	Engineering Drawing	3
ENGR 105	Introduction to Engineering	3
ENGR 211-212-213	Engineering Mechanics	3-3-3
ENGR 216	Circuit Theory	4
MATH 131-132-133	Calculus	4-4-4
MATH 265	Elementary Linear Algebra	4
MATH 267	Multivariable Calculus	4
MATH 269	Elementary Differential Equations	4
PHYS 131-132-133	Physics with Calculus	4-4-4
► <i>Recommended Course:</i>		
DRFD 132	Engineering Drawing (3)	

## Astronomy

SERVICE COURSE:

### **ASTR 105** **5 A** **Introduction to Astronomy**

A conceptual introduction for the general student, using a minimum of mathematics (secondary-school algebra or geometry is sufficient). Topics include scientific models, physical processes of the universe, astronomical techniques, descriptions of current knowledge of the solar system, stars, stellar systems, galaxies, the structure of the universe; and special topics such as quasars, pulsars, and black holes. Considers the question of the creation of the universe. Four lectures and one evening laboratory weekly. Prerequisite: MATH 019 or equivalent.

LOWER-DIVISION COURSES:

### **ASTR 125** **4 W** **General Astronomy (Honors)**

An introduction to the basic elements of astronomy. Topics include models of the solar system, stars and their processes, clusters, galaxies, cosmology, and relevant physics topics such as kinematics, light, spectroscopy, nuclear reactions, and relativity. Emphasizes the development of scientific ideas and models for the structure and contents of the universe and the effects of those ideas on western civilization. Laboratory activities emphasize personal observations of various astronomical or physical effects as weather permits. Admission restricted to students in the Honors program or with permission of the instructor.

### **ASTR 299** **1 Arr.** **Mini-Course**

A short course on a selected, astronomy-related topic, such as meteorology, of

## Teaching Credential

Students desiring to enter a program of studies leading to a California teaching credential in science with a concentration in physics should take the B.S. degree in Natural Science. This program meets the newly established standards of quality and effectiveness and has been approved by the State of California Commission on Teacher Credentialing. A brochure describing the new program and its requirements is available in the Physics department office. Students are invited to discuss the program with the Teacher Education Adviser in the Physics department.

Those who plan to teach on the secondary level should consult with the Credential Analyst in the Department of Education and should become acquainted with the specific requirements for admission to and successful completion of the Teacher Education Program as outlined in the Education section of this catalog.

interest to the general student. Format and scheduling depend on the particular topic selected but usually consists of several lectures over a period of two or three weeks on a subject of current interest. Credit may be applied toward a physics major by permission of the department chair.

UPPER-DIVISION COURSES:

### **ASTR 341-342** **3-3** **Astrophysics**

A two-quarter sequence in principles of astronomy with emphasis on the physical properties of stars. Quantum mechanical theory of atomic spectra, equation of state for stellar conditions, stellar atmospheres, structures and evolution. Recommended: Prior or concurrent registration in PHYS 341-342 and 361-362-363. Prerequisites: ASTR 125, PHYS 234. Offered on sufficient demand.

**ASTR 495 1-3 A, W, S**  
**Independent Study**

With the approval of the department chair, qualified physics majors may undertake the independent, directed study of a problem suited to their background and experience. Maximum of three hours.

**ASTR 499 1-3 A, W, S**  
**Independent Research**

Properly qualified students majoring in physics may, with the approval of the department chair, undertake a research problem suited to their background and experience. Maximum of nine hours.

**Engineering**

LOWER-DIVISION COURSES:

**ENGR 105 3 A**  
**Introduction to Engineering**

A survey of engineering as a profession; the main divisions; the work, functions and personal characteristics of the engineer; application of the sciences in engineering; design tools used by engineers; computer methods, basic skills for engineering problem-solving. Two lectures and one laboratory per week.

**ENGR 211-212-213 3-3-3 A-W-S**  
**Engineering Mechanics**

A basic course in statics and dynamics. Detailed analysis of equilibrium, kinetics and kinematics of particles and rigid bodies. Examples and problems relate to real engineering applications. Prerequisites: MATH 131-132-133, PHYS 131.

**ENGR 216 4 W**  
**Circuit Theory**

A first course in circuit analysis for engineering and physics students. Circuit variables and parameters; Kirchoff's laws and network solution; equivalent circuits, network theorems; natural and complete

response; sinusoidal steady-state, phasors and impedance; frequency characteristics; power and power factor. Three lectures and one laboratory weekly. Prerequisite: PHYS 131-132-133

**ENGR 217 4 S**  
**Engineering Electronics**

Basic DC and AC circuits, introduction to circuit analysis, characteristics and applications of discrete and integrated solid-state electronic devices and circuits; digital-logic circuit elements; transmission properties, amplifier circuits; practical applications. Three lectures and one three-hour laboratory weekly. Prerequisite: MATH 130.

**Physics**

SERVICE COURSES:

*(May not be used for major or minor in this department)*

**PHYS 105 5 S**  
**Introduction to Physics**

Emphasizes the ideas and concepts of conventional topics in physics with illustrations from everyday living. Assumes no previous physics course. (Students who need this course to meet a curricular requirement may also need to register for PHYS 106L.) Prerequisite: MATH 019 or equivalent.

**PHYS 106L 1 S**  
**Introduction to Physics Laboratory**

A laboratory course emphasizing physical measurements for those curricula requiring an introductory physics course with laboratory. One three-hour laboratory weekly. Prerequisite or corequisite: PHYS 105.

**PHYS 111-112-113 4-4-4 A-W-S**  
**General Physics**

An introduction to the fundamental natural phenomena of the physical uni-

verse. Topics include Newtonian mechanics, waves, sound, heat, electricity and magnetism, optics, atomic and nuclear physics, special relativity, and elementary particles. Emphasis on fundamental principles and methods of physics. Course is suitable for preprofessional students and also acceptable as part of the general-education requirement in basic science. Three lectures and one laboratory weekly. Knowledge of algebra and trigonometry is required at the level provided by MATH 106, 130.

LOWER-DIVISION COURSES:

**PHYS 131-132-133 4-4-4 W-S-A**  
**Physics with Calculus**

A calculus-based introduction to the study of the physical universe. Intended primarily for students majoring in the physical sciences, engineering, or mathematics, but also appropriate for other students with the necessary background in mathematics. Topics include Newtonian mechanics, electricity and magnetism, optics, and thermodynamics. Three lectures and one laboratory weekly. This sequence must be taken in order. Prerequisite or corequisite: MATH 131-132-133.

**PHYS 234 4 W**  
**Elementary Modern Physics**

A continuation of PHYS 131-132-133 that offers an introduction to relativity and quantum physics. Topics include atomic and molecular physics, nuclear physics, and high-energy physics. Three lectures and one laboratory weekly. Prerequisites: MATH 133, PHYS 133.

# Physics and Engineering

## **PHYS 256** **4 S** **Applied Optics**

An intermediate-level treatment of theory and applications of electromagnetic waves in or near the optical region of the spectrum. Includes topics in geometrical, physical, and quantum optics and physical phenomena involved in laser action. Three lectures and one laboratory weekly. Prerequisite: PHYS 113 or 133.

## **PHYS 299** **1 Arr.** **Mini-Course**

A short course on a selected, physics-related topic of interest to the general student. Format and scheduling of the course depend on the topic selected but usually consists of several lectures over a period of two or three weeks on a subject of current interest. Credit may be applied toward a physics major by approval of the department chair.

### UPPER-DIVISION COURSES:

## **PHYS 321-322** **3-3 W-S** **Biophysics**

A course for the upper-division physics student with adequate preparation in biology, covering a variety of topics in which physical analysis is applied to living systems, and the interaction with living systems is studied. Prerequisites: BIOL 111-112-113, CHEM 111-112-113, PHYS 234. Odd years.

## **PHYS 341-342** **3-3 A-W** **Classical Dynamics**

A development of classical mechanics and special relativity. Topics include Newtonian mechanics and Lagrangian dynamics, which are used to solve problems associated with central-force motion, rigid object dynamics, oscillations, and wave motion. The theoretical bases of problems are emphasized, together with the development of differ-

ent problem-solving techniques. Prerequisites: MATH 265, 267, 269, PHYS 234. Even years.

## **PHYS 361-362-363** **3-3-3 A-W-S** **Electromagnetic Theory**

A development of electromagnetic theory. Topics include electrostatics, magnetostatics, electromagnetism, electromagnetic radiation, and relativistic electrodynamics. The concepts of field and potentials are emphasized. Prerequisites: MATH 265, 267, 269, PHYS 234. Odd years.

## **PHYS 389L** **1 A, W, S** **Experimental Physics**

The goal of this laboratory course is to give the student experience with real-science apparatus such as lasers, high field magnets, detectors, radioactive sources, and sophisticated electronics. Activities include experiments in mechanics, electromagnetism, optics, heat, and atomic and nuclear physics. One laboratory weekly. May be repeated for up to six hours. Prerequisites: ENGR 216, 217 and PHYS 234.

## **PHYS 396** **.5 A, W, S** **Seminar**

(See BIOL 396)

Single topics of current interest in mathematics and natural sciences are presented by guest lecturers. Graded on S/F basis. To pass, a student must be on time and attend four of five course sessions. Maximum: three hours.

## **PHYS 445** **4 S** **Thermal Physics**

Development of a statistical description of a system of particles. Different ensembles and their associated partition functions are emphasized and applied to various thermal systems. Prerequisites: MATH 265, 267, 269; PHYS 234. Even years.

## **PHYS 461-462** **3-3 A-W** **Quantum Physics**

A development of quantum mechanics and atomic physics. Topics include wave packets, Schrödinger's equation and its solutions, operator methods, angular momentum, matrix representation, spin, perturbation theory, the hydrogen atom, and radiation by atoms. Prerequisites: MATH 265, 267, 269; PHYS 234. Odd years.

## **PHYS 464** **3 S** **Laser Physics**

A development of the general characteristics of lasers. Includes Ray tracing, Gaussian beams, optical resonators and cavities, atomic radiation, transition rates, laser oscillations, amplification and excitation. Prerequisites: PHYS 256, 361-362, 461-462. Offered on demand.

## **PHYS 491** **0-2** **Cooperative Education in Physics**

An individualized contract agreement involving student, faculty, and employer to provide practical experience in physics in a professional off-campus work setting. Prerequisite: Permission of the department chair. Graded S/F.

## **PHYS 495** **1-3 A, W, S** **Independent Study**

Properly qualified students majoring in physics may, with the approval of the department chair, undertake an independent, directed study of a topic suited to their background and experience. Maximum of three hours.

## **PHYS 499** **1-3 A, W, S** **Independent Research**

Properly qualified students majoring in physics may, with the approval of the department chair, undertake a directed research problem suited to their background and experience. Maximum of nine hours.





## Faculty

Gregory King, chair; Warren Ashworth, Angel Hernandez, Donald John, Leo Ranzolin, Jean Sheldon, Myron Widmer

Departmental Office: 16 Graf Hall; 965-6206

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In a church-related Christian liberal arts college such as Pacific Union College, the DEPARTMENT OF RELIGION is called upon to meet a variety of academic needs. In addition to providing a minimum of 18 hours of course credit for each four-year graduate of the College, the department offers majors and a minor for those who desire a more intensive study of the Bible and the Christian faith.

Students who seek an education to prepare themselves for successful service as ministers, church workers, or active Christian lay workers will find in their religion courses not only content but also inspiration, specific methods, and other practical helps. Students with specific career goals in mind should note carefully the particular careers for which each program of study is designed. Departmental advisers are prepared to assist the student in planning an academic program. The career listings are by no means exhaustive, and there is often more than one program of study suitable for a given career preparation.

## Major in Theology, B.A.

► A minimum of 50 hours (28 upper division) including the following:

RELB 120-121	Life and Teachings of Jesus	2-2
RELB 125	Books of Moses	4
RELL 435	Greek Epistles of Paul	4
RELL 445	Hebrew Prophets	4
RELT 235	Spiritual Formation	3
RELT 331-332-333	Doctrinal Studies	3-3-3
RELT 381	E. G. White and Adventism	2
RELT 382	The Writings of E. G. White	2
RELT 464	Seminar in Theology	3

One course from:

RELB 370	Studies in Daniel (3)	3
RELB 371	Studies in Revelation (3)	3

One course from:

RELB 315	Biblical Ethics (3)	3
RELT 216	Introduction to Christian Ethics (3)	3
RELT 355	Christian Social Ethics (3)	3

Two quarters of the appropriate section of Ministry Colloquium are required for each year in residence:

RELT 124	Ministry Colloquium I	1
RELT 224	Ministry Colloquium II	1
RELT 324	Ministry Colloquium III	1
RELT 424	Ministry Colloquium IV	1

► Required Cognate Courses:

HIST 320	Christian History: To 1500	3
HIST 321	Christian History: 1500 to the Present	3
RELB 225-226	Beginning Greek	3-3
RELL 325-326	Intermediate Greek	3-3
RELL 337-338	Biblical Hebrew	3-3
RELP 381-382	Biblical Preaching	3-3
RELP 391-392-393	Extern Program	1-1-1
RELP 475-476	Christian Ministry	3-3

# Religion

This major is designed for the student who is preparing for Christian ministry in one of its various forms, including pastoral ministry, youth ministry, chaplaincy, and teaching religion. The major is particularly suitable for the student who plans to seek professional education in a seminary. Students who desire to complete this major must apply to the Department of Religion for admission into the Ministerial Studies Program during the spring quarter of the sophomore year. Admission into the program is granted on the basis of the following criteria:

1. Satisfactory completion of the prescribed battery of diagnostic tests and counseling process, which must be completed during the spring quarter of the sophomore year (a fee is assessed);
2. Regular academic standing;
3. An average of 2.5 or better with no serious deficiencies in any given area on the evaluation by the department faculty. Each application is reviewed by the faculty of the department, and a letter of response is sent to each applicant before the fall quarter of the junior year.

Each student successfully completing the Ministerial Studies Program and the academic requirements of this major will be eligible for recommendation by the Department of Religion as a candidate for entrance into seminary and subsequent work in some branch of Christian ministry.

## Teaching Credential

A B.A. with a major in theology is required. Students planning to obtain a teaching credential should consult with the Credential Analyst in the Department of Education in order to become acquainted with the specific requirements outlined in the Education section of this *Bulletin*.

## Major in Religion, B.A.

➤ *A minimum of 45 hours (30 upper division) including the following:*

RELB 120-121	Life and Teachings of Jesus	2-2
RELB 125	Books of Moses	4
RELB 310	Prophets of Israel	3
RELB 387	The Story of the English Bible	3
RELB 460	Paul and His Letters	3
RELT 331-332-333	Doctrinal Studies	3-3-3
RELT 381	Ellen G. White and Adventism	2
RELT 382	The Writings of Ellen G. White	2

*One course from:* 3

REL P 210	Creative Church Participation (3)
REL P 381	Biblical Preaching (3)

REL P 391-392- Extern Program (1-1-1)  
393

REL P 484	Field Practicum (3 minimum)
RELT 235	Spiritual Formation (3)

*One course from:* 3

REL B 370 Studies in Daniel (3)

REL B 371 Studies in Revelation (3)

*One course from:* 3

REL H 311 World Religions (3)

REL H 329 American Denominations (3)

RELT 216 Introduction to Christian Ethics (3)

RELT 320 Philosophy of Religion (3)

➤ *Required Cognate Courses:*

HIST 320 Christian History: To 1500 3

HIST 321 Christian History: 1500 to the Present 3

This major is designed for those who want a broad background in religion but who plan careers in other areas, such as medicine, dentistry, law, and a variety of other professions.

## Minor in Religion

➤ *A minimum of 30 hours (12 upper division) including the following:*

*One course from:* 4

REL B 120-121 Life and Teachings of Jesus (2-2)

REL B 125 Books of Moses (4)

*One course from:* 3

REL B 310 Prophets of Israel (3)

REL B 460 Paul and His Letters (3)

*One course from:* 3-4

REL B 370 Studies in Daniel (3)

REL B 371 Studies in Revelation (3)

RELT 335 Sanctuary (3)

*One course from:* 2

RELT 381 Ellen G. White and Adventism (2)

RELT 382 The Writings of Ellen G. White (2)

*One course from:* 3

REL H 311 World Religions (3)

REL H 329 American Denominations (3)

RELT 216 Introduction to Christian Ethics (3)

RELT 320 Philosophy of Religion (3)

**Associate Degree in Lay Ministries and Bible Instructor Training, A.S.**

➤ *A minimum of 90 total hours for graduation which includes the major, cognate, and general-education requirements. A minimum of 60 hours in the core and cognate courses is required in the A.S. degree program.*

This two-year degree program has been established primarily for mature men and women who desire special education and

training for a variety of church ministries including service as a Bible instructor. The specific curriculum will be designed by the department chair in consultation with the student in terms of career objectives and requirements.

The regular college freshman planning on future service in some area of church ministries should enroll in one of the department's four-year B.A. degree programs.

**Biblical Studies**

LOWER-DIVISION COURSES:

**RELB 100** **2 W**  
**Methods of Bible Study**

An analysis of appropriate ways to approach the study of various types of written material found in the Bible.

**RELB 110** **3 A, W, S**  
**Biblical Literature**

The setting and content of representative types of literature found in the Bible; a survey of the general nature and scope of the Old and New Testaments.

**RELB 114-115-116** **2-2-2 A-W-S**  
**Bible Themes**

Selected themes related to the problem of sin and the plan of redemption as presented in the Old and New Testaments. Open to lower-division students by permission of the instructor only.

**RELB 120-121** **2-2 A-W, W-S**  
**Life and Teachings of Jesus**

The life, work and teachings of Jesus from selected portions of Matthew, Mark, Luke, and John.

**RELB 125** **4 A, S**  
**Books of Moses**

The literature, history, and theology of the first five books of the Old Testament.

**RELB 230** **3 S**  
**Psalms and Writings**

Psalms, Proverbs, Song of Solomon, and other books of the Old Testament classified as "writings." Emphasis on major themes and representative passages.

**RELB 240** **2 W**  
**General Epistles**

An examination of selected chapters from the New Testament letters of James, Peter, John and Jude.

**RELB 246** **2 S**  
**The Preaching of Israel's Prophets**

Selected messages of the prophets of ancient Israel in the context of Israel's history and their value for meeting the problems of society today.

UPPER-DIVISION COURSES:

**RELB 310** **3 A, S**  
**Prophets of Israel**

The origin and nature of the prophetic movement followed by an examination of the message of the Old Testament prophetic books.

**RELB 315** **3 W**  
**Biblical Ethics**

Major moral teachings of the Old and New Testaments in relation to contemporary moral issues.

**RELB 320** **2 A**  
**Women of the Bible**

Women in the Bible, in the light of their cultures and times, with attention to theological themes and their relevance for today.

**RELB 328** **4 S**  
**Jesus and the Gospels**

The theological insights presented by the gospels in the portrayal of the life, ministry and death of Jesus.

**RELB 341** **2**  
**Jesus as Healer**

The role of Jesus as healer as seen in Matthew, Mark, Luke, and John.

**RELB 342** **3 W**  
**Studies in Bible Interpretation**

Study of a selected book of the Old or New Testament. Repeatable for credit when the subject matter varies. Subtitles include Genesis, Isaiah, I Corinthians, Acts, Romans, Ephesians, Hebrews.

**RELB 342H** **3 W**  
**Studies in Bible Interpretation (Honors)**

Students participate in seminars dealing with issues of interpretation and theology in selected Biblical materials.

# Religion

## **RELB 370** **3 A, S** **Studies in Daniel**

The book of Daniel, with in-depth study of its prophetic chapters.

## **RELB 371** **3 W, S** **Studies in Revelation**

The book of Revelation, with in-depth study of its prophetic messages.

## **RELB 387** **3 A** **The Story of the English Bible**

The history of the English Bible, including the production, canonization, transmission, and translation of the text as well as principles and methods for evaluating the text and modern English versions.

## **RELB 460** **3 A, S** **Paul and His Letters**

Analysis and interpretation of selected portions from the epistles of the Apostle Paul.

## **RELB 495** **1-3 A, W, S** **Independent Study**

With the approval of the department chair, properly qualified students may undertake an investigation of a problem suited to their background and experience. Maximum of nine hours.

## Historical Studies

UPPER-DIVISION COURSES:

### **RELH 311** **3 A** **World Religions**

An introduction to selected great traditions of world religions and to concepts for the study and comparison of these traditions. Emphasis on non-Judeo-Christian traditions. Includes an examination of these religions in relation to the Christian revelation.

### **RELH 320** **3 A** **Christian History: to 1500** (See HIST 320.)

### **RELH 321** **3 S** **Christian History: 1500 to the Present** (See HIST 321.)

### **RELH 329** **3 W** **American Denominations**

A survey of major traditions in America. Includes both historical and theological dimensions of American religious identity, with a view toward broadening the contexts of Adventism.

### **RELH 340** **3 A** **Biblical Archaeology**

The Bible in its religious, cultural, and political environment as illuminated by discoveries of modern archaeology.

### **RELH 495** **1-3 A, W, S** **Independent Study**

With the approval of the department chair, properly qualified students may undertake an investigation of a problem suited to their background and experience. Maximum of nine hours.

## Biblical Languages

*Most of the courses in this area are required cognates for the theology major. No courses with the prefix RELL may apply as electives to the religion or theology major or to the religion minor except RELL 435 Greek Epistles of Paul and RELL 445 Hebrew Prophets.*

LOWER-DIVISION COURSE:

### **RELL 225-226** **3-3 A-W** **Beginning Greek**

Basic grammar and translation of the Koine Greek of the New Testament, with attention to exegetical tools and methods.

UPPER-DIVISION COURSES:

### **RELL 325-326** **3-3 S-A** **Intermediate Greek**

Intermediate grammar, translation, and exegetical exercises in the Koine Greek of the New Testament. Prerequisite: RELL 225-226.

### **RELL 337-338** **3-3 A-W** **Biblical Hebrew**

An introduction to Biblical Hebrew, including selected readings from various portions of the Old Testament text.

### **RELL 435** **4 W** **Greek Epistles of Paul**

Exegesis of the Greek text of selected passages of Paul's letters in the light of the historical background of his writings and his theological thought as a whole. Prerequisite: RELL 325-326.

### **RELL 445** **4 S** **Hebrew Prophets**

Exegesis of selected passages from the Hebrew text, and a study of the historical background, literature, and theology of

selected Old Testament prophetic books.  
Prerequisite: RELL 337-338.

**RELL 495 1-3 A, W, S**  
**Independent Study**

With the approval of the department chair, properly qualified students may undertake an investigation of a problem suited to their background and experience. Maximum of nine hours.

**Professional and Applied Religion**

LOWER-DIVISION COURSE:

**RELP 210 3 S**  
**Creative Church Participation**

A “hands-on” course preparing students to participate effectively and confidently in local church ministry, worship, leadership, and outreach to the community. Students elect from a variety of options for practical experience. Not applicable toward a theology major or minor.

UPPER-DIVISION COURSES:

**RELP 319 2 S**  
**Church Missions in the Modern World**

A practical survey of contemporary mission theology and methodology, with emphasis on personal motivation and preparation, comparative religions, language teaching, and interpersonal skills. *This course is prerequisite to student missionary appointment.* Enrollment limited to student missionary appointees; exceptions only by approval of the instructor.

**RELP 346 2 S**  
**Spiritual Care for Patients**

Development of knowledge and skills for meeting spiritual needs that arise in patient care. Includes a survey of religious

backgrounds to inform the caring ministry of the health-care professional.

**RELP 381-382 3-3 A-W**  
**Biblical Preaching**

The art, discipline, and process of sermon preparation and delivery focused on the basic questions of why, what, and how we preach. Includes lectures and supervised preaching. Must be taken in sequence. Prerequisites: junior- or senior-year status; fulfillment of General Education requirement in oral communication.

**RELP 385 1-6 W**  
**Field Evangelism**

Participation in an approved Field School of Evangelism, or field experience, under an approved minister. Graded S/F.

**RELP 391-392-393 1-1-1 A-W-S**  
**Extern Program**

The course includes field work in assigned churches and a weekly seminar. Limited to junior and senior theology majors who have been accepted into the Ministerial Studies Program. Graded S/F .

**RELP 475-476 3-3 A-W**  
**Christian Ministry**

An introduction to the theology, theory, and practice of Christian ministry, with principal focus on pastoral and evangelistic ministry in the context of the local church. Special emphasis on developing the basic qualities, knowledge, and skills essential for a conference internship, for Bible teaching in Seventh-day Adventist schools, and for graduate training.

**RELP 484 1-3**  
**Field Practicum**

Instruction and experience in specialized ministries: hospital chaplaincy, youth ministry, prison ministry, etc. Prerequisite: approval of the Religion faculty. Repeatable for credit. Graded S/F.

**Theological and Philosophical Studies**

LOWER-DIVISION COURSES:

**RELT 111-112 2-2 W-S**  
**Introductory Bible Doctrines**

The basic teachings of the Christian faith as held by Seventh-day Adventists. Enrollment limited to students who are not members of the Seventh-day Adventist Church.

**RELT 124 1 A**  
**Ministry Colloquium I**

Orientation and lecture/discussion series for freshman majors in theology with emphasis in pastoral ministry. Graded S/F.

**RELT 216 3 W**  
**Introduction to Christian Ethics**

A basic course in moral decision-making involving the development and application of Christian principles to modern ethical issues.

**RELT 218 3 A, S**  
**Values: Formation and Clarification**

Designed to facilitate the examination of one’s value system, assuming that values stem from one’s faith structure. The values-clarification model is used.

**RELT 224 1 A**  
**Ministry Colloquium II**

Lecture/discussion series for sophomore majors in theology with emphasis in pastoral ministry. Graded S/F.

**RELT 235 3 S**  
**Spiritual Formation**

A study of the centrality of religious experience in Christian life and of the devotional disciplines associated with the development of spiritual life.

# Religion

**RELT 244** **2 A**  
**Introduction to Religious Faiths**

An orientation to the faith and practice of various religions; a course for nurses who desire to minister to the spiritual needs of their patients.

**RELT 245** **2 W**  
**Introduction to Personal and Medical Ethics**

Ethical issues that confront a Christian while engaged in medical technology and patient care.

UPPER-DIVISION COURSES:

**RELT 320** **3 A**  
**Philosophy of Religion**

(See also PHIL 320.)

An introduction to some of the issues raised by a rational analysis of religion. Emphasis on the nature and validity of Judeo-Christian world views.

**RELT 324** **1 A**  
**Ministry Colloquium III**

Lecture/discussion series for junior majors in theology with emphasis in pastoral ministry. S/F basis only.

**RELT 331** **3 A**  
**Doctrinal Studies**

In-depth study of the nature and purpose of Christian doctrine; the doctrines of inspiration and revelation, God, humankind, sin, and the remedy for sin.

**RELT 332** **3 W**  
**Doctrinal Studies**

In-depth study of the doctrine of Christ—His nature and His work; the doctrine of the church; the nature and purpose of the church; and the experience of its members.

**RELT 333** **3 S**  
**Doctrinal Studies**

In-depth study of the doctrines of the Christian's lifestyle, standards, and worship; eschatology and last things; and the Sabbath.

**RELT 335** **3 S**  
**Sanctuary**

An examination of the way in which the Mosaic tabernacle illustrates God's comprehensive remedies for the sin problem and its continuing significance within the contemporary church.

**RELT 337** **4 W**  
**Eschatology**

Study of the final events of earth's history culminating in the return of Jesus Christ, with emphasis on how to be ready for His coming.

**RELT 345** **2 W**  
**Christian Ethics in Patient Care**

The study and application of ethical theory and Christian principles to ethical dilemmas facing the professional nurse. White Memorial Medical Center campus and extension campuses offering the B.S. in Nursing.

**RELT 350** **3 A**  
**Issues in Christian Faith**

An in-depth study of a topic important to Christian faith. Consideration of the theological and spiritual dimensions of the topic. May be repeated for credit when the subtitle varies. Subtitles include God and Human Suffering, Women and the Church, The Death and Resurrection of Christ.

**RELT 355** **3 S**  
**Christian Social Ethics**

A study of the moral implications of Christian faith for the organization or transformation of social institutions.

**RELT 381** **2 A, S**  
**Ellen G. White and Adventism**

The Biblical teaching on the gift of prophecy, of the Millerite movement, and of Ellen G. White and her role in the early history of the Seventh-day Adventist Church.

**RELT 382** **2 W**  
**The Writings of Ellen G. White**

The writings of Ellen G. White, with special emphasis on current issues relating to them.

**RELT 424** **1 A**  
**Ministry Colloquium IV**

Lecture/discussion series for senior majors in theology with emphasis in pastoral ministry. S/F basis.

**RELT 440** **3 W, S**  
**Christian Bioethics**  
(See also PHIL 440.)

Contemporary ethical issues in the biomedical sciences from the perspective of Christian ethics. Topics include abortion, euthanasia, eugenics, new reproductive technologies, and human experimentation.

**RELT 464** **3 S**  
**Seminar in Theology**

Senior seminar for theology and religion majors. Others may be admitted with the consent of the instructor.

**RELT 495** **1-3 A, W, S**  
**Independent Study**

With the approval of the department chair, properly qualified students may undertake an investigation of a problem suited to their background and experience. Available every quarter. Maximum of nine hours.



## Faculty

Russell Laird, chair; Verlyn Benson, Colin Erickson, Allan Payne, William Price

Departmental Office: 260 Fisher Hall; 965-6604

## Degrees and Programs

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The DEPARTMENT OF TECHNOLOGY offers the following seven types of curricula:

The first, in Engineering Technology, prepares students in the application of scientific and engineering knowledge and combines that with technical skills in support of engineering activities. In industry one with such training typically fits between the technician and the engineer, closer to the engineer.

The program in Industrial Technology and Management prepares management-oriented technical professional persons with applied skills, understanding of industrial systems, a solid business foundation, and the potential to move into managerial positions.

The third program, in Aviation, prepares students interested in positions in aviation. Training includes theory, ground and flight instruction leading to pilot certificates and ratings from Private Pilot through Commercial Pilot and Flight Instructor. Graduates make take positions as private and commercial pilots, mission and medical pilots, and others.

The Graphics Technology program prepares students for leadership in the printing and computer graphics industry as printing managers, planners, quality control or production specialists, estimators, and sales representatives.

The program in Digital Media Technology opens the exciting world of digital and interactive media through training and experience with computers, software, video, and more. Employment opportunities include but are not limited to project director, interface designer, video producer, director, production coordinator, video editor, and interactive author.

The sixth program, in Industrial Technology Education, is designed to prepare the student for a teaching career in one or more of the industrial-technology fields.

The seventh is occupational, a two-year Associate of Science degree program. Specific areas include Engineering Technology, Electronics, and Robotics. Graduates qualify for entry-level positions in industries using or related to their areas of study.

## Major in Engineering Technology, B.S.

► A minimum of 74 hours of technical courses (27 in the upper division) including the core courses and one emphasis, plus the cognate requirements:

► Required Core Courses: 40 hours (12 upper-division)

DRFD 131-132	Engineering Drawing	3-3
ELEC 141	Applied Electronics	3
ELEC 142	Electronic Circuits	3
ELEC 144	Electromechanical Devices and Wiring	3
ENGR 211-212-213	Engineering Mechanics	3-3-3
GRPH 158	WWW Portfolio Development	2
MFG 161	Machine Tool Procedures	2
MFG 327	Production Operations	3
MFG 328	Quality Control Systems	3
MFG 394	Materials, Processes and Testing	3
MFG 396	Industrial Safety Management	3

# Technology

► *Emphases:* (choose one)

**1. General:** 42 hours (21 upper-division)

Courses for this emphasis must include two 15-hour areas of concentration and 6 hours in each of the other two areas from the following:

- Drafting–Design
- Electricity–Electronics–Robotics–Computers
- Manufacturing Technology
- Energy–Power–Transportation

**2. Drafting and Design:** 41 hours (18 upper-division):

ART 121	Drawing Fundamentals	2
ART 124	Design and Composition	3
DRFD 134-135	Architectural Drafting	3-3
DRFD 330	CADD	3
DRFD 331	Architectural Design	3
DRFD 334	Architectural CADD	3
DRFD 435	Seminar in Drafting and Design	3
GRPH 253	Publication Technology	3
GRPH 352	Digital Imaging	3
MFG 121	Plastics	2
MFG 164	Metalworking	2
MFG 181	Woodworking	2
MFG 184	Construction	3
TECH 491	Internship	3

**3. Electronics:** 34 hours (19 upper-division):

ELEC 140	Mathematics for Electronics	2
ELEC 244	Solid State Devices	2
ELEC 245	Electronics CAD	3
ELEC 340	Computer Networks	2
ELEC 341	Digital Integrated Circuits	3
ELEC 342	Microcomputer Design and Repair	3
ELEC 344	Linear Integrated Circuits	2
ELEC 347	Electronic CAD and Simulation	3
ELEC 349	Electronic Communications	3
ENGR 216	Circuit Theory	4
ENGR 217	Engineering Electronics	4
MFG 367	Manufacturing Technology	3

**4. Manufacturing:** 39 hours (15 upper-division)

DRFD330	Computer-Aided Drafting and Design	3
ELEC 144	Electromechanical Devices and Wiring	3
MFG 121	Plastics	2
MFG 122	Composite Materials Technology	3
MFG 164	Metalworking	2
MFG 181	Woodworking	2
MFG 184	Building Construction	3
MFG 221	Processes in Plastics Technology	3

MFG 264	Industrial Metals Technology	3
MFG 281	Processes in Wood Technology	3
MFG 366	Advanced Machine Tool Procedures	3
MFG 367	Manufacturing Technology	3
MFG 387	Material Coatings and Coverings	3
MFG 465	Seminar in Manufacturing Technology	3

**5. Robotics:** 33 hours (26 upper-division)

DRFD 330	Computer-Aided Drafting and Design	3
ELEC 140	Mathematics for Electronics	2
ELEC 341	Digital Integrated Circuits	3
ELEC 342	Microcomputer Design and Repair	3
ELEC 343	Automation and Computer Numerical Control	3
ELEC 344	Linear Integrated Circuits	2
ELEC 345	Robotics	3
ELEC 349	Electronic Communications	3
MFG 164	Metalworking	2
MFG 264	Industrial Metals Technology	3
MFG 366	Advanced Machine Tool Procedures	3
MFG 377	Hydraulics and Pneumatics	3

**6. Transportation:** 35 hours (15 upper-division)

AUTO 171	Auto Mechanics Fundamentals	3
AUTO 172	Automotive Electronics & Fuel Systems	3
AUTO 178	Auto Body	3
AUTO 373	Automotive Chassis and Transmissions	3
AUTO 375	Automotive Engine Machining and Rebuilding	3
AUTO 377	Hydraulics and Pneumatics	3
AUTO 379	Frame and Refinishing	3
AUTO 475	Seminar in Transportation Management	3
AVIA 200	Private Pilot Ground School	4
MFG 121	Plastics	2
MFG 122	Composite Materials Technology	3
MFG 164	Metalworking	2

► *Required Cognates:*

CHEM 111	General Chemistry	5
MATH 131-132-133	Calculus	4-4-4
PHYS 131-132-133	Physics with Calculus	4-4-4

**Field Requirement**

All students majoring in Engineering Technology must be able, by the close of the winter quarter of their senior year, to verify a minimum of 500 clock hours of commercial work related to the emphasis within the major field and performed under approved supervision. For Engineering Technology majors with an emphasis in transportation, this requirement is a minimum of 125 hours in each of four of the following positions:



- Dealership management apprentice
- Dealership sales apprentice
- Service management apprentice
- Auto parts sales person
- Mechanical repair technician
- Auto body repair technician

The College will help place the student in a qualifying position. The major in Engineering Technology is designed to provide a contact with the principal areas of technology. Its objective is to prepare qualified industrial personnel for institutional employment and for positions of performance and leadership in technical areas of industry.

### Minor in Engineering Technology

► A minimum of 30 hours (9 in the upper division) to be selected in consultation with the department chair from the core and a maximum of two emphases listed for the major in Engineering Technology.

### Major in Industrial Technology and Management, B.S.

► A minimum of 92 hours (37 in the upper division) including core courses, management courses and one emphasis, plus the required cognate courses.

► **Required Core Courses:** 19 hours (9 upper-division):

DRFD 131	Engineering Drawing	3
DRFD 132	Engineering Drawing	3
GRPH 158	WWW Portfolio Development	2
MFG 161	Machine Tool Procedures	2
MFG 327	Production Operations	3
MFG 394	Materials, Processes and Testing	3
MFG 396	Industrial Safety Management	3

► **Required Management Courses:** 31 hours (10 upper-division)

ACCT 121	Principles of Accounting I	3
ACCT 122	Principles of Accounting II	4
ACCT 123	Principles of Accounting III	3
BUAD 325	Business Law I	3
ECON 261	Principles of Economics-Macroeconomics	4
ECON 265	Principles of Economics-Microeconomics	4
MGMT 361	Management	4

A minimum of 6 hours (3 upper-division) from BUAD, MGMT, and MKTG courses not listed above.

► **Emphases:** (choose one)

**1. General:** 42 hours (21 upper-division). Courses for this major must include two 15-hour areas of concentration, and 6 hours in each of two other areas from the following:

- Drafting-Design
- Electricity-Electronics-Robotics-Computers
- Manufacturing Technology
- Energy-Power-Transportation
- Graphics Technology

**2. Manufacturing:** 45 hours (18 upper-division):

DRFD 330	Computer-Aided Drafting/Design	3
ELEC 141	Applied Electronics	3
ELEC 144	Electromechanical Devices and Wiring	3
MFG 121	Plastics	2
MFG 122	Composite Materials Technology	3
MFG 164	Metalworking	2
MFG 181	Woodworking	2
MFG 184	Building Construction	3
MFG 221	Processes in Plastics Technology	3
MFG 264	Industrial Metals Technology	3
MFG 281	Processes in Wood Technology	3
MFG 328	Quality Control Systems	
MFG 366	Advanced Machine Tool Procedures	3
MFG 367	Manufacturing Technology	3
MFG 387	Material Coatings and Coverings	3
MFG 465	Seminar in Manufacturing Technology	3

**3. Transportation:** 41 hours (15 upper-division):

AUTO 171	Auto Mechanics Fundamentals	3
AUTO 172	Automotive Electronics and Fuel Systems	3
AUTO 178	Auto Body	3
AUTO 373	Automotive Chassis and Transmissions	3
AUTO 375	Automotive Engine Machining and Rebuilding	3
AUTO 377	Hydraulics and Pneumatics	3
AUTO 379	Frame and Refinishing	3
AUTO 475	Seminar in Transportation Management	3
AVIA 200	Private Pilot Ground School	4
ELEC 141	Applied Electronics	3
ELEC 142	Electronic Circuits	3
MFG 121	Plastics	2
MFG 122	Composite Materials Technology	3
MFG 164	Metalworking	2

► **Required Cognate Courses:**

MATH 131	Calculus	4
PHYS 105	Introduction to Physics	5
PHYS 106L	Introduction to Physics Laboratory	1

# Technology

## Recommended Field Experience

By the close of the winter quarter of their senior year, all students majoring in Industrial Technology and Management should have completed 500 clock hours of commercial work related to the emphasis within the major and performed under approved supervision. The College will help place the student in a qualifying position.

The objective of this interdisciplinary program is to prepare graduates for managerial and administrative positions in industry, business, and institutional positions requiring an appreciation of, and competence in, both disciplines. Graduates with this major find first employment in manufacturing or related areas.

Examples of such positions are management of industrial departments of institutions, manufacturing plant management, construction management, and insurance service and safety management.

## Minor in Industrial Technology and Management

➤ *A minimum of 30 hours (9 upper division) to be selected, in consultation with the Department Chair, from the core and a maximum of two emphases listed for the major in Industrial Technology and Management.*

## Major in Aviation, B.S.

Students transferring into the aviation program with previously earned FAA certificates or ratings should apply through the Technology department *at the time of initial registration* for course credit (see “Credit by Examination,” page 40). Course credit for FAA certificates or ratings earned earlier at other locations is not available and will not be awarded after the student has begun aviation courses at Pacific Union College. A copy of FAA certificates must be presented to the departmental representative at the Flight Center. Grades issued in recognition of FAA certificate validations are recorded as S (Satisfactory). For complete aviation policies and procedures, consult the *Flight Policies and Procedures Handbook*, available at the Flight Center. For financial information about flight training, see the financial information section of this catalog.

➤ *A minimum of 68 hours (37 in the upper division).*

AVIA 170	Fundamentals of Aviation	2
AVIA 173	Meteorology	4
AVIA 175	Private Pilot Theory	4
AVIA 176	Private Flight Training	2
AVIA 177	Intermediate Private Flight Training	2
AVIA 178	Advanced Private Flight Training	2
AVIA 275	Instrument Pilot Theory	4

AVIA 276	Instrument Flight Training	2
AVIA 277	Intermediate Instrument Flight Training	3
AVIA 278	Advanced Instrument Flight Training	2
AVIA 305	Aircraft Systems	3
AVIA 373	Pilot Maintenance	2
AVIA 375	Commercial and CFI Theory	4
AVIA 376	Commercial Flight Training	2
AVIA 377	Intermediate Commercial Flight Training	2
AVIA 378	Advanced Commercial Flight Training	2
AVIA 379	Aerodynamics	2
AVIA 470	Fundamentals of Flight Instruction	1
AVIA 471	Flight Instructor Flight Training	4
AVIA 472	Instrument Instructor Flight Training	3
	Electives in Aviation	4
AUTO/AVIA 172	Electronics and Fuel Systems	3
AUTO/AVIA 377	Hydraulics and Pneumatics	3
ELEC 141	Applied Electronics	3
MFG 396	Industrial Safety Management	3

Recommended: a minor in Business Administration.

Students should expect and plan for approximately \$2,000 per year in airplane rental fees. They are advised to identify themselves to the Student Financial Services Office as aviation students to explore the possibility of financial assistance with this expense.

## Recommended Field Experience

It is recommended that all students majoring in Aviation should have completed, by the end of winter quarter of their senior year, 500 clock hours of commercial work related to the major field and performed under approved supervision. The College will help place students in qualifying positions.

The objective of this program is to prepare graduates for such positions in the aviation industry as the following: mission pilots, company pilots, medical evacuation, teaching positions, pipeline patrol, border patrol, police, pilot training, forestry, fishing industry, air taxi operator, accident investigation, FAA specialist, major airline pilot, commuter airline pilot, cargo operations (FEDEX, UPS), fixed-base operator, traffic controller, and airport manager.

## Minor in Aviation

➤ *A minimum of 30 hours (9 upper division) to be selected, in consultation with the Department Chair, from the requirements listed for the major in Aviation.*

## Major in Graphics Technology, B.S.

► A minimum of 60 hours (27 in the upper division):

ART 124-125	Design and Composition	3-3
ART 261	Graphic Design I	3
ART 262	Graphic Design II	3
ART 317	Design for the Web	2
ART 363	Pre-Print Production I	3
ART 464	Pre-Print Production II	3
GRPH 153	Introduction to Macintosh	2
GRPH 155	Introduction to Graphics Technology	2
GRPH 158	WWW Portfolio Development	2
GRPH 251	Macintosh: Spreadsheets and Database	2
GRPH 253	Publication Technology I	3
GRPH 256	Publication Technology II	2
GRPH 257	Publication Technology III	2
GRPH 352	Digital Image Technology	3
GRPH 353	Web Page Publication	3
GRPH 354	Color Imaging	3
GRPH 356	Doing Business on the Web	2
GRPH 357	3D Digital Imaging	3
GRPH 455	Seminar in Imaging Technology	2
TECH 491	Internship	3

► Electives (minimum of 6 hours):

ART 241-242	Photography-Black and White (3-3)
ART 243	Photography - Color (3)
ART 361	Graphic Design III (3)
ART 362	Graphic Design IV (3)
ART 463	Typography II (3)

For students interested in owning or managing a business in the graphics industry, a minor in Business Administration is strongly recommended.

### Recommended Field Experience

Students majoring in Graphics Technology should have completed, by the end of winter quarter of their senior year, 500 clock hours of commercial work related to the major field and performed under approved supervision. The College will help place students in qualifying positions.

The objective of this program is to prepare graduates for positions in the graphics and printing industry where an appreciation of both disciplines and competence in them is required.

## Minor in Graphics Technology

► A minimum of 30 hours (9 upper division) to be selected in consultation with the Department Chair from the requirements listed for the major in Graphics Technology.

## Major in Digital Media Technology, B.S.

► A minimum of 73 hours (32 in the upper division):

ART 124-125	Design and Composition	3-3
GRPH 153	Introduction to Macintosh	2
GRPH 158	WWW Portfolio Development	2
GRPH 253	Publication Technology I	3
GRPH 256	Publication Technology II	2
GRPH 257	Publication Technology III	2
GRPH 352	Digital Image Technology	3
GRPH 357	3D Digital Imaging	3
JOUR 434	Media Law and Ethics	3
MDIA 152	Introduction to Media Technology	2
MDIA 154	Video Technology	2
MDIA 158	Media Production Concepts	2
MDIA 252	Audio and Lighting Techniques	2
MDIA 256	Video Editing I	3
MDIA 257	Interactive Media Production I	3
MDIA 258	Digital Effects I	3
MDIA 354	Advanced Video Technology	3
MDIA 356	Video Editing II	3
MDIA 358	Digital Effects II	3
MDIA 451	Professional Digital Media	3
MDIA 456	Video Editing III	3
MDIA 457	Interactive Media Production II	3
TECH 491	Internship	3
TECH 499	Senior Project	2

► Electives (6 hours from MDIA courses or the following): 6

ART 121-122	Drawing Fundamentals (2-2)
ART 241-242	Photography - Black and White (3-3)
ART 243	Photography - Color (3)
ART 261	Graphic Design I (3)
ART 262	Graphic Design II (3)
ART 263	Typography I (3)
ART 361	Graphic Design III (3)
ART 362	Graphic Design IV (3)
ART 446	Digital Photo Imaging (3)
COMM 134	Mass Media (3)
COMM 251	Survey of Broadcasting (3)
GRPH 354	Color Image Assembly (3)
JOUR 242	Photojournalism (2)
PREL 335	Principles of Advertising (3)
PREL 340	Writing for Broadcast Media (3)
PREL 439	Media of Public Relations (3)

# Technology

## Recommended Field Experience

All students majoring in Digital Media Technology should have completed, by the end of winter quarter of the senior year, 500 clock hours of commercial work related to the major field and performed under approved supervision. The college will help place students in qualifying positions.

The objective of this program is to prepare graduates for positions in the digital and/or interactive media industry. Segments include but are not limited to education, training, entertainment, and television.

## Minor in Digital Media Technology

► A minimum of 30 hours (9 upper division) to be selected in consultation with the Department Chair from the requirements listed for the major in Digital Media Technology.

## Major in Industrial Technology Education, B.S.

► A minimum of 62 hours of technical courses (24 upper division) including the following:

► Required Core Courses:

DRFD 131	Engineering Drawing	3
DRFD 132	Engineering Drawing	3
DRFD 134	Architectural Drafting	3
GRPH 153	Introduction to Macintosh	2
GRPH 158	WWW Portfolio Development	2
MFG 161	Machine Tool Procedures	2
MFG 396	Industrial Safety Management	3
TECH 399	Course Planning and Organization	3
TECH 499	Senior Project	2

Courses for this major must include two 15-hour areas of concentration (may include core courses), and 6 hours in each of three other areas from the following:

Drafting–Design  
Electricity–Electronics–Robotics–Computers  
Graphics Technology  
Manufacturing Technology  
Energy–Power–Transportation  
Digital Media Technology

Some interchange and substitution may be allowed in the areas of concentration in counsel with the major adviser.

► Required Cognate Courses:

PHYS 111-112-113	4-4-4
Professional education and credentialing courses	10

► Field Requirement:

All students majoring in Industrial Technology Education must be able, by the close of the winter quarter of their senior year, to verify a minimum of 500 clock hours of commercial work related to the major field and performed under approved supervision.

## Teaching Credential

A B.S. in Industrial Technology Education is required. Students who plan to teach at the secondary level should consult the Credential Analyst in the Department of Education and should become acquainted with specific requirements outlined in the Education section of this catalog.

## Minor in Industrial Technology Education

► A minimum of 30 hours of technical courses (9 upper division) including 6 hours in each of three areas of specialization listed above. A minor in Industrial Technology Education would be acceptable preparation for a second teaching field.

## Associate Degree in Engineering Technology, A.S.

A two-year program consisting of 48 hours of technical courses, general education as listed for the A.S. degree, and sufficient electives to total 90 hours. The program is developed around a concentration of courses in one or more of the following technical areas:

Drafting–Design  
Electricity–Electronics–Robotics–Computers  
Graphics Technology  
Energy–Power–Transportation  
Manufacturing Technology

The two-year programs are designed with a vocational-technical emphasis and are directed toward the training of technicians and craftsmen who will be prepared to make a more immediate and efficient application of their skills to the industrial and technical needs of today's environment.

## Associate Degree in Electronics, A.S.

A two-year program consisting of 42 hours of technical courses, 15 hours of cognate courses, general education as listed for the associate degree, and sufficient electives to total 90 hours.

► Required Technical Courses:

DRFD 131, 132	Engineering Drawing	3-3
ELEC 140	Mathematics for Electronics	2
ELEC 141	Applied Electronics	3

ELEC 142	Electronic Circuits	3
ELEC 144	Electromechanical Devices and Wiring	3
ELEC 244	Solid State Devices	2
ELEC 245	Electronics CAD	3
ELEC 340	Computer Networks	2
ELEC 341	Digital Integrated Circuits	3
ELEC 342	Microcomputer Design and Repair	3
ELEC 344	Linear Integrated Circuits	2
ELEC 347	Electronics CAD and Simulation	3
ELEC 349	Electronic Communications	3
GRPH 153	Introduction to Macintosh	2
MFG 161	Machine Tool Procedures	2

► *Required Cognate Courses:*

ACCT 114	Small Business Accounting (or MGMT 160 Small Business Management)	3
MATH 106	College Algebra	4
PHYS 105	Introduction to Physics	5
PHYS 106L	Introduction to Physics Laboratory	1

This program is designed to prepare the student for work in nearly any phase of electronics, such as institutional electronics maintenance, home entertainment electronics, or computer electronics.

**Associate Degree in Robotics, A.S.**

A two-year program consisting of the following technical courses, general education as listed for the associate degree, and sufficient electives to total 90 hours.

► *Required Technical Courses:*

DRFD 131, 132	Engineering Drawing	3-3
ELEC 140	Mathematics for Electronics	2
ELEC 141	Applied Electronics	3
ELEC 142	Electronic Circuits	3
ELEC 144	Electromechanical Devices and Wiring	3
ELEC 341	Digital Integrated Circuits	3
ELEC 342	Microcomputer Design and Repair	3
ELEC 343	Automation and Computer Numerical Control	3

ELEC 344	Linear Integrated Circuits	3
ELEC 345	Robotics	3
ELEC 349	Electronic Communications	3
GRPH 153	Introduction to Macintosh	2
MFG 161	Machine Tool Procedures	2
MFG 164	Metalworking	2
MFG 264	Industrial Metals Technology	3
MFG 366	Advanced Machine Tool Procedures	3
MFG 377	Hydraulics and Pneumatics	3

► *Required Cognate Courses:*

MATH 106	College Algebra	4
PHYS 105	Introduction to Physics	5
PHYS 106L	Introduction to Physics Laboratory	1

**Pre-Architecture**

A one-year program consisting of the following courses:

► *Required Courses:*

ART 121-122	Drawing Fundamentals	2-2
ART 124	Design and Composition	3
ART 127	Three-Dimensional Design	2
DRFD 134-135	Architectural Drafting	3-3
DRFD 331	Architectural Design	3
DRFD 334	Architectural CADD	3
ENGL 101-102	College English	4-4
MATH 130	Precalculus (or MATH 131 Calculus)	4
MFG 184	Building Construction	3
PEAC	Elective	2
PHYS 105	Introduction to Physics	5
PHYS 106L	Introduction to Physics Laboratory	1
RELB	Elective	4

► *Electives:*

ART 125	Design and Composition (3)	3-4
DSGN 143	Interior Space Planning (2)	
GRPH 352	Digital Image Technology(3)	

This program is designed to provide courses necessary for students wishing to transfer to universities offering degreed architecture programs.

## Aviation

### LOWER-DIVISION COURSES:

#### **AVIA 101** **1 A, W, S** **Introduction to Flight**

Introduction to the experience of flight without commitment to an extensive training program. It involves inspection of the aircraft before flight, taxi, take-off, and controlling an airplane in the air. Flights are in a Cessna 152. Scheduling done in class. No prerequisites.

#### **AVIA 170** **2 W** **Fundamentals of Aviation**

Private and military ventures in aviation from the beginnings to the present. Careers available in aviation today; how to prepare for them. Opportunity to interact with professionals in the aviation industry. Odd years.

#### **AVIA 173** **4 A** **Meteorology**

An introduction, for those interested in science or aviation, to the causes of weather phenomena and patterns. Meteorological theory, the best ways to obtain current weather reports and forecasts, how to interpret meteorological reports, how to predict changes in weather, how to recognize dangerous weather patterns, and how to react to difficult situations caused by adverse weather. For both pilots and nonpilots. Recommended prior to Private Pilot Theory.

#### **AVIA 175** **4 Su, A, S** **Private Pilot Theory**

The theory necessary for safe flight in today's environment. Includes aerodynamics, the airspace system, aircraft performance and design, basic weather, maps, navigation, and aeromedical factors. Prepares the future private pilot for the FAA private pilot written exam. Required

prior to or concurrently with Private Flight Training. Recommended prior course: AVIA 173.

#### **AVIA 176** **2 Su, A, W, S** **Private Flight Training**

Covers all flight training up through solo flight. Includes training in preflight, taxi, take-off, flight maneuvers, stalls, emergency procedures, normal and cross-wind landings, federal regulations, traffic procedures, and communications. Prerequisite or corequisite: AVIA 175.

#### **AVIA 177** **2 Su, A, W, S** **Intermediate Private Flight Training**

Includes five hours of solo practice of take-offs, air maneuvers, and landings. Special training in short-field and soft-field landings, night landings, and cross-country flying techniques with a certificated flight instructor completing a minimum of two dual cross-country flights. Prerequisite: AVIA 176.

#### **AVIA 178** **2 Su, A, W, S** **Advanced Private Flight Training**

Includes ten hours of solo cross-country flight in addition to various sessions with an instructor and solo practice in preparation for the FAA private pilot flight examination. Prerequisite: AVIA 177.

#### **AVIA 273** **1-6 Su, A, W, S** **Practicum in Flight**

A minimum of forty hours of practice in cross-country flying as pilot-in-command to assigned destinations in preparation for the instrument pilot rating. Flights include practice with cockpit management skills and use of attitude instrument flying. Prerequisite: private pilot certificate or AVIA 176, 177, 178.

#### **AVIA 275** **4 A** **Instrument Pilot Theory**

From basic attitude instrument flying to getting around in the modern airspace

system on an IFR flight plan. Preparation for the FAA instrument written examination and the instrument instructor written examination. Prerequisite or corequisite to instrument flight training courses.

#### **AVIA 276** **2 Su, A, W, S** **Instrument Flight Training**

Basic attitude instrument flying theory and skills. Developing proficiency in scan of the attitude instruments, interpretation of the instruments, and control of the aircraft with an additional work load that includes such factors as communications, copying clearances, using a timing device, and reading charts in flight. Also includes VOR and ADF navigation, DME arcs, and holding-patterns of all types. Prerequisite or corequisite: AVIA 275.

#### **AVIA 277** **3 Su, A, W, S** **Intermediate Instrument Flight Training**

Develops skills needed for executing VOR instrument approaches, ADF approaches, localizer approaches, ASR approaches, no-gyro approaches, and ILS precision approaches. Prerequisite: AVIA 275, 276.

#### **AVIA 278** **2 Su, A, W, S** **Advanced Instrument Flight Training**

Cross-country instrument flying making use of all former instrument training. Use of acquired instrument skills in cross-country flights to large airports. Includes a comprehensive review and preparation for the FAA instrument flight examination. Prerequisite: AVIA 275, 276, 277.

#### **AVIA 305** **3 W** **Aircraft Systems**

Theory of modern aircraft systems applied to both small and large aircraft. Provides an understanding of systems that helps the pilot troubleshoot problems in flight and on the ground. Engine theory, electrical systems, hydraulic sys-

tems, landing-gear systems, fuel systems, control systems, oxygen and pressurization systems, etc. Prerequisite: ELEC 141 or instructor's approval. Odd years.

**AVIA 373** **2 S**  
**Pilot Maintenance**

Maintenance practices permitted by federal regulations that any licensed pilot may perform. Involves inspection techniques and hands-on experience performing pilot-authorized aircraft maintenance. Even years.

**AVIA 375** **4 S**  
**Commercial and Certificated Flight Instructor Theory**

Aircraft performance, weight and balance, theory of flight, the federal airspace system, air traffic control, and navigation. Prepares pilots for the Commercial, Fundamentals of Instruction, and Certificated Flight Instructor FAA written examinations. Prerequisites: Private Pilot Lectures or the Private Pilot FAA Certificate.

**AVIA 376** **2 Su, A, W, S**  
**Commercial Flight Training**

The systems, performance, and procedures necessary for operating a complex aircraft. Approximately fifty percent of the instruction treats flight competency in a complex aircraft. Includes high-performance flight experience in IFR and night operations. Prerequisites: the Private Pilot FAA Certificate.

**AVIA 377** **2 Su, A, W, S**  
**Intermediate Commercial Flight Training**

Instruction in the maneuvers and skills required for the commercial certificate. Involves instruction and practice in all types of operations essential for an advanced commercial pilot. Special emphasis on in-flight emergencies. Prerequisites: FAA Private Pilot Certificate.

**AVIA 378** **2 Su, A, W, S**  
**Advanced Commercial Flight Training**

How to work in remote areas and in foreign lands as a bush or mission pilot; operations in very cold weather; survival techniques. Conventional gear (tail-wheel) operations, mountain flying, off-airport procedures, very short field landings and take-offs. (Course offering depends on availability of aircraft.) Prerequisite: FAA Private Pilot Certificate.

**AVIA 379** **2 W**  
**Aerodynamics**

Aerodynamics and aerodynamic devices used on various types of modern aircraft. Encompasses the basic concepts of flight as well as more advanced studies than a pilot would normally receive in preparation for pilot certificates. Recommended prior to commercial and flight instructor flight classes. Even years.

**AVIA 470** **1 S**  
**Fundamentals of Flight Instruction**

Basic principles of education that may be applied to flight instruction. Practice ground instruction covering various private and commercial maneuvers. Discussion of the best teaching techniques and how to avoid the pitfalls common to many students and flight instructors during flight training.

**AVIA 471** **4 Su, A, W, S**  
**Flight Instructor Flight Training**

Flight training and practice teaching in preparation for flight-instructor certificate. Requires perfecting teaching techniques for the flight instructor. Includes comprehensive review of private and commercial aeronautical knowledge; flight maneuvering skill from the right-hand seat. Awareness of obligations and privileges of a certificated flight instructor. Mastery of FAA documentation and certification procedures. Prerequisites: AVIA 275, 276, 277, 278; 375, 376, 377, 379.

**AVIA 472** **3 Su, A, W, S**  
**Instrument Instructor Flight Training**

Preparation for the instrument flight instructor oral and practical examination. Review of skills and procedures required for instrument rating. Develops instrument flight proficiency from the right-hand seat and instructional skills necessary for teaching an instrument student in flight and on the ground.

**AVIA 473** **1-6 Su, A, W, S**  
**Advanced Practicum in Flight**

Additional involvement in instruction or advanced flight operations into high-density traffic areas under instrument conditions. Special reports or research projects may be required in conjunction with these assignments.

**AVIA 476** **2 Su, A, W, S**  
**Multiengine Flight Training**

Dual instruction in aircraft systems, maneuvers, and emergency procedures toward developing proficiency in multiengine aircraft. Prepares student for the multiengine private or multiengine commercial practical test. Prerequisites: private pilot certificate; commercial certificate recommended. (Course offering depends on availability of aircraft.)

**AVIA 478** **2 Su, A, W, S**  
**Multiengine Instructor Flight Training**

Prepares the applicant to meet the experience requirements and give flight instruction in a multiengine aircraft. Directed toward acquiring teaching skills and safety procedures to meet the demanding multiengine training environment. Prerequisites: instrument rating, commercial certificate. (Course offering depends on availability of aircraft.)

# Technology

## Drafting-Design

### LOWER-DIVISION COURSES:

#### **DRFD 131-132** **3-3 A-W** **Engineering Drawing**

Principles of and practice in engineering drawing. Applications to technical problems of CAD drafting techniques, orthographic, and pictorial views. Two lectures and one laboratory weekly.

#### **DRFD 134-135** **3-3 A-W** **Architectural Drafting**

Symbols, conventions, and lettering as related to architectural drafting. Application of the principles of good design and structure to floor plans, elevations, and details, with some attention to estimating and specifications. Two lectures and one laboratory weekly.

### UPPER-DIVISION COURSES:

#### **DRFD 330** **3 S** **Computer-Aided Drafting-Design**

Principles of interactive computer-aided drafting and design and its application in a technological environment. Two hours lecture and 3 hours laboratory with hands-on experience weekly. Prerequisite: DRFD 131, 132. Even years.

#### **DRFD 331** **3 S** **Architectural Design**

Design as applied to commercial architecture. Influence of art, function, and structure on design. Site and environmental planning. Prerequisite: DRFD 134-135. Odd years.

#### **DRFD 334** **3 S** **Architectural CADD**

Principles of interactive computer-aided drafting and design as applied to architecture. Primarily residential architecture, with selected activities in commercial architectural design. Two hours

of lecture and three hours of laboratory each week. Prerequisite: DRFD 134-135. Odd years.

## Electricity-Electronics-Robotics-Computers

### LOWER-DIVISION COURSES:

#### **ELEC 140** **2 S** **Mathematics for Electronics**

The theory of algebra and trigonometry in analyzing electronic circuits and robotic problems. Practical problems are used to illustrate the practical aspects of mathematics. Prerequisite: MATH 019.

#### **ELEC 141** **3 A, S** **Applied Electronics**

A nonmathematical approach to electronics. Electronic components and component combinations to make useful equipment. Experiments include building and testing burglar alarms, photo strobes, power supplies, light dimmers, intercom systems, electronic doorbells, timers, clocks, and other circuits. For the general student. Two lectures and one three-hour laboratory weekly.

#### **ELEC 142** **3 W** **Electronic Circuits**

Application of electronic components to produce tuned circuits, filters, oscillators, amplifiers, radio transmitters, and receivers. Survey of linear and digital integrated circuits; production of printed circuit boards. Two lectures and one laboratory weekly. Prerequisite: ELEC 141.

#### **ELEC 144** **3 W** **Electromechanical Devices and Wiring**

Devices that convert electricity to magnetism or magnetism to electricity and the wiring methods to control these devices: DC motors, universal motors, induction motors, stepper motors, sole-

noids, relays and switches. Residential and industrial wiring. Two lectures and one laboratory weekly. Even years.

#### **ELEC 244** **2 S** **Solid-State Devices**

Electronic solid-state components such as diodes, bipolar transistors, FET transistors, silicon-controlled rectifiers, triacs, diacs, unijunction transistors, and the circuits in which they are used. One lecture and one laboratory weekly. Prerequisite: ELEC 141. Odd years.

#### **ELEC 245** **3 W** **Electronics CAD**

Using the computer to design circuits, draw schematic diagrams, and analyze circuits using computer simulation programs. Design of printed circuit boards. Two lectures and one laboratory weekly. Prerequisite: ELEC 142.

### UPPER-DIVISION COURSES:

#### **ELEC 340** **2 S** **Computer Networks**

Computer networks and their topologies. Includes installation of various types of computer networks and fiber-optic systems. Also covers network software and protocols. One lecture and one laboratory weekly. Prerequisite: ELEC 141. Odd years.

#### **ELEC 341** **3 A** **Digital Integrated Circuits**

Design and servicing of circuits using TTL and CMOS ICs. Applications include digital instrumentation, control, and computers. Student-designed laboratory projects. Two lectures and one laboratory weekly. Prerequisite: ELEC 142.

#### **ELEC 342** **3 W** **Microcomputer Design and Repair**

The application of micro controllers for use in control and data-logging appli-



cations with students building their own systems. Servicing of Apple and IBM-compatible computers with expansion and installation of new boards and drives. Two lectures and one laboratory weekly. Prerequisite: ELEC 341.

**ELEC 343** **3 A**  
**Automation and Computer Numerical Control**

Use of computers to control machines; computer interfacing and control and sensing the mechanical world. Labs cover programming a computer to control a milling machine and stepper motors. Prerequisites: ELEC 144, 342. Even years.

**ELEC 344** **2 S**  
**Linear Integrated Circuits**

Operational amplifiers, comparators, phase-locked loops, and other linear devices. Laboratory with student-designed projects. One lecture and one laboratory weekly. Prerequisite: ELEC 141. Even years.

**ELEC 345** **3 A**  
**Robotics**

Commercial robots and automation systems; robotic arms, hydraulic controls, pneumatic controls, and computer robotic controls; practical servicing and programming. Two lectures and one laboratory weekly. Prerequisites: ELEC 141, 342. Odd years.

**ELEC 347** **3 S**  
**Electronics CAD and Simulation**

Theory and use of net list proof of printed circuit board design, design of custom symbols and outlines, multilayer printed circuit board layout. Use of circuit simulation (spice) programs to bread-board circuits and the use of the computer to design and program PLDs (Programmable Logic Devices). Prerequisite: ELEC 245. Even years.

**ELEC 349** **2 W**  
**Electronic Communications**

Theory and analysis of receivers and transmitters. Black and white and color television receivers, including circuits and fault analysis. Design and analysis of various radio transmitting methods, including AM, FM, FAX, and CW. Laboratories include checking and analyzing faults of TV receivers and alignment of radio transmitters and receivers. Prerequisite: ELEC 141. Odd years.

**Energy-Power-Transportation**

LOWER-DIVISION COURSES:

**AUTO 101** **2 S**  
**Auto Mechanics for Women**

The mechanical operating principles of the entire car, basic service, the components of a car, how to buy a car, and how to find a good technician to service the car. Especially planned for women only. Two lectures and one laboratory weekly. Not applicable toward a technology degree.

**AUTO 171** **3 A**  
**Auto Mechanics Fundamentals**

Designed for the beginner. The general field of auto mechanics, emphasizing those facets of the field that relate to car service. Two lectures and one laboratory weekly.

**AUTO 172** **3 W**  
**Automotive Electronics and Fuel Systems**

The electrical, fuel, and smog systems of the modern automobile. Individual systems theory and methods of repair, their relationship to each other, and the way the central computer manages them. The course is divided into three sections: fuel, electrical, and emission controls and computers. Two lectures and one laboratory weekly. Prerequisite: AUTO 171.

**AUTO 178** **3 A**  
**Auto Body**

Auto-body techniques: metal work, straightening, body filler application, and spraying acrylics and lacquer finishes. Two lectures and one laboratory weekly.

UPPER-DIVISION COURSES:

**AUTO 373** **3 S**  
**Automotive Chassis and Transmissions**

Suspension, wheel alignment, air conditioning, brakes, differentials, manual and automatic transmissions, driveline, tires, and safety systems. Two lectures and one laboratory weekly with intensive practice. Even years.

**AUTO 375** **3 S**  
**Automotive Engine Machining and Rebuilding**

Designed particularly for majors, but open to others who meet the prerequisites, this course applies theory to engine rebuilding. Includes all the basic testing and machining operations. Two lectures and one laboratory weekly. Prerequisites: AUTO 171, 172; MFG 161. Even years.

**AUTO 377** **3 A**  
**Hydraulics and Pneumatics**

Principles of transmission and application of force using fluids: pressure, Pascal's principle, compression of gases, force calculations. High-pressure devices and techniques: compressors and controls, filters, proportioning valves, and limit mechanisms. Types of hydraulic oil and their characteristics. Drafting symbols and their meanings. Two lectures and one laboratory weekly. Even years.

# Technology

## **AUTO 379** **3 S** **Frame and Refinishing**

Frame construction, methods of straightening, techniques of panel replacement. Painting of automobiles, including the latest techniques and mediums. Standard, exotic, and custom finishes such as metal flaking, pearl, candies and scenes. Two lectures and one laboratory weekly with intensive laboratory experience. Odd years.

## **AUTO 475** **3 A** **Seminar in Transportation Management**

Managing different major sectors of the transportation industry: insurance, warranties, bonding, Department of Motor Vehicles policies, and technician and Bureau of Automotive Repair licensing. Independent research and reporting are part of the course.

## **Graphics Technology**

### LOWER-DIVISION COURSES:

## **GRPH 153** **2 A** **Introduction to Macintosh**

Computer orientation for those with little or no previous computer experience. Practical, hands-on training, including instruction about the computer and its internal operating system, word processing, virus protection; orientation to practical computer uses and popular programs. One lecture and three hours laboratory weekly.

## **GRPH 155** **2 W** **Introduction to Graphics Technology**

Survey of graphics technology, theory, and processes. Contributions of past technology and application to current practices and photolithographic reproduction. Emphasis on inkless printing, laser printers, and electronic publishing.

## **GRPH 158** **2 W** **WWW Portfolio Development**

A unique approach to development of dynamic personal portfolios for persons in all disciplines. A practical guide to what to include; how to design, update and link electronic portfolios; their uses in job placement, self-promotion, and personal assessment. Prerequisite: computer competency.

## **GRPH 251** **2 S** **Macintosh Spreadsheets and Database**

A practical, hands-on approach to learning various spreadsheets and database on Macintosh computers. One lecture and one laboratory weekly. Recommended prior course: GRPH 153. Even years.

## **GRPH 253** **3 A** **Publication Technology I**

(See also JOUR 253.)

Electronic typesetting and composition for formatting and interfacing word processing. The basics of importing text and graphics from other applications, including scanners; evaluation of desktop publishing software. Lab projects with Adobe PageMaker. Lab fee. Two lectures and one laboratory weekly.

## **GRPH 256** **2 W** **Publication Technology II**

Continuation of GRPH 253, using the Macintosh computer as hardware platform and Quark Express. Emphasis on advanced page layout. Introduction to formatting long documents. Use of multiple master pages; building color pages. One lecture and one laboratory per week. Lab fee. Prerequisite: GRPH 253 or permission of the instructor.

## **GRPH 257** **2 S** **Publication Technology III**

Continuation of GRPH 253 and 256, using the Macintosh computer and Adobe Illustrator. Emphasis on using Illustrator as a means of creating special typographic effects and redrawing templates imported from a scanner. Introduction to Illustrator for creating original designs. One lecture and one laboratory per week. Lab fee. Prerequisite: GRPH 256 or permission of the instructor.

### UPPER-DIVISION COURSES:

## **GRPH 352** **3 W** **Digital Image Technology**

Introduction to Adobe PhotoShop, Illustrator, and Dimensions as tools to create and edit images. Freedom for individualized techniques in developing images. PhotoShop as a tool to scan and adjust continuous-tone photographs and illustrations for accurate reproduction by the graphics industry. Two lectures and one laboratory per week. Lab fee. Prerequisite: GRPH 253 or permission of the instructor. ART 121 or ART 124 strongly advised.

## **GRPH 353** **3 A** **Web-Page Publication**

An elementary approach to creating a Web page. Includes choosing an application for easy and automatic HTML scripting, developing fast-acting Web pages, and creating user interactivity. Outline of basic Web rules and weaknesses. Prerequisite: GRPH 253; CPTR 105 or GRPH 153 or demonstrable computer competency (Mac or PC). Odd years.

## **GRPH 354** **3 S** **Color Imaging**

Procedures for image generation and manipulation, including color proofing, photolithographic reproduction, laser

printing and electronic publishing. Two lectures and one laboratory weekly. Prerequisite: GRPH 253. Even years.

**GRPH 356** **2**  
**Doing Business on the Web**

An overview of business activity on the Web. Includes ethics, confidentiality, security, and business practices. Lab activities include planning a pseudo-Web page for marketing that can be monitored and maintained remotely. Prerequisite: GRPH 353. Even years.

**GRPH 357** **3 S**  
**3D Digital Imaging**

Introduction to production of still and animated 3D images. Fundamentals of modeling in three dimensions. Development of simple choreography and movement of models, logos, and 3D text. Two lectures and one laboratory per week. Lab fee. Prerequisite: GRPH 352.

**GRPH 455** **2 S**  
**Seminar in Imaging Technology**

Applied research by individuals or small teams, critiqued and directed by the group. Prerequisites: GRPH 454, MGMT 361.

## Media Technology

LOWER-DIVISION COURSES:

**MDIA 136-137-138** **3-3-3 A-W-S**  
**Introduction to Filmmaking**

An introduction to the basic elements of filmmaking: basic photography, camera operation, lenses, shooting, labs, sound, editing, lighting, special effects, preproduction, production, and post-production. Also includes aesthetic interpretation, ideas, moods, characterization, *mise-en-scène*, symbols, and significance. Includes completion of a short 16-mm nonsynch film project by each student. Two lecture-discussion sessions and one laboratory weekly.

**MDIA 152** **2 W**  
**Introduction to Media Technology**

An overview of multimedia, its effects on lifestyles, the workplace, education, training, entertainment, and communication. An examination of real-world applications, markets, and employment opportunities. Lectures, discussions, demonstrations, and field trips.

**MDIA 154** **2 S**  
**Video Technology**

The technology of the video camera, its handling, use and care. Videographic techniques and skills in preparation for digital editing and assembling for production of interactive media. One hour lecture/discussion and three hours laboratory per week.

**MDIA 158** **2 S**  
**Media Production Concepts**

Theoretical and historical perspectives on media: screen-writing, camera work, direction, production, distribution, editing, and special effects. Development of critical criteria for evaluating and appreciating media for communication through technology. Lectures, discussions, demonstrations, and field trips.

**MDIA 252** **2 A**  
**Audio and Lighting Techniques**

The technology of audio and lighting as it interfaces with the computer and software to complete the full presentation most effectively. One hour lecture and three hours laboratory per week.

**MDIA 256** **3 A**  
**Video Editing I**

Nonlinear techniques for creating, editing, and delivering video. Creating, assembling, and compiling video. Use of filters, audio, and titling. Two hours lecture and three hours laboratory per week. Prerequisite: GRPH 153.

**MDIA 257** **3 W**  
**Interactive Media Production I**

Teamwork and individual activity to create interactive experiences. Relationship of hardware, software, and media in the interactive environment. Concepts may be used in entertainment, business, training, education, and marketing. Two hours lecture and three hours laboratory per week. Prerequisite: GRPH 153.

**MDIA 258** **3 S**  
**Digital Effects I**

Leading software programs for animation and sophisticated special effects in video. Exploration of the power of special effects such as morphing and warping to enhance digital video. Two hours lecture and three hours laboratory per week. Prerequisite: GRPH 153.

UPPER-DIVISION COURSES:

**MDIA 346** **4 A**  
**Introduction to Screenwriting**  
(See ENGL 346.)

Fundamentals of screenwriting; structure, character and scene development; conflict, locale, theme, script outline and story conception. Includes practical development of the student's knowledge of screenwriting software programs. Students produce one act of a feature-length screenplay. Prerequisite: ENGL 102.

**MDIA 354** **3 A**  
**Advanced Video Technology**

Advanced concepts in camera operation, techniques, and skills. Primarily for video capture in preparation for digitizing, digital editing, manipulation, and assembling into presentations. One hour lecture and six hours laboratory per week. Prerequisite: MDIA 154.

# Technology

## **MDIA 356** **3 W** **Video Editing II**

Instruction and experience in digitizing video and sound, digital editing, mixing, and mastering as they relate to the moving image. Understanding compression constraints and other post-production issues, including organizing and logging the video. Two hours of lecture and three hours of laboratory per week. Prerequisite: MDIA 256.

## **MDIA 358** **3 S** **Digital Effects II**

An advanced continuation of the concepts introduced in MDIA 258. Generation, manipulation, and editing of 3D objects to create realistic effects. Prerequisites: MDIA 258, GRPH 352. Recommended: GRPH 357.

## **MDIA 432-433** **3-3 W-S** **Documentary Production**

An introduction to the documentary: history of the documentary, development of story ideas, documentary screencraft, researching and scripting the story, and a review of significant documentary productions. Students as a group create and produce a complete documentary. Lecture/discussions and laboratory.

## **MDIA 451** **3 A** **Professional Digital Media**

Digital media from the professional point of view. Evaluation of products, markets, audiences, and presentation modes. Lecture/discussion, demonstrations, and field trips.

## **MDIA 456** **3 W** **Video Editing III**

Advanced instruction and practice in the concepts introduced in MDIA 256 and 356. Experience in digitizing from multiple sources; special techniques in preparation for advanced interactive applications. One hour lecture and six

hours laboratory per week. Prerequisite: MDIA 356.

## **MDIA 457** **3 S** **Interactive Media Production II**

The final touch in authoring for entertainment, education, and business. Topics include combining graphics, animation, photography, narration, music, sound, and video in exciting interactive presentations. One hour lecture, six hours laboratory weekly. Prerequisite: MDIA 257.

## **Manufacturing Technology: General Manufacturing**

### UPPER-DIVISION COURSES:

## **MFG 327** **3 W** **Production Operations**

Methods used in mass production manufacturing. Cost control, plant layout, and production-management systems. Even years.

## **MFG 328** **3 A** **Quality Control Systems**

Overall review and application of the philosophy of quality control and the application of statistical process control. In-depth case studies of selected industries. Even years.

## **MFG 367** **3 A** **Manufacturing Technology**

Technical information, theory, and experiences pertaining to processes of industry. Two lectures and one laboratory weekly. Prerequisite: MFG 221 or 281. Odd years.

## **MFG 387** **3 W** **Material Coatings and Coverings**

Materials identification, analysis, preparation, and surface treatment of materials used in manufacturing. Even years.

## **MFG 394** **3 W** **Materials: Processes and Testing**

The sources, processing, manufacture, and testing of the more commonly used materials in modern industry and construction. Odd years.

## **MFG 396** **3 S** **Industrial Safety Management**

Industrial safety as it relates to the individual worker, to the supervisor, and to management. Includes traffic safety. Special emphasis on psychology in the work place, including motivation and the impact of OSHA. Odd years.

## **MFG 465** **3 S** **Seminar in Manufacturing Technology**

Applied research by small teams; critiqued and directed by the group.

## **Metals Manufacturing**

### LOWER-DIVISION COURSES:

## **MFG 161** **2 W** **Machine Tool Procedures**

Basic machine tools and laboratory practice in basic processes. One lecture and one laboratory weekly.

## **MFG 164** **2 A** **Metalworking**

Oxyacetylene welding procedures. Safe handling of gas equipment. Electric arc welding in various positions. Basic metallurgy. Design and fabrication in sheet metal. Basic mold-making and sand-casting procedures. One lecture and one laboratory weekly.

## **MFG 264** **3 S** **Industrial Metals Technology**

An introduction to MIG and TIG welding, production manufacturing methods, machines, and scheduling. Design and building of jigs, fixtures, and molds. Two

lectures and one laboratory weekly. Even years.

UPPER-DIVISION COURSES:

**MFG 366 3 S**  
**Advanced Machine Tool Procedures**

Advanced milling operations for mass production. Shaper, planer, and grinding operations and gear computations. Two lectures and one laboratory weekly. Prerequisite: ELEC 343. Odd years.

**Plastics Manufacturing**

LOWER-DIVISION COURSES:

**MFG 121 2 A**  
**Plastics**

The characteristics of the major plastics families and their uses. Tools and operations involved in the fabrication of useful plastic projects including hand and machine power tools. Vacuum forming, heat forming, blowing, engraving, casting, machining, and decorating. Laboratory practice in all the common techniques used in the field. One lecture and one laboratory weekly.

**MFG 122 2-3 W**  
**Composite Materials Technology**

Construction of plugs, molds, and one-off lay-ups; repair techniques. Production techniques, industry materials and processes, and hobby types of activities. Requires hands-on construction of molds and production of an item from a mold. Typical projects include sailboats, canoes, motorcycle saddlebags, kayaks, hot tubs, automotive air dams, and spoilers. Covers fiberglass and all graphite-reinforced laminates such as those used in the aerospace and aircraft industries. Even years.

**MFG 221 3 W**  
**Processes in Plastics Technology**

Basic concepts of manufacturing using plastics. Applied experience in forming, separating, and assembling materials. Two lectures and one laboratory weekly. Prerequisite: MFG 121 or permission of instructor. Even years.

**Woods Manufacturing**

LOWER-DIVISION COURSES:

**MFG 181 2 W**  
**Woodworking**

Wood and basic woodworking processes. Instruction in hand and machine operations by the project method. One lecture and one laboratory weekly.

**MFG 184 3 A**  
**Building Construction**

An applied general building course; includes basic construction operations from building layout to completion. Two lectures and one laboratory weekly.

**MFG 281 3 S**  
**Processes in Wood Technology**

Basic concepts in wood products manufacturing: forming, separating, and assembling materials. Two lectures and one laboratory weekly. Prerequisite: MFG 181 or permission of instructor. Odd years.

**General Courses**

LOWER-DIVISION COURSE:

**TECH 291 1-6 A, W, S, Su**  
**Internship**

Planned, coordinated, and supervised work experience in an industry allied with the student's technical areas of concentration. A minimum of fifty hours of verified work experience for each hour of credit. S/F basis.

UPPER-DIVISION COURSES:

**TECH 399 3 A**  
**Course Planning and Organization**

Developing a philosophy of industrial education with its supporting objectives. Selection and organization of teaching material into a usable course of study. Offered on sufficient demand.

**TECH 491 3-6 A, W, S, Su**  
**Internship**

Continuation of TECH 291. A minimum of fifty hours of verified work experience required for each hour of credit. Repeatable to a total of 12 hours. Graded S/F.

**TECH 492 1-3 A, W, S**  
**Independent Project**

Projects selected in any area in which a student desires greater proficiency. Requires approval of department chair. Maximum of three hours credit in any one quarter and a maximum of six hours credit (for TECH 492 and/or TECH 495) in any single program.

**TECH 493 3 W**  
**Technology, Society and Culture**

Current, historical, and future issues and their relationship to technology and systems in various world cultures. Emphasis on explaining technological behaviors and on showing how technology permeates all of human affairs.

**TECH 495 1-3 A, W, S**  
**Independent Study**

Problems selected in any area in which a student desires greater depth of study. Requires approval of major adviser. Maximum of three hours credit in any one quarter; maximum of six hours credit (for TECH 492 and/or TECH 495) in any single program.

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## **TECH 499**

**2 A, W**

### **Senior Project**

An individual project required in some departmental majors during the senior year representing an area of concentration and the best efforts of the student. Each project is properly identified and remains with the department. Must be completed by the end of the winter quarter of the senior year.

Pacific Union College is incorporated under the laws of the State of California as a nonprofit institution. A portion of its income is derived from gifts and grants. These sources of funding help keep your cost at the lowest possible level consistent with adequate facilities and competent instruction. Because of uncertain economic conditions, the College must reserve the right to increase tuition rates, rents, and fees during the school year.

## Room Deposit

A \$100 cleaning/damage deposit is required of all residence-hall students. To reserve a room for the coming year, both roommates must have paid this deposit. The deposit is refundable if a cancellation is received by September 1. No refunds are made for cancellations after September 1 or for failure to appear for registration.

If you are already in residence, you may designate a room preference before the end of the current school year, but no reservation will be made until the cleaning/damage deposit is received. Specific room assignments for new students are made on the basis of class standing and the date the deposit is received.

When an application to the College is withdrawn prior to the refund deadline, the cleaning/damage deposit is refunded in full upon written request to the appropriate residence-hall dean.

## Financial Requirements For 1998-1999\*

### Tuition—Quarter Fee Schedule

The tuition rates reflect a charge of \$405 per quarter hour up to 11.5 hours. Tuition for 12 to 17 hours is \$4,685. All hours over 17 are charged at \$305 per hour.

### Miscellaneous Fees

*Application fee* (first time only) \$30.00

*Automobile campus registration fee:*

Community students,

per year ..... \$10.00

Residence-hall students,

per year ..... \$30.00

For each extra vehicle ..... \$3.00

For each extra motorcycle ..... \$3.00

*Credit by exam recording fee*

(per exam) ..... \$15.00

*Extension course credit:* Inquire at

Extended Learning

*Exam fee* (course waiver or

credit by exam) ..... \$25 per hour

*Examination Fees* (standardized)

Fees are charged to cover costs of such standardized tests as may be required by individual departments.

*Flight Training Fees* (See Flight

Training Fees Section)

*Laboratory:* Fee varies with class.

Breakage payment as circumstances may require

*Late registration fee* ..... \$25.00

(Payable in cash when you register)

*Learning Difference Support Program*

Per quarter ..... \$250.00

*Lost residence-hall key*

or replacement. .... \$20.00

*Lost student I.D. or replacement*

..... \$12.00

*Private Music Lesson Fee*

(see Music Charges)

*Nursing Fees* (see Nursing Fees)

*Refrigerator electricity charge*

(per quarter) 3 cubic feet ..... \$5.00

*Senior Citizen (65 yrs. & older) Rates:*

Non-Participation ..... N/C

Audit Credit ..... \$25 per hour

Full Credit ..... \$50 per hour

*These special rates are available to*

*senior citizens on an "empty-seat"*

*basis. Regular degree students paying*

*full tuition have priority and are not*

*displaced in favor of those who would*

*otherwise qualify for this program.*

*Skiing Fees:* Inquire at Physical Educa-

tion department

*Transcript of credits:*

One-time fee ..... \$3.00

"Rush" processing ..... \$5.00

+ mail charge

\*Note: A supplement with financial information for 1999-2000 will be available in March 1999.

## Financial Information

### Payment Information

Payment for the tuition, room, and board expenses is to be made by:

September 15	Autumn Quarter
December 15	Winter Quarter
March 15	Spring Quarter

You may use your Visa, Mastercard, or Discover charge card to make your payment. To make arrangements, get in touch with your financial counselor.

### Advance Payment

All U.S. and permanent-resident students are required to make an advance payment of \$1,200 each year without regard to any other financial arrangement or financial aid. This payment, along with the first monthly payment, is due in the Student Financial Services office on or before September 15 for autumn quarter, by December 15 for winter quarter, and by March 15 for spring quarter.

### Billing Procedure

At registration time you indicate the name and address of any parent or sponsor who is to receive your financial statement. You also receive a copy.

As a student at PUC you have two accounts, your basic education account (which covers tuition, room and board) and your miscellaneous account (which picks up other charges through the year, such as meal costs in excess of the minimum, private music lessons for non-music majors, course-overload charges for each hour in excess of 17 hours, library fines, etc.).

You pay your basic education account charges on the basis of your payment plan with the school. Your miscellaneous account charges are to be paid each month upon receipt of the statement. A late charge is assessed for any account that remains unpaid beyond 30 days.

### Financing College

The payment options listed below are available to students without financial aid. If you elect one of these plans, you should complete arrangements with your PUC financial counselor thirty days before the school term begins.

#### Tuition Guarantee Plan

*Provisions of the Plan:*

1. The tuition rate in effect during autumn quarter of your first contract will remain in effect until you graduate, provided that you maintain full-time, continuous registration. (Student missionaries and Taskforce workers may be granted a one-year leave of absence.)
2. Prior to or on September 15, you must pay total estimated costs for the year.
3. Any cash draws void the contract.
4. As a participant in this plan you are

#### Estimate of Expenses

The following amounts represent the estimated cost of full-time attendance during the autumn, winter, and spring quarters of the 1998-99 school year:

	<i>One Year</i>	<i>Each Quarter</i>
Tuition & fees* (12-17 hours)	\$14,055	\$4,685
Residence-hall Rent	2,580	860
Minimum Board	1,725	575
<i>Total</i>	<u>\$18,360</u>	<u>\$6,120</u>

*Books and school supplies are purchased on a cash basis at the College Bookstore.*

*\* For students enrolled for six credit hours or more, tuition and fee charges include tuition, an accident and sickness medical expense assistance plan, Student Association fees, and graduation fees.*

eligible only the first year of participation for a 2% cash discount on the total estimated costs.

5. The SDA Tuition Discount is available when applicable.
6. Any money you earn from campus employment is paid directly to you. These earnings do not qualify as a reduction in the amount to be paid.
7. Costs in excess of the total estimated costs paid will be billed monthly. You must pay them on a monthly basis.
8. Should your actual costs be less than the estimated amount paid, the credit will be refunded after June 25.

This plan guarantees *only the tuition rate*, not any other charges, including but not limited to the room and board charges and any fees assessed after the beginning of the school year. If you elect this plan, you (or your parents or sponsor) must prepay each year the total estimated costs, which include room and board and other fees at the current rate.

The Tuition Guarantee Plan is available only to students without financial aid.

#### Cash Discount

*Provisions of the Plan:*

1. Cash discounts will be applied as follows: 2% discount of the total advance payment for each quarter in residence.
2. Cash discounts will be applied if total estimated costs, less SDA Tuition Discount (if applicable), are remitted by:  
June 15 for Summer Session  
September 15 for autumn quarter  
December 15 for Winter Quarter  
March 15 for Spring Quarter
3. Any cash draws void the discount for that quarter.



**Monthly Payment Plan**

*Provisions of the Plan:*

- 1.** After deduction of the advance payment, financial aid, and scholarships from the total estimated costs, this plan allows the remainder to be paid in nine equal payments beginning September 15th and on the 15th of each successive month through May.
- 2.** The responsible party receives a monthly billing.

**SDA Tuition Discount**

*Provisions of the Plan:*

A subsidy toward the operation of the College is provided by the Seventh-day Adventist Church. Therefore:

- 1.** Seventh-day Adventist students receive a tuition discount of \$750 for the year (\$250 per quarter) for full-time students. Three-quarter time students receive a discount of \$562.50, and half-time students a discount of \$375 for the year.
- 2.** This discount is applied only to tuition charged at the rate of \$405 per hour.
- 3.** This discount is coordinated with other financial aid to fit into need determination.

**Family Discount Plan**

*Provisions of the Plan:*

- 1.** For students from the same family attending Pacific Union College full time, a family discount is given. For a family with two dependent students attending the College at the same time, a discount of \$100 per student per quarter is given; for a family with three or more, the discount is \$125 per student per quarter.
- 2.** If you are in a family qualifying for this discount, you also receive the benefits of any of the other payment and discount plans offered by the College for which you qualify.

**Financial Aid Programs**

The basic premise of the federal and state financial-aid programs is that you and your parents have the primary obligation to meet your cost of attendance to the extent that you and they are able to do so. If you have further financial need, you may apply for financial aid, which is generally made available through grants, loans, and student employment.

The following definitions are given to clarify financial aid:

**College Costs:** Tuition, fees, room and board, books and supplies, personal expenses (laundry, clothing, etc.), and required travel.

**Financial Aid:** Financial resources available to meet financial needs, resources such as scholarships and grants, which are not repaid; loans, usually at favorable interest rates and with extended repayment periods; and part-time student employment.

**Parents' Contribution:** The amount parents are expected to contribute toward the cost of education.

**Family Contribution:** A combination of parents' contribution and student resources, such as savings or other assets, summer earnings, or G.I. Bill aid. For a married student, spouse's earnings would also be included in family resources. The family contribution is determined by the federal government.

**Financial Need:** The difference between cost of attendance and the family contribution.

**Scholarships:** Outright gifts awarded for academic excellence and promise.

**Grants:** Outright gifts, based on financial need.

**Loans:** Financial assistance which must be repaid, usually with favorable interest and long-term repayment schedules.

**Independent Student:** For federal and state financial-aid program purposes, you are considered independent if you

- are 24 years of age or older on or before December 31 of the award year,
- are a veteran of the U.S. Armed Forces,
- are an orphan or ward of the court,
- have a legal dependent other than a spouse,
- are a married student, or
- are a graduate/professional student.

**Free Application for Federal Student Aid (FAFSA):**

The application form used to determine your financial need. The FAFSA is available from PUC's Student Financial Services Office.

**Financial Aid Application (FAA):** PUC's supplemental form to apply for financial aid. This is available at the PUC Student Financial Services Office.

**Verification Worksheet:** Available at the PUC Student Financial Services Office.

**Eligibility for Financial Aid**

To qualify for the federal financial aid programs, you must

- 1.** be accepted to attend PUC to pursue a regular course of study leading toward a degree or certificate,
- 2.** be a citizen of the U.S. or its Trust Territories, or have a permanent-resident visa, and
- 3.** demonstrate financial need as determined by the FAFSA.

**Satisfactory Academic Progress.** To be eligible to receive federal, state, and/or institutional financial aid at Pacific Union College, you must maintain satisfactory academic progress, which is defined as follows:

**Course Load.** To be a full-time student, you must register for at least 12 hours and complete at least 10 hours per quarter. To complete a bachelor's degree in four years, you must complete an average of 16 hours per quarter. (Financial aid is available during the summer if you are

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taking at least 9 hours and will graduate at the end of summer quarter.)

**Grade-point average.** You must earn a minimum quarter grade-point average of 2.0 and a cumulative grade-point average of 2.0 to qualify for financial aid. To be eligible for campus grant money, bachelor's degree students must satisfactorily complete 39 hours in three consecutive quarters; two-year degree students must complete 36 hours in three consecutive quarters.

In calculating the grade-point average and evaluating progress toward completion of a degree:

**"I"** (Incomplete) is calculated as an **"F"** until the course has been satisfactorily completed according to provisions in this catalog.

**"W"** (Withdrawal) is not computed in the GPA, nor is the course considered to be completed satisfactorily.

A course repeated to improve the grade-point average is counted only once toward the total credit hours required for graduation. The original grade is not included in the grade-point calculation.

A maximum of nine quarter hours of remedial courses (001-099) is applicable toward the baccalaureate degree.

**Time Frame for Progress Toward a Degree.** If you receive financial aid, you should carefully adhere to the requirements of your major or other program to ensure completion on time. You must be in compliance with the following tables, which indicate the time for a first-year student to qualify for a degree. Financial aid for students in other classifications will be prorated.

**Satisfactory Academic Progress Review.** At the end of each quarter the Student Financial Services office reviews the academic progress of each student. If while receiving financial aid you are found to be in violation of the hour and/or grade-point average requirements,

### For Four-year Degree

*By the end of*      *Credit to be completed:*

3 quarters	39 hours
6 quarters	78 hours
9 quarters	117 hours
12 quarters	156 hours
15 quarters	all degree requirements

### For Two-year Degree

*By the end of*      *Credit to be completed:*

3 quarters	36 hours
6 quarters	72 hours
9 quarters	all degree requirements
10 quarters	all A.S. Nursing requirements

your financial aid could be immediately suspended. At the end of the third quarter, campus financial aid may be suspended if the 39/36 hour requirement has not been met.

If your financial aid is suspended, before it can be reinstated you must make arrangements with the Student Financial Services office and with the Records office to take the appropriate course load to satisfy the 39/36 hour and grade-point average requirements.

For any courses you take elsewhere, you must submit an official transcript to the Student Financial Services office and the Records office three weeks before the beginning of the quarter for which financial aid is sought, so that your eligibility may be determined.

**Part-Time Students.** Financial aid may be available to part-time students as follows: three-quarter time (9-11.5

hours) and half-time (6-8.5 hours). You must declare less than full-time status to your financial counselor prior to the beginning of the quarter. PUC Campus Grant money is available to full-time students only. Additional information is available from your financial counselor.

**Transfer Students.** Transfer students are eligible for financial aid during their first quarter at Pacific Union College and are subject to the same satisfactory academic-progress policies as other PUC students. Credits earned prior to enrolling at Pacific Union College are not considered when determining academic progress. Transfer credit may be accepted to make up a deficiency. Before registering as a transfer student, you must consult the Records office to determine whether or not PUC will accept your transfer credits.

**Appeal Procedures.** The following appeal procedures are available if you are ever deemed not to be making satisfactory academic progress. If you are in this category, you may receive aid for the coming quarter upon approval of a written petition to the Financial Aid Committee at the Student Financial Services office. This petition must

1. describe the reasons for not making satisfactory progress,
2. outline a program for correcting the problem, and
3. list an approved, attainable class schedule, signed by your academic adviser, for the following quarter.

**Financial Aid Suspension.** If you do not make satisfactory academic progress for the petitioned quarter, you will be placed on Financial Aid Suspension, a status that terminates financial aid. If your financial aid is suspended, you may appeal the suspension in writing to the Financial Aid Committee at the Student Financial Services office.

1. The Financial Aid Committee will

review the appeal and determine whether the suspension is justified. You will be advised of the decision in writing.

**2.** You may appeal the decision of the Financial Aid Committee, in writing, to the Grants, Loans, and Scholarships Committee.

If the appeal is approved and aid is reinstated for one additional quarter, you must

- 1.** begin the quarter with a minimum of 12 hours, complete at least 10 hours, and
- 2.** attain a GPA for the quarter of at least 2.00 and sufficient to bring the cumulative GPA to at least 2.00.

If you do not meet the above requirements, financial aid will be suspended without recourse until you are able to demonstrate your ability to succeed with the appropriate course load and achieve the appropriate grade-point average.

### Types of Aid

Financial aid consists of gift aid and self-help aid. Gift aid includes scholarships and grants, which require no repayment. Self-help includes loans, which must be repaid, and your employment earnings.

#### Gift Aid: Scholarships and Grants From the Federal Government

**Federal Pell Grant.** The Pell Grant is a federally-funded grant program designed to help eligible undergraduates earn the first baccalaureate degree. The amount is based on your financial need and the number of hours for which you are enrolled.

**FSEOG.** The Federal Supplemental Educational Opportunity Grant program is a federal program for undergraduate students with the greatest financial need. An FSEOG award is automatically considered for students applying for financial aid through PUC.

**BIA.** Bureau of Indian Affairs grants help native American students meet their college costs. Applications for BIA grants and vocational assistance are available from the U.S. Bureau of Indian Affairs regional offices or from the Bureau's Office of Indian Education, 2800 Cottage Way, Sacramento, CA 95825.

#### From the State Government

**The California Student Aid Commission.** All PUC students who are California residents are encouraged to apply to the California Student Aid Commission for state-funded grant assistance. To be eligible, you must be a legal resident of California. An annual application is required for all grants. Applications are due by March 2 for the school term starting the following September.

**Cal Grants** are based on a combination of demonstrated financial need and academic achievement as evidenced by your GPA. Scholarship award amounts are determined by CSAC. Both the FAFSA and the GPA Verification Form must be filed by March 2.

#### From the College

##### Honor Awards

Contact the Enrollment Services office for information about College-awarded scholarships and honor awards. The Student Financial Services office coordinates but does not determine these awards.

A **Campus Grant** is a limited grant available to help meet a student's remaining financial need. Recipients must maintain satisfactory academic progress and carry a full course load; they may be required to live in College housing.

##### Self-Help: Loans

Most of the financial aid packages from the College's Student Financial Services office include an expectation that the applying student will take a loan under one of several loan programs. Your student loan helps defray current costs until you can better afford to pay for

them. Campus Grant money is available to you only if you also have a Federal Stafford, Federal Perkins, and/or Collegiate Loan.

**Federal Stafford Loan Program.** The most common type of loan for undergraduates is the Subsidized Federal Stafford Student Loan, provided by such private lending institutions as banks, savings and loan associations, and credit unions, and guaranteed by the federal or state government. To qualify, you must be a U.S. citizen or permanent resident enrolled at least half-time and must have completed the financial aid application process.

The interest rate is variable. Repayment begins six months after you complete college or drop below half-time attendance. The lender determines the repayment schedule. Borrowing limits are \$2,625 for freshmen, \$3,500 for sophomores, and \$5,500 for juniors and seniors. Insurance and loan origination fees are charged by the lender.

If you have an undetermined financial need, you may apply for the Unsubsidized Federal Stafford Loan. The application process, interest rate, and loan amounts are the same as for the Subsidized Federal Stafford Loans. The difference between the two loan programs is that you are responsible for the interest accruing while in school if the loan is unsubsidized. You are not responsible for interest accruing for the subsidized loan.

**Parent Loans for Undergraduate Students (PLUS).** A PLUS loan is a federal loan with a variable interest rate available to parents who borrow on behalf of dependent students. Parents may borrow up to the full cost of education minus other financial aid. If a parent wishes the PLUS to be used for financial clearance, the completed PLUS application must be in the Student Financial Services office to be certified prior to registration. If the PLUS is to be used to

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pay the entire cost of education, the Student Financial Services office must have indication from the lender that the parent loan has been approved. Otherwise the parent is expected to make the required payments for financial clearance.

**Federal Perkins Loans.** The Federal Perkins Loan program is funded mainly by the federal government but administered by the Student Financial Services office.

The loans are repaid directly to Edu-Serv, Inc. No interest is charged while you remain in school as an undergraduate or continue education in a graduate or professional school. When you cease to be a student, there is a grace period before repayment begins.

The total repayment period is not to exceed ten years. Minimum payments of \$40 are due on the first of each month during the repayment period and are delinquent if not received by the 15th, at which time the account becomes subject to a late fee. Regular collection procedures are employed, including accelerating the payment of the total loan and referrals to collection agencies when a loan account is in default.

### Self-Help: Student Employment

**PUC Employment.** Many students work at the College to defray part of their school expenses by working an average of 15-18 hours per week in such service and industrial departments as Custodial Services, Dining Commons, Public Safety, Landscape, and Physical Plant. Others are employed as secretaries and readers in academic departments or as residence-hall assistants.

The current levels of earnings are as follows:

<i>Hrs./Wk.</i>	<i>Minimum Rate/Hr.</i>	<i>Income/Yr.</i>
10	\$5.75	\$1,725
15	\$5.75	\$2,600
20	\$5.75	\$3,450

Although your potential student earnings may be included in your financial aid award letter, the College cannot guarantee how much you will earn.

Campus employment is arranged through the Student Employment office in Financial Services. If you seek work on campus, you must file an application with the Student Employment office and be registered for at least eight hours of course work (except during the summer).

Weekly time cards are used for recording hours worked. Student workers are paid by check or by electronic funds transfer every two weeks. Department heads employing students determine wage rates within ranges established by College management. Hourly rates are in compliance with state and federal laws.

You may assign a portion of your wages to your account by completing a form available at the Student Financial Services office. You may also request that tithing and/or church expense offerings be deducted from your paychecks.

**Federal Work-Study Program.** If you qualify, a portion of your wages may be subsidized through the Federal Work-Study Program. Federal Work-Study is designed to broaden the range of meaningful employment. In order for you to be employed on the Federal Work-Study Program, you must have applied for financial aid and must be receiving financial aid (i.e., a Federal PELL grant, a Federal Perkins Loan, a Federal SEOG, etc.) awarded by the Student Financial Services office, and must have an unmet financial need. (If you major in theology or religion, you will not be eligible to participate in the Work-Study Program.)

*The type of financial aid offered to you depends upon the amount of financial need and the resources available. After family resources and outside resources (Cal Grants, Rotary Scholarships, etc.) are taken into consideration, a financial award is built in the following order:*

- 1.** Federal Pell Grant
- 2.** Federal Supplemental Educational Opportunity Grant
- 3.** Cal Grant/PUC Scholarships/Tuition Assistance, etc.
- 4.** Loan (Federal Stafford Student Loan, Federal Perkins Loan, or Collegiate Loan)
- 5.** PUC Campus Grant

Thus, if your award letter from the Student Financial Services office includes a PUC Campus Grant, you must take a loan in order to qualify for the grant. *Please note: It may be impossible for the College to fill your complete financial need. Also, it may be impossible for all of your PUC scholarship awards to fit into your FAFSA need figure.*

### Special Programs

Special programs are designed to help specially-qualified students finance their costs of attendance. It is your responsibility to investigate and, if you qualify, to pursue these financial sources.

**Veterans' Benefits.** The Cal-Vet Educational Assistance Program may pay fees and a monthly stipend to students who qualify. For more information on these programs or on G.I. benefits, veteran's loans, or veteran's employment, contact the Veterans Administration or the Veterans Coordinator at PUC.

**State Aid to the Physically Handicapped.** Through its Bureau of Vocational Rehabilitation, the State of California provides financial assistance to students who have physical disabilities. This assistance may include an additional amount to help cover living costs. Students who may be entitled to this assis-

tance should apply to the State Bureau of Vocational Rehabilitation.

## **How to Apply for Financial Aid**

- 1.** Complete and mail the FAFSA. The FAFSA is necessary for determining financial need and applying for the Federal Pell Grant. Within four to six weeks after your FAFSA is processed, you will receive a Student Aid Report (SAR) in three parts.
  - 2.** To apply for a Cal Grant, legal residents of California must complete and mail the GPA Verification Form and the FAFSA by March 2. Obtain a Certificate of Mailing for each form to prove that you met the March 2 deadline. (Students currently receiving a Cal Grant do not need to file the GPA Verification Form.)
  - 3.** Complete a PUC Financial Aid Application (FAA) and return it to the Student Financial Services office.
  - 4.** Complete the Verification Worksheet and return it to the same office.
  - 5.** Request Financial Aid Transcripts from all previous colleges you have attended to be sent to the Student Financial Services office.
  - 6.** Send signed copies of 1998 Federal income-tax returns and W-2s to the Student Financial Services office.
  - 7.** Apply for admission to the College.
- March 2 is the filing deadline for the FAFSA and GPA Verification Forms. April 15 is the priority processing deadline for receipt of the items listed above by the Student Financial Services office, Pacific Union College, Angwin, California 94508-9707. Aid awards for applications received after these dates will be based on funds available, but may not cover the determined need.

## **Delivery of Financial Aid**

*Cal Grant A, B and C* tuition awards are placed as credit on student accounts each quarter.

Financial aid is posted directly to student accounts. Grant aid is handled entirely by the College and is posted directly to individual accounts. Posting of loan aid varies with the program.

Students receiving Federal Perkins Loans will have an advance posted each quarter. Recipients of a Federal Stafford Loan must give approval for electronic funds transfer to be posted to their accounts. PLUS loan checks are sent to the parents; they should be signed and returned immediately to the Student Financial Services office.

The practice of placing all monies on the student account provides an audit trail. Should any question arise regarding the account or the disposition of aid, the student account statements readily provide the necessary information.

If your aid exceeds the College charges, it is possible to arrange with the Student Financial Services office for a cash withdrawal from the account at the end of the quarter.

At each quarterly registration the same procedure is to be followed. Ordinarily, financial aid is credited at the beginning of each quarter. However, if you should have unforeseen financial problems with documented increased financial need, supplemental aid may be given.

A financial aid award letter will be sent to you if you have

- 1.** completed financial aid applications (FAFSA, FAA, Verification Worksheet, and Financial Aid Transcript, if required) on file at the Student Financial Services office;
- 2.** been accepted for admission by the College;
- 3.** sent signed copies of 1998 federal tax returns and W-2s to the Student Financial Services office; and

- 4.** responded to any further requests by the Student Financial Services office.

The payment agreement must be signed and returned to the Student Financial Services office. This acceptance serves as authorization to prepare the federal financial aid you are to receive.

If you are interested in applying for financial aid, or if you receive financial aid, should be aware of the following:

- 1.** You are encouraged to discuss any financial problems with your financial aid counselor. Staff members want to help you achieve your academic goals.
- 2.** Financial aid is not intended to help with financial obligations incurred prior to coming to the College. Thus, if you have car payments or substantial credit card or loan payments, it would be best to liquidate such obligations before applying for aid and coming to school.
- 3.** You are encouraged to discuss academic problems with your academic advisers at an early date, or to seek special help from the Counseling Center and/or the Learning Resource Center.
- 4.** Students receiving financial aid are responsible to do as well as possible in their classes. If you find it necessary to change or reduce your course load, you must consult with your financial counselor regarding the effect on your financial aid of the change in course load.
- 5.** If you must withdraw from the College, first come to the Student Financial Services office for a determination of refunds to be made to the aid funds and for information regarding disposition of any loans you may have.
- 6.** You are responsible, as long as there is an unpaid balance, to keep the Student Financial Services office informed of your address and to make the minimum monthly payments.
- 7.** If you have NDSL, Perkins, Worthy Student, or Collegiate loans and transfer to another school, or return to PUC after being out for more than six months, you

## Financial Information

may request the Student Financial Services office to defer your loan payments until you are not attending school again. A similar deferment is possible on Federal Stafford Student Loans, but you must contact the lender for the proper paperwork.

**8.** Completion of a two-year associate degree or a four-year baccalaureate degree is based on an average of 16 hours of course work per quarter. Although you may take as few as 12 hours per quarter and still receive full aid, that aid could terminate before you complete your degree requirements if you average fewer than 16 hours per quarter.

**9.** Although you may take half- or three-quarter-time course loads, if you are receiving financial aid it is to your advantage financially to take a full academic load (average of 16 class hours per quarter). This is so because it costs no more to take 17 hours than 12 hours and the mandated reduction in financial aid for less than 12 hours of course work will generally be more than the reduction in tuition charges.

### Refund Policy

*Tuition Refunds* are made upon the completion of either a Program Change Voucher (for a reduction in course load) or a Request for Withdrawal Voucher (when dropping all courses). These forms are available at the Records office.

The amount of tuition refund to students who withdraw from any or all courses during a quarter is determined from the date the completed withdrawal form is filed with the Records office.

The refund schedule is as follows:

- 1.** first to fourth day of the quarter, 95%;
- 2.** 3% less for each school day there after, up to the 29th school day;
- 3.** after the 29th school day, no tuition refund.

### Residence-Hall Room Refund

When a room is occupied less than one quarter, a charge is made for the actual number of days on a pro-rata basis. The double-occupancy daily rate is \$14.00. The refund would thus be the difference between the number of days occupied times \$14.00 from the charge per quarter of \$860.

### Financial Aid Refunds

Since tuition, room, and board refunds are a reduction in your costs, a corresponding reduction must be made in financial aid that you may have received. (You may get a copy of the policy on specific aid refund procedures from the Student Financial Services office.) Your account will be charged for the reduction in financial aid.

To be certain that all charges and credits have been entered on your account, the College reserves the right to withhold settlement of any balance due to you until the end of the next billing cycle (30 days after you leave campus).

### G.I. Bill

Students qualifying for the G.I. Bill should make this fact known to the Veterans Coordinator in the Records office at the time of application to the College. The Veterans Coordinator, who maintains liaison between veterans and the VA, will supply the appropriate forms and will make proper arrangement with the VA.

By prior arrangement with the VA, veterans may have an advance payment check available on registration day. Monthly payments are made directly to the student around the first day of each month. Veterans are required to follow the regular payment plan as listed for other students. For further information, see the section entitled "Services for Veterans" in this catalog.

## International Students

International students are required to pay all costs for the upcoming quarter in advance. A deposit of \$1,200, paid to the Student Financial Services office, is required from these applicants prior to the issuance of an I-20 form for use in securing a U.S. student visa. (An additional \$100 deposit is required from international students who plan to live in one of the residence halls. See "Room Deposit," page 213.) Students receiving financial sponsorship from overseas divisions do not need the \$1,200 (U.S.) deposit if a statement is received from the treasurer of the division assuming responsibility for tuition, room, and board.

International students on student visas do not qualify for loans and grants as detailed in the financial section. Campus employment, however, may be available. International students are expected to meet required payments at registration and throughout the quarter just as other students do.

To determine the parents' or sponsor's ability to meet the educational costs without the need for financial aid, the applicant must also submit for review the Finance Guarantee Form accompanied by a bank statement, which will be sent at the time of application. Further information is available from the Student Financial Services office.

### Insurance for International Students

Because the cost of medical care in the United States is high in comparison to costs in other countries, *all international students must have and maintain major medical insurance coverage* while attending Pacific Union College. This insurance must have minimum coverage of at least \$150,000. The insurance may not discriminate on the basis of sex or age. The policy must be written in English.

Pacific Union College has a major

medical insurance plan available for international students. At the time of registration students must purchase the medical insurance available through the College or provide a copy of the schedule of benefits of their own medical insurance policy, meeting or exceeding the minimum requirements specified by the College.

**Automobile insurance** is required in the United States to cover liability for damages in the event of an accident. Severe penalties are imposed on the owner and driver of an uninsured vehicle should an accident occur. The international student adviser at Pacific Union College can provide information about purchasing automobile insurance.

## **Food Service**

The Food Service is operated on the cafeteria plan. If you live in one of the College residence halls, you are expected to take your meals in the Dining Commons. The quarterly minimum charge for board is \$575.

If you are a commuting student, or if you are enrolled in less than a half-time study load, you may pay cash or use your regular ID card when using the Food Service. (You may be asked to pay a deposit before your ID card is activated for use in the Dining Commons.) All meal charges must be paid by the end of the next billing cycle.

## **Residence Halls**

If you are a single undergraduate student under 23 years of age and not living with your parents, you are required to live in a College residence hall. Requests for other housing may be made to the Office of Student Services. Consideration is given to requests to live with close relatives or in a home where room and board are available at substantial savings. Significant financial need must be demonstrated.

The standard room rate is \$860 per quarter for double occupancy in each residence hall.

When a student can be accommodated only through overcrowding, there will be a 15% reduction in the rental rate for each student in the room. If you choose to room alone, provided space is available, you will be charged an additional \$215 per quarter.

When a room is occupied less than one quarter, a charge is made for the actual number of days on a pro-rata basis. (See Refund Policy.)

When you move out of the residence hall, the room will be inspected for reasonable cleanliness and normal wear. If necessary, charges for extra cleanup or repairs will be made at this time against your \$100 damage deposit.

You will be issued a key upon occupancy of a residence-hall room and will be expected to return it when you move out. Should the key be lost or not returned upon departure, a \$20 lost-key charge will be placed on your account.

Charges made to your long-distance telephone number cannot be billed on your monthly statement. (See "Telephone Information" in the STUDENT LIFE AND SERVICES section of this CATALOG.)

*The College is not liable for your personal belongings.* If you desire insurance coverage for personal possessions, you should get in touch with your personal insurance carrier.

## **Apartments**

Housing for married students and single parents is available on campus in two areas: Court Place and Brookside Park. To qualify for residence in these areas, applicants must be taking a regular course load (no less than eight hours of class work each quarter).

The Court Place apartments are unfurnished (except for cooking facilities and

refrigerators) one- or three-bedroom duplex apartments with a one-car carport space adjacent. Brookside Park is comprised of forty one- to three-bedroom apartments with carport. The apartments are furnished with electric stove and oven, refrigerator, draperies, and wall-to-wall carpeting. The apartments are conveniently located near the Angwin Plaza, which includes market, bookstore, laundromat, credit union, post office, and other facilities.

Assignments are made on a first-come, first-served basis, established by a \$100 nonrefundable deposit. Information about housing for married students or single parents is available from the Office of Student Services, Pacific Union College, Angwin, CA 94508-9707.

*The College is not liable for your personal belongings.* If you desire insurance coverage for personal possessions, you should get in touch with your personal insurance carrier.

## **Health Service**

The College provides a Student Accident and Sickness Medical Expense Assistance Plan to supplement the medical protection provided by your own insurance policy (i.e., personal, family, automobile).

If you are enrolled for at least six hours during each quarter of the regular school year, including the summer session, and if you are accepted for the autumn quarter and are working full time on campus during the summer recess, you are eligible to receive assistance under the College Plan. (International students must meet special medical insurance requirements described in the section entitled "International Students," above.)

Assistance begins after records of the required physical examination and immunizations are received. Under the Plan, medical care is provided primarily by the College Health Service, the College physi-

## Financial Information

cian, and the St. Helena Hospital and Health Center. Brochures describing the Plan are available at Health Service.

### Late Charge on Unpaid Accounts

If you have any account that remains unpaid beyond 30 days after the close of the quarter in which you left the College, a late charge will be assessed.

### Late Registration Fee

A late-registration fee of \$25 is assessed for failure to complete registration on time. This fee is paid to the Registrar in cash before you are considered fully registered. An additional \$10 is charged if you do not pay at the Records office.

### Flight Training Fees

After you register for flight training, the amount needed to pay for ten hours of instruction per credit hour is applied to your flight account at the Parrot Field Flight Center. Expenses for both the airplane and the instructor may be charged to that account. When the tuition credit has been used, additional funds must be applied to the account to maintain a positive balance until the course curriculum has been completed. You may inquire at the Flight Center for cost estimates for your course. Aviation majors may expect to pay approximately \$2,000 per year, in addition to tuition, for flight laboratory fees. (If there is a significant change in the cost of fuel, insurance, etc., rates may be adjusted during the school year.)

Because of reduced tuition for summer courses, one-half tuition credit is applied to the flight account for instruction during the summer session.

If you already have certain FAA certificates and wish to receive academic credit for them, there is a per-credit-hour recording fee. (See also "Credit by Examination" in the ACADEMIC INFORMATION AND POLICIES section.)

### Music Charges

Private music lessons are offered on either a credit or no-credit basis. On a credit basis, all students except music majors and minors are charged the normal tuition charge as well as a private music lesson fee of \$160 per credit hour.

**Fee waiver.** The private music lesson fee will not be charged to those majors and minors who are enrolled in Theory I (MUTH 121-122-123 ) or the Introduction to Music Literature sequence (MUHL 131-132-133) or who have already taken these courses and are continuing to enroll in courses normally expected of majors and minors.

This fee waiver normally applies only to the required number of hours of those lessons necessary to fulfill the degree requirements.

#### Private Music Lesson Fees Per Quarter

*With credit:*

Each credit hour of lessons \$160  
(tuition additional)

*Without credit:*

Each half-hour series of lessons \$210

Each credit hour is based upon a minimum of nine one-half-hour private music lessons per quarter. Lessons missed because of a student's irregular attendance may not be made up.

Lesson refunds are based upon the number of lessons attended. If a student withdraws within the first two weeks of the quarter, the refund is prorated; after that, however, no refunds are made.

Students enrolling as members of music organizations or ensembles register on a credit or audit basis. A limited number of ensemble scholarships are available through the music department for students who incur overload tuition charges as a result of enrolling in one of these courses.

### Nursing Fees

*A.S. Program, First Year:*

NRSA 121 (Nursing I): \$120  
NRSA 124 (Nursing II): \$75  
NRSA 125 (Nursing III): \$65

*A.S. Program, Second Year:*

NRSA 221 (Nursing IV): \$25  
NRSA 222 (Nursing V): \$25  
NRSA 252, NLN: \$25  
NRSA 253, NLN: \$25  
NRSA 254, NLN: \$25  
NRSA 262, Nursing Pin, NLN x 2: \$75

*B.S.N. Program:*

NRSA 394: \$35  
NRSA 432: \$35  
NRSA 462: \$35

These fees cover Skills Lab equipment costs, ID badge, malpractice insurance, graduation nursing pin, and the initial testing and evaluation for the National League for Nursing tests given across the program. Nursing fee charges are generated when one registers for a course. Repeating a course, therefore, will also generate these expenses.

### Skiing Fees

For current rates, inquire at the Physical Education department at registration time. Recently the charges have been in the \$200-250 range.

### Auditing

Lecture-type courses that are audited are charged at the half-tuition rate. Independent study, ensembles, and participation-type courses may be audited, but full tuition is charged.

### Graduation in Absentia

It is expected that all graduates will participate in the commencement services unless granted written permission by the Records office to be graduated *in absentia*. Written application for exemption should be made not later than one quarter



prior to commencement. Permission is granted only in instances of obvious necessity. A fee of \$25 is assessed any graduate who absents himself from graduation without permission.

## Transcripts

Transcripts are issued only when the student's account has been paid in full. Transcripts are issued if any payment on a student's loans through the College, such as NDSL, Perkins, Nursing, or Worthy Student, is delinquent or if money is owed any College entity.

Transcripts can be released immediately if final payment is made by cash, cashier's check, or money order; otherwise there is a delay pending payment by the bank of a personal check.

A fee of \$3 is charged for each academic transcript. If a transcript is needed immediately, a "rush" processing can be requested. The charge for this special handling is \$5 plus the cost of overnight mail service.

## ID Cards

Regular ID Cards provide identification for the following purposes: Dining Commons purchases, use of the College Library, transactions at the Business office and Records office, special functions on campus, purchases by personal check at local businesses, and identification of students for campus security purposes.

Should a card be lost or stolen, notification must be made to the Student Financial Services office before the student's obligation for any misuse of the card will end. A \$12 fee is charged to replace lost or stolen ID cards.

## College Bookstore

Books and supplies may be obtained at the College Bookstore on a cash basis. Purchases made with a personal check

require two ID's, one of which may be the PUC ID card, and the second a driver's license or a DMV ID card. VISA, MasterCard, and the Discover group may also be used for Bookstore purchases. Students may not charge Bookstore purchases to their College accounts.

## Checks

Checks for a student's account should be made payable to Pacific Union College. Checks intended *for a student's personal use* should be made payable to the student and not to Pacific Union College. Returned checks are subject to a \$15 charge plus statutory penalties if action to collect becomes necessary.

## Cash Withdrawals

Students are expected not to request cash withdrawals from their accounts. Exceptions are ordinarily considered only in emergency situations or when a credit balance exists.

## Banking and Security of Personal Possessions

You are advised not to keep money in your residence hall room. *The College does not assume any responsibility for the loss of money or other personal belongings left in rooms or elsewhere on campus.* Provision is made for students to deposit money for safe keeping at the Business office. The College does not provide banking services, and no interest accrues. (A charge of \$2 is made for reissuing lost passbooks.)

You may use bank debit cards to get cash at the College Market.

The Silverado Federal Credit Union is conveniently located on campus; students are invited to take advantage of its wide variety of financial services.

# Personnel

## College Administration

D. Malcolm Maxwell, Ph.D. President  
D. Anne Hyde, CPS Executive Assistant  
Janet S. Ivey, M.A. Executive Assistant  
Bonnie L. Dwyer, M.A. Assistant to the President  
Rosemary L. Collins, B.A. Marketing Research  
Andrea I. Griggs, B.S. Director, Institutional Research  
Tom N. Hopmann, M.B.A. Special Projects

## Academic Administration

Charles V. Bell, Ph.D., P.E. Vice President  
for Academic Administration and Academic Dean  
Grace O. Cox Executive Assistant  
Gary D. Gifford, Ed.D. Associate Academic Dean  
for Extended Learning  
James A. Kempster, D.M.A. Associate Academic Dean  
Linda S. Thorman, Ed.D. Associate Academic Dean  
Eric D. Anderson, Ph.D. Director, Honors Program  
Jean G. Buller, M.A. Director, Graduate Division  
H. Susi Mundy, M.A. Registrar  
David M. Ritter, Ed.D. Director, Degree-Completion Programs

## Financial Administration

John I. Collins, Ed.D. Vice President  
for Financial Administration  
Debbie S. Stewart, B.S. Executive Assistant  
William L. Cochran, M.B.A. Director, Budgets  
and Fiscal Services  
Scott K. Ormerod, M.B.A. Director, Human Resources  
Douglas E. Ermshar, B.S. Controller  
Dorothy E. Bartholomew, B.S. Assistant Controller  
Glen L. Bobst, Jr., B.A. Director, Student Financial Services  
S. Jolié Trogdon, B.B.A. Assistant Director, Student Finance,  
Collections and Program Analyst  
Margery L. Ferguson Student Finan. Services Counselor  
Daniel D. Harrom, B.S. Student Finan. Services Counselor  
P. Alene Templeton, B.S. Student Finan. Services Counselor

## Student Services, Public Relations, and Enrollment

Lisa Bissell Paulson, Ed.D. Vice President for Student Services,  
Public Relations, and Enrollment;  
Dean of Students  
\_\_\_\_\_  
Director, Public Relations  
Carolyn F. Belleau Executive Assistant  
Barbara B. Belleau, M.A. Coordinator, Counseling Center  
Annette L. Bliss, M.A. Associate Dean of Women  
Beverly J. Bliss Associate Dean of Women  
James I. Boyd, Jr., B.S. Dean of Men

Peggy A. David Director, Public Safety  
Michael E. Dunn, M.S.P.H., M.Div. Campus Chaplain  
Darla Duran, F.N.P., M.S.N. Director, Health Service  
Charles G. Evans, M.A. Director, Athletics and Recreation  
Susie A. Fox, B.A. Director, Food Service  
Aubyn S. Fulton, Ph.D. Multicultural Issues Adviser  
Beverly F. Helmer, B.S. Associate Dean of Women  
Rita S. Hoshino, B.S. Assistant to the Dean of Students  
Isaias Jacobo, M.A. Enrollment Counselor  
Nancy R. Jacobo, M.P.H. Learning Disabilities Support  
Michelle Konn, B.S. Enrollment Counselor  
Nancy J. Lecourt, M.A. Coordinator, Women's Issues  
Jay H. Lewis, M.S.W. Enrollment Counselor  
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R. Monty Perry, M.A. Admissions–Retention Adviser  
Michele Privat, B.B.A. Interim Manager, Preferred Images  
Ronald K. Qualley, B.S. Associate Dean of Men  
Clifford M. Rusch, B.S. Associate Director  
for Public Relations–Art  
Director, Enrollment Services  
Alvin K. Trace, M.S. Counseling/Retention Coordinator  
Carolyn M. Trace, M.Ed. Associate Dean of Men  
Lanier L. Watson, B.A. Assistant Dean of Women  
Eleanor L. Weekes, B.A. Dean of Women  
Janice R. Wood, B.A.

## College Advancement

Jeff J. Veness, M.A. Vice President for Advancement  
Herbert P. Ford, M.A. Development Consultant  
Alex Fox, B.S. Associate Director, Development  
Jerri J. Gifford, M.A. Director, Development  
Maynard W. LeBrun, M.H.A. Director, Estate Planning  
Kellie J. Lind, B.S. Alumni Director

## Institutional Support Services

W. Freeman (Buddy) Ward, M.A. Director, Computer  
and Telecommunications Services  
Richard L. Bankhead, B.A., C.N.E. Assistant Director,  
Computer Services  
Jon A. Falconer, B.A. Assistant Director  
for Educational Computer Services  
Jon C. Russell, B.B.A., C.N.E. Assistant Director,  
Computer Services  
B. Carole Serle, M.A. Project Manager, Colleague R14

**Library**

Adugnaw Worku, M.A., M.S.L.S. Chair, Library Services and Reference Librarian  
 Joel H. Lutes, M.L.S. Systems and Reference Librarian  
 Gary W. Shearer, M.L. Special Collections and Reference Librarian  
 Linda E. Maberly, M.L.I.S. Librarian for Technical Services and Reference Librarian  
 Paulette M. Johnson, Ed. S., M.L.I.S. Assistant Librarian  
 Patrick Benner, B.S. Library Computer Systems Manager  
 Lessie K. Young Library Assistant  
 Trevor J. Murtagh, M.A. Director, Media Services  
 Todd L. Peterson, M.B.A. Director, Learning Resource Center

**Auxiliary Enterprises and Services**

Charlie E. Brown Director, Land Management  
 Daniel A. Brown, B.S. Director, Facilities and Physical Plant  
 Susie A. Fox, B.A. Director, Food Service  
 Arthur B. Goulard, B.A. Director, Landscape  
 Anne Ilchuk Assistant Director, Bookstore  
 Vernon E. Jeske Director, Custodial Service  
 Betty L. Muth, M.A. Director, Discoveryland Preschool  
 Allan R. Payne, M.A. Director, Flight Center  
 Carol J. Putman, B.B.A. Assistant Director, Food Service  
 Gloria L. Roberts Assistant Director, Food Service  
 Earl R. Small Associate Director, Physical Plant  
 Sandra Rice Stauffer, B.S., CSP Director, Bookstore  
 David F. Wiebe, B.S. Manager, Albion Field Station  
 Ruth Wiebe, A.A. Assistant Manager, Albion Field Station

**Howell Mountain Enterprises**

*A Wholly Owned Subsidiary of Pacific Union College*  
 Tom N. Hopmann, M.B.A. President  
 David L. Trogdon, B.B.A. General Manager/Controller  
 Linda R. Atkins, B.S. Associate Manager, Laundry  
 Alan B. Frost, M.A. Manager, Laundry  
 Louis B. Karen Assistant Manager, Laundry  
 Neal W. Loftis, B.A. Assistant Manager, Market  
 Rob J. Payne, B.S. Manager, Auto Parts  
 Timothy W. Scott, B.B.A. Manager, Market  
 James A. Sharp, B.B.A. Assistant Manager, Hardware

**Professors Emeriti**

**Margaret P. Aaen, M.A.**, Associate Professor Emerita of Home Economics and Sociology. B.A., Walla Walla College, 1942; M.A., University of the Pacific, 1968. (1964)  
**Esther D. Ambbs, M.S.**, Professor Emerita of Home Economics. B.S., Western Michigan College, 1937; M.S., Michigan State College, 1945. (1944)  
**Milo V. Anderson, Ph.D.**, Professor Emeritus of Physics. B.A., Union College, 1949; M.A., University of Nebraska, 1955; Ph.D., University of Colorado, 1971. (1964)  
**Ted W. Benedict, Ph.D.**, Honorary Professor Emeritus of Communication. B.A., Pacific Union College, 1942; M.A., University of Southern California, 1947; Ph.D., University of Southern California, 1958. (1947)  
**S. K. Benson, Ph.D.**, Professor Emeritus of English. B.A., Atlantic Union College, 1952; B.S., Loma Linda University, 1954; M.A., University of Redlands, 1963; Ph.D., University of Southern California, 1970. (1969)  
**Paul F. Bork, Ph.D.**, Professor Emeritus of Religion. B.A., Pacific Union College, 1950; M.A., Seventh-day Adventist Theological Seminary, 1952; B.D., Andrews University, 1961; Ph.D., California Graduate School of Theology, 1971. (1967)  
**Walter D. Cox, Ph.D.**, Professor Emeritus of Technology. B.S., Pacific Union College, 1951; M.A., Pacific Union College, 1964; Ph.D., Texas A&M University, 1972. (1968)  
**Jack E. Craver, M.A.**, Professor Emeritus of Industrial Education. B.A., Pacific Union College, 1937; M.A., Oregon State University, 1955. (1939)  
**Lloyd E. Eighme, Ph.D.**, Professor Emeritus of Biology. B.A., Pacific Union College, 1951; M.A., Pacific Union College, 1953; Ph.D., Oregon State University, 1965. (1958)  
**Mary Margaret Eighme, M.S.**, Professor Emerita of Family and Consumer Sciences. B.S., Pacific Union College, 1950; M.S., Oregon State University, 1965. (1958)  
**Ralph Escandon, Ph.D.**, Professor Emeritus of Spanish. B.A., Union College, 1957; M.A., University of Nebraska, 1960; Ph.D., Universidad Interamerica, 1968. (1968)  
**Joseph G. Fallon, M.P.H.**, Professor Emeritus of Biology. B.A., Pacific Union College, 1938; M.P.H., Massachusetts Institute of Technology, 1944; Diploma in International Health, Royal Tropical Institute of Amsterdam and Leyden, University of the Netherlands, 1966. (1938)

## Personnel

**Dorothy A. Ferren, M.S.L.S.,** *Associate Professor Emerita of Library Science.* B.A., Washington Missionary College, 1944; B.S.L.S., Catholic University of America, 1947; M.S.L.S., University of Southern California, 1958. (1954)

**Herbert P. Ford, M.A.,** *Professor Emeritus of Journalism.* B.A., Pacific Union College, 1954; M.A., California State University, Northridge, 1974. (1974-1983; 1984)

**Adolph G. Grams, M.Ed.,** *Dean of Men Emeritus.* B.S., Andrews University, 1961; M.Ed., Oregon State University, 1968. (1967)

**Donald V. Hemphill, Ph.D.,** *Professor Emeritus of Biology.* B.A., Pacific Union College, 1939; B.A., University of California, 1940; M.A., University of California, 1944; Ph.D., Oregon State College, 1952. (1946)

**Alice L. Holst, Ed.D.,** *Honorary Professor Emerita of Secretarial Studies.* B.A., Washington Missionary College, 1939; M.A., Columbia University, 1947; Ed.D., Columbia University, 1956. (1948)

**Thomas N. Hopmann, M.B.A.,** *Vice President Emeritus for Financial Administration.* B.A., California State University, Sacramento, 1961; M.B.A., California State University, Sacramento, 1971. (1976)

**Parshall L. Howe, Ed.D.,** *Professor Emeritus of Mathematics.* B.A., Pacific Union College, 1936; M.A., Pacific Union College, 1953; Ed.D., Oklahoma State University, 1966. (1964)

**Lenoa K. Jones, R.N., Ph.D.,** *Professor Emerita of Nursing.* B.S., Walla Walla College, 1972; M.N., University of Washington, 1973; Ph.D., Oregon State University, 1979. (1980; 1993)

**Daniel Koval, Ph.D.,** *Professor Emeritus of Mathematics.* B.S., Worcester Polytechnic Institute, 1944; M.A., Boston University, 1952; Ph.D., Boston University, 1965. (1971)

**James R. Mercer, Ph.D.,** *Professor Emeritus of Music.* B.A., Andrews University, 1952; M.A., University of Minnesota, 1962; Ph.D., University of Colorado, 1972. (1965)

**Sherman A. Nagel, Jr., M.D.,** *Professor Emeritus of Biology.* B.A., Pacific Union College, 1939; M.D., D.N.B., Loma Linda University, 1940. (1969)

**Louis W. Normington, Ph.D.,** *Professor Emeritus of Education and Psychology.* Diploma in Theology, Newbold Missionary College, 1938; B.A., Pacific Union College, 1947; M.A., Pacific Union College, 1950; Ph.D., University of California, 1954. (1954)

**Vernon P. Nye, Lit. D.,** *Professor Emeritus of Art.* Professional studies: Rochester Art Institute, New York; Corcoran Art School,

Washington, D.C.; Ted Kauzky, Vermont; Eliot O'Hara, Washington, D.C.; Rex Brandt, Corona Del Mar. Member, Western Art Association. Lit.D., *honoris causa*, Pacific Union College, 1992. (1955)

**Prudence Ortner, M.A.,** *Associate Professor Emerita of Office Administration.* B.A., Union College, 1949; M.A., University of Northern Colorado, 1958. (1966)

**Barbara H. Phipps, A.M.L.S.,** *Associate Professor Emerita of Library Science.* B.A., Emmanuel Missionary College, 1939; A.B.L.S., University of Michigan, 1942; A.M.L.S., University of Michigan, 1949. (1961)

**Jessie V. Pluhovoy VanDeusen,** *Dean of Women Emerita.* (1975)

**Paul E. Plummer, Ed.D.,** *Professor Emeritus of Education.* B.A., Pacific Union College, 1949; M.A., Pacific Union College, 1959; Ed.D., University of Southern California, 1975. (1980)

**Robert M. Reynolds, Ph.D.,** *Professor Emeritus of Physical Education.* B.S., Walla Walla College, 1949; M.S., University of Oregon, 1954; Ph.D., University of Oregon, 1965. (1961)

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**Wallace L. Specht, M.A.,** *Associate Professor Emeritus of Physical Education.* B.S., Union College, 1958; M.A., Arizona State University, 1965. (1965)

**John M. Staples, D.Th. [P],** *Professor Emeritus of Religion.* B.A., Pacific Union College, 1954; M.A., Andrews University, 1955; B.D., Andrews University, 1957; Th.M., Princeton Theological Seminary, 1966; D.Th. [P], Fuller Theological Seminary, 1969. (1969)

**Charles V. Temple, M.A.,** *Associate Professor Emeritus of Art.* B.A., Colorado College, 1947; M.A., San Jose State College, 1956. (1964)

**N. Gordon Thomas, Ph.D.,** *Professor Emeritus of History.* B.A., Andrews University, 1956; M.A., Ohio University, 1958; Ph.D., Michigan State University, 1967. (1967)

**Kenneth A. Thomson, Ph.D.,** *Professor Emeritus of Physics and Computer Science.* B.Sc., London University, 1954; Dip.Ed., Melbourne University, 1959; Ph.D., Newcastle University, 1969. (1977-1979; 1982)

**E. Wayne Tillay, Ph.D.,** *Professor Emeritus of Chemistry.* B.A., Pacific Union College, 1950; M.S., Stanford University, 1952; Ph.D., Louisiana State University, 1967. (1960)

Ivilyn R. Traver, M.A., M.L.S., *Instructor Emerita in Violin, Paulin Center for the Creative Arts*. B.A., Pacific Union College, 1953; M.A., San Francisco State College, 1961; M.L.S., San Jose State University, 1983. (1953)

Fred Veltman, Th.D., *Professor Emeritus of Religion and Liberal Studies*. B.Th., Southern Missionary College, 1951; B.D., Andrews University, 1962; Th.D., Graduate Theological Union and Pacific School of Religion, 1975. (1962)

Lois J. Walker, M.A., B.S. in L.S., *Librarian Emerita*. A.B., Emmanuel Missionary College, 1935; M.A., University of Nebraska, 1944; B.S. in L.S., University of Denver, 1947. (1945)

George M. Wargo, D.Mus., *Professor Emeritus of Music*. B.Mus., Peabody Conservatory of Music, 1941; M.Mus., Peabody Conservatory of Music, 1942; D.Mus., Philadelphia Conservatory of Music, 1946. (1959)

Verne V. Wehtje, Ph.D., *Professor Emeritus of English*. B.A., Walla Walla College, 1956; M.A., University of Washington, 1962; Ph.D., University of Nebraska, 1967. (1969-1976; 1985)

Evaline E. West, M.S.W., A.C.S.W., *Professor Emerita of Social Work*. B.S., Union College, 1957; M.A., Andrews University, 1962; M.S.W., San Diego State University, 1971. (1979)

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Daniel W. Akers, M.A., *Assistant Professor of Communication*. B.S., Andrews University, 1977; M.A., United States International University, San Diego, 1984. (1994)

Eric D. Anderson, Ph.D., *Professor of History*. B.A., Andrews University, 1970; M.A., University of Chicago, 1972; Ph.D., University of Chicago, 1978. (1975)

Warren S. Ashworth, Ph.D., *Professor of Adventist Studies and Mission*. B.A., La Sierra College, 1961; M.A., Andrews University, 1962, 1969; Ph.D., Andrews University, 1986. (1984)

Bruce D. Bainum, Ph.D., *Professor of Psychology*. B.A., Pacific Union College, 1975; Ph.D., University of Tennessee, 1979. (1979)

Sandra J. Balli, Ph.D., *Associate Professor of Education*. B.A., Andrews University, 1969; M.Ed., University of Missouri at Columbia, 1992; Ph.D., University of Missouri, 1995. (1997)

Charles V. Bell, Ph.D., P.E., *Professor of Engineering*. B.S.E.E., Mississippi State University, 1956; M.S.E.E., Stanford University, 1957; Ph.D., Stanford University, 1960. (1984)

David R. Bell, B.S.E., *Assistant Professor of Business Administration*. B.S.E., Walla Walla College, 1987. (1987-89; 1990)

Verlyn R. Benson, D.I.T., *Associate Professor of Technology*. B.S., Pacific Union College, 1976; M.A., California Polytechnic University, 1987; D.I.T., University of Northern Iowa, 1998. (1988)

Jane A. Berry, B.S., *Instructor in Family and Consumer Sciences*. B.S., Andrews University, 1971. (1991)

Jennifer J. Wareham Best, M.A., *Associate Professor of Speech Pathology*. B.S., Pacific Union College, 1974; M.A., Humboldt State University, 1975. (1977)

Lloyd E. Best, M.A., *Associate Professor of Mathematics*. B.A., University of California, Los Angeles, 1969; M.A., Pacific Union College, 1973. (1979-1982; 1988)

Janet S. Borisevich, M.A.T., *Assistant Professor of English*. B.S., Pacific Union College, 1978; M.A.T., University of Washington, 1979. (1991)

Gennevieve L. Brown-Kibble, M.Mus., *Assistant Professor of Music*. B.A., Andrews University, 1983; M.Mus., Indiana University, 1986. (1995)

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Rosario Caballero-Chambers, M.A., *Assistant Professor of Modern Languages*. B.A., M.A., University Pedro Ruiz Gallo (Peru), 1973. (1997)

Nita A. Campbell, R.N., M.S., *Assistant Professor of Nursing*. A.S., Pacific Union College, 1969; B.A., National College of Education, 1985; M.S., Andrews University, 1993. (1993)

## Personnel

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- Del W. Case, D.M.A.**, *Professor of Music*. B.A., La Sierra College, 1960; M.Mus., University of Southern California, 1967; D.M.A., University of Southern California, 1973. (1964)
- Lois A. Case, M.A.**, *Associate Professor of Music*. B.A., Southern Missionary College, 1963; M.A., Pacific Union College, 1969. (1964)
- Carole A. Caylor, R.N., B.S.N.**, *Instructor in Nursing*. A.S., Pacific Union College, 1968; B.S.N., Sonoma State University, 1993. (1994)
- James D. Chase, D.Min.**, *Professor of Communication*. B.A., Pacific Union College, 1969; M.Div., Andrews University, 1972; D.Min., Andrews University, 1977. (1983)
- John W. Christian, Ph.D.**, *Professor of History*. B.A., Walla Walla College, 1956; M.A., Northwestern University, 1957; Ph.D., Washington State University, 1967. (1972-77; 1994)
- Linda S. Cochran, R.N., M.S.**, *Assistant Professor of Nursing*. B.S., Pacific Union College, 1992; M.S., California State University, Sacramento, 1996. (1992)
- Marsha L. Crow, M.A.**, *Associate Professor of Education*. B.S., Pacific Union College, 1972; M.A., Boise State University, 1979. (1979)
- David D. Duran, Ph.D.**, *Professor of Chemistry*. B.A., Pacific Union College, 1973; M.S., University of California, Davis, 1975; Ph.D., University of Nebraska, 1989. (1996)
- Colin A. Erickson, M.S.**, *Assistant Professor of Technology*. B.S., University of Nebraska, 1970; M.S., University of Wisconsin, Stout, 1985. (1975)
- Charles G. Evans, M.A.**, *Assistant Professor of Physical Education*. B.S., Pacific Union College 1977; M.A., Pacific Union College, 1980. (1989)
- Lenora D. Follett, R.N., M.S.**, *Assistant Professor of Nursing*. B.S., Loma Linda University, 1966; M.S., Andrews University, 1996. (1994)
- Keith A. Francis, Ph.D.**, *Associate Professor of History*. B.A., Andrews University, 1984; M.Th., King's College, London, 1985; Ph.D., University of London, 1996. (1990)
- Aubyn S. Fulton, Ph.D.**, *Professor of Psychology*. B.S., Pacific Union College, 1981; M.A., Fuller Theological Seminary, 1990; Ph.D., Fuller Theological Seminary, 1990. (1985-1986; 1988)
- Linda L. Gill, Ph.D.**, *Associate Professor of English*. B.A., Andrews University, 1984; M.A., La Sierra University, 1986; Ph.D., University of California, Riverside, 1992. (1993)
- Lorne E. Glaim, Ph.D.**, *Professor of History*. B.A., Walla Walla College, 1964; M.A., Washington State University, 1966; Ph.D., Washington State University, 1973. (1986)
- Marilyn S. Glaim, Ph.D.**, *Professor of English*. B.A., Washington State University, 1967; M.A., Washington State University, 1973; Ph.D., Washington State University, 1991. (1986)
- Cherie L. Goulard, R.N., M.S.**, *Assistant Professor of Nursing*. B.S., California State University, Los Angeles, 1972; M.S., San Jose State University, 1978. (1976-88, 1995)
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- William M. Hemmerlin, Ph.D.**, *Professor of Chemistry*. B.A., Loma Linda University, 1968; M.A., Ph.D., University of California, Irvine, 1973. (1979)
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- Mae L. Holland, R.N., B.S.**, *Instructor in Nursing*. R.N., B.S., Loma Linda University, 1952. (1982)
- Joan P. Hughson, R.N., B.S.**, *Instructor in Nursing*. B.S., Loma Linda University, 1969. (1998)
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**Russell R. L. Laird, Ed.D.**, *Professor of Technology*. B.S., Pacific Union College, 1972; M.A., Pacific Union College, 1973; Ed.D., Arizona State University, 1985. (1983)

**Nancy J. Lecourt, M.A.**, *Associate Professor of English*. B.A., Loma Linda University, 1973; M.A., Loma Linda University, 1974. (1979-1981; 1984)

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**D. Malcolm Maxwell, Ph.D.**, *Professor of Religion*. B.A., Pacific Union College, 1956; M.A., Andrews University, 1958; Ph.D., Drew University, 1968. (1983)

**Benjamin McArthur, Ph.D.**, *Walter C. Utt Professor of History*. Ph.D., University of Chicago, 1979. (Winter-Spring 1998)

**W. James McGee, Ph.D.**, *Professor of Music*. B.A., Andrews University, 1961; M.Mus., Indiana University, 1973; Ph.D., University of Arizona, 1982. (1974)

**Paul E. McGraw, M.A.**, *Assistant Professor of History*. B.A., Columbia Union College, 1983; M.Div., Andrews University, 1990; M.A., George Mason University, 1996. (1998)

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## Personnel

- Gilbert J. Muth, Ph.D.**, *Professor of Biology*. B.A., Pacific Union College, 1961; M.A., Pacific Union College, 1967; Ph.D., University of California, Davis, 1976. (1966)
- Kenneth A. Narducci, D.M.A.**, *Professor of Music*. B.Mus., Pacific Union College, 1980.; D.M.A., University of Oregon, 1989. (1981)
- Keith Neergaard, Ph.D.**, *Professor of Business Administration*. B.B.A., Pacific Union College, 1984; Ph.D., University of California, Irvine, 1994. (1988)
- Bryan D. Ness, Ph.D.**, *Professor of Biology*. B.S., Walla Walla College, 1983; M.S., Walla Walla College, 1985; Ph.D., Washington State University, 1992. (1989)
- Elaine P. Neudeck, M.A.**, *Assistant Professor of Physical Education*. B.A., Pacific Union College, 1976; M.A., Pacific Union College, 1978. (1991)
- Karen E. Nielsen-Menicucci, R.N., M.S.**, *Associate Professor of Nursing*. B.S., Loma Linda University, 1978; M.S., Loma Linda University, 1984. (1984)
- Judy E. Osborne, ASID, M.A.T.**, *Assistant Professor of Family and Consumer Sciences*. B.A., Southern College, 1964; M.A.T., Andrews University, 1971; California Certified Interior Designer, 1993; American Society of Interior Designers, 1994. (1993)
- Lisa Bissell Paulson, Ed.D.**, *Assistant Professor of Education*. B.A., Walla Walla College, 1981; M.Ed., Walla Walla College, 1983; Ed.S., Loma Linda University, 1987; Ed.D., Loma Linda University, 1990; M.A., California Polytechnic Institute, Pomona, 1995. (1995)
- Robert A. Paulson, Jr., B.S.**, *Instructor in Physical Education*. B.S., Andrews University, 1981. (1994)
- Allan R. Payne, M.A.**, *Associate Professor of Technology*. B.A., Loma Linda University, 1972; A.S., Cochise College, 1976; M.A., Andrews University, 1987. (1996)
- Julia L. Pearce, R.N., Ph.D.**, *Associate Professor of Nursing*. B.S., Loma Linda University, 1962; M.S., Loma Linda University, 1965; Ph.D., Columbia Pacific University, 1987. (1992)
- LeRoy H. Peterson, M.Mus.**, *Associate Professor of Music*. B.A., Columbia Union College, 1961; M.Mus., Peabody Conservatory, 1963. (1983)
- L. Monique Pittman, M.A.**, *Assistant Professor of English*. B.A., Andrews University, 1991; M.A., College of William and Mary, 1992. (1994)
- William R. Price, M.A.**, *Associate Professor of Technology*. B.A., Pacific Union College, 1967; M.A., Pacific Union College, 1969. (1976)
- Leo S. Ranzolin, Jr., M.Th.**, *Assistant Professor of Religion*. B.S., Columbia Union College, 1981; M.Div., Andrews University, 1987; M.Th., Duke University, 1993. (1998)
- Beverly Reynolds-O'Keeffe, R.N., M.S.**, *Assistant Professor of Nursing*. B.A., California State University, 1979; B.S., California State University, 1982; M.S., California State University, Los Angeles, 1987. (1989)
- Richard D. Rockwell, Ph.D.**, *Professor of Mathematics*. B.S., B.A., Pacific Union College, 1967; M.A., University of California, Berkeley, 1969; Ph.D., University of California, Berkeley, 1973. (1969)
- Clifford M. Rusch, B.S.**, *Assistant Professor of Graphic Design*. B.S., Pacific Union College, 1980. (1987)
- A. Gregory Schneider, Ph.D.**, *Professor of Behavioral Science*. B.A., Columbia Union College, 1971; M.A., University of Chicago, 1973; Ph.D., University of Chicago, 1981. (1977)
- Kathryn S. Schneider, R.N., M.S.**, *Assistant Professor of Nursing*. B.S., Southern College of Seventh-day Adventists, 1969; M.S., Loma Linda University, 1976. (1984)
- Robert H. Seyle, M.F.A.**, *Professor of Art*. B.F.A., Otis Art Institute, 1966; M.F.A., Otis Art Institute, 1966. (1991)
- Gary W. Shearer, M.L.S.**, *Librarian*. B.A., Union College, 1965; M.L.S., Emporia State University, 1969. (1983)
- L. Jean Sheldon, M.A.**, *Assistant Professor of Religion*. B.A., Andrews University, 1982; M.A., Loma Linda University, 1984. (1995)
- Lary J. Taylor, M.B.A.**, *Associate Professor of Business Administration*. B.S., Union College, 1969; M.B.A., University of Maryland, 1976. (1978)
- Sharon L. Teruya, Ph.D.**, *Associate Professor of Behavioral Science*. B.A., Loma Linda University, 1978; M.A., Fuller Theological Seminary, 1991; Ph.D., Fuller Theological Seminary, 1997. (1988)
- Linda S. Thorman, Ed.D., CPS**, *Associate Professor of Business Administration*. B.S., Loma Linda University, 1976; M.A., Loma Linda University, 1979; Ed.D., University of Massachusetts, Amherst 1996. (1984)
- Stephen C. Thorman, Ph.D.**, *Professor of Computer Science and Physics*. B.S., Pacific Union College, 1978; M.S., California State University, Northridge, 1981; M.S.E.C.E., University of Massachusetts, Amherst, 1992; Ph.D., University of Massachusetts, Amherst, 1996. (1981)



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**C. Thomas Turner, M.A.**, *Assistant Professor of Art*. B.S., Loma Linda University, 1969; M.A., Central Michigan University, 1976. (1984)

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**James R. Van Hise, Ph.D.**, *Professor of Chemistry*. B.S., Walla Walla College, 1959; Ph.D., University of Illinois, 1963. (1972)

**Rita K. Van Horn, R.N., M.S.N.**, *Assistant Professor of Nursing*. B.S.N., Union College, 1981; M.S.N., Loma Linda University, 1988. (1992)

**Richard T. Voth, Ph.D.**, *Professor of Business Administration*. B.A., Pacific Union College, 1964; M.A., Pacific Union College, 1965; M.B.A., University of California, Los Angeles, 1967; Ph.D., Arizona State University, 1974. (1968)

**Joyce Wallace, R.N., M.S.N.**, *Assistant Professor of Nursing*. B.S., Walla Walla College, 1963; M.S.N., University of San Francisco, 1990. (1992)

**Steven R. Waters, D.A.**, *Professor of Mathematics*. B.S., Pacific Union College, 1979; M.S., Idaho State University, 1980; D.A., Idaho State University, 1983. (1982)

**Richard L. Webb, Ph.D.**, *Assistant Professor of Physics*. B.S., Loma Linda University, 1988; M.S., Washington State University, 1990; Ph.D., Washington State University, 1995. (1995)

**Andrew R. Wheat, Ph.D.**, *Assistant Professor of English*. B.S., Southern College of Seventh-day Adventists, 1985; B.A., University of Tennessee, 1987; M.A., University of California, Los Angeles, 1990; Ph.D., University of California, Los Angeles, 1994. (1994)

**C. Lynn Wheeler, D.M.A.**, *Professor of Music*. B.Mus., Walla Walla College, 1966; M.Mus., Catholic University of America, 1970; D.M.A., University of Oregon, 1976. (1971)

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**Debra L. Winkle, R.N., B.S.**, *Instructor in Nursing*. A.S., Walla Walla Community College, 1978; B.S., Walla Walla College, 1981. (1997)

**Adugnaw Worku, M.A., M.S.L.S.**, *Librarian*. B.A., Avondale College, 1975; M.A., Andrews University, 1977; M.A., Andrews University, 1978; M.S.L.S., University of Southern California, 1984. (1985)

### **Lecturers**

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Integrity is expected of every student in all academic work. The guiding principle of academic integrity is that the work one presents as one's own is one's own.

*Students shall not violate the Code of Academic Integrity and shall avoid situations likely to compromise academic integrity. Students shall observe the provisions of the Code of Academic Integrity whether or not faculty members establish special rules of integrity for particular courses. Failure of faculty to prevent academic dishonesty does not excuse students from compliance with the Code.*

Those who engage in academic dishonesty diminish the quality and value of their education and bring discredit to the academic community.

## Categories of Academic Dishonesty

Academic dishonesty includes, but is not limited to, the following:

1. **Cheating**—*Using, or attempting to use, unauthorized materials in any academic exercise; or having someone else do one's own academic work.* Examples of cheating include looking at another student's paper during a test, bringing notes to a test, obtaining a copy of a test prior to the test date, and presenting homework prepared by someone else.
2. **Fabrication**—*Inventing or falsifying information.* Examples of fabrication include "dry-labbing" (inventing data for an experiment not done or not done correctly), making references to sources not actually used in a research paper, forging advisers' signatures on registration forms, forging letters of recommendation, and falsifying credentials in an application.
3. **Facilitating Academic Dishonesty**—*Helping someone else to commit an act*

*of academic dishonesty.* This includes giving someone a paper or homework to copy from and allowing another to cheat from one's test paper.

4. **Plagiarism**—*Using the words or ideas of another writer without attribution, so that they appear as if they were one's own.* Plagiarism includes copying someone else's work word for word, rewriting someone else's work with only minor word changes, and paraphrasing or summarizing work without acknowledging the source.
5. **Multiple Submissions**—*Presenting work done in previous courses as if it were new and original work.* Although professors are sometimes willing for a student to use previous work as the basis for new work, they expect the student to do new work for the current course. A student who wants to submit a piece of academic work in more than one course should seek the approval of the instructors.
6. **Abuse of Academic Materials**—*Harming, appropriating, or disabling academic resources so that others cannot use them.* This includes removing tables and illustrations from books and journals to use in a paper, stealing books or articles, and deleting and damaging computer files intended for the use of others.
7. **Misrepresentation**—*Lying about or misrepresenting one's work, academic records, or credentials.* Examples include claiming ownership of another's work, several students submitting copies of the same computer document and taking credit for group work to which a student did not contribute significantly or fulfill his or her obligations.
8. **Electronic Dishonesty**—*Using network access inappropriately, in a way that affects a class or other students' academic work.* Examples of electronic dishonesty include using someone

else's authorized computer account to send and receive messages, breaking into someone else's files, gaining access to restricted files, disabling others' access to network systems or files, knowingly spreading a computer virus, and obtaining a computer account under false pretenses.

These general definitions may be supplemented or modified by additional policies stated in course syllabi.

## Procedures for Addressing Academic Dishonesty

1. When an instructor believes that a student has acted dishonestly, a conversation on the incident in question occurs between the instructor and the student. The instructor should notify the department chair of the incident and the conversation about it.
2. If the instructor is not satisfied with the student's explanation, the instructor documents the incident in writing. The documentation includes definition of disciplinary action. The student receives a copy of the document. A copy is filed in the Academic Dean's office.
3. The General Academic Studies and Policies Committee reviews serious first offenses and repeat offenses and may recommend to the Academic Dean disciplinary action beyond that defined by the course instructor.
4. Students who wish to appeal the decision of the instructor, the Academic Dean, or the General Academic Studies and Policies Committee may do so, following the grievance procedure outlined in the *Student Handbook*.
5. Students are entitled to add a written rebuttal to their personal files.

*Revised March 1997. Approved by Academic Senate April 29, 1997. Adapted from the DePauw University and University of Arizona web pages.*

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# Campus Map Directory

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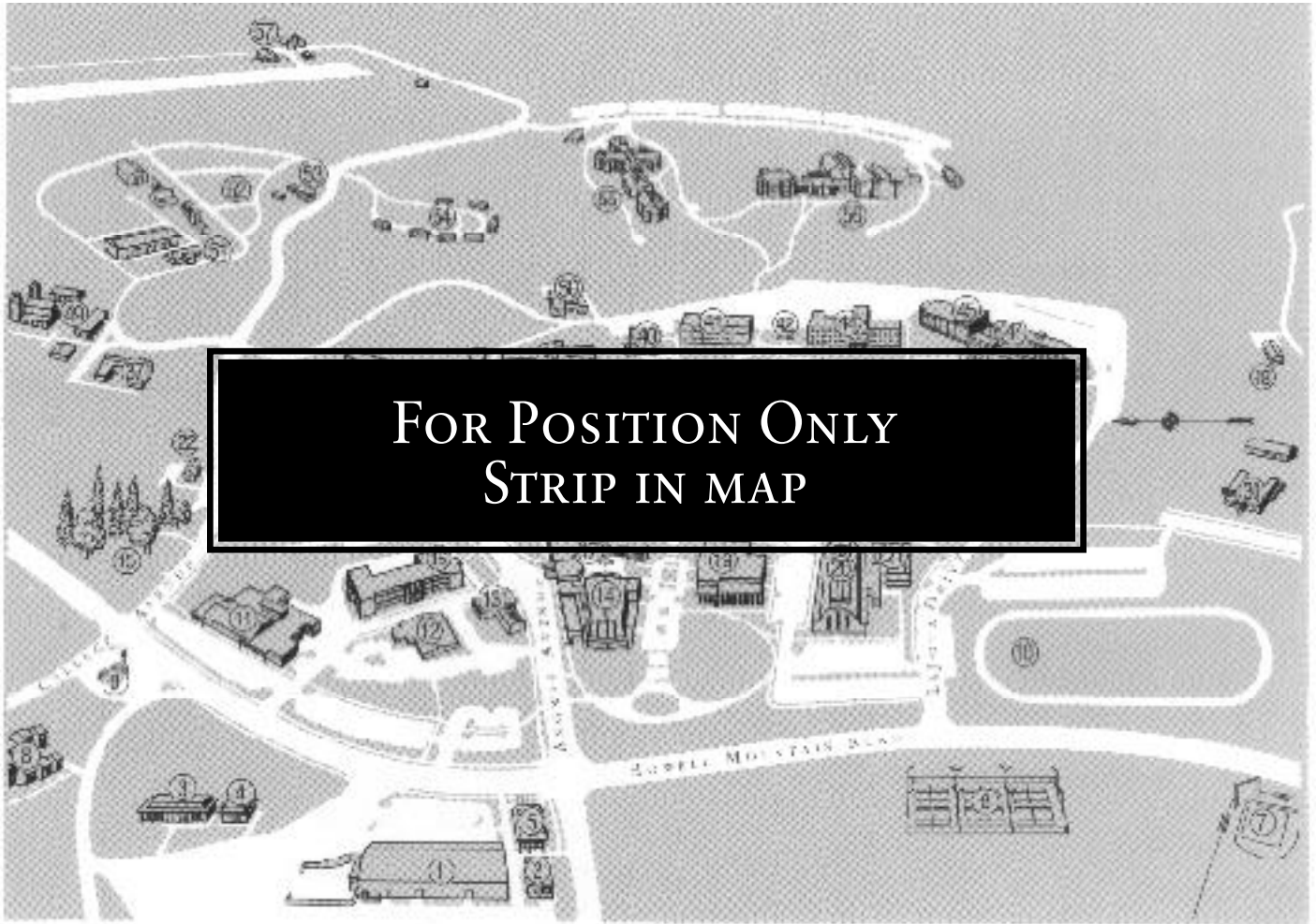
1. **Shopping Center:**  
Adventist Book Center  
Bookstore  
California Properties  
Hardware  
Launderette  
Market
2. **Post Office**
3. **Visitors' Center:**  
Chiropractor's Office  
Public Relations
4. **Dental Building**
5. **Credit Union**
6. **Tennis Courts**
7. **Athletic Field:**  
Sand Volleyball Courts
8. **Brookside Park:**  
Married Student Housing
9. **Service Station:**  
Fred's Auto Service
10. **Athletic Track & Field**
11. **Press Building:**  
Angwin Auto Parts  
Copy Center  
Mail Services  
Planned Giving  
Preferred Images
12. **Custodial:**  
Lost and Found
13. **Laundry & Heating Plant**
14. **Church & Sanctuary**
15. **Alumni Park**
16. **Fisher Hall:**  
Art  
Technology
17. **Church Campanile**
18. **Church Complex:**  
Church Office  
Fireside Room  
Youth Chapel
19. **Paulin Hall:**  
Music
20. **Pacific Auditorium:**  
Fitness Center  
Gymnasium  
Physical Education  
Weight Room
21. **Swimming Pool**
22. **Public Safety**
23. **Chan Shun Hall:**  
Academic Administration  
Chemistry  
Computer Science  
Mathematics  
Physics  
President's Office
24. **Davidian Hall:**  
Academic Administration Annex  
Behavioral Science  
Nursing
25. **Storage Building**
26. **Dining Commons:**  
Cafeteria (upper level)  
Campus Center  
Student Association Offices

27. **Rasmussen Art Gallery**
28. **Library:**  
Computer Center  
E.G. White/SDA Study Center  
Learning Resource Center  
Media Services  
Pitcairn Islands Study Center  
Telecommunications
29. **Preparatory School**
30. **Elementary School**
31. **Development/Alumni**
32. **Financial Services:**  
Accounting Services  
Financial Administration  
Student Financial Services
33. **West Hall:**  
Education  
Health Service
34. **West Hall Annex:**  
Faculty Development Center  
Liberal Studies
35. **Counseling Center:**  
Counseling, Career & Testing  
English
36. **Amphitheater**
37. **Pacific Studio:**  
Howell Mountain Distributors  
Photography Lab
38. **Newton Hall:**  
Men's Residence
39. **Grainger Hall:**  
Men's Residence
40. **Clark Hall:**  
Biology
41. **Irwin Hall:**  
Business Administration  
Communication  
History  
Modern Languages
42. **Ambs Hall:**  
Family & Consumer Sciences
43. **Graf Oval**
44. **Graf Hall:**  
Academic Records  
Enrollment Services  
Family & Consumer Sciences  
KNDL Radio  
Religion  
Student Services  
Women's Residence
45. **Dauphinee Chapel**
46. **Andre Hall:**  
Women's Residence
47. **Winning Hall:**  
Women's Residence
48. **Discoveryland:**  
Preschool
49. **Land Management**
50. **Biology Classrooms**
51. **Plant Services**
52. **Mobile Manor**
53. **Landscape**
54. **Court Place Apartments:**  
Married Student Housing
55. **Nichol Hall:**  
Men's Residence

56. **McReynolds Hall:**  
Women's Residence
57. **Virgil O. Parrett Field:**  
Flight Center  
Newton Observatory  
Young Observatory

## Alphabetical Legend

23. Academic Administration
24. Academic Administration Annex
44. Academic Records
32. Accounting Services
15. Alumni Park
42. Ambs Hall
36. Amphitheater
46. Andre Hall
11. Angwin Auto Parts
16. Art
7. Athletic Field
10. Athletic Track & Field
24. Behavioral Science
40. Biology
50. Biology Classrooms
1. Bookstore
8. Brookside Park
41. Business Administration
23. Chan Shun Hall
26. Cafeteria
26. Campus Center
23. Chemistry
18. Church Complex
18. Church Office
14. Church & Sanctuary
40. Clark Hall
41. Communication
28. Computer Center
23. Computer Science
11. Copy Center
35. Counseling Center
35. Counseling, Career & Testing
54. Court Place Apartments
5. Credit Union
12. Custodial
45. Dauphinee Chapel
24. Davidian Hall
31. Development/Alumni
4. Dental Building
26. Dining Commons
48. Discoveryland
28. E.G. White/SDA Study Center
33. Education
30. Elementary School
35. English
44. Enrollment Services
44. Family & Consumer Sciences
34. Faculty Development Center
32. Financial Administration
32. Financial Services
18. Fireside Room
16. Fisher Hall
20. Fitness Center
57. Flight Center
43. Graf Oval
44. Graf Hall
39. Grainger Hall
20. Gymnasium
1. Hardware
33. Health Service
41. History
37. Howell Mountain Distributors
41. Irwin Hall
44. KNDL Radio
49. Land Management
53. Landscape
1. Launderette
13. Laundry & Heating Plant
28. Learning Resource Center
34. Liberal Studies
28. Library
12. Lost and Found
11. Mail Services
1. Market
42. Family & Consumer Sciences
23. Mathematics
56. McReynolds Hall
28. Media Services
52. Mobile Manor
41. Modern Languages
19. Music
38. Newton Hall
57. Newton Observatory
55. Nichol Hall
24. Nursing
20. Pacific Auditorium
37. Pacific Studio
19. Paulin Hall
37. Photography Lab
20. Physical Education
23. Physics
28. Pitcairn Islands Study Center
51. Plant Services
23. President's Office
29. Preparatory School
11. Planned Giving
2. Post Office
48. Preschool
11. Preferred Images
11. Press Building
3. Public Relations
22. Public Safety
27. Rasmussen Art Gallery
44. Religion
7. Sand Volleyball Courts
9. Service Station
1. Shopping Center
26. Student Association Offices
32. Student Financial Services
44. Student Services
21. Swimming Pool
16. Technology
28. Telecommunications
6. Tennis Courts
3. Visitors' Center
18. Youth Chapel
20. Weight Room
33. West Hall
34. West Hall Annex
47. Winning Hall
57. Virgil O. Parrett Field
57. Young Observatory



## Information

### For Information

The telephone area code for Angwin is 707.

Direct Inquiries by Mail, Telephone, E-mail or FAX as follows:

#### College General FAX Number

..... 965-6390

#### Academic Administration

Vice President for Academic Administration ..... 965-6234

FAX ..... 965-7104

Academic Advising ..... 965-7103

Academic Advising e-mail ..... advising@puc.edu

Associate Academic Deans ..... 965-7103

#### Admissions and Catalogs

Enrollment Services ..... 965-6336

Toll-Free Number ..... (800) 862-7080

E-mail ..... enroll@puc.edu

FAX ..... 965-6432

#### Alumni

Alumni Association Secretary ..... 965-7500

#### College Advancement and Alumni

Vice President for Advancement ..... 965-7500

Alumni ..... 965-7500

FAX ..... 965-6305

#### Public Relations

Director, Public Relations ..... 965-6303

FAX ..... 965-7101

#### Counseling, Testing, Placement Services

Director, Counseling Services ..... 965-7364

#### Extended Learning

Associate Academic Dean, Extended Learning ..... 965-6409

Degree-Completion Program ..... 965-6408

Toll Free ..... (800) 862-7080, #4

FAX ..... 965-7104

#### Financial Administration

Vice President for Financial Administration ..... 965-6699

FAX ..... 965-6400

#### Graduate Program

Department of Education ..... 965-7265

#### Matters of General Interest

President ..... 965-6211

FAX ..... 965-6506

E-mail ..... mmaxwell@puc.edu

..... 74532,3131 (Compuserve)

#### Nursing Information

Angwin Campus ..... 965-7262

FAX ..... 965-6499

Los Angeles Campus ..... (213) 268-5000, Ext. 1080

FAX ..... (213) 881-8611

#### Instructional Site:

White Memorial Medical Center

1720 Cesar E. Chavez

Los Angeles, CA 90033-2481

#### Mailing Address:

Department of Nursing

Pacific Union College

1720 Cesar E. Chavez

Los Angeles, CA 90033-2481

#### Records Office

Registrar ..... 965-6673

#### Residence Hall Living

Dean of Women ..... 965-6315

Andre Hall ..... 965-7481

Graf Hall ..... 965-6520

McReynolds Hall ..... 965-6149

Winning Hall ..... 965-6313

Dean of Men ..... 965-7203

Grainger Hall ..... 965-6491

Newton Hall ..... 965-6487

Nichol Hall ..... 965-6101

#### Student Services

Vice President for Student Services, Public Relations,  
and Enrollment; Dean of Students ..... 965-7362

#### Student Finance

Director, Student Financial Services ..... 965-7200

#### Summer School and Special Education Programs

Director, Summer School ..... 965-6409

#### Transcripts

Records Office ..... 965-6489

# PACIFIC UNION COLLEGE GENERAL CATALOG SUPPLEMENT



1998-2000

118TH ACADEMIC YEAR

MAILING ADDRESS:  
ONE ANGWIN AVENUE  
ANGWIN, CA 94508-9707  
(707) 965-6311

PACIFIC UNION COLLEGE IS AN EQUAL OPPORTUNITY EDUCATIONAL INSTITUTION.

## **Pacific Union College**

### *Is accredited by:*

The Accreditation Association of Seventh-day Adventist  
Schools, Colleges and Universities  
The Accrediting Commission for Senior Colleges and  
Universities of the Western Association of Schools  
and Colleges  
State of California Department of Education

### *Offers programs accredited by:*

Council on Social Work Education (Baccalaureate)  
National Association of Schools of Music (Baccalaureate)  
National League for Nursing (Baccalaureate and Associate)

### *Is a member of:*

American Association for Higher Education  
American Association of College Registrars and  
Admissions Officers  
American Association of Presidents of  
Independent Colleges and Universities  
Association of Governing Boards  
Association of Independent California Colleges  
and Universities  
California Council on the Education of Teachers  
College Placement Council  
Independent Colleges of Northern California  
National Association of Independent Colleges  
and Universities  
Western Association of Graduate Schools

### *Is approved by:*

American Dietetic Association  
The Attorney General of the United States for  
nonimmigrant students  
California Commission on Teacher Credentialing

Accreditation documents may be viewed in the office of the  
Vice President for Academic Administration.

## **Equal Opportunity Commitment**

Pacific Union College is committed to equal opportunity for qualified men and women of any handicap, race, color, national or ethnic origin. It extends to them all the rights, privileges, programs and activities generally accorded or made available to members of the College community. It does not discriminate against qualified persons on the basis of handicap, sex, race, color, national or ethnic origin in administration of its educational and admissions policies, financial affairs, employment programs, student life and services, or any other College-administered program.

**Using This Supplement**

This *Supplement* to the *Pacific Union College General Catalog 1998-2000* contains updated financial information in effect for 1999-2000 academic terms; corrections of errors in the 1998-2000 edition; revisions and deletions of a few programs and courses; and descriptions of new courses.

Updated financial information appears first, followed by academic information organized according to the normal *Catalog* sequence. Page numbers in brackets refer to the passages in the 1998-2000 *General Catalog* to which the revisions apply.

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 The Academic Program ..... 6  
 Academic Information and Policies ..... 6  
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     Art ..... 6  
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     Computer Science ..... 7  
     Education ..... 7  
     English ..... 7  
     Family and Consumer Sciences ..... 8  
     History and Social Studies ..... 8  
     Mathematics ..... 8  
     Modern Languages ..... 8  
     Music ..... 8  
     Nursing ..... 8  
     Physics and Engineering ..... 9  
     Physical Education, Health and Recreation ..... 9  
     Religion ..... 8  
     Technology ..... 9  
 New Faculty ..... 10

# Revised Calendar, 1999-2000

**September 1999**

Su	Mo	Tu	We	Th	Fr	Sa
			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 1999**

Su	Mo	Tu	We	Th	Fr	Sa
					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						

**November 1999**

Su	Mo	Tu	We	Th	Fr	Sa
	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				

**December 1999**

Su	Mo	Tu	We	Th	Fr	Sa
			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	

**January 2000**

Su	Mo	Tu	We	Th	Fr	Sa
						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					

**February 2000**

Su	Mo	Tu	We	Th	Fr	Sa
		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				

**March 2000**

Su	Mo	Tu	We	Th	Fr	Sa
			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	

**April 2000**

Su	Mo	Tu	We	Th	Fr	Sa
						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						

**May 2000**

Su	Mo	Tu	We	Th	Fr	Sa
	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			

**June 2000**

Su	Mo	Tu	We	Th	Fr	Sa
				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	

**July 2000**

Su	Mo	Tu	We	Th	Fr	Sa
						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					

**August 2000**

Su	Mo	Tu	We	Th	Fr	Sa
		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		

**Autumn Quarter (1999)**

W	September	22	New Student Orientation Begins
F		24	Registration
M		27	Instruction begins
M	October	4	Last day to enter classes
M-S		4-9	Week of Prayer
M		11	Last day to delete classes
T		19	Fall picnic, no classes
F-Su		22-24	Parents Weekend
F	November	19	Thanksgiving recess begins (4:00 p.m.)
Su		28	Thanksgiving recess ends (10:00 p.m.)
M		29	Preregistration begins
M		29	Last day to withdraw from classes
F	December	10	Last day for preregistration
M-Th		13-16	Final examinations

**Winter Quarter (2000)**

Su	January	9	Registration for new students (6-8 p.m.)
M		10	Instruction begins
M		17	Martin Luther King Day, no classes
T		18	Last day to enter classes
T-S		18-22	Week of Prayer
M		24	Last day to delete classes
F	February	11	Midquarter vacation, no classes
M	March	6	Preregistration begins
M		6	Last day to withdraw from classes
F		17	Last day for preregistration
M-Th		20-23	Final examinations

**Spring Quarter (2000)**

Su	April	2	Registration for new students (6-8 p.m.)
M		3	Instruction begins
M		10	Last day to enter classes
Th-Su		13-16	Alumni Weekend
M		17	Last day to delete classes
M-S		17-22	Week of Prayer
M	May	29	Memorial Day observed, no classes
T		30	Last day to withdraw from classes
M-Th	June	12-15	Final examinations
F-Su		16-18	Commencement

**Summer Quarter (2000)**

M	June	26	Registration
M		26	Instruction begins
T	July	4	Independence Day, no classes
Th	August	17	End of Summer Quarter



**Financial Information for 1999-2000**

[See pages 213-14]

**Tuition — Quarter Fee Schedule**

The tuition rates reflect a charge of \$418 per quarter hour up to 11.5 hours. Tuition for 12-17 hours is \$4,825. All hours over 17 are charged at \$315 per hour.

**Miscellaneous Fees: Transcript Fee**

[New policy on transcript fee; see pages 213, 223]

Each student at first enrollment is billed a one-time transcript fee of \$25. For this payment the student may request up to twenty-five transcripts without additional charge. *Exception:* Any unusual costs incurred for special requests, such as “rush processing,” are added.

**Estimate of Expenses**

[See page 214]

The following amounts represent the estimated cost of full-time attendance during the Autumn, Winter and Spring quarters of the 1999-2000 school year:

	<i>One Year</i>	<i>Each Quarter</i>
Tuition & fees (12-17 hours)	\$14,475	\$4,825
Residence-hall Rent	2,655	885
Minimum Board	1,770	590
<i>Total</i>	\$18,900	\$6,300

**SDA Tuition Discount**

[See page 215]

- Seventh-day Adventist students receive a tuition discount of \$780 for the year (\$260 per quarter) for full-time students. Three-quarter time students receive a discount of \$585, and half-time students a discount of \$390 for the year.
- This discount is applied only to tuition charged at the rate of \$418 per hour.

**Family Discount Plan**

[See page 215]

- For a family with two dependent students attending the College at the same time, a discount of \$200 per student per quarter is given; for a family with three or more, the discount is \$250 per student per quarter.

**Residence Hall Room Refund**

[See page 220]

When a room is occupied less than one quarter, a charge is made for the actual number of days on a pro-rata basis. The double-occupancy daily rate is \$12.75. The refund would thus be the difference between the number of days occupied times \$12.75 from the charge per quarter of \$885.

**Food Service**

[See page 221]

The quarterly minimum charge for board is \$590.

**Residence Halls**

[See page 221]

The standard room rate is \$885 per quarter for double occupancy in each residence hall.

**Flight Training Fees**

[See page 222]

Correction: In the final paragraph, the “per-credit-hour recording fee” should be a “per-course recording fee.”

**Music Lesson Fees**

[See page 222; in the second paragraph the first sentence is deleted; the revised paragraph follows:]

If a student withdraws within the first two weeks of the quarter, a refund is prorated; after that, no refunds are made.

**Student Life and Services**

**Student Housing**

[See pages 13 and 221]

Pacific Union College affirms the values to be gained from being primarily a residential college. By accepting admission, unmarried students aged 22 or younger agree to live in a residence hall — unless they apply for and are granted an exception. Requests for off-campus housing *may* be approved according to the following criteria for students in good standing:

- applicants 23 or older
- applicants 22 and turning 23 during the current academic year
- fifth-year seniors (Student Missionary and Taskforce years may count as one year)
- holders of earned bachelor’s degrees
- applicants living with parents or other immediate relatives (grandparents, aunts, uncles, siblings at least 25 years old) and in their primary residence
- part-time students enrolled for six or fewer credits
- applicants 22 or younger with significant financial need who are offered room and board at substantial savings (required to live in the family’s home)
- divorced and widowed applicants
- single parents

All housing must be registered in the Office of Student Services. Residence halls are available to students currently enrolled at Pacific Union College who meet eligibility requirements. Students 24 and older may live in residence halls on a “space-available” basis upon application.

Requests for off-campus housing are considered and acted upon annually. Students are to secure approval before signing a lease for off-campus housing.

Single community students are not to live in “coed” groups.

These policies also apply to students enrolled in summer sessions or working full or part time on campus during summer sessions.

## Family Rights and Privacy

[See page 16]

In item 9, delete *class schedule* from the list of details to be provided in a directory of public information.

## The Academic Program

### General Education Course Requirements

[See page 25]

In section IV-C, the new course ASTR 115 Astronomy replaces both ASTR 105 Introduction to Astronomy and ASTR 125H General Astronomy (Honors).

### Degree-Completion Programs

[See page 32]

Degree-completion programs are no longer "majors," but professional degrees: the Bachelor of Science in Management (formerly the major in Leadership in Business Administration); the Bachelor of Science in Early Childhood Education; and the Bachelor of Science in Criminal Justice Administration.

## Academic Information and Policies

### Course Load

[Revised statement of policy; see page 35]

The academic study load is described in terms of quarter hours (credits). One quarter hour (credit) normally represents one fifty-minute class period per week for one quarter. Two-hour courses normally convene twice a week and three-hour courses three times a week. For three clock-hours of laboratory experience per week, students normally receive one hour of credit per quarter. (See also "Credit Hours.")

If you have regular academic standing, a full course load is 17 quarter hours during the school year and 15 quarter hours during the summer. To enroll for a course load in excess of these totals requires approval by your academic adviser and the registrar. If you are on *Academic Probation*, your maximum course load is reduced to 15 quarter hours during the school year and 10 during the summer session.

### Incomplete

[Revised statement of policy; see page 37]

A grade of "I" is assigned in exceptional situations when unavoidable circumstances prevent completion of a course. An "I" carries no grade points and is not computed in your grade-point average.

You must remove an Incomplete by the time your instructor specifies, but no later than six calendar weeks from the time it is incurred. An Incomplete not removed reverts to the grade computed without the missing work. This grade is specified at the time the Incomplete is granted.

At least six weeks before graduation, prospective graduates must have made up all outstanding Incompletes.

### Academic Suspension

[See page 37; replace the first sentence of the statement of policy with the following:]

If you have three consecutive quarters with a quarter grade-point average below 2.0, and/or a Pacific Union College cumulative grade-point average below 2.0, you will be placed on *academic suspension*. The quarters to be evaluated are your most recent three quarters at Pacific Union College, whether or not that period of three quarters was interrupted by one or more breaks in enrollment for any reason.

### Credit by Examination

[Addition to policy on credit by examination; see page 40]

Credit by examination is available through DANTES (Defense Activity for Nontraditional Educational Support) tests, subject to catalog restrictions on maximum credit hours by examination. Departments set standards and specify on-campus courses for which credit may be earned by passing DANTES examinations. Detailed information is available at academic departmental offices and at the Records office.

### College-Prepared Tests

[See page 40; item 7 is revised as follows:]

Examinations for credit are recorded on a Satisfactory/Fail basis. For Satisfactory to be recorded, achievement equivalent to C+ or better on a graded examination is required.

## General Courses

### GNRL 350

2, 6

### Field Experience

Graded S/F (previously, letter grade)[see page 45].

## Art

[Restore the following course (page 53), which was inadvertently deleted from the current catalog:]

### ART 446

3 S

### Digital Photo Imaging

Use of computer software tools and techniques to scan, alter and enhance photographs. Emphasis on artistic manipulation of digital images for graphic design and photographic applications. Prerequisites: GRPH 153 (or Macintosh competency), 352, and ART 241.

**ART 464** **3**  
**Preprint Production II**  
*This course is now offered every year.*

## Behavioral Science

**PSYC 360** **3 A**  
**Psychopharmacology**  
*[New course]*

The drugs that affect behavior through action on the nervous system. Major psychoactive drug groups include antianxiety, antidepressant, antipsychotic and stimulant drugs, and drugs of abuse. Related issues of drug distribution, administration, dosage, absorption and fate.

## Business Administration and Economics

*Richard Voth is chair of the Business Administration and Economics department.*

**INFS 481** **3**  
**Simulation**  
*This course is deleted.*

**INFS 482** **4 A**  
**Systems Development Life Cycle**  
*[New course]*

Concepts, skills, methodologies, techniques, tools, and perspectives essential for systems analysts to successfully develop information systems. Even years.

**Degree-Completion Courses**  
*[See pages 85-86. All LBA prefixes become MGT. Course LBA 310 should be MGT 315. Course LBA/RELB 305 is no longer cross-listed; it should be RELB 305 listed only in the Religion section of the catalog. New prefixes with titles:]*

**MGT 315** **4**  
**Individual in the Organization**

**MGT 320** **4**  
**The Legal Environment of Business**

**MGT 330** **4**  
**Economics for Managers**

**MGT 340** **4**  
**Principles of Marketing**

**MGT 350** **3**  
**Data Presentation**

**MGT 360** **4**  
**Budgeting & Fiscal Administration**

**MGT 375** **4**  
**Group and Organizational Behavior**

**MGT 390** **4**  
**Organizations and Environments**

**MGT 401** **4**  
**Principles of Finance**

**MGT 410** **4**  
**Accounting Principles for Managers**

**MGT 420** **4**  
**Principles of Management**

**MGT 430** **4**  
**Human Resources Administration**

**MGT 480** **4**  
**International Business**

**MGT 485** **4**  
**Business Policy**

**MGT 490** **6**  
**Senior Project**

## Computer Science

**Major in Computer Science with Emphasis in Data Processing Management, B.S.**

*This major is discontinued [see page 102].*

**CPTR 246** **3**  
**Object-Oriented Design**

*New course title; previously Object-Oriented Programming.*

**CPTR 367** **3**  
**Communications and Networking**

*The laboratory portion of the course is deleted; credits are reduced from 4 to 3.*

**CPTR 455** **3**  
**Theory of Computing**

*New course title; previously Advanced Topics in Computer Science.*

## Education

**EDUC 356** **4**  
**Elementary School Curriculum and Instruction: Reading/Social Studies**

*Increase credit from 3 to 4 hours.*

## English

**English as a Second Language**

*Each of the following ENSL courses now carries 4 credits:*

ENSL 062 Reading and Composition II

ENSL 063 Reading and Composition III

ENSL 064 Reading and Composition IV

ENSL 065 Academic Reading/Composition

ENSL 085 Academic Listening/Speaking

**ENGL 011** **4**  
**Reading and Study Skills**

*This course is deleted.*

**Family/Consumer Sciences**

**ECE 362** **4**  
**Advanced Music and Movement**  
*[New course]*  
 A review of appropriate music, rhythm and movement activities for young children. Includes available resources, practice and implementation in early education.

**ECE 385** **4**  
**School-Age Child Care**  
*[New course]*  
 The rationale, design, management and activities for implementing quality care for school-age children.

**ECE 387** **4**  
**Cultural Diversity**  
*[New course]*  
 Describes diversity in the classroom, including history and customs of various cultures. Delineates cross-cultural variations of child development, beliefs, and methods of multicultural education.

**ECE 388** **4**  
**Science for the Young Child**  
*[New course]*  
 Presents an organized, sequential approach to creating a developmentally appropriate program for young children.

**ECE 450** **4**  
**Counseling for Early-Childhood Teachers**  
*Increase credit from 2 to 4 hours.*

**ECE 492** **2**  
**Senior Project-Seminar**  
*This course is deleted.*

**History and Social Studies**

**HIST 140-141**  
**Honors in History**  
*This course is deleted.*

**Mathematics**

**MATH 001** **3**  
**Essential Mathematics**  
*This course is deleted.*

**MATH 267** **4**  
**Vector Calculus**  
*New course title; previously Multivariable Calculus.*

**Modern Languages**

**Extended Learning Courses**  
*[See pages 157-58]*  
*Revise course listings, titles, and numbers as follows:*

**ITAL 100-101-102** **2-2-2**  
**Beginning Conversational Italian**

**JAPN 100-101-102** **2-2-2**  
**Beginning Conversational Japanese**

**JAPN 200-201-202** **2-2-2**  
**Intermediate Conversational Japanese**

**KORE 100-101-102** **2-2-2**  
**Beginning Conversational Korean**

**LATN 100-101-102** **2-2-2**  
**Beginning Latin**

**RUSS 100-101-102** **2-2-2**  
**Beginning Conversational Russian**

**SIGN 100-101-102** **2-2-2**  
**Beginning Sign Language**

**SPAN 100-101-102** **2-2-2**  
**Beginning Conversational Spanish**

**SPAN 121** **2**  
**Spanish for Medical Personnel**

**SPAN 200-201-202** **2-2-2**  
**Intermediate Conversational Spanish**

**Music**

**B.Mus. in Music Education**  
*Majors in the B.Mus. program with emphasis in Music Education [see page 160] take MUHL 336 Popular Music in the Twentieth Century instead of MUHL 333 Music of the Twentieth Century.*

**Nursing**

**NURS 262** **8**  
**Nursing VI**  
*Increase credit from 7 to 8 hours.*

**Major in Nursing, B.S.N.**  
*Under "Admission Procedure" [see page 174] item 7 is revised to read as follows:*

At the discretion of the nursing faculty, and pending both NCLEX results and completion of prerequisites, students may enroll in up to 12 units of upper-division nursing theory courses before admission to the B.S.N. program.

*Under "Academic Requirements for Continuation ... in Nursing" [see page 175], in item 1, "Historical Contexts": Transfer students who have not taken college courses in history are advised to meet this requirement by taking two sequential courses.*

**Upper Division Nursing Courses**  
*[See pages 175-76]*

1. *The sequence of course offerings may vary on satellite campuses.*
2. *The following courses are added to those listed as "offered on sufficient demand": NURS 373, 374, 376, 378.*
3. *NURS 374 carries 2 credits; it is offered A, W, S.*
4. *NURS 431 and 432 are offered Autumn quarter only.*
5. *NURS 461 and 462 are offered Spring quarter only.*

## Physics and Engineering

### **ASTR 115** **5 A, W** **Astronomy**

[New course; replaces ASTR 105 and 125 (see pages 25, 64, 88, 111, 187, 188)]

An introduction for the general student to the basic elements of astronomy. Topics include models of the solar system, stars and their processes, clusters, galaxies, cosmology, and relevant physics topics such as light, spectroscopy, nuclear reactions, and relativity. Emphasizes the development of scientific ideas and models for the structure and contents of the universe and the effects of those ideas on western civilization. Laboratory activities emphasize personal observations of various astronomical objects, as weather permits. Four lectures and one evening laboratory weekly. Prerequisite: MATH 019 or equivalent.

## Physical Education

### **Extended Learning Course** [Added course; see page 182.]

### **PEAC 490** **1** **Advanced Self-Defense**

## Religion

### **RELL 427-428** **3-3** **Biblical Hebrew**

Change of course numbers; previously RELL 337-338.

### **RELT 337** **4** **Last Day Events**

New course title; previously Eschatology.

### **Extended Learning Courses**

Listing for page 196 in category of courses available in Extended Learning degree programs; descriptions are moved from prior location on page 86:

### **RELB 305** **4** **Biblical Perspectives**

Designed to foster knowledge and understanding of those historical concepts and themes of the Bible that relate most directly to effectiveness in business practice and public life.

### **RELT 310** **4** **Ethics and Personal Values**

Examination of how personal values in business and public life are shaped by world views, ethics, and spiritual formation.

## Technology

### **ELEC 349** **3** **Electronic Communications**

Correction: This course carries 3 credits, not 2 [see page 207].

## New Faculty

Scott A. Blunt, B.S., *Instructor in Physical Education, Health and Recreation*. B.S., Pacific Union College, 1992. (1999)

Renate I. E. Krause, Ph.D., *Professor of English*. B.A., Walla Walla College, 1971; M.A., Andrews University, 1986; Ph.D., University of Alberta, 1991. (1999)

Malcolm Russell, Ph.D., *Walter C. Utt Professor of History*. B.A., Columbia Union College, 1970; M.A., Johns Hopkins University, 1972; Ph.D., Johns Hopkins University, 1977. (1999)

Robert Stretter, M.A., *Instructor in English*. B.A., Pacific Union College, 1995; M.A., University of Virginia, 1997. (1999)

### Adjunct Faculty in Criminal Justice Administration

Ronald Appel, M.L.S.: B.A.M., St. Mary's College, 1993; M.L.S., University of Oklahoma, 1996.

Bruce M. Beckler, J.D.: B.S., Indiana University, 1979; J.D., Indiana University, 1981; M.A., Indiana University, 1984.

Harold W. Sagan, Ed.D.: B.A., 1990; M.P.A., Golden Gate University, 1993; Ed.D., Nova Southeastern University, 1999.

### Adjunct Faculty in Early Childhood Education

Merrill R. Featherstone, M.A.: B.A., California State University, Sacramento, 1965; M.A., University of California, Davis, 1977.

Patricia A. Jennings, M.Ed.: B.A., Antioch College/West, 1977; M.Ed., Saint Mary's College, 1980.

Carole J. Kent, M.A.: B.A., San Jose State University, 1973; M.A., Pacific Oaks College, 1976.

Phyllis Shandler, M.S.: B.A., University of California, Berkeley, 1973; M.S., California State University, Hayward, 1983.