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## 1988 - 1989 Bulletin

Loma Linda University

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COLLEGE  
OF  
ARTS AND  
SCIENCES

1988-89 *BULLETIN*

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LOMA LINDA  
UNIVERSITY

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**Bulletin of LOMA LINDA UNIVERSITY**  
**College of Arts and Sciences 1988-89**

The information in this BULLETIN is made as accurate as is possible at the time of publication. Students are responsible for informing themselves of and satisfactorily meeting all requirements pertinent to their relationship with the University. The University reserves the right to make such changes as circumstances demand with reference to admission, registration, tuition and fees, attendance, curriculum requirements, conduct, academic standing, candidacy, and graduation.

GENERAL OFFICE HOURS

Administration

8 to 5 Monday-Thursday

8 to 12 Friday

Recruitment/Admissions

8 to 5 Monday-Thursday

8 to 12 Friday

Student Finance

8 to 5 Monday-Thursday

8 to 12 Friday

University Records

8 to 5 Monday-Thursday

8 to 12 Friday

CLOSED

Saturday, Sunday,  
and legal holidays

BULLETIN OF

LOMA LINDA UNIVERSITY

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**arts &  
sciences**

**LOMA LINDA UNIVERSITY**

**1988-89**

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LOMA LINDA UNIVERSITY is a two-campus, Seventh-day Adventist coeducational institution located in inland southern California and is part of the Seventh-day Adventist system of higher education.

On the La Sierra campus, at the west edge of Riverside, curricula in applied and liberal arts and sciences, undergraduate and graduate business and management, pre-professional programs for the health-related professions, and programs in professional education in fulfillment of requirements for teaching credentials are offered by the College of Arts and Sciences, the School of Business and Management, the School of Education, and the School of Religion. On the Loma Linda campus, in the San Bernardino-Redlands area, professional curricula are offered by the Schools of Allied Health Professions, Dentistry, Medicine, Nursing, and Public Health. Graduate programs are offered from both campuses through the Graduate School.

Accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges and the North American Division Commission on Accreditation of the Board of Regents of the General Conference of Seventh-day Adventists, Loma Linda University is a member of the American Council on Education and the Association of American Colleges. The professional curricula of the University are approved by their respective professional organizations.

Curricula are offered leading to the Associate in Arts, Associate in Science, Bachelor of Arts, Bachelor of Business Administration, Bachelor of Fine Arts, Bachelor of Music, Bachelor of Science, Bachelor of Social Work, Master of Arts, Master of Business Administration, Master of Health Administration, Master of Public Health, Master of Science, Master of Science in Public Health, Specialist in Education, Doctor of Dental Surgery, Doctor of Education, Doctor of Health Science, Doctor of Medicine, Doctor of Philosophy, and Doctor of Public Health degrees.

The core of the combined faculties consists of approximately 743 full-time teachers. Part-time and voluntary teachers, especially clinicians in the professional curricula, bring the total past 1,885. Men and women from as many as 100 nations are represented in the annual enrollment of nearly 4,400 students.



## NONDISCRIMINATION POLICY

The University was established by the Seventh-day Adventist church as an integral part of its teaching ministry.

The University is committed to equal education and employment opportunities for men and women of all races and does not discriminate on the basis of handicap, sex, race, color, or national origin in its educational and admissions policies, financial affairs, employment programs, student life and services, or any University-administered program.

To this end, the University is in compliance with Titles VI and VII of the Civil Rights Act of 1964 as amended, and substantial compliance with Title IX of the Education Amendments of 1972 (45 CFR 86 et seq.) and Sections 503 and 504 of the Rehabilitation Act of 1973. The University also complies with the Age Discrimination in Employment Act of 1967 and Section 402 of the Vietnam Era Veterans Adjustment Act of 1974 and does not discriminate against any employee or applicant for employment on the basis of age or because they are disabled veterans or veterans of the Vietnam era. In addition, the University administers student programs without discrimination on the basis of age, except in those programs where age is a bona fide academic qualification for admission in accordance with the provisions of the Age Discrimination Act of 1975.

The University reserves constitutional and statutory rights as a religious institution and employer to give preference to Seventh-day Adventists in admissions and employment. The University believes that Title IX regulations are subject to constitutional guarantees against unreasonable entanglement with or infringements on the religious teachings and practices of the Seventh-day Adventist church. The University expects students and employees to uphold biblical principles of morality and deportment as interpreted by the Seventh-day Adventist church. The University claims exemptions from the provisions of Title IX set forth in CFR Sections 86.21, 86.31, 86.40, and 86.57(b) insofar as they conflict with church teachings and practices of morality, deportment, and appearance.

## AFFIRMATIVE ACTION

The University routinely monitors its educational and employment practices regarding women, minorities, and the handicapped to ensure compliance with the law and University policy. The University's affirmative action policy is to provide equal access to admissions, educational programs and activities, financial aid, student services, and employment.

In compliance with Title IX of the Educational Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973, a grievance procedure has been established to process student complaints alleging violation of these regulations or of the University's policy of nondiscrimination based on sex or handicap. Inquiries concerning Title IX may be directed to the dean of students. Employment-related discrimination complaints, including those filed by student employees, are processed in conformity with the provisions outlined in existing staff personnel policies. Complaints related to discrimination in academic areas are reviewed in conformity with the procedures established by the academic administration.





# LOMA LINDA UNIVERSITY

## HISTORY

Loma Linda University has grown out of the institution founded at Loma Linda, California, by the Seventh-day Adventist church in 1905. The original schools — Nursing and Medicine — have been joined by Allied Health Professions, Dentistry, and Public Health on the Loma Linda campus. In 1967 the former La Sierra College joined the University, adding the College of Arts and Sciences and the School of Education. In 1986 the School of Business and Management was established. The University now comprises two campuses — one at Loma Linda and one in Riverside (La Sierra), California. The School of Religion, established in 1987, and the Graduate School are administered on both campuses.

The University, operated by the Seventh-day Adventist church, is committed to the vision of its founders and sustained by its close association with the church.

## PHILOSOPHY

As implied by its motto, *To Make Man Whole*, the University affirms these tenets as central to its view of education:

God is the creator and sustainer of the universe.

Mankind's fullest development entails a growing understanding of the individual in relation to both God and society.

The quest for truth and professional expertise, in an environment permeated by religious values, benefits the individual and society and advances the ministry of the Seventh-day Adventist church.

## MISSION

Loma Linda University's fundamental purpose as an institution of higher education is to provide — through the faculty, staff, administration, and curricula — an environment for learning that emphasizes individual commitment to Christ, personal integrity, intellectual development, and generous service to mankind and the church.

Particular attention is given to selecting curricula that educate students for Christian service. Whether or not the discipline is directly expressed

in denominational employment, the educational philosophy and methodology are molded by Seventh-day Adventist concerns and values.

The University's College of Arts and Sciences provides a significant liberal arts foundation intended to broaden and enrich the student, whatever the career choice. Professional and postbaccalaureate programs concentrate University resources in religion, business and management, education, social services, health and biomedical sciences, and other fields having a history of high priority among Seventh-day Adventists.

Although many Seventh-day Adventist students at Loma Linda University come from the western United States and most from North America, the University recognizes the larger constituency of the Adventist church throughout the world. Other students who esteem the Christian values of the University provide an additional constituency.

Because Loma Linda University is part of a system of Seventh-day Adventist institutions of higher education, it often serves these institutions through professional collaboration as well as academic agreements. Moreover, the University responds continually to the church's needs for skilled professionals, scholars, and administrators.

Loma Linda University's commitment to excellence in teaching is undergirded by scholarly activity, with growing emphasis on research in areas consistent with its educational goals. The University also provides extensive continuing professional education both locally and on distant campuses in North America and abroad.

In expressing its mission the University

retains the practices of weekly chapel services on both campuses and required study in religion for all students because these activities not only develop and reinforce Christian community, but also add richness and balance to the academic, spiritual, and social life of the student. Furthermore, the University expects its citizens to live in harmony with the Seventh-day Adventist lifestyle.

under the direction of the Board of Trustees, embraces the concept of shared participation in governance among administration, faculty, and students as the process by which decisions are made, implemented, and evaluated.

fosters the ideal of academic freedom, seeking to protect the faculty member from pressures both internal and external which would hinder the pursuit of knowledge and truth. At the same time it assumes that faculty members will act responsibly within the context of the philosophy and mission of the University.

affirms and practices nondiscrimination with regard to age, color, gender, ethnic origin, or handicap. It does, however, offer Adventist students preference in admission; and faculty and staff are recruited with specific attention to their membership in the Seventh-day Adventist church.

Loma Linda University readily accepts its role as a resourceful contributor to its constituencies, higher education, and the local community.

ADOPTED BY THE BOARD OF TRUSTEES

August 26, 1985

# THE COLLEGE OF ARTS AND SCIENCES OF LOMA LINDA UNIVERSITY

## HISTORY

The College of Arts and Sciences of Loma Linda University is the most recent stage in the development of a Seventh-day Adventist educational institution that began as La Sierra Academy in 1922. In 1923 with the addition of course work in preparation for teaching, the school became La Sierra Academy and Normal School. As the offerings continued to grow, it became Southern California Junior College in 1927 and La Sierra College in 1939. Full accreditation as a four-year liberal arts college was received in 1946. In 1967 La Sierra College merged with Loma Linda University to become the University's undergraduate college.

## MISSION

As a community of Christian scholars, The College of Arts and Sciences has as its fundamental purpose to provide an environment for learning and personal growth that challenges and enables students to develop their intellects and their intellectual skills, to examine their values, and to mature in character and in Christian commitment. The liberal arts study in which a person may carry on an individual search for truth and value is joined in some disciplines to professional study.

The College is a center for the expression of the values of the liberal arts within the University.

The College identifies its mission as an educational institution with the larger mission of the Seventh-day Adventist church, and in this mission it is not only serving the church but is also one of the ways that the church serves. From its graduates is drawn a creative cadre of church workers; its faculty constitute a resource of talent and information to church and society; its students and faculty form a community for the expression and development of Christian values; and Christian education extended openly to all who seek it is instrumental in the healing of mankind.



## EXPRESSION OF THE MISSION

Commitment to excellence in scholarship must always be expressed in terms of individual goals and abilities. The College commitment is to provide, as far as possible, opportunities for persons of varied backgrounds and abilities to develop their maximum potential. To do this, it has an Honors Program with a restrictive entrance requirement, programs designed to aid in the development of particular skills necessary to success in college work, and an adult-degree program. For all students, broadly based general studies are balanced by depth in a chosen major. College graduates expect to be able to enter professions adequately prepared by the criteria of the licensing board or accrediting association of their discipline or to be prepared to enter the graduate or professional school of their choice. Within the scope of its offerings the College designs curricula to meet these needs with distinction.

Commitment to Christianity expresses itself in various ways that contribute to the College mission. The quest for truth and understanding essential to liberal education takes its perspective and its sense of purpose from basic Christian convictions and finds application of this perspective in every discipline. Moreover, a curriculum of deliberately designated religion courses is required for every college degree. The courses treat the subjects of faith, Scripture, the church, ethics, and the particular relationship existing between religion and the various disciplines and professions. A variety of religious activities and services are provided as part of the college experience. Worship in the residence halls and in classes, Tuesday chapel, Sabbath church, religious retreats, Christian counselors, and a campus chaplain provide opportunity for religious growth and understanding, and present a context for a campus lifestyle. This Christian orientation is informed throughout by Seventh-day Adventist life and faith.

In offering opportunity for education, the College draws its student population first from persons of Seventh-day Adventist background; in this it does not discriminate with regard to age, gender, ethnic origin, or handicap. Since the church is broadly interethnic and international in its scope, the student population enriches campus life with a great variety of cultural backgrounds. Furthermore, the College recruits and welcomes persons of other faiths who acknowledge the values of the education and lifestyle offered. The result is a community with a strong central focus and yet with a rich diversity. A program to develop English language skills for the international student and a class to orient students of other faiths to Seventh-day Adventist thought are part of the curriculum.

The College expects its citizens to live in harmony with the Seventh-day Adventist lifestyle and support its perspective on education.

Excellence in scholarship and excellence in teaching are joint commitments. It is the objective of the College to employ faculty with the highest qualifications and with a commitment to quality instruction, and to supply an environment that challenges them to grow professionally. The College subscribes to the ideals of responsible academic freedom and encourages faculty to engage in research and other professional activity that enriches their expertise and contributes to human knowledge.

The College is a center for the liberal arts in a variety of ways both in the University community and in the larger communities served by the University. The College has an art gallery and a museum of natural history; it provides major support for an annual festival of the arts; there are also drama productions, special lectures, and symposia that occur occasionally. Contributions to this function are also made by faculty who do scholarly research, who edit scholarly journals, who act as consultants, and who perform as artists or who produce works of art.

ADOPTED BY THE FACULTY IN SESSION  
November 10, 1986 (Action 86-28)

# 1988

# CALENDAR

## June

S	M	T	W	T	F	S	
			1	2	3	4	20
5	6	7	8	9	10	11	20
12	13	14	15	16	17	18	
19	20	21	22	23	24	25	
26	27	28	29	30			27

### SUMMER SESSION 1988

- Registration
- Beginning of classes and laboratories
- Information concerning workshops, institutes, and other special courses appears in the Summer Session BULLETIN
- Last day to enter a course

## July

S	M	T	W	T	F	S	
				1	2		4
3	4	5	6	7	8	9	5
10	11	12	13	14	15	16	5
17	18	19	20	21	22	23	
24	25	26	27	28	29	30	22
31							29

- Independence Day recess
- Last day to withdraw with no transcript record
- Last day to file application for graduation for prospective March 1989 completion
- Last day to withdraw with a W grade or to request an S/U grade
- Six-week session ends

## August

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

15-SEPT 16 English Language Institute

## September

S	M	T	W	T	F	S	
				1	2	3	1
4	5	6	7	8	9	10	5
11	12	13	14	15	16	17	
18	19	20	21	22	23	24	25
25	26	27	28	29	30		26
							27

Summer Commencement

Labor Day recess

### AUTUMN QUARTER 1988

- Testing and orientation
- Advisement and registration for all students
- Beginning of classes and laboratories

# 1988

# CALENDAR

## October

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

3  
10  
10  
17-22

Last day to enter a course  
Last day to withdraw with no transcript record  
Last day to file application for graduation for  
prospective June 1989 graduation  
Autumn Week of Devotion

## November

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

13-14  
23-27  
28

University Experience  
Thanksgiving recess  
Last day to withdraw with a W grade or to  
request an S/U grade

## December

S	M	T	W	T	F	S
						1 2 3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

12-15  
15

Final examinations  
End of autumn quarter

# 1989

## January

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

3  
4  
10  
14-21  
16  
17  
17

## WINTER QUARTER 1989

Registration  
Beginning of classes and laboratories  
Last day to enter a course  
Mission Emphasis Week  
Martin Luther King, Jr., Day recess  
Last day to withdraw with no transcript record  
Last day to file application for graduation for  
prospective Summer 1989 completion

# 1989

# CALENDAR

## February

S M T W T F S

			1	2	3	4	
5	6	7	8	9	10	11	18
12	13	14	15	16	17	18	20
19	20	21	22	23	24	25	27
26	27	28					

Adventist Higher Education Day  
Presidents' Day recess  
Last day to withdraw with a W grade or to request an S/U grade

## March

S M T W T F S

			1	2	3	4	
5	6	7	8	9	10	11	5
12	13	14	15	16	17	18	9-12
19	20	21	22	23	24	25	13-16
26	27	28	29	30	31		16

Campus Visitors' Day  
Alumni Homecoming  
Final examinations  
End of winter quarter  
**SPRING QUARTER 1989**  
Registration  
Beginning of classes and laboratories

## April

S M T W T F S

						1	
2	3	4	5	6	7	8	3
9	10	11	12	13	14	15	10
16	17	18	19	20	21	22	10
23	24	25	26	27	28	29	17-21
30							26-30

Last day to enter a course  
Last day to withdraw with no transcript record  
Last day to file application for graduation for prospective December 1989 completion  
Spring Week of Devotion  
Fine Arts Festival

## May

S M T W T F S

			1	2	3	4	5	6	
7	8	9	10	11	12	13			22
14	15	16	17	18	19	20			
21	22	23	24	25	26	27			25
28	29	30	31						29

Last day to withdraw with a W grade or to request an S/U grade  
Awards Assembly  
Memorial Day recess

# 1989

# CALENDAR

## June

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

5-8  
8  
9-11  
  
19  
19  
  
  
26

Final examinations  
End of spring quarter  
*Commencement Events*  
**SUMMER SESSION 1989**  
Registration  
Beginning of classes and laboratories  
Information concerning workshops, institutes,  
and other special courses appears in the  
Summer Session BULLETIN  
Last day to enter a course

## July

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

3  
3  
4  
21  
  
28

Last day to file application for graduation for  
prospective May 1990 graduation  
Last day to withdraw with no transcript record  
Independence Day recess  
Last day to withdraw with a W grade  
or to request an S/U grade  
Six-week session ends

## August

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

10  
  
28  
29

*Summer Commencement*  
**FALL SEMESTER 1989**  
Registration  
Beginning of classes and laboratories







# I

<b>General Information</b>
<b>Admission Information</b>
<b>Financial Information</b>
<b>Student Affairs</b>
<b>Academic Policies and Practices</b>

## GENERAL INFORMATION

THE COLLEGE OF ARTS AND SCIENCES of Loma Linda University is the most recent stage of development of the Seventh-day Adventist educational institution that began as La Sierra Academy in 1922. The next year, with the addition of course work in preparation for teaching, the school became La Sierra Academy and Normal School. In 1927 it enlarged its offerings further to become Southern California Junior College, which became La Sierra College in 1939. Full accreditation as a four-year liberal arts college was received in 1946. In 1967 La Sierra College merged with Loma Linda University to become the University's undergraduate college.

Although its functions are centered on the La Sierra campus of the University, the College also offers course work on the Loma Linda campus for students in the professional schools and for students who live in the Loma Linda area, through extension, extended campus, and adult-degree programs.

**Primary objective** The College has as its primary objective the education of Seventh-day Adventist men and women for the fulfillment of the worldwide mission of the church. Many of these men and women will be employed by the church — in its professional ministry, its educational system, its medical services, and elsewhere. Many others will participate in the mission of the church by the witness of their lives in personal integrity, generous service, and Christian devotion.

Accordingly, the College provides an explicitly religious context for the encouragement of personal excellence, physical and emotional health, intellectual breadth and depth appropriate to the baccalaureate level, appreciation of the fine arts, responsible social relationships, and unconditional commitment to supreme values. To this end, campus life incorporates study, work, recreation, and worship.

**Liberal education** A liberal education includes, in addition to a concentrated study in the student's major area of interest, a basic competence in written and oral communication and an encounter with the broad areas of knowledge:

the *humanities*, including intellectual and cultural history, music, art, language, literature, philosophy

the *natural sciences*, including biology, chemistry, physics

*mathematics*, including both traditional mathematics and computer science

the *social and behavioral sciences*, including psychology, sociology, anthropology, social work, child and family science, political science

*religion*, including biblical studies, theology, church history, and ethics

The intention of this kind of education is to enable a student not merely to earn a living but to live responsibly and creatively in society and under God.

**Applied studies** In addition to the traditional disciplines of the liberal arts and sciences, the College offers course work in many areas of applied studies: studio art, data processing, applied music, physical education, and office management.

## CURRICULUMS

The College of Arts and Sciences offers 17 Bachelor of Arts degrees, 17 Bachelor of Science degrees, a Bachelor of Music degree, a Bachelor of Social Work degree, and a Bachelor of Fine Arts degree; in addition, it also offers 7 Associate in Arts degrees and 2 Associate in Science degrees.

**Baccalaureate degree** The *Bachelor of Arts (B.A.)* curriculum is four years of course work that places a major concentration within the context of a comprehensive liberal education. The *Bachelor of Science*, *Bachelor of Music*,

*Bachelor of Social Work*, or *Bachelor of Fine Arts* (B.S., B.Mus., B.S.W., B.F.A.) curriculum is four years of course work with somewhat greater concentration in a major field.

**Associate degree** The *Associate in Arts* or *Associate in Science* (A.A., A.S.) curriculum is two years of course work divided between general and vocational education.

## MAJOR PROGRAMS

The following is a list of departments and programs in the College that offer majors leading to a baccalaureate degree:

Art	Modern Languages
Biology	Music
Chemistry	Office Management and Business Education
Communication	Physics
English	Psychology
Health, Physical Education, and Recreation	Religion
History and Political Science	Social Relations
Liberal Arts	Social Work
Mathematics and Computing	

## PREPROFESSIONAL PROGRAMS

In cooperation with the professional schools of the University, the College offers course work leading to admission to curriculums and programs at various levels:

Pre-Cytotechnology	Pre-Nutrition and Dietetics
Pre-Dental Hygiene	Pre-Occupational Therapy
Pre-Dentistry	Occupational Therapy Assisting, A.A.
Dietetic Technology, A.S.	Pre-Optometry
Pre-Health Information Administration	Pre-Pharmacy
Pre-Law	Pre-Physical Therapy
Medical Radiography, A.S.	Respiratory Therapy, A.S.
Pre-Medical Technology	Pre-Speech-Language Pathology and Audiology
Pre-Medicine	Pre-Veterinary
Pre-Nursing	
Nursing, B.S.	

A student interested in any of these programs should communicate with the school involved and consult its BULLETIN for information concerning specific course work to be completed in the College before admission to the professional program.

## OTHER CAMPUS ENTITIES

**Graduate School** Through the Graduate School, departments of the College of Arts and Sciences and the School of Religion offer programs leading to a master's degree in biology, English, family life education, geological sciences, marriage and family therapy, paleobiology, physical education and health, and religion. Specific requirements are given in the BULLETIN of the Graduate School.

**School of Education** In cooperation with the School of Education, departments of the College of Arts and Sciences and the Division of Religion participate in programs leading to a master's degree in the teaching of agriculture, art, biology, business education, chemistry, English, English as a second language, French, geology, German, history, home economics, industrial arts, mathematics, music, physical education, physics, religion, social sciences, and Spanish. Specific requirements are given in the BULLETIN of the School of Education.

**The Center for Lifelong Learning** The Center for Lifelong Learning, in cooperation with the various schools of the University, offers a variety of degree and nondegree programs, courses, seminars, and workshops for the benefit of working adults and other nontraditional students. The ABLE program — which stands for Adult Baccalaureate and Life Experience degree program — is specifically designed for adults interested in completing a baccalaureate degree — B.A. or B.S. — while maintaining their professional and family responsibilities. It is offered through the Center for Lifelong Learning for the College of Arts and Sciences. Its principal features include courses and seminars taught outside the 8 to 5 daily work schedule at various locations in the southern California region; flexible degree requirements in an accelerated curriculum; the possibility of obtaining academic credit for experiential learning — knowledge acquired outside of college; an affordable tuition rate; and the possibility of financial assistance.

Persons interested in obtaining information about the ABLE program, degree requirements, admission procedure, and class schedule should contact the Center for Lifelong Learning directly by writing to: Center for Lifelong Learning, Loma Linda University, La Sierra campus, Riverside, California 92515-8247; or by calling the center's toll-free number: 1-800-522-LL4U.

**School of Business and Management** The School of Business and Management on the La Sierra campus offers programs leading to a Bachelor of Arts degree in business administration; Bachelor of Business Administration degree in accounting, management, management/information systems, and marketing; and Master of Business Administration degree in business

administration, finance, health administration, human resources and industrial relations, and marketing. Specific requirements are published in the BULLETIN of the School of Business and Management. In addition to degree programs offered, the School provides all business and economics classes required by departments of the College of Arts and Sciences.

**School of Religion** The School of Religion on both the Loma Linda and the La Sierra campuses offers general education courses in religion to all students in every school of the University. In the College of Arts and Sciences, students may select religion courses dealing with the Christian faith, the Scriptures, the church, and Christian ethics. The School of Religion faculty, in collaboration with the College of Arts and Sciences, has established a two-year Associate in Arts degree for Christian workers, as well as a Bachelor of Arts degree with majors in ministerial studies for prospective ministers and in religion for pre-professional students desiring a strong religion emphasis in college. The master's degree in religion, available through the Graduate School, prepares religion teachers, hospital chaplains, and Christian workers for their respective professions. Specific information regarding these degree programs is published in the School of Religion BULLETIN.

## ADVENTIST COLLEGES ABROAD

Adventist Colleges Abroad (ACA) is a consortium of Seventh-day Adventist colleges and universities in North America under the auspices of the Board of Higher Education, General Conference of Seventh-day Adventists. It provides to qualified students opportunities for study overseas while completing the requirements of their major programs at their home colleges. The program allows students to immerse themselves in the culture and life of the host country and to become conversant in the language. As a result of their experiences abroad, many students have been inspired to return to these countries in positions of service.

The following institutions are affiliates of ACA:

Austria: Seminar Schloss Bogenhofen, Braunau

France: Seminaire Adventiste du Saleve, Collonges-sous-Saleve

Spain: Colegio Adventista de Sagunto, Sagunto

**Prerequisites** The applicant for foreign study need not be a language major. Students whose program can be arranged to allow for one or more elective years within the four-year curriculum have been able to fit in the year abroad by carefully planning the years preceding and following the

overseas experience. Prerequisites for admission to a year of study abroad through ACA are:

1. Admission as a regular student in the College for the year abroad.
2. Competence in the language (minimum: one year college or two years secondary study).
3. A GPA of 3.00 in the language and 2.50 overall.
4. A good citizenship record.
5. Application to the admissions office on the special ACA form.
6. Ability to meet the financial requirements. Costs, including transportation, are comparable to those at Adventist colleges in the United States.

College freshmen with a competence in the language are not excluded from the ACA program, but the course of study is more beneficial to sophomores and juniors. For further details consult the Department of Modern Languages or the Office of the Dean.

## ORGANIZATION AND ADMINISTRATION

**Dean** The dean is the chief administrative officer of the College and is responsible for its academic program. He is assisted by an assistant to the dean. The dean holds faculty appointment on the College faculty.

**Faculty** Officers of the faculty include the dean, who serves as its chairman and presides at its general meetings; a moderator, who chairs faculty meetings when faculty policy committees report; a secretary; a parliamentarian (the latter three officers are elected by the faculty).

**Committees** The College Executive Committee consists of the dean, assistant to the dean, and chairmen of the departments of instruction. Administrative committees, in general, are appointed by the dean and/or the College Executive Committee. Policy committees, in general, are elected by the faculty. All committees report to the body or office that appointed them, and in the final analysis are advisory to the dean.

La Sierra campus administrative committees on which the College faculty holds major representation include the committees on awards and scholarships, library, faculty social and religious activities, student affairs, and teacher education council.

## ADMISSION INFORMATION

The admissions committees of the University put forth considerable effort to be assured that applicants to any of the schools are qualified for their proposed curriculum and seem likely to profit from educational experience in this University. The Admissions Committee of the College of Arts and Sciences examines evidence, derived from the usual sources consulted by colleges and universities, of scholastic competence, moral and ethical standards, and significant qualities of character and personality.

### APPLICATION AND ACCEPTANCE

**Where to write** Inquiry about admission and acceptance should be addressed to:

Office of Admissions  
Loma Linda University, La Sierra Campus  
Riverside, California 92515-8247

**Procedure** 1. As early as possible, the prospective student should submit a formal application together with all supporting information and the nonrefundable application fee specified in the Schedule of Charges in the *Financial Information* section of this BULLETIN.

2. The prospective student should arrange for (a) transcripts from schools formerly attended to be sent directly to the University, (b) test results from the American College Testing Program (ACT), (c) two wallet-sized photographs, (d) names and addresses of those from whom the University may request personal information about the applicant.

3. The Admissions Committee takes official action, and the Office of Admissions notifies the applicant of acceptance or nonacceptance.

4. The applicant who is accepted and is planning to live in a University residence hall should submit the required deposit (see *Financial Information*).

5. As soon as possible after acceptance, the applicant should complete the medical history form and have a physician complete the physical examination form. The above requirements must be completed to ensure eligibility for Student Health Plan benefits and services.

**Deadlines** Applications for the fall, winter, spring, and summer terms are due on August 15, December 1, March 1, and May 1, respectively. Late applications must be accompanied by the special late application fee (see *Financial Information*). Those desiring financial aid starting in the fall quarter should have their applications in by May 1.

## ADMISSION OF FRESHMEN

**Admission requirements** The following high school course work is required for admission to baccalaureate degree programs in the College of Arts and Sciences. The student who completes these courses on the high school level will be prepared to enter directly into a baccalaureate degree program. While the College fully supports the graduation requirements for secondary schools in the Pacific Union Conference of Seventh-day Adventists, students are advised to choose those courses in the various subject areas that will fulfill the admission requirements of the College. If a few of these requirements have not been met at the high school level, remedial courses may be taken after entering the College, but it is to the student's advantage not to have to spend time on these remedial courses.

English, 40 semester periods or a score at or above the 50th percentile on the verbal section of the American College Testing Assessment Program (ACT). (Applicants not meeting these requirements will need to meet remedial requirements specified by the College.)

Mathematics, 20 semester periods of algebra I and II.

Natural sciences, 20 semester periods, including 10 semester periods of a laboratory science.

History, 10 semester periods of American history and 10 semester periods of world history.

Religion, 10 semester periods for each year in attendance at a church-related secondary school.

Foreign language, 20 semester periods of one language. (If not taken in secondary school, 8 units in the same language are required at the college level to be counted as elective credit.)

**Recommended additional college preparation** In addition to the required secondary school courses, it is recommended that students who are preparing for college plan to take as many as possible of the following courses:

Mathematics, 10 to 20 semester periods selected from geometry, trigonometry, calculus, or statistics. This is especially recommended for students preparing for careers in mathematics, business, or the natural or medical sciences.

Natural sciences, 20 semester periods, including biology and chemistry or physics are recommended. It is recommended that those preparing for careers in the natural or medical sciences take biology, chemistry, and physics.

Computer literacy and keyboard skills, to include typewriting and one semester of computer science or computer literacy.

**Phasing in the new requirements** The following schedule shows how the new requirements are being phased in over several years (expressed in semester periods):

	ENGLISH	MATH	NATURAL SCIENCES	HISTORY	RELIGION	FOREIGN LANGUAGE
1985-87	40	10	10 with laboratory	10	10	—
1987-89	40	20	10 with laboratory	10	40	—
1989-90	40	20	20 with laboratory	20	40	20



**Regular standing** Admission to regular standing is ordinarily granted to an applicant who has (a) a diploma or its equivalent from an accredited secondary school, (b) an overall grade point average of 2.0 and a G.P.A. of 2.0 in the required courses listed above, (c) the specified amount of credit in particular subject areas (see above), (d) an acceptable score on both the English and mathematics sections of the American College Testing Assessment Program (ACT), and (e) satisfactory personal recommendations. In unusual cases, the Admission Committee may, at its own discretion, waive one or more of these requirements.

**Provisional standing** An applicant who does not fully meet the requirements for admission to regular standing may be admitted on a provisional basis, with regular standing conditional upon satisfactory completion of specified courses designed to make up a deficiency and to help an incoming student develop reading, composition, computational, and study skills.

An applicant who is accepted on a provisional basis will be given special academic advisement and is required to register for any remedial work as indicated by placement tests in order to achieve regular standing. A maximum of three quarters is allowed for completing any remedial work and achieving regular standing.

**Entrance tests** A prospective student should take the American College Testing Assessment Program (ACT) during the senior year of secondary school and have the results sent to the Office of Admissions of the University. Ordinarily this test is taken at the student's school; but if it is not available there, an applicant may make arrangements to take it on campus in the Testing Office during the summer or during freshman orientation.

The ACT and other placement tests must be completed before initial registration in the College. Information concerning testing dates and locations is sent to accepted applicants who need testing before registration.

Applicants are encouraged to take seriously the examination since low scores can result in the student having to take remedial courses in college.

**Advisement** The College of Arts and Sciences is committed to assist every student in the area of academic advisement. Every full-time student is assigned an academic adviser from his/her major field and is required to consult with the adviser before registering for classes.

## OTHER ADMISSION PRACTICES

**Reentrance** A former student who wishes to resume studies at the University after an absence of one year or more is subject to the requirements of the BULLETIN in effect at the time of, or subsequent to the time of, reentry.

**Transfer students** A student applying for admission by transfer from another college or university must file with the Office of Admissions complete records of all studies taken at the secondary and college levels. Acceptance of credit for college-level course work at another institution is subject to the following limitations:

1. The maximum amount of credit accepted from an accredited junior college is 105 quarter units (lower division).
2. Credit for course work at a military service school is granted according to recommendations of the American Council on Education and/or the California Committee for the Study of Education.
3. Credit for course work in a professional school is accepted only if (a) the school is recognized by its regional or national accrediting association, and (b) the course work is essentially equivalent or substantially relevant to a curriculum at Loma Linda University.
4. Students who have attended an unaccredited, postsecondary institution of higher education may be admitted based upon their having successfully met the admissions requirements of the College. This includes having a diploma or its equivalent from an accredited secondary school, or, where applicable, having passed the General Educational Development High School Equivalency tests according to the California standards for passing. Credit transferred from an unaccredited college is evaluated and accepted only after a student has earned 12 units of credit with an average grade of C (2.0) or better at Loma Linda University.
5. Credit for remedial courses taken at another institution is not transferable to Loma Linda University.
6. The University may require satisfactory performance on an examination to validate any transfer credit.

**High school proficiency** Students may be admitted upon receiving acceptable scores on the General Educational Development (GED) examinations. Since 1943 the GED High School Equivalency Diploma Test has served the adult population by providing the opportunity to demonstrate educational achievement comparable to that of the high school graduate. A person must be 18 years of age to take the examination, although under certain conditions a 17-year-old may qualify. Regardless of age, the person may not be enrolled in a secondary school. In California an average score of 45 must be attained on the five tests, with no score lower than 35.

A student who has received the California High School Certificate of Proficiency may be accepted for college admission if the secondary school subjects required for admission to the College (see page 29) have been completed and if the student has achieved a score on the English and mathematics sections of the American College Testing Assessment Program at or above the 50th percentile. In addition, the student must submit a letter to the chairman of the Admissions Committee indicating life goals, evidence of motivation for early entrance into college, and reasons for acceleration.

**International students** Students from countries other than the United States or Canada may be admitted when they (a) meet all regular requirements for admission; (b) submit official transcripts in the original language together with official English translations; (c) furnish recommendations from responsible persons; (d) submit scores for the Michigan Test of English Language Proficiency (MTELP) or the Test of English as a Foreign Language (TOEFL), if English is not the student's native language; and (e) give evidence of ability to meet all financial obligations to the University during the proposed course of study. For those students unable to take either the TOEFL or MTELP tests before registration, the University can provide MTELP testing.

The student who does not have a sufficient score on MTELP or TOEFL, or other evidence of English proficiency, will be required to take classes in English as a second language through the English Language Institute of the Department of Modern Languages. An intensive language institute also is offered during the six weeks preceding the beginning of the autumn quarter.

**Student visa** A person entering the United States on a student visa (F-1) must complete a full study load (12 units for the undergraduate, 8 units for the graduate student) for each quarter of attendance. The applicant must provide an advance deposit, as required by the Student Aid and Finance Office, and must give assurance that additional funds will be forthcoming to meet school expenses. Scholarships available to international students are scarce, and on-campus employment is limited by regulations of the Immigration and Naturalization Service to no more than twenty hours per week when school is in session if work is available. Permission for off-campus employment is not given during the first twelve months of study and is granted by Immigration and Naturalization Service only because of economic necessity due to an unforeseen change in the student's financial circumstances.

**Exchange visitor** Through the U.S. Department of State, the University has a program for exchange visitors that may be advantageous for international students. A student entering the United States on an exchange visitor

visa (J-1) is subject to the same regulations of study load and work limitations as the F-1 student. Further information may be obtained from the international student adviser in the Student Affairs Office.

**Certificate of Eligibility forms** For either the F-1 or the J-1 status, Certificate of Eligibility forms are provided by the international student adviser in the Student Affairs Office after the applicant's acceptance and after financial arrangements have been made with the Student Finance Office.

**Veterans** Students eligible to receive veteran's benefits under the 1966 enactment should have their records transferred to the Veterans Administration Regional Office, 11000 Wilshire Boulevard, Los Angeles, California 90024, and have a certificate of eligibility sent to the Office of University Records.

Application for admission to the University should be made well in advance. Further information may be requested of the Office of Admissions.

# FINANCIAL INFORMATION

## GENERAL PRACTICES

**Plan ahead** The student is expected to have arranged for financial resources to cover all expenses before the beginning of each school year. Accounts with other schools or with this University must have been settled. To prevent long lines at registration, the student is urged to make financial plans well in advance and to complete financial arrangements with the Student Finance Office on or before registration dates.

**Business hours** To avoid inconvenience, parents, sponsors, and others who plan to come from a distance to the campus for business purposes should telephone for appointment, especially if they are unable to arrive during business hours, which are:

8:00-5:00 Monday through Thursday  
8:00-12:00 Friday

All offices are closed on Saturday, Sunday, and legal holidays. Appointments may be made by telephone to area code 714 and the following numbers:

Student Finance / 785-2251  
Student Aid / 785-2175  
Student Employment / 785-2147

**Advance payments** Payments must be made in advance as follows: (a) a \$50 room reservation deposit and a \$50 room damage and cleaning deposit by residence hall students; (b) the tuition charge for the current quarter; (c) the minimum guarantee deposit of \$2,450 for international applicants before issuance of the I-20. For further details, see the Schedule of Charges, Deposits, International Students, and other subsections in the *Financial Information* section of this BULLETIN.

**Cash needs** The student should arrange to have cash available for all special charges and miscellaneous expenses. It is advisable to deposit at least \$100-150 each quarter in the Student Bank for books, vehicle registration, supplies, personal expenses, etc.

**Student Bank** The University operates the Student Bank for the convenience of students. If parents or sponsors wish to write only one check to include money for both tuition and other expenses, they should indicate that the surplus may be deposited in the Student Bank. Money earned by the student in part-time employment can also be deposited in the Student Bank for withdrawal at the student's discretion.

**Checks** Checks should be made payable to Loma Linda University, La Sierra campus, and should have noted thereon the student's name and I.D.

number to ensure that the correct account is credited. A charge may be made by the University when a check is not honored by a bank.

**Health insurance** Health service plans are automatically provided in the payment of charges for students registered for 7 units or more. A student enrolled for fewer than these units may request and pay for health service coverage. The health plan covers the hospital and medical expenses outlined in the Student Health Service folder. Items not covered by the terms of the health plan are payable by the student in all cases, and payment is expected at the time these services are given. Married students may have family coverage by applying for it within fifteen days of their initial enrollment date for the year and by paying additional premiums. Information on rates and the appropriate forms are available at the Cashier's Office. (See also the *Student Affairs* section.)

**Veterans** A student who has been accepted and is eligible to receive veteran's benefits under the 1966 enactment should transfer records to the Veterans Administration Regional Office, 11000 Wilshire Boulevard, Los Angeles, California 90024, and have a certificate of eligibility sent to the University Records Office, La Sierra campus. Information regarding veteran's benefits may be obtained at the Office of University Records.

**Room and damage deposits** The student accepted to live in a residence hall is required to pay a \$50 nonrefundable (except as provided in Section IV of the Residential License Agreement) room reservation deposit, which must be accompanied by a properly signed and executed Residential License Agreement before a room is assigned or occupied. In addition, a \$50 room damage and cleaning deposit is required and is refundable according to the provisions listed under Section II of the Residential License Agreement. Further details are published in the *Student Handbook*. Loan contracts, grants, scholarships, or other kinds of financial aid are not accepted in lieu of these deposits.

**International students** An international applicant (other than Canadian) on a student visa is required to make an advance deposit of the current quarter's tuition cost. All international students must furnish evidence of additional resources to finance the expenses of the education planned. Because international students do not qualify for loans and grants listed under Student Aid, parents or sponsors are responsible for making payments in accordance with the financial practices of the University. A Financial Information Form is available from the Office of Admissions. The student must obtain the proper signatures on the form and file it with the Office of Admissions before clearance can be given for the issuance of an I-20 form.

**Residence hall study load** A residence hall student is expected to register for an academic load of at least 8 units per quarter and be matriculated.

**Audit** A student may audit a lecture course only. There is a special audit charge rate. Courses requiring special instruction and laboratories such as studio art, industrial studies, science courses requiring a laboratory, etc., cannot be taken on an audit basis. If a student who audits a course wishes later to take an equivalency examination in the course, the balance of the regular tuition as well as the fee for the examination must be paid.

**Financial clearance** Students are expected to make satisfactory arrangements with the Student Finance Office for meeting all financial obligations to the University and to keep their financial status clear at all times. Financial clearance must be obtained at the beginning of each quarter. The minimum requirement for such clearance is that tuition be covered.

**Transcripts** The University reserves the right to withhold all information concerning the record of a student who is in arrears in the payment of accounts, other charges, or student loans. No transcripts are issued until all of the student's financial obligations to the University have been met as set forth in this BULLETIN. This includes being current in repayment of any student loan. A student who wishes immediate release of a transcript must clear all outstanding financial obligations (including those of the current quarter) by cash, money order, or cashier's check before the transcript will be issued.

**Past-due account** A quarterly service charge of 2 percent is applied on the unpaid balance at the end of December, March, June, and September. This is an annual interest rate of 8 percent.

**Statements** Under the Family Education Rights and Privacy Act of 1974, postsecondary students have full rights of privacy with regard to their account. Statements will be sent only to the person indicated by the student on the registration form.

#### SCHEDULE OF CHARGES for 1988-89 (subject to change by Trustee action)

**Flat charge** The flat charge enables the student to know the cost of education in advance and make arrangements to finance the program. For residence hall and off-campus students alike, the following are included in the indicated flat charge per quarter:

- Tuition (for full-time study load, 12 units to 18.5 units).
- Health insurance (routine care and medicine).
- Applied music instruction as required for a major or approved for a minor in music.
- Concert series ticket.
- Diploma, certificate, academic costume.
- ASLU fees.

Included additionally for residence hall students only:

Room charge and membership in residence hall club.

Meals (as much as the student wishes to eat at mealtime, according to the meal plan selected) from registration to the close of examinations, exclusive of Thanksgiving and interquarter recesses, but inclusive of:

- freshman orientation time;
- student teacher assignment time;
- candidate participation in commencement events;
- Snack Shop ticket (\$20 per quarter).

**FLAT CHARGE FOR TUITION, ROOM, AND BOARD PER QUARTER**

(Payment required by or before registration)

[Because of unpredictable costs of food and other items, these rates are subject to change at the beginning of any quarter.]

- \$3418 Residence hall: 12 to 18.5 units per quarter, with 19 meals per week.
- 3410 Residence hall: 12 to 18.5 units per quarter, with any 15 meals per week.
- 3383 Residence hall: 12 to 18.5 units per quarter, with any 10 meals per week.
- 2450 Off-campus (tuition only): 12 to 18.5 units per quarter.

**UNIT CHARGE**

- \$ 204 Per unit, fewer than 12 units.
- 132 Per unit, more than 18.5 units.

**APPLIED MUSIC CHARGES**

- \$ 180 For 9 one-half hour lessons, not for academic credit. (Charges are payable in advance at the Cashier's Office.)
- 75 For 9 one-half hour lessons for one unit of credit. (This fee is charged in addition to the regular unit tuition charge, unless required for a music major or approved music minor.)

**AUDIT CHARGE**

- \$ 100 Per unit (see audit regulations, page 37).

**DEPOSITS REQUIRED**

- \$ 50 Residence hall room reservation to accompany Residential License Agreement.
- 50 Residence hall room damage and cleaning deposit to accompany Residential License Agreement.
- 2450 International student (minimum for most international students).

**SPECIAL CHARGES (payable in cash)**

- \$ 20 Application (nonrefundable).
- 30 Late application for fall, winter, spring, summer terms (nonrefundable): application after August 15, December 1, March 1, May 1.
- 30 Application (nonrefundable): international students.
- (nonrefundable).
- 10 Late registration, first day after published registration date. \$3 per day thereafter.
- 10 Business Office collection charge for unpaid department charges or check returned for insufficient funds.
- 30 Waiver examination (for each numbered course).
- 50 Equivalency examination (for each numbered course).
- 30 Thesis or project continued, per quarter.
- 5 Change of identification card.
- 2 Transcript of credit.
- Library fine or loss, parking fine, property or supplies breakage or loss.
- Special physical education activities.
- 15 Vehicle registration (\$35/year).



**MISCELLANEOUS EXPENSES (payable in cash)**

Books, supplies, music, etc. (estimated \$100-150 per quarter).

Health charges: care other than that provided by campus Health Service or covered by health insurance.

Nonroutine psychological tests.

Campus clubs and organizations.

Meal charges other than those included in flat rate: during holiday and inter-quarter recesses; snack shop or market.

Transportation: fieldwork, practice teaching, intercampus travel, off-campus assignment.

Laundry.

Entertainment (other than concert series).

**REFUNDS**

**Withdrawal** When a student withdraws from all courses and leaves school, these practices are followed:

1. *Date of withdrawal.* The official date of withdrawal and the effective date of the calculation of a refund is the date on which the completed drop form is turned in to the Office of University Records.

2. *Tuition.* There is a minimum charge of 5 percent of the billed tuition during the first five days of school after the published registration date; thereafter, 3 percent of the billed tuition is charged for each school day, up to the full amount of the charge. This applies to part-time as well as full-time students.

3. *Board.* After deducting the \$20 nonrefundable snack shop ticket, the charge for board used will be prorated on a daily basis for the nineteen- and fifteen-meal plans (any part of a day is counted as a full day). The ten-meal plan will be prorated on a weekly basis (any part of a week is counted as a full week).

4. *Room.* The charge for room use is governed by the Residential License Agreement, which provides for a prorated refund based on thirty-day notice of cancellation (see Section IV of the agreement).

5. *Identification card.* The student must return the ID card to the Student Finance Office to establish eligibility for refund. Refund of meal charges will be figured from the date the ID card is received in the Student Finance Office.

6. *Illness.* Special consideration may be given for tuition refunds in the case of prolonged illness.

7. *Return home.* If the student does not have funds for return fare home, an emergency assistance may be granted, provided there is sufficient credit in the account.

8. *Damage deposit.* Refund will be made when the residence hall dean returns the signed residence hall release to the Cashier's Office. The amount refunded will reflect any deductions made for damages or cleaning.

9. *Refund.* Ordinarily the balance of the account is refunded approximately one month from the date of the completed drop form. The refund is made to the student unless other instructions are given. If a student is receiving financial aid, under normal circumstances the surplus is returned to the aid fund account. California state scholarship and Pell Grant funds are prorated.

**Change in study load** A student who adds a course during the first five class days of the quarter or who drops a course during the first two weeks of the quarter will be charged tuition for the added or dropped course from the beginning of the quarter unless the resulting class load is not above or below that which is covered by the flat rate charged for tuition. No financial adjustment is made for the student who adds and drops the same number of units on the same day. A student who drops a class during the first eight weeks of the quarter may be eligible for a partial refund according to the policy given on pages 33 and 34. No refund can be given until the drop form is turned in to the Office of University Records.

**Residence change** A student who chooses to move out of the residence hall during the quarter is subject to the prorated refund provisions of the Residential License Agreement, which are based on a thirty-day cancellation notice (see Section IV of the agreement).

**Meal plan change** At the beginning of each quarter when financial clearance is obtained, a meal plan is chosen. Change of meal plan may occasionally be approved by petitioning the dean of students.

**Overpayment** If an account is overpaid, the student should allow time for all records (such as cashier receipts, registration records, etc.) to clear through the normal accounting procedure before a refund can be made. A signed request form or letter from the student is necessary to initiate the procedure for any refund.

## PAYMENT

*Tuition* is to be paid in full at the beginning of each quarter. Board and room charges for the full quarter are due and payable six weeks after the beginning of the quarter.

## EMPLOYMENT

A student who needs to work part time to assist with expenses must obtain a work contract from the student employment office.

**Campus work** Campus employment opportunities are offered primarily by such services as cafeteria, grounds, housekeeping, maintenance, and market. Some additional opportunities are offered in the residence halls, the library, the general administrative offices, and the academic department offices.

**Local businesses** A few local businesses adjacent to the campus provide a limited number of employment opportunities at which the student may earn an average of approximately \$1500 a year.

**Cash payment** Cash payment for part-time employment by the University is made on a biweekly basis for the student's use for personal needs, loan payments, etc. The student may elect to have the check applied directly to his/her account (except the student on a federal work-study program).

**Payroll deduction** Payroll deduction is available to facilitate the payment of tithe and to apply earnings on student accounts. Arrangements are made at the student's request. A student on a federal work-study program cannot apply for a payroll deduction.

## STUDENT AID

Financial assistance for education is available through federal government sources, state scholarships, private lending agencies, certain University resources, and established awards, grants, scholarships, revolving loan funds, and the like.

**How to apply** Financial aid is granted to students on the basis of need. The student applying for a scholarship, grant, or loan, or for work, is requested to provide evidence of financial need by filing a Student Aid Application for California (SAAC) or Financial Aid Form (FAF) with College Scholarship Service (CSS). Filing should be completed by March 1 so that the necessary information will be received in the Student Aid Office by May 1. Those whose files are complete after May 1 are considered for aid on the same basis but only as funds are available.

The SAAC or FAF, together with information about the CSS need-analysis system, may be obtained from a high school guidance counselor or from this or any other university student aid office.

**Code 4380** The student should use College Scholarship Service code number 4380 to identify this University/campus.

The College Scholarship Service identifying name and code for the La Sierra campus of this University is Loma Linda U — Riverside 4380.

## FEDERAL PROGRAMS

**Eligibility** Financial aid programs sponsored by the United States Department of Education and administered by this University require the provision of information used for evaluation by College Scholarship Service in establishing the student's eligibility for aid. The student classified as a dependent must have the "Parents' Information" section of the SAAC or FAF filled out, as well as the applicable "Student Information." A student who is classified as independent needs to fill out only the "Student Information" section and submit the SAAC or FAF to College Scholarship Service. In addition, the student's parents (in case of a dependent student), or the independent student, must submit a copy of their IRS-1040 form with all the accompanying schedules.

**Continued eligibility (academic progress)** Evaluation of a student's eligibility to continue to receive federal aid will be made at least once a year. In order to continue to be eligible for federal aid, a student must be making satisfactory academic progress. This means that the student must maintain a cumulative grade point average of at least 2.0 and must satisfactorily complete two-thirds of the units attempted each quarter. Students have a maximum of eight years to complete a bachelor's degree. (See Acceptable Progress on page 54.)

A student on academic disqualification is not eligible to register or to receive financial aid. Eligibility for aid may be renewed at a later time if the student reapplies for admission and is granted an acceptance.

Students who have been denied financial aid because of not meeting the above requirements and who feel that there are mitigating circumstances that need to be considered may appeal the decision to the Student Financial Aid Appeals Committee made up of the director of admissions and recruitment, director of student finance, and the assistant to the dean of the College of Arts and Sciences.

**Citizenship** To qualify for federal financial aid, a student must be a United States citizen or a permanent resident. International students are not eligible to receive federal aid.

The following five programs of student assistance are supported by the U. S. Department of Education and are available to Loma Linda University students who meet the federal eligibility requirements:

- Pell Grant
- Supplemental Educational Opportunity Grant
- Perkins Loan (formerly National Direct Student Loan)
- Guaranteed Student Loan
- College Work-Study Program

Determination of the type of financial aid applicable in given cases is made in the Student Aid and Finance Office (with the exception of the Pell Grant and part of the Guaranteed Student Loan).

**Regulations** The student should acquaint himself with the Department of Education regulations which govern each federal program.

**Perkins Loan (formerly National Direct Student Loan)** Up to \$2,250 per year may be available for needy students. Six months after ceasing to be in at least half-time attendance, the recipient begins to repay the loan at 5 percent interest. There are some other specific provisions for further delaying payments. The student should check with the Student Aid Office for information regarding individual situations.

**Pell Grant** The Pell Grant program makes funds available to undergraduate eligible students who are enrolled on at least a half-time basis. To apply for a Pell Grant, a student must complete the SAAC, FAF, or the Application for Federal Aid available from high school counselors or from the Student Aid Office.

**Supplemental Educational Opportunity Grant** The Supplemental Educational Opportunity Grant (SEOG) program is for undergraduate students whose financial need determines their eligibility for federal funds. The minimum grant per academic year is \$200; the maximum is \$2000 per academic year.

**College work-study program** A student who has financial need may be offered work during the school year to assist in meeting educational expenses. Certain off-campus jobs may be available during both the summer and the academic year.

**Guaranteed Student Loan (GSL)** This state-guaranteed loan is available to undergraduate and graduate students on the basis of need. The loan is obtained from a bank. As of September 1983, the interest rate may be 7, 8, or 9 percent, depending on the individual student's situation. As of January 1, 1981, the repayment deferment time will vary from six to nine months, depending on the individual student's situation. This deferment time refers to the delayed time before one must start payment on the loan after ceasing to be at least a half-time student. Loans for undergraduate students can be \$2,625 or \$4,000 per year, depending on the student's year in college; for graduate or professional students the amount is \$7,500 per year. Please check with the Student Aid Office to determine the regulations that fit your category.

## OTHER PROGRAMS

**Grant-in-aid** A limited fund is available through the University for special grants to assist students with special financial need and to supplement other aid. Needy students who may not be eligible for assistance under government-sponsored programs or who, because of special circumstances, cannot receive parental support, may be assisted with a grant-in-aid. Application is made each year, and a determination of financial need is required.

**California state scholarships** Cal grants A, B, C are available to California residents who have a satisfactory grade point average and show a financial need. Residents may apply for such scholarships if they meet requirements and establish need. These scholarships provide tuition grants up to \$4,370 at the college of the student's choice. The application used for state aid is the SAAC and is available from all high school counselors and the Student Aid Office.

The state of California also offers the College Opportunity Grant and the Vocational Training Grant. Applications are available from all high school counselors and from the Student Aid Office. These funds must be applied for well in advance of the academic year in which they are to be used. Check with your high school counselor or the Student Aid Office for the application deadline (this period has been during January and February preceding the applicable school year).

**Colporteur** The student may earn a colporteur scholarship by selling Seventh-day Adventist publications. The church conference, the publishers, and the University join in arrangements for this provision.

**Special scholarships and awards** Each year students enrolled in the College of Arts and Sciences are considered for different scholarships and awards, granted on the basis of one or more of the following criteria: academic excellence, citizenship, contribution to campus life, financial need. The following is a list of scholarships and awards that are given:

Wilfred J. Airey Pre-law Scholarship  
Dean's Award  
Farmers Insurance Group Scholarship  
Friends of Loma Linda University,  
La Sierra campus  
Edmund C. Jaeger Award  
Maybel V. Jensen Scholarship  
Judson Memorial Award  
Eliza L. Landeen Scholarship  
Marie Barber Marchus Scholarship  
George H. Mayr Foundation Scholarship  
National Business Education Association  
Merit Award  
Lavina A. Northrop Scholarship

Orange Belt Mineralogical Society  
Scholarship  
I. G. Ortner Scholarship  
President's Award  
Riverside Foundation Heseman  
Scholarship  
Harry Schrillo Scholarship  
The Specht Memorial Scholarship  
Teacher Preparation Scholarship  
Judge M. C. Taft Law Scholarship  
Jake J. Walcker Scholarship  
Alfred Walters Music Scholarship  
Howard O. Welty Loyal Daughters and  
Sons Scholarship

## BUDGETING FOR FINANCIAL AID

Budgeting for financial aid necessitates consideration of more than flat rates for tuition, board, and room. Books, supplies, travel, laundry, personal expense, commuting costs, and other miscellaneous expenses are included in the financial aid budget to establish need. Simply defined, *need* is the sum of the costs less the student's and the family's contribution toward the cost of education. The following annual cost budgets are used for *financial aid purposes only*:

Residence hall student, \$12,491

Off-campus student, \$10,846

The application for financial aid for each academic year (with required supporting documents) should be received at the Student Aid Office by May 1. Aid commitments are made for the school year, one-third of the amount committed being applicable to each quarter.

Some funds may be available for students planning to enter the second or third quarters. Applications should be submitted at least two months in advance.

## STUDENT AFFAIRS

### STUDENT ACADEMIC GRIEVANCE

The student who feels that s/he has an academic grievance should follow the academic due process procedures outlined below:

**Step One:** The student shall first discuss the grievance with his/her instructor in an informal conference immediately after its occurrence but no later than one month into the following quarter. (Summer shall not be considered as "the following quarter.")

**Step Two:** (1) If dissatisfied with the results of Step One, the student may within fifteen school days of the informal conference (Step One) submit the grievance in writing to the chairman of the department involved and/or to the coordinator of the program in which the student is enrolled.

(2) The chairman of the department and/or coordinator of the program in consultation with the instructor shall reply in writing within fifteen school days of receipt of the written grievance and shall state and affirm the decision or modify the decision based on information received since the conference.

**Step Three:** (1) If dissatisfied with the results of Step Two, the student may appeal in writing to the dean of his/her school within fifteen school days and request that the dean appoint a faculty review committee of three members (one chosen by the student, one by the instructor, and one by the dean) to evaluate the grievance and report to the dean on its merit.

(2) The grievance shall be considered at a meeting of the appointed committee, not exceeding fifteen school days following receipt of the appeal and shall report to the dean within five school days following the meeting.

(3) The dean's decision shall be communicated in writing to the student within fifteen school days after receipt of the committee's report. The dean's decision shall be final.

### STUDENT RESPONSIBILITY

Application to and enrollment in the University constitute the student's commitment to honor and abide by the practices and regulations stated in the announcements, BULLETINS, handbooks, and other published materials; and to maintain a manner that is mature and compatible with the University's function as an institution of higher learning.



The University was established to provide education in a distinctive Christian environment. No religious test is applied, but students are expected to respect the Sabbath and to honor the church standards and the ideals of the University. Prospective students have freedom to choose or reject these. But they must make that choice before enrolling and then must abide by the decision while at the University.

## FROM UNIVERSITY TO STUDENT

The University regards the student from a cosmopolitan and comprehensive point of view — (a) cosmopolitan in that historically the University's global mission has promoted bonds and opportunities in education and service without regard to sex, national or racial origin, or geographical line; and (b) comprehensive in that the University's concern for the welfare of the student has been traditionally an integrated concern for assisting the student in balanced development of the intellectual, emotional, physical, religious, and societal potentialities.

## GENERAL INFORMATION

**Identification number** All students will be assigned University identification numbers by the Office of Admissions and issued identification cards. The seven-digit ID number must appear on all checks payable to the University to ensure crediting to the proper account. The ID card will be used for admissions and records, library, health, and many other services. When the student withdraws from the University, the card is returned to the Student Finance Office.

**Counseling service** The official counseling agency for the University provides a service to students who desire help from professional counselors. This service, which is free and is on a voluntary basis, is designed to deal with a wide range of educational, vocational, premarital, marital, or other personal problems. No referral is necessary. The goal is to assist individuals to make maximum use of their intellectual and personal resources. Counseling is done in the strictest confidence; and no information is released except by the written request of the person counseled, or as is normally required by law.

**Physical fitness** Physical fitness is promoted by various recreational interests and by courses in gymnastics, field exercises, swimming, body building, lifesaving, and health instruction. An effort is made to interest

students in some recreational and health-building activity that they may carry over to enhance their future life.

**Health** Living so as to maintain optimum health in the midst of the pressures of pursuing an education is an important part of student growth. The Health Service maintains a campus center where students may go for advice, prescriptions, and care.

**Students' Health Service Plans** Students who are registered and paying tuition for 7 or more units per quarter (excluding courses In Progress or covered by employee tuition benefits) are eligible for the Students' Health Service Plans. Other students may purchase the benefits through the Department of Risk Management of the University.

The Health Service Plans provide certain medical care through the campus Health Service. Eligible students are also provided with limited coverage under the following plans: Accident Plan, Hospital and Surgical Plan, and Accidental Death or Dismemberment Plan. Students may also purchase the optional Major Medical Expense Benefit Plan.

Brochures are available which provide details regarding the benefits provided by each plan. For further information, contact the Department of Risk Management (telephone 714/824-4386, ext. 6013) or Health Service (telephone 714/785-2200).

**Worship** Chapel services, residence hall religious appointments, and church worship services provide opportunities for personal enrichment. Choosing to come to this University implies the student's willingness to meet these appointments as part of the educational experience.

**Transportation** The student is responsible for transportation arrangements and costs to off-campus assignments. The student who has a car must arrange for campus vehicle registration and parking permit. The law requires that adequate public liability insurance be carried by car owners, and the driver must have a valid driver's license issued by the state of California.

**Property protection** Because a responsible adult has regard for the property of institutions and individuals, the mature student will endeavor to protect and safeguard University property, facilities, equipment, and supplies. Students are expected to assume responsibility for the safekeeping of personal belongings, using lockers where these are available, and otherwise exercising appropriate attentiveness to the protection of their own property and that of others.

## CAMPUS ORGANIZATIONS

Many campus organizations offer opportunities for extracurricular activity, experience, and growth. The following list suggests the range of groups that regularly function on the campus, governing themselves under bylaws approved by the Student Affairs Committee:

American Chemical Society  
Associated Students of Loma Linda University  
Band  
Black Student Association  
Business Club  
Campus Ministries  
Chinese Club  
Communication Club  
Computer/DPMA  
Education Club  
Film Society  
Geology Club  
Hawaiian Club  
Heperec Club (health, physical education, recreation, youth services)  
History Club  
Industrial Technology Club  
International Students Association  
Korean Club  
Law Club  
Mathematics Club  
Men's Dorm Council  
Music Club  
Ole Club  
Olympians  
Pre-Med Club  
Psychology Club  
Social Work Club  
Student Missionary Club  
University Singers  
Wellness Works  
West Indies Club  
Women's Dorm Council

## STUDENT HANDBOOK

Explanations of many aspects of student life and detailed information concerning the University's expectations of its students are published in the *Student Handbook*, which is sent to every student admitted to the University.

## ACADEMIC POLICIES and PRACTICES

The information in this BULLETIN is made as accurate as is possible at the time of publication. Students are responsible for informing themselves of and satisfactorily meeting all requirements pertinent to their relationship with the University. The University reserves the right to make such changes as circumstances demand with reference to admission, registration, tuition and fees, attendance, curriculum requirements, conduct, academic standing, candidacy, and graduation.

### ACADEMIC AUTHORITY

The Office of the Dean is the final authority in all academic matters in the College of Arts and Sciences and is charged with the interpretation and enforcement of academic requirements. Any exceptions or changes in academic requirements, graduation requirements, test schedules, and grades are not valid unless approved by the dean of the College. Any actions taken by individual faculty members in regard to these matters are advisory only and are not binding on the College and the University unless approved by the dean.

### DISHONESTY

**Responsibility of students** It is the responsibility of the students to avoid both dishonest practices and the appearance of dishonesty. Students should make the necessary effort to ensure that their work is not used by other students. They have the responsibility to protect the integrity of their academic work by doing all they can to stop dishonest practices of others.

**Responsibilities of faculty to aid students in developing honest academic habits** Teachers requiring independent work (e.g., take-home tests, research papers, etc.) as part of the student's grade should take appropriate precautions (e.g., teacher-student conferences, examination of research notes, etc.) to ensure that the work represents the student's own efforts. It is recommended that teachers avoid basing an excessive amount (over 20%) of the student's grade on such work where adequate supervision and controls are not possible.

## PROCEDURES FOR DEALING WITH ACADEMIC DISHONESTY AND FOR APPARENT DISHONESTY

Academic honesty is the cornerstone of institutional integrity. Academic dishonesty, on the other hand, is a threat to the intellectual fabric of an academic community and is, perhaps, the most serious violation of trust that can occur in a community of scholars and educators.

It is part of the mission of this University to provide its students not only with excellent technical skills that will contribute to the success of each graduate, but also to encourage in each student an appreciation of the importance of high standards of ethical behavior, without which all else will have little or no meaning. The teachers and academic leaders in the University are, therefore, urged to demonstrate clear, strong, and consistent codes of ethics in all aspects of institutional life. It is also legitimate and appropriate to hold the students to the highest standards of behavior in their academic work.

**Definitions** 1. Academic dishonesty shall be defined to include, but shall not be limited to, the following:

- a. cheating on assignments or examinations, including cheat sheets or other unauthorized materials.
- b. copying from peers, or knowingly and willingly permitting or assisting others to copy from one's own exam or other assigned work.
- c. plagiarizing, which includes the undocumented use of quotations, ideas, or the paraphrasing of the ideas of others and presenting them as one's own.
- d. submitting research papers that are not the product of the student's own efforts.
- e. interfering in a harmful way with other students' work (e.g., sabotaging another student's laboratory work, or entering or deleting data in a computer account not his/her own).
- f. sitting for an examination for another student or having another person wrongfully sit for the examination of any student.
- g. wrongful altering of grades or arranging for others to wrongfully alter the grades on the teacher's records or records of the school.

2. Gross academic dishonesty shall be defined as any act of academic dishonesty that is premeditated, willful, and wanton and so reprehensible both as to its nature and magnitude as to warrant the immediate suspension or expulsion from the school of any student committing such act (e.g., stealing exams; wrongfully altering grades on official records; sitting for an examination for another student, or having another person sit for the examination of any student, especially for hire).

3. Less-than-gross dishonesty shall be defined as any act of academic dishonesty that is not premeditated, willful, or wanton and where the magnitude of such act does not warrant the suspension or expulsion of the student from the school.

4. Preponderance of the evidence shall be defined as set forth in Black's Law Dictionary, 5th ed., as that "evidence which is of greater weight or more convincing than the evidence which is offered in opposition to it; that is, evidence which as a whole shows that the fact sought to be proved is more probable than not.

## SANCTIONS

1. **First act of less-than-gross academic dishonesty.** Where it has been determined by the preponderance of the evidence that a student has been involved in a first act of less-than-gross academic dishonesty, the student shall receive an F in the course wherein such act of academic dishonesty occurred, and the student shall be placed on probation by the dean of the school.

2. **Second act of less-than-gross academic dishonesty or first act of gross academic dishonesty.** Where there has been a second act of less-than-gross academic dishonesty, the student so acting shall be dismissed from the school for a period of one quarter; or if so warranted by the circumstance, may be permanently expelled from the school.

3. **File.** Evidence of acts of academic dishonesty that are subject to the terms of this Statement of Policy shall be maintained in a file in the office of the dean. The dean of students, La Sierra campus of Loma Linda University shall be informed of any action with respect thereto.

## PROCEDURE

The instructor of the class in which any act or acts of academic dishonesty occur shall notify the dean of the school of each act of academic dishonesty. The dean of the school shall interview the student with respect thereto and shall invite the dean of students for La Sierra campus to be present. The dean of the school shall also give the student the opportunity to respond in writing to the allegation, or allegations, of academic dishonesty.

The dean in consultation with the instructor in whose class the act or acts of academic dishonesty occurred, shall review the facts of the case and present the finding to the Dean's Council. If it is determined by the

Dean's Council that the act or acts of academic dishonesty are established by a preponderance of the evidence, the dean of the school shall impose such sanction as is appropriate under the circumstances and consistent with this Statement of Policy.

## APPEAL PROCESS

Should a student believe that s/he has been unfairly disciplined for any act, or acts, of academic dishonesty covered by this Statement of Policy, the student may avail him/herself of the appeals process in use at that time on the La Sierra campus. A memorandum setting forth the appeals process shall be made available to the student at the time the student is disciplined hereunder.

## REGISTRATION AND ATTENDANCE

**Registration** A student must register on the dates designated in the University calendar in this BULLETIN. Registration procedure includes recording information on forms furnished by the Office of University Records, clearing financial arrangements with the Student Finance Office, and filing the forms at the Office of University Records. A charge is made if registration is not completed on the designated days.

A student may not attend class without being registered for it, and registration may not take place after the first five class days of the quarter. (See the class schedule for exact date each term.)

**Attendance** Class attendance is required beginning with the first day of each session. Regular attendance at all appointments is expected. It is the prerogative of the instructor to establish a reasonable attendance policy for each class taught and to make this known in writing to the students at the beginning of the quarter. When there is no stated policy by the instructor, students who are absent for as much as 20 percent of the class hours should not expect to receive credit.

**Audit** Audit indicates registration for attendance only. A notation of AU will appear on the grade report if the student attends at least 80 percent of the class meetings; otherwise, a notation of AUW (Audit Withdrawal) will appear. There is a special audit charge rate. A student may audit only lecture courses. Courses requiring special instruction and laboratories, such as studio art, industrial studies, science courses, etc., cannot be taken on an audit basis. If a student who audits a course wishes later to take an equivalency examination in the course, the balance of the regular tuition as well as the fee for the examination must be paid.

**Program change, withdrawal** The student who wishes to add a course, or to withdraw from a course or a program, must complete and file appropriate forms supplied by the Office of University Records. This should be done in consultation with the student's adviser and/or the dean.

Any student who enrolls in a class and fails to attend or to withdraw from that class within the prescribed time will receive a letter grade of F.

**Deadlines** A course dropped during the first fourteen calendar days of a quarter is not included on grade reports or transcripts. If a student withdraws after fourteen calendar days of the quarter and prior to fourteen calendar days before the first day of final examinations, a notation of W is recorded.

A student who wishes to add a course, or to change registration in any course from audit to credit, or credit to audit, must do so within the first five class days of the quarter. (See class schedule for exact date each term.)

A student wishing to be graded for a course on a satisfactory/unsatisfactory basis must fill out the appropriate form, have it signed by his/her adviser and turn it in at the Office of University Records no later than fourteen calendar days before the first day of final examination week.

## REGISTRATION CLASSIFICATIONS

**Regular** A student who has satisfied all prerequisites and is registered for a curriculum leading to a degree or certificate is a regular student.

**Provisional** An entering student who is accepted with deficiencies in grades or course work is classified as a provisional student until regular standing is attained.

**Probation** A continuing or transfer student whose grade point average is below 2.0 is placed on academic probation.

**Nondegree/noncertificate undergraduate** A student who is allowed to take classes without being accepted into a degree or certificate program is classified as nondegree/noncertificate undergraduate.

**Nondegree/noncertificate postbaccalaureate** A student who has a baccalaureate degree and who is allowed to take classes without being accepted into a degree or certificate program is classified as nondegree/noncertificate postbaccalaureate.

**Permission to take classes** A student who enrolls for 4 units or less of course work for personal or professional purposes without application toward a degree or certificate is classified as a student with permission to take classes.



## STUDY LOAD

**Unit of credit** Credit is indicated in quarter units. A quarter unit of credit represents ten to twelve class hours, together with requisite study, preparation, and practice, or thirty laboratory hours.

**Course sequence** Credits toward graduation are generally not granted for a beginning or introductory course which is taken after a more advanced course in the same area, or for a course which is taken after another course for which it is a prerequisite.

**Normal limit** A normal study load in the College is 16-17 units of course work per quarter, including all course work for which the student is registered in the schools of the University or elsewhere. A student of exceptional ability may register for additional study with the consent of the dean.

**Full-time status** A student carrying 12 or more units per quarter is considered to be a full-time student.

## SPECIAL COURSE WORK

The College allows nontraditional approaches to learning, including correspondence work and directed study projects.

**Correspondence** Credit from a recognized correspondence school (such as Home Study International, the Seventh-day Adventist correspondence school in Washington, D.C.) may be accepted toward the general requirements for a degree or certificate, up to a maximum of 16 units.

With the consent of the department, correspondence course work (within the maximum of 16 units) may be applicable toward the requirements of a major program.

Transcripts of correspondence credit to be applied toward degree requirements must be received by the Office of University Records at least thirty days prior to graduation.

**Directed study** Directed study may be undertaken in connection with major programs in most departments of the College, subject to the approval of the department chairman and the dean of the College.

**English as a second language** Courses in English as a second language are offered by the Department of Modern Languages for those students whose first language is other than English. A maximum of 30 units of English as a second language classes are allowed toward the 190 units required for graduation.

**Remedial** Credit offered by Loma Linda University on the remedial level (courses numbered 001-099) is applicable as elective units toward a College of Arts and Sciences degree, up to a maximum of 12 units.

**Noncredit course** Organized subject matter in which instruction is offered for which academic credit is not given.

## CLASS STANDING

**Definitions** Students in the College are accorded class standing on the basis of the amount of course work completed as follows:

- Freshman, less than 44 units
- Sophomore, 44-87 units
- Junior, 88-135 units
- Senior, 136 or more units

**Eligibility for course work** A freshman may take lower division courses (numbered 101-299) but not upper division courses (numbered 301-499). A sophomore, junior, or senior may take any lower or upper division course for which the prerequisite qualifications have been met.

**Graduate courses** A senior who meets the requirements for graduate standing may be permitted to take graduate courses (numbered 501-699) concurrently with courses that complete the bachelor's degree requirements, provided this does not constitute an overload.

## SCHOLASTIC STANDING

**Grades and grade points** The following grades and grade points are used in this University:

A	4.0	Outstanding performance	C	2.0	Satisfactory performance for undergraduate credit
A-	3.7		C-	1.7	
B+	3.3		D+	1.3	
B	3.0	Very good performance for undergraduate credit; satisfactory performance for graduate credit	D	1.0	Minimum performance for which undergraduate credit is granted
B-	2.7		F	0.0	Failure, given for not meeting minimal performance
C+	2.3				
S	none	Satisfactory performance, counted toward graduation. Equivalent to a C grade or better in undergraduate courses, or a B grade or better in graduate courses. May not be given for course work in a student's major field, or professional curriculum requirements, except for courses in which a letter grade cannot be determined.			

A student may request to be graded on an S/U basis for any course that is a free elective or for a course fulfilling the general requirements in vocational/avocational or movement skills. This is done by the student's filing with the Office of University Records the appropriate form requesting an S/U grade, signed by the adviser, prior to fourteen calendar days before the first day of the final examination week. Once filed, the grade is not subject to change.

- U none Unsatisfactory performance, given only when performance for a course falls below a C grade in undergraduate courses or a B grade in graduate courses, and the student has filed with the Office of University Records the appropriate form requesting an S/U grade, signed by the adviser, prior to fourteen calendar days before the first day of final examination week. Once filed, the grade is not subject to change.

#### NOTATIONS

- W Withdraw, given for withdrawal from a course prior to fourteen calendar days before the first day of final examination week. Withdrawals during the first fourteen calendar days of a quarter are not recorded if the student files the appropriate form with the Office of University Records prior to the cut-off date. There will be no withdrawals during the last three weeks of a term.
- I Incomplete, given for circumstances beyond a student's control, only if at least 75 percent of the course work has been completed. An I may be changed to a grade by the teacher only before the end of the following quarter.  
A student requests an I grade from the instructor by completing the appropriate form on which the reason is given for the request. The student then obtains the signatures of the instructor and the department chairman or dean and leaves the form with the instructor. The instructor will report the I grade on the Instructor Grade Report as well as a grade which the student will receive if the deficiency is not removed within the time limit. The petition is then filed with the Office of University Records along with the grade report form.
- IP In Progress, indicating that the course has duration of more than a single quarter and will be completed by the student no later than the final quarter of the course. The student's final grade is reported on the Instructor Grade Report at the end of the quarter in which the course is completed.
- AU Audit, indicating registration for attendance only. A student must attend at least 80 percent of the class meetings. A request to change an audit course to credit or credit to audit may be made no later than the fifth class day after the beginning of a quarter.
- AUW Audit Withdrawal, given when the 80 percent class attendance requirement was not observed.

**Grade reports** Under the Buckley amendment of the Family Educational Rights and Privacy Act (1974), students have full rights of privacy with regard to their academic records, including their grade reports. The University will send a copy of the student's grade report to the parents of all single students unless the student specifically requests that this not be done. A form requesting that grades not be sent to parents is available in the Office of University Records and must be signed by the student making the request.

**Adding classes** The last day to add a class is five class days after the beginning of a quarter.

**Change of grade** A grade may not be changed except when error has been made in arriving at or recording a grade. Grades may be changed only during the succeeding term.

**Repeating a course** When a student repeats a course, both the original and repeat grades are entered on the student's permanent record; but only the repeat grade and credit are computed in the grade point average. Students are allowed to repeat a specific course once to raise a grade. Subsequent repeats are allowed only by prior permission of the dean.

**Academic probation** A student whose current grade point average for any term falls below 2.0 is placed on academic probation the next quarter and is subject to a restricted course load. If the grades do not improve during the following quarter, the student is placed on critical academic probation with a further reduction in course load.

**One-quarter trial second opportunity** A student on critical academic probation whose grade point average at the end of the quarter is below 2.0 is given the opportunity of repeating — on a trial, one-quarter only basis — courses in which (s)he earned D's or F's, in an effort to raise the grade point average to 2.0.

**Academic disqualification** A student who fails to raise the grade point average to 2.0 after the one-quarter trial second opportunity is placed on academic disqualification and is not allowed to register the next quarter. To be readmitted after a period of disqualification, the student must show evidence of academic improvement from another institution of higher learning and then make application through the Office of Admissions.

**Acceptable progress** It is understood that a student at Loma Linda University, College of Arts and Sciences, is considered not to have made satisfactory progress toward the completion of the course of study if the grade point average is below 2.0 for three consecutive quarters or the student does not complete all requirements for a degree within eight years.

**Dean's Academic Honor List** A Dean's Academic Honor List is published for each quarter of the school year (but not for the summer session) for the purpose of recognizing students who have done outstanding academic work during the quarter. The Dean's Academic Honor List contains the names of all students who have completed 15 units of course work with a grade point average of 3.5, with no grade lower than a B—, and with no Incomplete notation on the grade report.

A Dean's Letter of Recognition is sent to those students who are eligible for the Dean's Academic Honor List and have earned a grade point average of 4.0.

A President's Letter of Recognition is sent to those students who have been on the Dean's Academic Honor List for the three consecutive quarters of a school year and have maintained a grade point average for those three quarters of 4.0.

**Graduation with honors** A student in the College is graduated with honors on the basis both of the Loma Linda University cumulative grade point average and the cumulative grade point average, including all transfer credit, on the following basis:

- Cum laude, 3.5
- Magna cum laude, 3.8
- Summa cum laude, 3.9

In order for this to be printed in the commencement program as well as on the diploma, the determination is made at the beginning of the last term before graduation. However, a student who qualifies for honors during the last term will be able to have this designation added to the diploma.

Students who satisfactorily complete the Honors Program will have this designation also added to the diploma.

## EXAMINATIONS

**Final examinations** A four-day examination schedule allowing a two-hour period for each class is printed in the Schedule of Classes. Students are required to take the scheduled final examination at the appointed time and place in order to secure credit. Examinations may not be taken before or after the scheduled period, nor may the time of an examination be changed without authorization by the dean.

All classes meet at the time scheduled for the final examination. If the time is not needed for an examination, it is used for some other educationally appropriate class activity.

Exceptions to the examination schedule are granted only for emergency situations. Students with examinations covering more than 10 units on one day may petition the dean to take one examination at another time during the examination week.

**Equivalency examinations** A student may obtain credit for courses offered by the College, the material of which has been mastered independently of regular class enrollment, by taking an examination equal in scope and difficulty to a final examination in the course.

To seek credit by equivalency examination, the student gains the permission of the instructor, the appropriate department chairman, and the dean. A fee is charged, as indicated in the Schedule of Charges in the *Financial Information* section. The student must take the examination before enrolling for further study in the field of the examination. If the student is successful in passing the equivalency examination, S is recorded on the permanent record, and the grade point average is not affected. A senior seeking credit by equivalency examination must take the examination in time for a grade form to reach the Office of University Records no later than forty-five days prior to the time of expected graduation.

Credit for equivalency examination is recorded only after the student has successfully completed one quarter, or the equivalent, at the University and has earned at least 12 units of credit with a grade average of C (2.0).

Credit by examination is not given for remedial courses (numbered below 100) or usually for courses such as foreign language levels I and II, and

beginning typewriting. Neither can credit be earned in this way to make up for a course for which an unsatisfactory grade was received. An equivalency examination in a given subject may be taken only once.

**Waiver examinations** Certain course requirements may be waived if the student successfully passes a waiver examination, but no credit results. To take a waiver examination, the student gains the permission of the instructor and the dean. A fee is charged as indicated in the Schedule of Charges in the *Financial Information* section. A senior seeking waiver of course requirements by examination must take the examination in time for a grade form to reach the Office of University Records no later than forty-five days prior to the time of expected graduation.

**CLEP examinations** A score at or above the 65th percentile on the general examinations and the 50th percentile on the subject examinations is required in order to grant credit for College Level Examination Program (CLEP) examinations. Credit is not granted for the general examinations in English composition or mathematics. The student must take the examination before enrolling for further study in the field of the examination. There is a 32-unit maximum for CLEP credit. A current list of the examinations which are accepted for credit is available from the Office of the Dean or from the Office of University Records. Credit with a grade of S is recorded after the student has earned at least 12 units of credit in residence, with a grade point average of C (2.0).

**Advanced placement program** Credit of S grade toward graduation may be granted to an entering freshman student who has passed one or more examinations of the Advanced Placement Program (AP) with a score of 3, 4, or 5. A current list of units granted is available from the office of the academic dean or from the Office of University Records.

## TRANSFER OF CREDIT

Credit from another accredited institution of postsecondary education may be transferred to the College of Arts and Sciences if it is received by the Office of University Records on an official transcript sent directly from the institution granting the credit and bearing the seal of that institution. Credit toward graduation is given for those courses that are also taught by the College of Arts and Sciences of Loma Linda University or are normally taught by a liberal arts college (with the exception of remedial courses). Transcripts containing credit to be applied toward degree requirements must be received by the Office of University Records at least forty-five days prior to graduation.

## RESIDENCY REQUIREMENT

Thirty-six of the last 44 units of credit needed for graduation with a baccalaureate degree, 16 units in the major and 8 in the minor (if any), must be taken in residence at Loma Linda University. (For the associate degree, 24 of the last 32 units and 12 units in the major fulfill the residency requirement.) This policy allows 8 of the last 44 units of course work before graduation to be taken at another accredited institution or by correspondence if arrangements have been made with the Office of the Dean prior to registering for the off-campus work. Students are expected to be enrolled in the College of Arts and Sciences the quarter during which the degree requirements are completed. The approval of the dean must be obtained if the student is planning to complete the degree requirements by off-campus or correspondence course work or is not on campus during the final quarter.

## APPLICATION FOR GRADUATION

All students anticipating graduation must file an Application for Graduation with the Office of University Records within the first two weeks of their third term prior to the expected date of completion. Application for Graduation forms will either be included with registration materials for the appropriate term or may be obtained from the Office of University Records.

## GRADUATION CEREMONIES

A student who completes the requirements for a degree at the end of the spring quarter is expected to be present at the University's conferring of degrees and the presentation of diplomas in June. Permission for the conferral of a degree in absentia is contingent on the approval of the dean of the College.

A student who completes the requirements for a degree at the end of the autumn or winter quarter or the summer session is invited but not required to participate in the subsequent conferring of degrees.

The University reserves the right to limit participation in graduation ceremonies to students who have satisfactorily completed all the requirements for a degree.





# II

## General Requirements Departments and Programs of Instruction

### GENERAL REQUIREMENTS

On the recommendation of the faculty of the College of Arts and Sciences, the University awards bachelor's degrees to students who have met their financial obligations to the University and have completed the following minimum academic requirements: (a) 190 units of course work with an overall grade point average of C (2.0); (b) at least 60 units of credit in the upper division (courses numbered 300 to 499); (c) a major, with no course counted for which the students received a grade lower than a C; (d) cognate courses as required; (e) the General Education Curriculum; (f) the residency requirement of 36 of the last 44 units taken in residence at Loma Linda University; (g) in the case of a transfer student, 16 units in the major program and 8 units in a minor program, if any, completed in residence at Loma Linda University. Students who choose to complete a minor program must complete the prescribed number of units with no grade lower than C in any course counted in the minor; (h) a copy of the current "Graduation Regulations" should be obtained from the Office of University Records early in the junior year of enrollment and an Application for Graduation filed with that office three terms prior to the expected date of completion.

Students who are enrolled continuously in the College for successive years may choose to meet the requirements for graduation listed in the BULLETIN of the year of their entrance or any subsequent year. If a student discontinues enrollment for one calendar year, residency has been broken and the requirements listed in the BULLETIN of the year of re-entrance or any subsequent year must be met.

Students who transfer to Loma Linda University after having completed courses at another accredited college or university in the areas required in general education will be given full credit for the courses they have already completed.

Those wanting to take a course at another school after having enrolled at Loma Linda University need to receive approval before the course is taken in order to establish acceptance of the course. Forms for this purpose are available in the Office of the Dean and in the Office of University Records.

Students are responsible for informing themselves of and satisfactorily meeting all requirements pertinent to their relationship with the University. The University reserves the right to make such changes as circumstances demand with reference to admission, registration, tuition and fees, attendance, curriculum requirements, conduct, academic standing, candidacy, and graduation.

#### GENERAL EDUCATION CURRICULUM — Bachelor of Arts (B.A.) and Bachelor of Science (B.S.)

Candidates for the degrees Bachelor of Fine Arts, Bachelor of Music, or Bachelor of Social Work complete the same General Education Curriculum as is required for the Bachelor of Science degree.

**I. HUMANITIES:** B.A. 28 units; B.S. 24 units. (A maximum of 8 units for the B.A. degree and 4 units for the B.S. degree may be from the student's major.) Required: 8 units from Civilization, 4 units each from Literature and Fine Arts, and the remaining units from any of the five areas of humanities. B.A. degree students not having two years of one foreign language in secondary school are required to complete two quarters of a foreign language as part of their humanities requirement.

##### A. Civilization

A two-course sequence in American history or Western civilization, whichever is lacking, is required if either was not completed in secondary

school. If both are lacking, American history is required. Courses are to be selected from:

#### AMERICAN HISTORY

- HIST 156, 157 Survey of American History and Institutions (4, 4)
- HIST 176, 177 The Americas (4, 4)

#### WESTERN CIVILIZATION

- HIST 207 Western Civilization to 1300 (4)
- HIST 208 Western Civilization 1300-1815 (4)
- HIST 209 Western Civilization since 1815 (4)
- HIST 307, 308 British Civilization (4, 4)

If neither area is lacking from secondary school, the student may select any 8 units from the preceding list or from the following additional courses:

- HIST 354 Colonial Latin America (4)
- HIST 355 Modern Latin America (4)
- HIST 416, 417, 418 Modern Europe (4, 4, 4)
- FREN 425 Culture and Civilization (4)
- GRMN 427 German Culture and Civilization (4)
- SPAN 425 Hispanic Culture (4)

#### B. Literature

One 4-unit course must be taken by all students from the following list of introductory courses:

- ENGL 206 Introduction to Literature (4)
- ENGL 224 American Literature to 1860 (4)
- ENGL 225 American Literature since 1860 (4)
- FREN 458 Themes in French Literature (4)
- FREN 476 Genres in French Literature (4)
- GRMN 345 Outline History of German Literature (4)
- MDLG 437 Masterpieces of Literature (4)
- SPAN 367 Latin American Literature (4)
- SPAN 476 Genres in Spanish Literature

After completing this requirement, students may elect to take any courses in literature to fulfill the humanities requirement, including CMME 265 The Film as Art (4).

#### C. Fine Arts

One 4-unit course must be taken by all students from the following list of art and music courses:

- ARTA 205 Introduction to Art (4)
- ARTA 308 Art History: Ancient through Renaissance (4)
- ARTA 309 Art History: Baroque through Modern (4)
- MUHL 205 Introduction to Music (4)

- MUHL 335 History of Western Music before 1600 (4)
- MUHL 336 History of Western Music 1600-1800 (4)
- MUHL 337 History of Western Music since 1800 (4)
- MUHL 485 Music of the Christian Church (4)

#### D. Foreign Language

All courses in French, German, Spanish, biblical Greek, biblical Hebrew, and ENSL courses for students for whom English is a second language.

#### E. Philosophy

- PHIL 204 Introduction to Philosophy (4)
- PHIL 208 Logic (4)

### II. COMMUNICATION SKILLS: 13 units, as follows:

#### A. Written Skills: 9 units

- ENGL 111, 112, 113 Freshman English (3, 3, 3)  
or ENGL 124 (4) with a grade of B or better  
(see course description for prerequisite)

#### B. Oral Skills: 4 units, to be selected from the following courses:

- COMM 104 Fundamentals of Speech (4)
- COMM 244 Interpersonal Communication (4)
- COMM 328 Persuasion (4)

### III. RELIGIOUS STUDIES: 20 units

A. Religion: 16 units, 4 upper division, including courses in at least three of the following four areas. (Transfer students may need to choose courses in areas not already covered by previous course work.) Students are advised to take two courses in their freshman year, and one course each in the sophomore and junior years.

#### BELIEFS

- RELT 104 Introduction to Christianity (4) (for students from a non-Christian culture)
- RELT 106 Introduction to Seventh-day Adventist Beliefs (4) (for students who are not Seventh-day Adventists)
- RELT 205 Dynamics of Personal Religion (4)
- RELT 245 Studies in Seventh-day Adventist Beliefs (4)
- RELT 437 Current Issues in Adventism (2-4)
- RELT — Other courses except RELT 499

#### SCRIPTURE

- RELB 104 Life and Teachings of Jesus (4)
- RELB 245 Biblical Apocalyptic and the Advent Hope (4)

- RELB 255 Understanding and Sharing Your Bible (4)  
RELB — Other courses except RELB 499

#### CHURCH

- RELH 205 The Christian Centuries (4)  
RELH 254 Ellen G. White and the Church (4)  
RELH 306 The Individual and the Church (4)  
RELH 485 History of Seventh-day Adventism (4)  
RELH — Other courses except RELH 499

#### ETHICS

- RELE 205 Biblical Ethics in the Modern World (4)  
RELE 448 Christian Professional and Business Ethics (4)  
RELE 454 Christian Ethics and Social Issues (4)  
RELE — Other courses except 499

#### B. Religion in the Major Field: 4 units

A four-unit course (numbered 489) in the student's major department that covers the religious, moral, and ethical questions involved in the student's discipline. Students majoring in departments that do not offer a 489 course may elect to take an additional upper division course in religion.

#### IV. BEHAVIORAL AND SOCIAL SCIENCES: 8 units.

Students choose one introductory course in behavioral science from the following:

- ANTH 104 Introduction to Anthropology (4)  
PSYC 104 or 105 General Psychology (4) (may take either but not both for General Studies requirement)  
SOC 104 Introduction to Sociology (4)

Students choose an additional course in behavioral or social sciences from the previous list or the following:

- ANTH 444 Comparative Religion (4)  
ECON 254 Principles of Macroeconomics (4)  
ECON 255 Principles of Microeconomics (4)  
CFSC 274 Dynamics of Love and Marriage (4)  
CFSC 486 Contemporary Parenting (4)  
GEOG 225 Principles of World Geography (4)  
PSYC 205 Personal and Social Adjustment (4)  
PSYC 224 Developmental Psychology I (3-4)  
PSYC 225 Developmental Psychology II (3-4)  
PSYC 324 Psychology of Human Growth and Development (4)  
SOC 306 Social Issues (4)  
SOC 307 Ethnic Relations (4)  
SOC 414 Sociology of the Family (4)

**V. NATURAL SCIENCES, MATHEMATICS, AND COMPUTING:** 12 units

A maximum of 4 units may be taken in the student's major department and also a maximum of 4 units in mathematics-computing. Must include courses from two of these different departments or areas: biology, chemistry, geology, mathematics and computing, and physics. Before meeting this requirement, students lacking algebra II on the secondary level must take MATH 007.

**VI. HEALTH:** 0-4 units

Students who complete at least 5 semester periods in basic health principles on the high school level have this requirement waived.

CFSC 244 Family Health (4)

HLED 214 Personal and Community Health (4)

**VII. PHYSICAL EDUCATION:** 2.5 units (5 activities)

PEAC 120 Lifetime Fitness (.5) (recommended to be taken during the freshman year)  
Physical education activity courses — 4 courses

**VIII. VOCATIONAL/AVOCATIONAL SKILLS:** 0-8 units

Four units must be outside the student's major, and 4 units may be waived for each ten semester periods of the same course taken in secondary school. Courses are to be selected from the following:

ACCT 205 General Survey of Accounting (4) in the School of Business and Management

ACCT 221 Principles of Accounting I (4) in the School of Business and Management

ARTS — All studio art classes

CMME 155 Fundamentals of Cinematography (4)

ENGR 147 Technical Drafting (4)

INDT 286 Basic Computer Repair (2)

MUPF — All applied music classes

MUPF — All music ensembles (1)

OMGT 101 Beginning Keyboarding (4)

OMGT 102 Intermediate Keyboarding (4)

OMGT 103 Advanced Keyboarding (4)

OMGT 111 Shorthand (4)

OMGT 124 Business Machines (2)

## HONORS PROGRAM

The College of Arts and Sciences provides an Honors Program for students of good scholarship record and potential. The program complements and enhances the general education requirements, adding to them an international component, and provides opportunity for a project of independent research or creative activity.

**Graduation with honors** An Honors Scholar who satisfactorily completes the Honors Program of studies and has a cumulative grade point average of at least 3.5 will have the designation Honors Program added to the diploma.

## ASSOCIATE IN ARTS

A candidate for the Associate in Arts degree completes 96 units of course work, of which at least 24 of the last 32 units (including 12 units in the major program) are completed in residence at Loma Linda University.

The curriculum for this degree consists of an appropriate vocational program and the following pattern of general studies:

**Skills** In basic intellectual and physical skills, 10-19 units of course work, including:

*Communication skills*, ENGL 111, 112, 113; (or 124 with a grade of B or better); to be completed ordinarily within the first 48 units of course work at the college level; otherwise one course per quarter until the requirement is met; COMM 104

*Computation skills*, 50th percentile on math section of ACT, or ASCE 916 or MATH 006 or MATH 007

*Movement skills*, 4 physical education activities

**Life in society** In the traditional academic disciplines, 16 units of course work, including:

*American history*, 4 units

*Humanities*, 4 units

*Natural sciences, mathematics, health*, 4 units

*Personal/social relationships*, 4 units

**Life under God** In the Division of Religion, 12 units (to be selected from courses listed in the College of Arts and Sciences BULLETIN) as follows: RELB, RELE, and RELT, all courses except 499; RELH, any one course except 499.

## ASSOCIATE IN SCIENCE

A candidate for the Associate in Science degree completes 96 units of course work, of which at least 24 of the last 32 units (including 12 units in the major program) are completed in residence at Loma Linda University.

The curriculum for this degree consists of an appropriate vocational program and the following pattern of general studies:

**Skills** In basic intellectual and physical skills, 10-19 units of course work as defined for the Associate in Arts degree.

**Life in society** In the traditional academic disciplines, 12 units of course work, including:

*American history*, 4 units

*Humanities*, 4 units

*Natural sciences, mathematics, health* OR *personal/social relationships* (whichever is not included in the vocational program), 4 units

**Life under God** In religious studies, 12 units of course work as defined for the Associate in Arts degree.

# DEPARTMENTS AND PROGRAMS OF INSTRUCTION

For convenience of reference, the areas of instruction are listed alphabetically.

## CLASSIFICATION OF COURSES

**Prefix** The four-letter prefix preceding each course number indicates the subject area and department or program in which it is found, as follows:

<b>SUBJECT</b>	<b>DEPARTMENT/PROGRAM</b>
ADJS Administration of Justice	Social Relations
ANAT Anatomy	Biology, Graduate School
ANTH Anthropology	Social Relations
ARTA Art Appreciation and History	Art
ARTS Studio Art	Art
ARTX Professional Studies in Art	Art
ASCE	College of Arts and Sciences Continuing Education
BIOL Biology	Biology
BUED Business Education	Office Management and Business Education
CFSC Child and Family Science	Social Relations
CHEM Chemistry	Chemistry
CMME Communication Media	Communication
COMM Communication	Communication
CPTG Computing	Mathematics and Computing
ENGL English	English
ENGR Engineering	Engineering
ENSL English as a Second Language	Modern Languages
ENVH Environmental Health	Biology, Graduate School
FREN French	Modern Languages
GEOG Geography	Geology
GEOG Geography	Geology
GRMN German	Modern Languages
HIST History	History and Political Science
HLED Health Education	Health, Physical Education, and Recreation
HNRS Honors	Honors Program
INDT Industrial Technology	Engineering
LING Linguistics	Interdepartmental Courses
MATH Mathematics	Mathematics and Computing
MDLG Modern Language	Modern Languages
MFAM Marriage and Family Counseling	Marriage and Family Counseling, Graduate School



MICR	Microbiology	Biology, Graduate School
MUCT	Music Composition and Theory	Music
MUED	Music Education	Music
MUHL	Music History and Literature	Music
MUPF	Music Performance	Music
MURE	Sacred Music	Music
OMGT	Office Management	Office Management and Business Education
PEAC	Physical Education Activity	Health, Physical Education, and Recreation
PETH	Physical Education Theory	Health, Physical Education, and Recreation
PHIL	Philosophy	History, Interdepartmental Courses
PHSL	Physiology	Biology, Graduate School
PHYS	Physics	Physics
PLSC	Political Science	History and Political Science
PSYC	Psychology	Psychology
RDNG	Reading Improvement	English
RECR	Recreation	Health, Physical Education, and Recreation
RELB	Religion, Biblical Studies	Religion
RELE	Religion, Christian Ethics	Religion
RELH	Religion, Historical Studies	Religion
RELL	Religion, Biblical Language	Religion
REL P	Religion, Professional Studies	Religion
RELT	Religion, Theological Studies	Religion
RUSS	Russian	Modern Languages
SOCI	Sociology	Social Relations
SOSR	Social Work	Psychology
SPAN	Spanish	Modern Languages
STAT	Biostatistics	Biology, Graduate School

**Number** The course number indicates the comparative level of difficulty and the class standing of the students for which the course is offered:

- 001-099 Remedial
- 101-299 Lower division (freshman/sophomore)
- 301-499 Upper division (junior/senior)
- 501-699 Graduate

Courses which have numbers ending in 1, 2, and 3 are sequential and must be taken in order.

**Continuing education units** Courses with the prefix ASCE (College of Arts and Sciences Continuing Education) followed by a number in the 900s offer continuing education units (CEU). One CEU is awarded for ten contact hours of participation; hours less than ten are shown as tenths of CEUs. The CEU is a means for measuring and recording noncredit, postsecondary-level study. Courses carrying CEUs may be useful when employers or relicensure agencies require a specific number of hours of instruction for career advancement purposes, and when noncredit study is acceptable.

## DEPARTMENT OF ART

ROGER A. CHURCHES, 1973. Chairman; Professor of Art  
M.F.A. Rochester Institute of Technology 1969

ALAN R. COLLINS, 1978. Professor of Art  
F.R.B.S. Fellow of the Royal Society of British Sculptors 1951

SUSAN D. PATT, 1979. Associate Professor of Art  
M.ED. Miami University 1976

**Objectives** The objectives of the Department of Art are: (1) to help the general student understand the relevance of art in the life of past and present times and to give some basic experience of the creative process in a number of studio areas; and (2) to prepare art majors for a variety of professions related to the visual arts, giving a foundation for careers in art education, architecture, interior design, graphic design, technical illustration, and the fine arts.

The Department of Art faculty believes that the individuality of Christian artists should be reflected in their art, and that their work can enrich the contemplative life of the Church and further its ministry in the world. Education in the visual arts should sharpen perceptions, build confidence in studio skills, and extend the power of imagination.

**Preparation for teaching** A student preparing to teach art at the elementary or secondary level completes the bachelor's degree program outlined below. In addition the student should plan to qualify for teaching credentials and during the freshman or sophomore year should consult the credentials adviser in the School of Education for specific information concerning requirements.

A program leading to the Master of Arts degree in the teaching of art is described in the BULLETIN of the School of Education.

**Degrees offered** The Department of Art offers a Bachelor of Fine Arts degree in studio art, with three optional areas of concentration: two-dimensional studies, three-dimensional studies, and graphic design and illustration. An Associate in Arts degree in graphic design and illustration is available. A minor in art is available.

## MAJORS

Students wishing to be accepted into the Bachelor of Fine Arts degree program may be accepted by portfolio review after having completed a minimum of 16 units or more in art.

### BACHELOR OF FINE ARTS

#### Studio art

**Core curriculum** Required of all students majoring in the Department of Art.

Required: ARTS 114 (4 units), 115 (4 units), 116 (4 units),  
234 (3 units), 244 (2 units), 245 (2 units), 246  
(2 units), 255, 284 (2 units), 344 (3 units),  
345 (4 units), 346 (4 units)  
6 units from ARTS 221, 222  
ARTA 308, 309 ARTX 496 (1 unit)

The student chooses one of the following concentration areas:

Studio art with concentration in two-dimensional studies

Required: 100 units in art, including  
the core curriculum  
6 units in drawing  
15 units in painting  
8 units in printmaking  
ARTA 408 (4 units)  
6 units from ARTS 264, 274, 284  
ARTX 495 (4 units), 496 (2 units)  
2 units of art electives

Studio art with concentration in three-dimensional studies

Required: 103 units in art, including  
the core curriculum  
6 units in drawing  
8 units in ceramics  
8 units in sculpture  
4 additional units in ceramics or sculpture  
ARTA 408 (4 units)  
ARTS 264 (4 units)  
6 units from ARTS 254, 334, 355, 364  
ARTX 495 (8 units), 496 (2 units)

Studio art with concentration in graphic design and illustration

Required: 100 units in art, including  
the core curriculum  
6 units in drawing  
7 units in painting  
4 units in printmaking  
4 units from ARTS 284, 314  
7 units from ARTS 346, 347  
ARTS 345 (4 units), 355 (4 units)  
ARTX 495 or 497 (8 units), 496 (2 units)  
1 unit of art elective

Required cognates: ENGR 147

## MINOR

Art 30 units (12 upper division) in art, including  
ARTA 205 or 308 or 309 or 408  
Remaining units selected in consultation  
with department adviser

## ASSOCIATE DEGREE PROGRAM

### ASSOCIATE IN ARTS

#### **Graphic design and illustration**

Required: 54 units in art as follows  
the core curriculum  
1 unit of art elective

## COURSES

### **ART APPRECIATION AND HISTORY**

#### **ARTA 308 Art History: Ancient through Renaissance (4)**

Chronological study of art in Western cultures from the prehistoric cave paintings of Lascaux through the Renaissance.

#### **ARTA 309 Art History: Baroque through Modern (4)**

Continuation of chronological study of art in Western cultures.

#### **ARTA 408 Topics in Art History (2-4)**

Period and/or topical studies in art history. The course may be repeated as different topics are explored.

## ART FOR THE GENERAL STUDENT

### **ARTA 205 Introduction to Art (2-4)**

Basic concepts, materials, and history of the visual arts which will enable the nonart major to develop an art vocabulary and gain insight into the creative process.

### **ARTS 204 Studio Art for Nonmajors (2-4)**

A self-paced exploration in a variety of media. Does not count toward a major in art. May be repeated to a maximum of 4 units.

## CERAMICS

### **ARTS 274 Beginning Ceramics (2-4)**

Introduction to the processes of hand-building, throwing, firing, and glazing.

### **ARTS 374 Advanced Ceramics (2-4)**

Various aesthetic and technical topics explored, such as surface decoration, form, clay and glaze calculation, kiln-building. Topics change from quarter to quarter. May be repeated for additional credit to a maximum of 8 units.

Prerequisite: ARTS 274 or consent of the instructor.

## DESIGN

### **ARTS 114 Art Materials and Methods (4)**

An introduction to the basic media grounds and techniques of fine and graphic art.

### **ARTS 115 Principles of Design (4)**

A practical studio survey of the organizing principles of two- and three-dimensional design.

Prerequisite: ARTS 114 or consent of the instructor.

### **ARTS 116 Color (4)**

A study of color structure, balance, and illusion as they would apply to two- and three-dimensional design.

Prerequisite: ARTS 115 or consent of the instructor.

### **ARTS 314 Advanced Design Problems (2-4)**

A study developed from an aspect of ARTS 115 or ARTS 116, with particular relevance to the practices of architectural, interior, or product design. May be repeated for additional credit to a maximum of 8 units.

Prerequisite: ARTS 115, 116.

## DRAWING

### **ARTS 221 Beginning Drawing (2-4)**

A sequence of exercises which develops confidence in the ability to see and draw accurately.

### **ARTS 222 Structure of Drawing (2-4)**

Exercises in the representation of space, light/shade, texture, and the figure.

Prerequisite: ARTS 221 or consent of the instructor.

### **ARTS 321 Figure Drawing (2-4)**

An analytical study of the figure and its clothing. May be repeated for additional credit.

Prerequisite: ARTS 222 or consent of the instructor.

**ARTS 322 Advanced Concepts of Drawing (2-4)**

A subject exploration of the many functions of drawing. May be repeated for additional credit.  
Prerequisite: ARTS 321 or consent of the instructor.

**FIBERS AND FABRICS**

**ARTS 264 Fibers and Fabrics (2-4)**

An introduction to processes and materials used in stitchery, batik, quilting, and weaving.

**ARTS 364 Advanced Fibers and Fabrics (2-4)**

Various aesthetic and technical explorations in batik, textile printing, and weaving. Topics change from quarter to quarter. May be repeated for additional credit to a maximum of 8 units.  
Prerequisite: ARTS 264 or consent of the instructor.

**GRAPHIC DESIGN AND ILLUSTRATION**

**ARTS 244 Graphic Procedures (2-4)**

Technical skill in preparing camera-ready art, and application of design concepts.

**ARTS 245 Lettering and Calligraphy (2-4)**

Freehand and mechanical repertoire of letter forms and calligraphic styles. May be repeated for additional credit to a maximum of 8 units.

**ARTS 246 Illustration (2-4)**

Black and white illustration techniques appropriate for reproduction.

**ARTS 344 Typography (2-4)**

Introductory study of technical processes and elements. Application of formal visual and functional principles.

Prerequisite: ARTS 244 and 245 or consent of the instructor.

**ARTS 345 Visual Communication Design (2-4)**

Problems typical in advertising agencies. Projects to be carried from initial development of concept to final solution. A variety of two- and three-dimensional problems. Content varies from quarter to quarter. Course may be repeated for additional credit.

Prerequisite: ARTS 344 or consent of the instructor.

**ARTS 346 Advanced Illustration Techniques (2-4)**

Intensive and experimental use of color media based on direct observation of still life and live model. May be repeated for additional credit.

Prerequisite: ARTS 221 or consent of the instructor.

**ARTS 347 Applied Illustration (2-4)**

Illustration problems relating to advertising, packaging, modelmaking, fashion, and editorial illustration. The application of nontraditional solutions to various problems. Content varies from quarter to quarter. May be repeated for additional credit.

Prerequisite: ARTS 246 or consent of the instructor.

## PAINTING

### **ARTS 234 Beginning Painting (2-4)**

Discovering the variety of color and structure of design through portrait, landscape, and still-life painting, using acrylic and/or water-based paint.

### **ARTS 334 Advanced Painting (2-4)**

Figure study, abstracting, and experiments in design using a choice of materials. May be repeated for additional credit to a maximum of 8 units.

Prerequisite: ARTS 234 or consent of the instructor.

## PHOTOGRAPHY

### **ARTS 255 Beginning Photography (4)**

Black and white photography. Includes history, theory, and practice. Technical instruction and use of cameras, light meters, studio and darkroom equipment.

### **ARTS 355 Advanced Photography (2-4)**

Explorations in advanced technical problems of light, color, darkroom procedures and aesthetics. Content emphasis changes from term to term. May be repeated for additional credit to a maximum of 8 units.

Prerequisite: ARTS 255 or consent of the instructor.

## PRINTMAKING

### **ARTS 254 Printmaking (2-4)**

An introduction to techniques and media used in intaglio, relief, serigraph, and monoprint.

Prerequisite: ARTS 221 or consent of the instructor.

### **ARTS 354 Advanced Printmaking (2-4)**

Concept development and continued exploration with materials involved in intaglio, relief, and serigraphy (silkscreen), including etching, engraving, aquatint, linocut, and woodcut. May be repeated for additional credit to a maximum of 8 units.

Prerequisite: ARTS 254 or consent of the instructor.

## SCULPTURE

### **ARTS 284 Beginning Sculpture (2-4)**

Studio practices include clay modeling for firing and plaster waste-molding. Hollow building of clay forms and armature construction. Stone and woodcarving. Construction techniques.

### **ARTS 384 Advanced Sculpture (2-4)**

Studies include modeling from the figure in clay and wax, and design concepts incorporating figure sculpture. Molding and casting in synthetic resins. Piece-molding and flexible-mold making for slip-casting and wax reproductions. Investment process for bronze-casting. Advanced stone and woodcarving. May be repeated for additional credit to a maximum of 8 units.

Prerequisite: ARTS 284 or consent of the instructor.

## PROFESSIONAL STUDIES

### **ARTX 298 Workshop in Art (1-4)**

May be repeated for additional credit with new content.

### **ARTX 299 Directed Study (1-4)**

Independent project in studio or art history.

Prerequisite: Consent of the instructor.

### **ARTX 404 Art and the Curriculum (2-4)**

Art materials, processes, and concepts relating primarily to K-12 classrooms.

### **ARTX 489 Religion and the Visual Arts (4)**

An evaluation of the artistic and cultural forms by which religious values, beliefs, and experiences are expressed.

### **ARTX 495 Senior Project (4)**

Related to the student's area of specialization. May be carried over two quarters for a maximum of 8 units. Written report and exhibition of work required.

### **ARTX 496 Art Seminar (½-2)**

Various topics from quarter to quarter. May be repeated for additional credit.

### **ARTX 497 Practicum (1-8)**

On-the-job training experience. May be repeated for a maximum of 8 units. By permission of department only.

### **ARTX 498 Workshop in Art (1-4)**

May be repeated for additional credit with new content.

### **ARTX 499 Directed Study (1-4)**

Independent project in studio or art history.

Prerequisite: Consent of the instructor.

### **ARTX 504 Problem(s) in Studio Art (1-4)**

For graduate art students. May be repeated for additional credit to a maximum of 12 units.



## DEPARTMENT OF BIOLOGY

RICHARD D. TKACHUCK, 1980. Chairman; Professor of Biology  
PH.D. University of California, Los Angeles 1970

LEONARD R. BRAND, 1969. Professor of Biology  
PH.D. Cornell University 1970

EARL W. LATHROP, 1957. Professor of Biology  
PH.D. University of Kansas 1957

NORMAN L. MITCHELL, 1968. Professor of Biology  
PH.D. University of Western Ontario 1967

GARY L. BRADLEY, 1972. Associate Professor of Biology  
PH.D. University of California, Davis 1982

ROBERT A. CHILSON, 1978. Associate Professor of Biology  
PH.D. University of Wisconsin 1975

DAVID L. COWLES, 1987. Assistant Professor of Biology  
PH.D. University of California, Santa Barbara 1987

VIRGINIA M. HANSON, 1980. Assistant Professor of Biology  
M.A. Loma Linda University 1981

LINDA M. KELLN, 1978. Assistant Professor of Biology  
M.S. Loma Linda University 1981

ERNEST R. SCHWAB, 1983. Instructor in Biology  
M.S. Andrews University 1982

**Objectives** The objectives of the Department of Biology are to help students better understand themselves and the living things around them, to develop a scholarly approach to the study of scientific information, and to prepare for a career in biology.

**Graduate programs** Programs leading to the Master of Arts and the Doctor of Philosophy degrees in biology and to the Master of Science degree in paleobiology (offered in conjunction with the Department of Geological Sciences) are described in the BULLETIN of the Graduate School.

**Preparation for teaching** A student preparing to teach biology at the secondary level should plan to qualify for teaching credentials, and during the freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements.

A program leading to the Master of Arts degree in the teaching of biology is described in the BULLETIN of the School of Education.

**Degrees offered** The Department of Biology offers a Bachelor of Arts degree in biology and a Bachelor of Science degree in biology. The following optional areas of concentration are available for either degree: botany, ecology and field biology, human biology, microbiology, and zoology. A Bachelor of Science degree in biomathematics is offered with the Department of Mathematics and Computing. A Bachelor of Science degree in biophysics is offered with the Department of Physics. A Bachelor of Science degree in psychology/psychobiology is offered with the Department of Psychology. A minor in biology is available.

## MAJORS

### BACHELOR OF ARTS

#### Biology

Required: 48 units in biology, including  
BIOL 104, 104L, 105, 105L, 106, 106L, 405  
(3 quarters), 447, 464  
One of the following options, with units  
applied to the major as indicated:  
BIOL 404 (4 units)  
CHEM 481, 482 (4 units may apply)  
CHEM 481, 482, 483 (6 units may apply)  
BIOL 404 and CHEM 481, 482 (6 units  
may apply)  
BIOL 404 and CHEM 481, 482, 483 (8  
units may apply)  
1 upper division plant science course  
(minimum)

Required cognates: CHEM 111, 112, 113, 371, 372, 373  
MATH 121 or 131

Recommended: BIOL 476  
PHYS 231, 232, 233  
An area of concentration in biology, listed  
under Bachelor of Science. This will be  
identified on the transcript.

BACHELOR OF SCIENCE

**Biology**

Required: 56 units in biology, including  
BIOL 104, 104L, 105, 105L, 106, 106L, 405  
(3 quarters), 447 464

One of the following options, with units applied to the majors as indicated:

BIOL 404 (4 units)

CHEM 481, 482 (4 units may apply)

CHEM 481, 482, 483 (6 units may apply)

BIOL 404 and CHEM 481, 482 (6 units may apply)

BIOL 404 and CHEM 481, 482, 483 (8 units may apply)

1 upper division plant science course  
(minimum)

Required cognates: CHEM 111, 112, 113, 371, 372, 373

MATH 121 or 131

PHYS 231, 232, 233

Recommended: BIOL 476

An area of concentration in biology (which will be identified on the transcript)

Areas of concentration:

Botany —

16 units from BIOL 414, 418, 419, 456, 474, 478, 485, or any field station course approved by the faculty

Ecology and Field Biology —

BIOL 414

8 units from BIOL 406, 427, 449, 465, 467, 469, 475

BIOL 487 or 494 or 1 approved field station course

Human Biology —

BIOL 427, 446, 466

8 units from BIOL 434, 435, 436, 474 or where applicable BIOL 486

Microbiology —

BIOL 474

At least 11 units from BIOL 435, 436, or one of the following: BIOL 418 or 456. Additional courses applicable to this concentration will be taught under BIOL 486.

Zoology —

BIOL 408, 466, 469

8 units from BIOL 414, 434, 435, 438, 465, 467, 475, or any field station course approved by the faculty

**Biomathematics** Offered with the Department of Mathematics and Computing (see requirements under that department).

**Biophysics** Offered with the Department of Physics (see requirements under that department).

**Psychology/Psychobiology** Offered with the Department of Psychology (see requirements under that department).

MINOR

Biology 29 units in biology, including  
BIOL 104, 104L, 105, 105L, 106, 106L, 489  
Remaining units selected from courses applicable toward a major

COURSES

LOWER DIVISION

**BIOL 104 General Biology (4)**

Primarily for students majoring in science. Surveys current developments in cellular biology, including organelles and their organization, biological molecules and information, cellular division and genetics, energy and metabolic regulation, development and cellular differentiation. Four class hours per week.

Recommended: A course in chemistry at the secondary or college level.

**BIOL 104L General Biology Laboratory (1)**

One three-hour laboratory per week. Normally taken concurrently with BIOL 104.

**BIOL 105 General Biology (4)**

Primarily for students majoring in science. Surveys current concepts in the physiology of organisms, including nutrition, biological transport, blood composition and function, gas exchange, regulation of steady state, chemical and nervous coordinations, muscle physiology, development, and animal behavior. Four class hours per week.

Recommended: A course in chemistry at the secondary or college level.

**BIOL 105L General Biology Laboratory (1)**

One three-hour laboratory per week. Normally taken concurrently with BIOL 105.

**BIOL 106 General Biology (4)**

Primarily for students majoring in science. Surveys current developments in population and community biology, including population genetics, evolution, plant and animal systematics, ecology, energy cycles. Four class hours per week.

Recommended: A course in chemistry at the secondary or college level.

**BIOL 106L General Biology Laboratory (1)**

One three-hour laboratory per week. Normally taken concurrently with BIOL 106.

**BIOL 107 Physiology of Man (4)**

Man as an integrated organism; systems of the body; the basis of healthful living. Not open to students majoring in biology. Four class hours per week.

**BIOL 114 Human Anatomy (4)**

A regional approach to the study of the human body, with a strong emphasis on structural relationships within each region. Osteology and myology provide the unifying foundation for the study of each region. Combines with BIOL 115 for students in preprofessional allied health programs. Two class hours, two three-hour laboratories per week. Does not apply toward a major in biology.

**BIOL 115 Human Physiology (5)**

A systematic survey of the chemical and physical processes in human tissues and organs. Emphasis placed on the cell, regulatory mechanisms, organ systems, and their interrelationships. Combines with BIOL 114 for students in preprofessional allied health programs. Four class hours, one three-hour laboratory per week. Does not apply toward a major in biology.

Prerequisite: CHEM 121 or one year of secondary school chemistry.

**BIOL 131 Human Physiology and Anatomy I (4)**

A systematic approach to the integrated study of human physiology and anatomy, with emphasis placed on physiology. Designed primarily for students in associate and baccalaureate degree programs in nursing and allied health. Topics covered are: organization of the body, cells and tissues, skeletal system, muscular system, nervous system, and endocrine system. Three class hours, one three-hour laboratory per week. Does not apply toward a major in biology.

**BIOL 132 Human Physiology and Anatomy II (4)**

A systematic approach to the integrated study of human physiology and anatomy, with emphasis placed on physiology. Designed primarily for students in associate and baccalaureate degree programs in nursing and allied health. Topics covered are: circulatory system, respiratory system, digestive system, urinary system, and reproductive system. Three class hours, one three-hour laboratory per week. Does not apply toward a major in biology.

Prerequisite: BIOL 131.

**BIOL 185 Basic Medical Microbiology (4)**

Specific diseases caused by potential human and animal pathogens, their mode of action, relationship to the environment, and the human immune system's response to such stimuli. For preprofessional students in nursing, dental hygiene, etc. Does not apply toward a major in biology. Three class hours, three laboratory hours per week.

**BIOL 208 Processes in Learning Biology (1)**

Practical study of learning processes, with emphasis on attitude training, visualization, relaxation, exercise, and learning facilitation as they relate to the biological sciences. Does not apply toward a major in biology. One two-hour discussion per week.

**BIOL 296 Undergraduate Research (1-4)**

Original investigation pursued by freshmen under the direction of a staff member. May be repeated for additional credit.

Prerequisite: Consent of the instructor.

UPPER DIVISION

**BIOL 315 Biological Techniques (1-4)**

Common research methods and instruments. Class and laboratory hours arranged. May be repeated for additional credit up to 4 units.

Prerequisite: BIOL 104, 104L, 105, 105L, 106.

**BIOL 326 Natural History (4)**

Identification, life habits, and ecology of plants and animals of California. Major southern California biotic communities described and visited. Southern California climatic and geologic features discussed. Does not apply toward a major in biology. Three class hours per week, alternate Sunday field trips.

**BIOL 388 Introduction to Research (2)**

Prerequisite: Enrollment in research curriculum or BIOL 104, 105; minimum grade point average of 2.5 overall and 3.0 in biology; consent of the instructor.

**BIOL 404 Cellular and Molecular Biology (4)**

The living cell, its organoids, and their functions. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 104L, 105, 105L, 106, 106L; CHEM 371.

**BIOL 405 Undergraduate Seminar (½)**

Recent developments in selected areas of biology. May be repeated for additional credit.

**BIOL 406 Introduction to Marine Biology (4)**

Marine organisms, their adaptations and ecological relationships. Impact of man on the marine environment. Three class hours per week; laboratory or field trip on alternate weeks.

Prerequisite: BIOL 104, 105, 106, 106L; or consent of the instructor.

**BIOL 408 Biology of Marine Invertebrates (4)**

Behavior, physiology, ecology, morphology, and systematics of marine invertebrates, with emphasis on morphology and systematics. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106, 106L.

**BIOL 414 General Ecology (4)**

Interrelations of plants and animals; ecological principles related to the composition of typical North American communities. Three class hours per week; one-day field trip alternate weeks, or the equivalent.

Prerequisite: BIOL 104, 105, 106.

**BIOL 415 Biological Instrumentation (4)**

Theory and operation of recording instruments and techniques for interfacing instruments to biological systems. Two class hours, two two-hour laboratories per week.

Recommended: PHYS 232.

Prerequisite: BIOL 104, 105, 106.

**BIOL 418 Biology of Lower Plants (4)**

The structure, life cycles, taxonomic relationships, ecological adaptations, and economic significance of algae, fungi, and other nonvascular plants. Three class hours and a three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106.

**BIOL 419 Biology of Higher Plants (4)**

The anatomy, development, life cycles, taxonomic relationships, ecological adaptations, and economic significance of vascular plants. Three class hours per week. One-day field trip alternate Sundays, or the equivalent.

Prerequisite: BIOL 104, 105, 106.

**BIOL 427 Human Ecology (4)**

Human populations and their impact on the environment. Effects of population explosion on natural resources, air and water quality, energy use, and the quality of human society.

**BIOL 434 Histology (4)**

Descriptive analysis of normal vertebrate tissues and organs. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106.

**BIOL 435 Medical Parasitology (4)**

Survey of the major parasites infecting man. Considers mode of infection, pathology, and control, with emphasis on physiological, biochemical, and behavioral adaptations in the parasites. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106.

**BIOL 436 Immunology (4)**

The human immune system and its response to substances that enter or are altered within the body. Considers both the humoral and cellular immune systems along with applications in clinical immunology. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 104L, 105, 105L, 106, 106L.

**BIOL 438 Mammalogy (4)**

A study of the mammals of the world, with emphasis on North America. Includes classroom and field study of systematics, distribution, behavior, and ecology. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106, 106L; or consent of the instructor.

**BIOL 446 Mammalian Anatomy (5)**

An intensive course in basic human anatomy, including laboratory study of the cadaver. Three class hours, two three-hour laboratories per week.

Prerequisite: BIOL 104, 105, 106.

**BIOL 447 Genetics (4)**

Principles of genetic analysis of viruses, bacteria, and eukaryotes; includes both classical and molecular concepts.

Prerequisite: BIOL 404 or CHEM 481 and 482.

**BIOL 449 Population Biology (4)**

Interactions within and between populations. Emphasis on factors producing spatial and temporal changes in populations. Four class hours per week.

Prerequisite: BIOL 104, 105, 106; recommended BIOL 447; MATH 131 or 161.

**BIOL 456 Plant Pathology (4)**

Cause, effect, and control of economically important plant diseases. Taxonomy, morphology, and life cycles of fungi and other plant pathogens. Enrollment limited to fifteen students. Three class hours and one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106.

**BIOL 464 Principles of Development (4)**

Mechanistic and descriptive approach to gametogenesis, fertilization, morphogenesis, differentiation, and regeneration illustrated in the sea urchin, amphibian, chick, and mammal. Three class hours and one three-hour laboratory per week.

Prerequisite: BIOL 447 or consent of the instructor.

**BIOL 465 Ornithology (4)**

Birds of North America: field identification, distribution, life histories, behavior, and ecology. Field study.

Prerequisite: BIOL 104, 105, 106; or consent of the instructor.

**BIOL 466 Vertebrate Physiology (4)**

Mechanisms of animal function. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106; consent of the instructor.

**BIOL 467 Herpetology (4)**

Identification, classification, distribution, and life habits of amphibians and reptiles. Three class hours per week; Sunday field trips.

Prerequisite: BIOL 104, 105, 106, 106L; or consent of the instructor.

**BIOL 469 Animal Behavior (4)**

Behavioral mechanisms of animals and their role in survival. Lectures and projects.

Prerequisite: BIOL 104, 105, 106; or consent of the instructor.

**BIOL 474 Microbiology (5)**

Bacteria, viruses, molds, protozoa, and related organisms contributing to decay, fermentation, disease, and the biological balance in nature. Four class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106.

**BIOL 475 General Entomology (4)**

Insect biology. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106; or consent of the instructor.

**BIOL 476 Biostatistics (4)**

Statistical analysis of biological systems, including both parametric and nonparametric methods. Four class hours per week.

Prerequisite: MATH 121 or 161 or consent of the instructor.

**BIOL 478 Plant Physiology (4)**

Water relations, mineral nutrition, metabolism, photosynthesis, growth and development, and hormonal control in plants. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106.

**BIOL 484 Biology Externship (1-2)**

Experience and instruction in a private or public institution or agency. Credit earned at the rate of 1 unit per 40 hours. May be repeated for additional credit to a total of 2 units.

Prerequisite: Consent of the coordinator.

**BIOL 485 Systematic Botany (4)**

Classification of flowering plants. Three class hours, laboratory alternate Sundays.

Prerequisite: BIOL 104, 105, 106.

**BIOL 486 Current Topics in Biology (1-4)**

Reviews of current interest in specific areas of biological science, offered at the discretion of the department. The student may repeat different sections of the course for additional credit.

Prerequisite: Consent of the instructor

**BIOL 487 Biology of the Galapagos Islands (4)**

Emphasizes the ecological pressures of the archipelago which bear upon the biosystematics of island flora and fauna. Specific forms are studied in detail with respect to their natural history and differentiation from island to island. Lectures supplemented with field observations on various islands. Includes guest lectures concerning current research and problems of conservation in the islands.

Prerequisite: Consent of the instructor.

**BIOL 489 Philosophy of Science (4)**

The nature of scientific research and philosophies; evidence regarding the origins of living things. Does not apply toward a major.

Prerequisite: BIOL 104, 105, 106.

**BIOL 494 Ecology of Ecuador (4)**

A comparative study of the flora and fauna of the major ecological zones of central Ecuador, from the western rain forest, to the western Andes, across the central valley, north and south in the central valley, and down the eastern Andean slope to the eastern rain forest. Special attention given to the edaphic and climatic factors involved.

Prerequisite: Consent of the instructor.

**BIOL 495 Undergraduate Research (1-4)**

Original investigation pursued under the direction of a staff member. May be repeated for additional credit. Limited to students with a minimum overall GPA of 2.5. May extend through a second or third quarter.

Prerequisite: BIOL 388 or consent of the instructor.



**BIOL 497 Supervised Project (1-4)**

Laboratory project or library study of a biological topic. Limited to students with a minimum overall GPA of 2.5. May extend through a second or third quarter.

Prerequisite: Consent of the instructor.

**BIOL 499 Directed Study (1-4)**

Prerequisite: A biology course listed in the BULLETIN and consent of the biology department directed-study committee; taught on an arranged basis.

COURSES TAUGHT AT ROSARIO BEACH MARINE STATION

- BIOL 104 General Biology (4)
- BIOL 104L General Biology Laboratory (1)
- BIOL 105 General Biology (4)
- BIOL 105L General Biology Laboratory (1)
- BIOL 106 General Biology (4)
- BIOL 106L General Biology Laboratory (1)
- BIOL 408 Biology of Marine Invertebrates (5)
- BIOL 418 Biology of Lower Plants (5)
- BIOL 426 Marine Botany (5)
- BIOL 437 Biology of Aquatic Plants (5)
- BIOL 454 Behavior of Marine Organisms (5)
- BIOL 455 Comparative Physiology (5)
- BIOL 460 Marine Ecology (5)
- BIOL 462 Ichthyology (5)
- BIOL 465 Ornithology (5)
- BIOL 469 Animal Behavior (5)
- BIOL 475 General Entomology (5)
- BIOL 477 Natural History of Vertebrates (5)
- BIOL 485 Systematic Botany (5)

GRADUATE

Consult Graduate School BULLETIN for details.

- ANAT 549 Molecular Cytology and Topographical Chemistry (3)
- BIOL 515 Biogeography (3)
- BIOL 518 Readings in Ecology (2)

- BIOL 519 Methods of Plant Ecology (3)
- BIOL 525 Selected Topics in Marine Biology (2)
- BIOL 544 Biosystematics and Speciation (4)
- BIOL 558 History and Philosophy of Science (4)
- BIOL 564 Symbiotic Biology (3)
- BIOL 604 College Biology Teaching (2-4)
- BIOL 605 Seminar in Biology (1)
- BIOL 606 Special Problems in Biology (1-4)
- BIOL 615 Concepts and Methods of Research in Biology (2)
- BIOL 697 Research (arranged)
- BIOL 698 Thesis (arranged)
- BIOL 699 Dissertation (arranged)
- ENVH 566 Air Quality and Human Health (3)
- ENVH 568 Water Quality Assurance (3)
- ENVH 569 Environmental Sampling and Analysis (4)
- ENVH 586 Environmental Management (4)
- MICR 534 Microbial Physiology (4)
- MICR 535 Advances in Molecular Genetics (3-4)
- MICR 555 Microbial Genetics (3-4)
- MICR 556 Microbial Genetics Laboratory (2)
- MICR 565 Virology (3)
- MICR 566 Cell Culture (3)
- MICR 574 Arthropod Vectors of Infectious Agents (4)
- MICR 575 Arthropod Vectors Laboratory (1-2)
- MICR 576 Field Medical Entomology (3)
- MICR 585 Helminthology (4)
- PHSL 535 Comparative Physiology (5)
- PHSL 541, 542 Cell and Molecular Biology I, II (4,4)
- PHSL 596 Readings in Comparative Physiology (1)

- PHSL 597 Readings in Circadian Rhythms (1-2)
- STAT 509 General Statistics (3)
- STAT 521 Biostatistics I (4)
- STAT 522 Biostatistics II (4)
- STAT 523 Biostatistics III (4)
- STAT 568 Data Analysis (2-3)

## DEPARTMENT OF CHEMISTRY

H. RAYMOND SHELDEN, 1969. Chairman; Professor of Chemistry  
PH.D. University of California, Irvine 1969

IVAN G. HOLMES, 1972. Professor of Chemistry  
PH.D. Oregon State University 1969

ROY G. KRYGER, 1984. Professor of Chemistry  
PH.D. Boston University 1973

G. ROGER TATUM, 1979. Professor of Chemistry  
PH.D. University of Maryland 1979

LELAND Y. WILSON, 1974. Professor of Chemistry  
PH.D. University of Nebraska 1964

MARIA TERESA F. SAJJID, 1978. Assistant Professor of Chemistry  
M.S. Ateneo de Manila University 1972

**Objectives** Developing a sense of intellectual curiosity concerning chemical theory and an appreciation of the practical role of chemistry in life constitute the general objectives of the department. Additional objectives for majors include preparing students to enter graduate programs in chemistry or biochemistry, professional programs in the health sciences, and careers in the chemical industry. In addition to majors in chemistry and biochemistry, the department offers a major in physical science which is specially designed for those planning to teach at the secondary level.

**Graduate programs** Programs in biochemistry leading to the Master of Science and Doctor of Philosophy degrees are described in the BULLETIN of the Graduate School.

**Preparation for teaching** A student preparing to teach chemistry at the secondary level should plan to qualify for teaching credentials, and during the freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements. A special program leading to these credentials is outlined below.

A program leading to the master's degree in the teaching of chemistry is described in the BULLETIN of the School of Education.

**Core curriculum** Required of all students majoring in the chemistry department.

Required: CHEM 111, 112, 113, 205 (1 unit), 224, 351, 352, 371, 372, 373, 405 (½ unit)  
Required cognates: MATH 131, 132 PHYS 231, 232, 233  
Computer skills, including programming.  
May be met by course work on secondary or college level.

**Degrees offered** The Department of Chemistry offers a Bachelor of Arts degree in chemistry and Bachelor of Science degrees in biochemistry, chemistry, and physical science. A minor in chemistry is available.

## MAJORS

### BACHELOR OF ARTS

#### Chemistry

Required: 60 units in chemistry, including  
the core curriculum  
CHEM 353, 374  
8 units from CHEM 421, 422, 423

### BACHELOR OF SCIENCE

#### Biochemistry

Required: 71 units in chemistry, including  
the core curriculum  
CHEM 408 (2-4 units) or 498 (1 unit), 421 or  
422, 481, 482, 483  
Required cognates: BIOL 104, 104L, 105, 105L, 106, 106L

#### Chemistry

Required: 71 units in chemistry, including  
the core curriculum  
CHEM 353, 374, 408 (2-4 units) or  
498 (1 unit)  
8 units from CHEM 421, 422, 423  
Required cognates: MATH 133

## Physical science

Designed to meet state requirements for teaching credentials in the physical sciences, with emphasis in chemistry.

Required: 76½ units in chemistry and physics, including the core curriculum (PHYS 231, 232, 233 count on major)  
CHEM 374, 415 or 421  
GEOL 107, 108  
PHYS 235, 304

Required cognates: BIOL 104, 104L, 105, 105L, 106, 106L  
For teaching credentials: EDCI 204, 414, 430, 457 in the School of Education  
EDFO 305 in the School of Education

## MINOR

Chemistry 35 units in chemistry, including  
CHEM 111, 112, 113, 371, 372, 373  
Other courses must be selected from those applicable to a chemistry major.

## COURSES

### LOWER DIVISION

#### **CHEM 111, 112, 113 General Chemistry I, II, III (5, 5, 5)**

Structure and behavior of inorganic matter and a mathematical treatment of chemical systems. Laboratory work in the principles and techniques of quantitative analysis and qualitative analysis. Four class periods, one three-hour laboratory per week. Must be taken in sequence.

Prerequisite: Secondary school chemistry or physics and secondary school algebra or MATH 007.

CHEM 121, 122 are designed for liberal arts students and those preparing to enter nursing and other allied health programs. Credit does not apply toward a major or minor program in chemistry, biochemistry, or physical science, or toward preprofessional requirements for dentistry, medicine, or medical technology.

#### **CHEM 121 Introductory Chemistry I (5)**

Inorganic chemistry, including structure, equilibrium, gas behavior, redox, and acid-base chemistry. Also an introduction to organic chemistry, including properties and reactions of aliphatic and aromatic hydrocarbons. Four class periods, one three-hour laboratory per week.

#### **CHEM 122 Introductory Chemistry II (5)**

Continues the introduction to major organic functional groups, emphasizing their relationship to living systems. A significant portion of the course involves the structures and properties of the major classes of biological compounds and the primary metabolic pathways. Four class periods, one three-hour laboratory per week.

Prerequisite: CHEM 121.

**CHEM 205 Chemistry Seminar (½)**

May be repeated for credit with a maximum of two units applying toward the major.

**CHEM 224 Analytical Chemistry (4)**

Certain chemical systems emphasized for their application to analytical practices. Laboratory inclusive of a limited amount of instrumentation in addition to basic quantitative techniques. Two class periods, two three-hour laboratories per week.

Prerequisite: CHEM 111, 112, 113.

**CHEM 298 Directed Research (1-2)**

Prerequisite: Consent of the instructor.

UPPER DIVISION

**CHEM 351 Physical Chemistry/Thermodynamics (4)**

Principles of thermodynamics applied to chemistry. Entropy and energy concepts used to predict direction and extent of reactions. Three class periods, one three-hour laboratory per week.

Prerequisite: CHEM 111, 112, 113, 224; MATH 131, 132; PHYS 231, 232, 233.

**CHEM 352 Physical Chemistry/Dynamics (4)**

Principles of the Kinetic Molecular Theory, chemical kinetics, and transport processes. Concepts of distributions, rates, gradients, and determination of properties of macromolecules. Three class periods, one three-hour laboratory per week.

Prerequisite: CHEM 351.

**CHEM 353 Physical Chemistry/Quantum Mechanics (4)**

Principles of quantum mechanics applied to the H-like atom, harmonic oscillator, rigid rotator, orbitals, and spectra. Three class periods, one three-hour laboratory per week.

Prerequisite: CHEM 352.

**CHEM 371, 372, 373 Organic Chemistry I, II, III (4, 4, 4)**

First quarter: an integrated, mechanistic study of the nomenclature, chemical and stereo chemical properties of aliphatic hydrocarbons. Four class periods per week. Second and third quarters: continues the study of the major aliphatic and aromatic functional groups, including biochemical compounds. Three class periods, one three-hour laboratory per week.

Prerequisite: CHEM 111, 112, 113.

**CHEM 374 Organic Qualitative Analysis (4)**

Analysis of organic compounds using both solution and instrumental methods. Two class periods, two three-hour laboratories per week.

Prerequisite: CHEM 371, 372, 373.

**CHEM 405 Senior Seminar (½)**

Presentation required on a topic of chemical interest.

Prerequisite: Senior standing in department or consent of department chairman.

**CHEM 408 Introduction to Research (2-4)**

Small-group projects involving laboratory and library research. One three-hour laboratory per week for each unit of credit.

Prerequisite: Senior standing in department or consent of department chairman.

**CHEM 415 Topics in Inorganic Chemistry (4)**

Varied content from quarter to quarter, with specific areas listed in the class schedule. May be repeated with new content for additional credit.

Prerequisite: Consent of the instructor.

**CHEM 421 Instrumental Methods I (4)**

Basic theory of instrument design and parameter optimization in operation of scientific instrumentation and data treatment. Application to thermal and electrical instrumentation methods. Three class periods, one three-hour laboratory per week.

Prerequisite: CHEM 224 or equivalent.

**CHEM 422 Instrumental Methods II (4)**

Basic theory of instrument design and parameter optimization in operation of scientific instrumentation. Application to electromagnetic spectrometric analysis methods. Three class periods, one three-hour laboratory per week.

Prerequisite: CHEM 224 or equivalent.

**CHEM 423 Instrumental Methods III (4)**

Basic theory of instrument design and parameter optimization in operation of scientific instrumentation. Applications include mass spectrometry, x-ray, radionuclear and chromatographic methods of analysis. Three class periods, one three-hour laboratory per week, including a term project.

Prerequisite: CHEM 421 or 422 or equivalent.

**CHEM 475 Topics in Organic Chemistry (4)**

Varied content from quarter to quarter, with specific areas listed in the class schedule. May be repeated with new content for additional credit.

Prerequisite: CHEM 371, 372, 373.

**CHEM 481 Biochemistry I (4)**

Structure and function of proteins; enzyme kinetics; carbohydrate metabolism. Four class periods per week.

Prerequisite: CHEM 371, 372, 373.

**CHEM 482 Biochemistry II (4)**

Metabolism of lipids and proteins; bioenergetics; transmission and expression of genetic information. Four class periods per week.

Prerequisite: CHEM 481.

**CHEM 483 Biochemistry Laboratory (3)**

Experimental projects concerning the chemistry and biochemistry of biological constituents, including protein characterization; isolation and characterization of DNA and RNA, including recombinant techniques; bacteriology; lipid chemistry. Two four-hour laboratory periods per week.

Prerequisite: CHEM 224, 482.

**CHEM 485 Topics in Biochemistry (2-4)**

Varied content from quarter to quarter, with specific areas listed in the class schedule.

Prerequisite: Consent of instructor.

**CHEM 489 Science and the Christian Faith (4)**

Explores the interaction between science and the Christian faith. Does not apply toward a major or minor. Satisfies general education requirement.

Prerequisite: Senior standing in department or consent of department chairman.

**CHEM 498 Directed Research (1-4)**

**CHEM 499 Directed Study (1-4)**

GRADUATE

**CHEM 515 Advanced Inorganic Chemistry (4)**

Varied content from quarter to quarter, with specific areas listed in the class schedule. May be repeated with new content for additional credit.

Prerequisite: CHEM 351, 352, 353, and consent of the instructor.

**CHEM 575 Advanced Topics in Organic Chemistry (4)**

Varied content from quarter to quarter, with specific areas listed in the class schedule. May be repeated with new content for additional credit.

Prerequisite: CHEM 371, 372, 373, and consent of the instructor.



DEPARTMENT OF  
**COMMUNICATION**

LARRY ARANY, 1978. Chairman; Assistant Professor of Communication  
M.A. California State University, Northridge 1980

BRIAN J. JACQUES, 1970. Professor of Speech  
PH.D. University of Michigan 1965

MARTIE P. ERNE, 1980. Assistant Professor of Communication  
M.A. West Virginia University 1976

**Objectives** The Department of Communication faculty recognizes that intercommunication, both on the personal level and through the mass media, is the foundation of a democratic society. At the center of that society is the individual, with his/her own understanding of the world and his/her interaction with, and molding of, the environment.

The Department of Communication emphasizes the importance of a liberal arts education with a firmly grounded knowledge of the communication process.

**Program** The department offers a Bachelor of Arts degree in communication. Students may select an area of concentration in journalism and public relations; or in radio, television, and film. Courses in advertising may be included in either concentration.

The program is designed not only to prepare students for entry-level positions in journalism, public relations, advertising, radio, television, film, industrial and business audiovisual, etc., but also to provide a basis for continuing advancement in the student's chosen career. Preparation for managerial positions is emphasized.

**Practicum** Internships in journalism, public relations, radio, television, film, and advertising are available to qualified students.

**Preparation for teaching** A student preparing to teach communication at the secondary level should plan to qualify for teaching credentials, and during the freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements.

**Degrees offered** The Department of Communication offers a Bachelor of Arts degree in communication, with a choice of one of the following areas of concentration: journalism and public relations; or radio, television, and film. A minor in communication is available.

## MAJOR

### BACHELOR OF ARTS

#### Communication

**Core curriculum** Required of all students majoring in communication.

Required: CMME 227  
COMM 108, 226, 328, 415, 488, 495

Required cognates: MGMT 355 or 361; or MKTG 305; or ACCT 205  
or 221 in the School of Business and  
Management  
ENGL 303 or 304  
ARTS 255 or CPTG 104 or 125  
2 units from ARTS 114 or 244  
OR a cognate package approved by the  
department

The student chooses one of the following areas of concentration:

#### Journalism and public relations

Required: 60 units, including  
the core curriculum  
CMME 229, 238, 337, 346  
COMM 388  
A minimum of one course from  
CMME 247, 425, 426

Remaining units to be selected from  
CMME 237, 247, 358, 425, 426, 434, 495  
COMM 244, 376, 465

#### Radio, television, and film

Required: 60 units, including  
the core curriculum  
CMME 126, 155, 221, 222, 247  
A minimum of one course from CMME  
238, 425, 426

Remaining units to be selected from  
CMME 237, 238, 321, 322, 355, 358, 421,  
422, 425, 426, 495  
COMM 244, 465

## MINOR

Communication 28 units, including  
COMM 108, 226, 328

## COURSES

### MASS MEDIA

#### LOWER DIVISION

**CMME 126 Introduction to Radio Announcing and Station Operation (2)**

A study of the basic techniques used by radio announcers. Also an introduction to the practical application of basic radio station operating techniques and procedures.

**CMME 155 Fundamentals of Cinematography (4)**

Introduction to the basic skills of film making. Emphasis on directing, editing, camera work. Individual film projects. No previous experience or personal equipment necessary.

**CMME 221 Basic Television Techniques I (2)**

An introduction to the theory and operation of television cameras and basic television audio systems. Emphasis on single-camera production techniques. Laboratory required.

Prerequisite: CMME 155 or consent of the instructor.

**CMME 222 Basic Television Techniques II (2)**

Continuation of the principles learned in CMME 221 applied to multiple-camera productions. Laboratory required.

Prerequisite: CMME 221 or consent of the instructor.

**CMME 227 Newswriting (3)**

Gathering news and writing news stories; assignments such as beginning reporters encounter in their first newspaper job.

**CMME 229 Advanced Reporting and News Editing (3)**

Reporting public affairs; selecting and preparing news stories for publication; writing headlines. Offered odd years.

Prerequisite: CMME 227.

**CMME 237 Principles of Advertising (4)**

A survey of advertising theory and practice. Also an introduction to media and audience analysis. Offered odd years.

**CMME 238 Copywriting (3)**

Study of the various principles of writing for aural and visual media. Offered odd years.

Prerequisite: CMME 227, 237; or consent of the instructor.

**CMME 247 Broadcast Journalism (3)**

Preparation of news copy and other news materials for radio and television. Offered even years.

Prerequisite: CMME 227.

#### UPPER DIVISION

**CMME 321, 322 Video Postproduction I, II (2, 2)**

Emphasis on video editing, effects, and audio sweetening concepts used in video postproduction.

Prerequisite: CMME 221, 222.

**CMME 337 Magazine- and Feature-Article Writing (3)**

Fact writing; gathering material, analyzing the magazine market, writing, preparing manuscripts for publication. Offered odd years.

**CMME 346 Public Relations (4)**

Use of mass media in public relations; planning and developing public relations programs involving both print and broadcast media. Offered even years.

**CMME 355 Advanced Film Production (4)**

Cinematic elements; production techniques; equipment; motion picture sound. Individual and/or group projects. Offered alternate years.

Prerequisite: CMME 155 or consent of the instructor.

**CMME 358 Advertising Sales (4)**

Theory and practice of advertising sales. Analysis of customer needs. Preparation of sales presentations. Offered odd years.

**CMME 421 Television Direction and Production I (2)**

Principles and techniques of single-camera television production. Emphasis on the role of the producer and director. Laboratory required.

Prerequisite: CMME 322 or consent of the instructor.

**CMME 422 Television Direction and Production II (2)**

Principles and techniques of multi-camera television production. Emphasis on the role of the producer and director. Laboratory required.

Prerequisite: CMME 421 or consent of the instructor.

**CMME 425 Scriptwriting: Dramatic (4)**

Theory and practice in preparing dramatic scripts for film and television. Offered odd years.

**CMME 426 Scriptwriting: Nontheatrical (4)**

Theory and practice in preparing audiovisual scripts for industry and education. Offered even years.

**CMME 434 Publication Design (4)**

Development of editorial formulas; selection of articles and illustrations; makeup. Offered alternate years.

**CMME 495 Practicum/Internship (1-12)**

On-the-job experience arranged and supervised for advanced students. Not more than 6 units of CMME 495 may be applied to the major. Any additional units may be used as free elective units. Department consent required.

## COMMUNICATION, GENERAL

### LOWER DIVISION

**COMM 104 Fundamentals of Speech (4)**

Oral communication of ideas to others; self-appraisal; evaluation of the speech of others. Includes practice in preparation and delivery of public speeches. Does not apply toward a major or minor in communication.

Prerequisite: Placement examination performance satisfactory for entrance to ENGL 111. Students for whom English is a second language must first complete ENGL 111.

**COMM 107 Sounds and Patterns of Spoken English (4)**

A study of the pronunciation, melody patterns, and rhythms of standard American English. Primarily intended for students enrolled in English as a second language. Does not apply toward major or minor. Does not meet general education requirements in speech communication skills.

**COMM 108 Introduction to Communication (2)**

A survey of the field of communication, including basic concepts, theories, and models, emphasizing their relationship to the mass media.

**COMM 226 Mass Media (4)**

Print and broadcast media and their relationship to today's world.

**COMM 244 Interpersonal Communication (4)**

Examines face-to-face dialogue. Investigates elements important for effective communication in contexts such as interviews, counseling sessions, social conversation, and problem-solving groups. Study of various frameworks used to describe and explain interpersonal communication. Students earning a communication major may not apply this course to the General Education requirement in oral communication skills.

**COMM 265 Film as Art (4)**

Understanding film and film aesthetics. Developing an appreciation of film art. Does not apply toward a major or minor in communication.

**COMM 299 Individual Instruction (1-4)**

To improve proficiency. May be repeated for additional credit to a maximum of 4 units.  
Prerequisite: Consent of the instructor.

UPPER DIVISION

**COMM 328 Persuasion (4)**

The psychology of persuasion. Non-Aristotelian concepts derived from communication theory, research, psychology, and modern behavioral studies. Practice in oral and written forms. Students earning a communication major may not apply this course to the General Education requirement in oral communication skills.

**COMM 376 Organizational and Administrative Communication (4)**

Examines the interplay between internal factors, such as role, status, technological complexity, communication networks; and external factors, such as interorganization exchanges, input from the outside environment. Focuses on managerial and operational styles and their dependency on effective communication. Offered even years.

**COMM 388 Public Opinion: Theory and Research (4)**

An introduction to public opinion, including its development and change; its influence in public affairs and its measurement. Offered even years.

**COMM 415 Communication Law (4)**

Legal issues in the mass media: United States constitutional rights of free speech, free press, privacy. Also libel, broadcast regulation, legal distinctions between print and broadcast media, etc. Offered odd years.

Prerequisite: Junior or senior class standing; COMM 226 or consent of the instructor

**COMM 465 Topics in Communication (1-4)**

Seminars in various content areas (communication, journalism, public relations, advertising, broadcasting, aesthetics, etc.). Specific topics listed in class schedule. May be repeated with new content for additional credit.

**COMM 488 Communication Theory and Research (4)**

Modern developments and experimentation in communication theory. Offered even years.  
Prerequisite: COMM 108, 226.

**COMM 489 Christian Communication (4)**

Christianity, mass media, and communication. Does not apply toward a major or minor in communication.

**COMM 495 Senior Project (4)**

Related to the student's area of specialization. Written report and oral defense of work required. To be taken following the student's junior year. Must be completed at least one quarter prior to expected quarter of degree completion.

**COMM 499 Directed Study (1-4)**

Independent study in consultation with the adviser. For advanced students.

## PROGRAM IN ENGINEERING

IVAN E. ROUSE, 1978. Coordinator  
PH.D. Washington State University 1974

The first two years of a baccalaureate program in engineering may be completed in the College of Arts and Sciences. The following program qualifies a student for transfer to Walla Walla College, College Place, Washington, with junior standing. Transfers to other schools of engineering may be arranged through consultation with the engineering program coordinator.

Core requirements:	ENGR 147, 234, 244, 324 PHYS 184 (2 quarters) PHYS 231, 232, 233 (calculus based)
Math/science requirements:	CHEM 111, 112, 113 CPTG 124 or 125 MATH 131, 132, 133, 231, 232, 233
General education:	ENGL 111, 112, 113 8 units biblical studies* 8 units humanities/history* 3 physical education activity courses

\*See engineering adviser for applicable courses.

## COURSES

### ENGR 147 Engineering Design Graphics (4)

Engineering communications, with emphasis on sketching, conventional engineering drafting practices, computer-aided drafting, pictorial representations; principles of descriptive geometry. Two lectures and two laboratory periods per week.

### ENGR 234 Statics (4)

Two- and three- dimensional equilibria employing vector algebra, centroids, centers of gravity, friction, moments of inertia. A professional course involving applications and problem solving for engineering students.

Prerequisite: MATH 131.

Corequisite: MATH 132.

**ENGR 244 AC/DC Circuits (4)**

Ohm's Law in AC and DC circuits; phasors and complex impedance; network theorems and Thevenin's theorem; frequency characteristics of sinusoidal steady state; introduction to filters, RC integration/differentiation. Three lectures, one laboratory per week. Identical to PHYS 244.

Prerequisite: MATH 133; recommend MATH 232 and PHYS 232.

**ENGR 324 Dynamics (4)**

Vector kinetics and kinematics of moving bodies in both moving and fixed reference frames, moments of inertia, work and energy, impulse and momentum. Keplerian motion, harmonic motion, conservative dynamic systems. Identical to PHYS 324.

Prerequisite: MATH 133; PHYS 231.

**ENGR 348 Computer-Aided Drafting (2)**

Principles of computer-aided graphics and two- and three-dimensional modeling on industry-standard CAD software. Individual project. Lecture/laboratory format.

Prerequisite: ENGR 147.

**INDT 286 Basic Computer Repair (2)**

Inspection and repair of computer circuits, with emphasis on Apple and IBM micro systems.

## DEPARTMENT OF ENGLISH

ROBERT P. DUNN, 1968. Chairman; Professor of English  
PH.D. University of Wisconsin 1970

DOROTHY M. COMM, 1978. Professor of English  
PH.D. University of Alberta 1971

OPAL I. HAGELGANTZ, 1979. Professor of English  
ED.D. University of Nebraska 1969

FRANK A. KNITTEL, 1984. Professor of English  
PH.D. University of Colorado 1960

MARILYN C. TEELE, 1961. Professor of English  
M.ED. Boston University 1961

CORDELL A. BRIGGS, 1980. Associate Professor of English  
PH.D. Howard University 1981

JUDY M. LAUE, 1988. Assistant Professor of English  
PH.D. University of Southern California 1988

KENNETH E. MATTHEWS, 1981. Assistant Professor of English  
PH.D. University of California, Los Angeles 1983

BEATRICE J. SMITH, 1977. Assistant Professor of English  
M.A. Loma Linda University 1977

**Objectives** The Department of English aims (1) to assist general college students to understand and appreciate literary art and history and to organize their thoughts and writing effectively; and (2) to help English majors attain scholarship in literature, language, and composition adequate for graduate work, for teaching, or for other professions.

**Graduate programs** Programs leading to the Master of Arts degree in English are described in the BULLETIN of the Graduate School.

**Preparation for teaching** During the freshman or sophomore year, the student who plans to teach English on the secondary level should consult a credentials adviser in the School of Education for detailed information concerning requirements.

A program leading to the Master of Arts degree in the teaching of English is described in the BULLETIN of the School of Education.

**Degrees offered** The Department of English offers a Bachelor of Arts degree in English and a minor in English.



## MAJORS

### BACHELOR OF ARTS

#### English

- Required: 53-54 units (36 upper division) in English, including  
ENGL 303  
ENGL 485 (1 to 2 units depending on time in residence)  
8 units from ENGL 224, 225, 425  
4 units of writing above the 200 level  
4 units from ENGL 385, 475, 477  
12 units from ENGL 428, 429, 434, 435, 436, 438  
4 units from ENGL 457-459  
16 units of electives, 8 upper division
- Note: California Teaching Credentials require the following courses, which may be taken as electives under the 16 units applicable toward the major:  
K-6: ENGL 415  
7-9: ENGL 416, 385  
10-12: ENGL 417, 385  
Seventh-day Adventist Secondary Teaching Credential requires ENGL 445.
- Note: English majors should note that graduate work requires them to have taken a foreign language through Level IV.

## MINOR

- English 30 units at or above the 200 level (16 upper division), including ENGL 303

## COURSES

### REMEDIAL

#### **RDNG 001 Reading Improvement (4)**

For entering students with low scores on entrance or English Placement Test. Emphasizes study habits, reading speed, vocabulary development, comprehension, and critical thinking. Individual laboratory practice and work in relating reading to writing. Does not apply toward a major in English or toward the general requirement in communication skills. May be repeated for additional credit with new content. Students must meet exit criteria to be eligible to take the next required English course.

#### **ENGL 005 Introduction to Composition (4)**

Intensive review of grammar and usage, with considerable practice in the sentence, paragraph, summary, outline, and other minor forms. Does not apply toward a major in English or toward the general requirement in communication skills.

Prerequisite: Satisfactory performance on a placement examination.

NOTE: A sequence of courses in English as a second language is available through the Department of Modern Languages.

### LOWER DIVISION

#### **ENGL 111, 112, 113 Freshman English (3,3,3)**

Techniques and practice of written communication, with emphasis on creative, expository, critical, argumentative, and research writing.

Prerequisite: Enrollment is limited to students who have a grade of C or better in ENGL 204 or ENGL 005, or satisfactory performance on a placement test.

#### **ENGL 124 Freshman Seminar in Writing (4)**

Gives the well-prepared student an opportunity to read and evaluate more challenging material and write more sophisticated papers than is possible in general freshman English courses. Students performing at a grade level of B or better will not be required to take additional freshman English classes. Students receiving B- or lower must take ENGL 112 and 113.

Prerequisite: Satisfactory performance on a placement examination and consent of the instructor.

Satisfactory completion of ENGL 113 or 124 or the equivalent is prerequisite to registration for courses numbered above 200.

#### **ENGL 206 Introduction to Literature (4)**

An introduction to the reading and analysis of the major literary genres: poetry, drama, short story, and essay.

#### **ENGL 224 American Literature to 1860 (4)**

#### **ENGL 225 American Literature 1860 to Present (4)**

#### **ENGL 246 Literary Forms and Ideas (4)**

Varied content from quarter to quarter, with specific areas listed in the class schedule (drama, the short story, contemporary literature, women in literature, American fiction, C. S. Lewis, etc.). Offered primarily for general students, but applies toward a major in English. May be repeated with new content for additional credit.

#### **ENGL 299 Directed Study (1-4)**

UPPER DIVISION

**ENGL 303 Critical Writing (4)**

Writing about literature.

**ENGL 304 Expository Writing (4)**

**ENGL 305 Poetry Writing (4)**

**ENGL 306 Technical Writing (4)**

Skills for informational writing needed in business, science, and industry; extensive practice in writing letters, proposals, descriptive and analytical reports, and research papers.

**ENGL 354 World Literature (4)**

Offered alternate years. May be repeated for credit with different content.

**ENGL 385 Modern Grammar (4)**

Major descriptions of the grammar of modern English: traditional, structural, and transformational-generative, with special emphasis on transformational theory; application of grammatical principles to problems of style and dialect. Required for State Teacher Credential, 7-12.

**ENGL 405 Narrative Writing (4)**

**ENGL 415 Literature for Children (4)**

Readings in works written for children. Required for State Teacher Credential, K-6.

**ENGL 416 Young Adult Literature (4)**

Required for State Teacher Credential, 7-9.

**ENGL 417 Knowledge and Skills in Literature (4)**

Offered alternate years. Recommended for prospective teachers.

**ENGL 425 Major American Authors or Movements (4)**

**ENGL 428 Nineteenth-Century English Literature: Romanticism (4)**

Offered alternate years.

**ENGL 429 Nineteenth-Century English Literature: Victorianism (4)**

Offered alternate years.

**ENGL 434 Old and Middle English Literature (4)**

Offered alternate years.

**ENGL 435 English Renaissance Literature (4)**

Offered alternate years.

**ENGL 436 Restoration and Eighteenth-Century Literature (4)**

Offered alternate years.

**ENGL 438 Twentieth-Century English Literature (4)**

Offered alternate years.

**ENGL 445 Biblical Literature (4)**

Required for Denominational Secondary Teacher Credential.

**ENGL 457 Chaucer (4)**

Offered alternate years.

**ENGL 458 Shakespeare (4)**

Offered alternate years.

**ENGL 459 Milton (4)**

Offered alternate years.

**ENGL 475 History of the English Language (4)**

Offered alternate years.

**ENGL 477 General Linguistics (4)**

A study of language within its social contexts, the acquisition of language, phonology, morphology, syntax, semantics, and the theory and recent developments in sociolinguistics and psycholinguistics. Identical to LING 477. Offered alternate years.

**ENGL 485 English Colloquium (½)**

Required of English majors each of last four quarters in residence. Senior transfer students must register each quarter in residence.

**ENGL 489 Religion and Literature (4)**

Contributions of selected literary works to religious thought and experience. Limited to students majoring in English. Applies to general studies requirement in religion. Offered alternate years.

**ENGL 499 Directed Study (1-4)**

GRADUATE

Consult Graduate School BULLETIN for details.

**ENGL 504 Methods and Materials of Literary Study (2)**

**ENGL 505 Practicum in Composition (2, 2)**

**ENGL 506 Composition and Rhetorical Theory (2, 2)**

**ENGL 507 Diagnosis and Remediation in Reading (4)**

**ENGL 508 Practicum in Reading (2, 2)**

Required of teaching assistants. May be repeated once for credit.

**ENGL 509 Scholarly Writing (2)**

**ENGL 515 Workshop (1-4)**

Varied content offered in concentrated courses for special groups (e.g., Shakespeare on Film, C.S. Lewis in the Secondary Classroom, Humor in American Literature). May be repeated with new content for additional credit.

**ENGL 575 Problems in English Language and Linguistics (4)**

**ENGL 615 Seminar in Literary History and Criticism (4)**

**ENGL 625 Seminar in a Major Literary Period (4)**

**ENGL 635 Seminar in a Major Author (4)**

**ENGL 645 Seminar in Religion and Literature (4)**

**ENGL 665 Seminar in Writing (4)**

**ENGL 675 Directed Study (1-4)**

**ENGL 697 Research (1-4)**

**ENGL 698 Thesis (4-8)**

## DEPARTMENT OF GEOLOGICAL SCIENCES

KNUT ANDERSSON, 1981. Chairman, Associate Professor of Geological Sciences  
PH.D. University of Wyoming 1982

H. PAUL BUCHHEIM, 1981. Associate Professor of Geological Sciences  
PH.D. University of Wyoming 1978

LANNY H. FISK, 1979. Associate Professor of Geological Sciences  
PH.D. Loma Linda University 1976

### COLLABORATING FACULTY

LEONARD R. BRAND, Professor of Biology  
PH.D. Cornell University

IVAN G. HOLMES, Professor of Chemistry  
PH.D. Oregon State University

EDWIN A. KARLOW, Professor of Physics  
PH.D. Washington State University

ARIEL A. ROTH, Professor of Biology  
PH.D. University of Michigan

IVAN E. ROUSE, Professor of Physics  
PH.D. Washington State University

CLYDE L. WEBSTER, Professor of Chemistry  
PH.D. Colorado State University

Program closed  
to new admissions

**Objectives** The Department of Geological Sciences prepares students for a career in geology or paleontology and introduces general students to the science of the Earth. The integrated core course sequence of the geology major provides students with a broad background in the geological sciences as preparation for later specialization in one of its subdisciplines. Fieldwork is emphasized because it provides a first-hand experience with geological phenomena that can never be satisfactorily grasped or understood solely from classroom or laboratory study. Through its undergraduate research project and senior thesis programs, the department encourages geology majors to contribute to the basic data in the field of geology. Throughout the geology program, students are encouraged to develop an understanding of the relationship between the geologic data and interpretations of earth history.

A minor in geology is designed for students who wish to broaden their background and competence in earth science but choose to major in a related field such as biology, chemistry, physics, or engineering.

**Employment** A baccalaureate degree in geology prepares a student to enter graduate programs in geology or paleontology, or for immediate employment in geoenvironment, mining, or energy-related industries. Jobs available to a person with a Bachelor of Science degree in geology are usually technician positions in oil or mining companies, government research laboratories, or secondary teaching positions. Employment as exploration managers in petroleum or mining, college teachers, or research scientists in geology generally requires a graduate degree.

**Preparation for teaching** A student preparing to teach at the secondary level should consult the credentials adviser in the School of Education for detailed information concerning the requirements for a teaching credential. In California the credential is in physical science.

**Graduate programs** The Department of Geological Sciences offers a Master of Science degree in geology and, jointly with the Department of Biology, a Master of Science degree in paleobiology. A Master of Arts degree in secondary teaching with an emphasis in geology is also available through the School of Education. See the BULLETIN of the Graduate School for details.

**Interschool cooperative program** The geology major is designed so that a student can take the first two years at any college. The geology courses (with the exception of physical geology) can then be taken at LLU in two school years and the summer following the senior year. For more information write to: Chairman, Department of Geological Sciences, La Sierra campus, Loma Linda University, Riverside, California 92515.

**Degrees offered** The Department of Geological Sciences offers a Bachelor of Science degree in geology. An optional emphasis in paleontology is available. A minor in geology is available.

## MAJORS

### BACHELOR OF SCIENCE

#### Geology

Required: 65 units of geology, including  
GEOL 107, 108, 109, 207, 208, 209, 304,  
305, 306, 326, 375, 398, 415, 425, and  
either thesis, including 497 (2 units) and  
498 (2 units); or a research project with  
report under 499 (2 units)

Required cognates: CHEM 111, 112, 113  
 MATH 131, and 122 or 132  
 A course in statistics or computer programming  
 PHYS 231, 232, 233

Emphasis in paleontology: 3 courses in paleontology

Required cognates: BIOL 104, 104L, 105, 105L, 106, 106L

## MINOR

Geology 30 units of geology, including  
 GEOL 107, 108, 109 and eight upper division units selected in consultation with the department adviser

## COURSES

### LOWER DIVISION

#### **GEOL 107 Physical Geology I: Surface Processes (4)**

Physical systems operating at the surface of the earth. Minerals, sedimentary rocks, weathering processes, stream and river systems, glacier systems, shoreline systems, and desert systems. Three lectures, one three-hour laboratory per week. Not open to students who take or have taken GEOL 307.

#### **GEOL 108 Physical Geology II: Internal Processes (4)**

Physical systems operating beneath the surface of the earth. Minerals, igneous and metamorphic rocks, volcanism, structure and composition of earth's interior, earthquakes, plate tectonics, formation of ocean basins and mountain chains. Three lectures, one three-hour laboratory per week. Not open to students who take or have taken GEOL 308.

#### **GEOL 109 Historical Geology (4)**

General outline of the history of the earth, using both geological and paleontological data. Three class hours, one three-hour laboratory or a field trip per week. Not open to students who take or have taken GEOL 309.

#### **GEOL 207 Mineralogy (4)**

Properties, association, and determination of the more important rock- and ore-forming minerals. Two class hours and two three-hour laboratories per week, with one field trip. Offered alternate years.

Prerequisite: One year of college-level general chemistry or consent of the instructor.

#### **GEOL 208 Petrology I: Introduction to Optical Mineralogy and Igneous Petrology (4)**

Basic principles of optical mineralogy and use of the petrographic microscope. Origin, occurrence, classification, and description of igneous rock types and suites. Two lectures, two three-hour laboratories per week. Offered alternate years.

Prerequisite: GEOL 207 or consent of the instructor.

**GEOL 209 Petrology II: Introduction to Sedimentary and Metamorphic Petrology (4)**

Study of the origin, occurrence, classification, description, and composition of sedimentary and metamorphic rocks. Three lectures, one three-hour laboratory per week. Offered alternate years.

Prerequisite: GEOL 208 or consent of the instructor.

**GEOL 294 Regional Studies in Geology (1-4)**

Study of the regional geology of selected areas, such as southern California, Mohave Desert, or one or more national parks. Three class hours, one field trip or laboratory per week.

UPPER DIVISION

**GEOL 304 Sedimentology (4)**

Study of sediments, with emphasis on sedimentary processes, primary sedimentary structures, and environments of deposition. Includes description, classification, origin, and interpretation of sediments. Three class hours, one three-hour laboratory or a field trip per week. Offered alternate years; 1988-89.

Prerequisite: GEOL 208, 209, or consent of the instructor.

**GEOL 305 Stratigraphy (4)**

Study of stratigraphic principles, including classifications, correlation methods, facies relationships, maps, and analysis. Three class periods, one laboratory or field trip per week. Offered alternate years; 1988-89.

Prerequisite: GEOL 209, 304, or consent of the instructor.

**GEOL 306 Structural Geology (4)**

Study of rock deformation (folds, faults, etc.) in the framework of plate tectonics. Includes actual problems and applications. Two class hours and two laboratories per week, with required full-day and half-day field trips. Offered alternate years; 1988-89.

Prerequisite: GEOL 305 and physics.

**GEOL 307 Physical Geology I: Surface Processes (4)**

Physical processes operating at the surface of the earth. Minerals, sedimentary rocks, weathering processes, stream and river systems, glacier systems, shoreline systems, and desert systems. Three lectures, one three-hour laboratory per week. A project required. Not open to students who take or have taken GEOL 107.

**GEOL 308 Physical Geology II: Internal Processes (4)**

Physical systems operating beneath the surface of the earth. Minerals, igneous and metamorphic rocks, volcanism, structure and composition of earth's interior, earthquakes, plate tectonics, formation of ocean basins and mountain chains. Three lectures, one three-hour laboratory per week. A project required. Not open to students who take or have taken GEOL 108.

**GEOL 309 Historical Geology (4)**

General outline of the history of the earth, using both geological and paleontological data. Three class hours, one three-hour laboratory or a field trip per week. A project required. Not open to students who take or have taken GEOL 109.

**GEOL 326 Geomorphology (4)**

Description and analysis of landforms and their origin, laboratory work on topographic maps and aerial photographs. Offered alternate years; 1988-89.

Prerequisite: GEOL 107, 108, 109.

**GEOL 375 Principles of Paleontology (4)**

Introductory study of fossils, their formation, utility, and methods of study. Includes analysis of the fossil record and survey of the major groups of fossils, with emphasis on the invertebrates. Three class hours, one three-hour laboratory per week. One field trip required. Offered alternate years.

Preparation recommended: One year of high school biology or BIOL 106, 106L.

**GEOL 394 Regional Studies in Geology (1-4)**

Study of the regional geology of selected areas, such as southern California, Mojave Desert, or one or more national parks. A term paper or project required. Three class hours, one field trip or laboratory per week.



**GEOL 398 Introduction to Research (2)**

The nature of scientific research and the methods, equipment, and procedures used in geological research. Includes introduction to the scientific literature, designing a research project, and the writing of a research proposal. Offered alternate years.

**GEOL 415 Undergraduate Geology Seminar (1)**

A how-to course on making geological presentations. Research reports by invited speakers on recent developments in geology and paleontology. One brief presentation required.

**GEOL 425 Summer Field Geology (8)**

Advanced geologic mapping of complex areas with interpretation of their history, including mapping of igneous, metamorphic, and sedimentary rocks. Experience in preparation of geologic reports of each mapped locality. Offered alternate years.

Prerequisite: GEOL 305, 306.

**GEOL 431 Geochemistry (4)**

Chemical concepts and their geochemical applications in areas of interest in elementary geology. Offered alternate years; 1988-89.

Prerequisite: CHEM 111, 112, 113; GEOL 107, 108 or consent of the instructor.

**GEOL 437 Geophysics (4)**

Application of classical physics to the study of the earth. The earth's gravitational, geomagnetic, geothermal, and seismic characteristics studied; as well as the dynamics of the earth's crust, plate tectonics, and radioactive dating. Identical to PHYS 437. Offered alternate years.

Prerequisite: PHYS 231, 232, 233; MATH 131, 132.

**GEOL 453 Optical Mineralogy (4)**

Use of the polarizing petrographic microscope in the identification of thin-section minerals from optical properties. Includes theory in optical mineralogy. Two class hours, two three-hour laboratories per week.

Prerequisite: GEOL 208, 209, or consent of the instructor.

**GEOL 454 Sedimentary Petrology (4)**

Origin, diagenesis, and classification of sedimentary rocks. Includes use of the petrographic microscope in the study of sedimentary rock-forming minerals, cements, textures, and fabrics. Three class hours, one laboratory or a field trip per week. Offered alternate years.

Prerequisite: GEOL 209, 304, or consent of the instructor.

**GEOL 455 Igneous and Metamorphic Petrology (4)**

The mineralogic and chemical composition, occurrence, and classification of igneous and metamorphic rocks. Three class hours, one laboratory or a field trip per week.

Prerequisite: GEOL 453.

**GEOL 467 Introduction to Oceanography (4)**

A study of the biological, chemical, and geological features of the oceans and ocean basins. Offered in cooperation with Walla Walla College during alternate summers at the Rosario Beach Marine Station. Offered alternate years.

**GEOL 472 Petroleum Geology (4)**

Study of the methods of locating and producing reserves of oil and natural gas. Two lectures and laboratories per week. One field trip required. Offered alternate years; 1988-89.

Prerequisite: GEOL 305, 306, or consent of the instructor.

**GEOL 474 Field Studies in Geology (1-4)**

An in-depth field study of the geology of a specific area, under the direction of a staff member.

**GEOL 475 Current Topics in Geology (1-4)**

Review of a specific topic of current interest in the advancing field of geology. May be repeated for credit provided different topics are covered.

**GEOL 489 History and Philosophy of Geology (4)**

The historical and philosophical development of the science of geology. Four class hours per week. Offered alternate years. Does not apply toward a major or minor in geology.

Prerequisite: GEOL 109 or consent of the instructor.

**GEOL 496 Workshops in the Earth Sciences (1-4)**

Concentrated participation-oriented study sessions for professional geologists, teachers, and students. Topics will emphasize current subjects relevant to professional geology or teaching earth science.

**GEOL 497 Undergraduate Research (1-2)**

Original laboratory or field research under the direction of a staff member, and an oral presentation of the research results in a seminar.

Prerequisite: GEOL 398 and consent of a staff member to direct the study.

**GEOL 498 Undergraduate Thesis (1-2)**

Writing of a thesis based on original research.

Prerequisite: GEOL 398, 497.

**GEOL 499 Directed Study (1-4)**

Experimental, field, or library study of a problem of restricted scope, under the direction of a staff member. May be repeated for additional credit. Limited to geology majors or to students with special preparation.

Prerequisite: Consent of a staff member to direct the project.

GEOGRAPHY COURSES

**GEOG 225 Principles of World Geography (4)**

Principles and methods of geography and their applications to the physical, cultural, and economic geography of the world. Three lecture periods, one laboratory or a field trip per week.

**GEOG 375 Topics in Geography (1-4)**

Study of a selected geographic topic, with emphasis on physical aspects of geography. May be repeated with different content for additional credit to a maximum of 8 units.

Preparation recommended: GEOG 225.

GRADUATE COURSES

**GEOL 515 Research Techniques (1)**

**GEOL 524 Paleobotany (4)**

**GEOL 525 Palynology (4)**

**GEOL 534 Advanced Invertebrate Paleontology (4)**

**GEOL 535 Micropaleontology (4)**

**GEOL 544 Vertebrate Paleontology (4)**

**GEOL 548 Field Interpretations in Historical Geology (4)**

**GEOL 554 Lacustrine Rocks (4)**

**GEOL 556 Depositional Environments (4)**

**GEOL 558 History and Philosophy of Science (4)**

**GEOL 604 College Teaching (2-4)**

**GEOL 615 Seminar in Geology (1)**

**GEOL 675 Advanced Topics in Geology (1-4)**

**GEOL 695 Special Problems in Geology (1-4)**

**GEOL 697 Research (1-4)**

**GEOL 698 Thesis (1-4)**

DEPARTMENT OF  
**HEALTH, PHYSICAL EDUCATION, and RECREATION**

VERNON L. SCHEFFEL, 1980. Chairman; Professor of Health and Physical Education  
D.P.E. Springfield College 1977

WALTER S. HAMERSLOUGH, 1963. Professor of Health and Physical Education  
E.D.D. University of Oregon 1971

ROGER L. McFARLAND, 1979. Associate Professor of Health and Physical Education  
M.E.D. Wayne State University 1970

HELEN I. WEISMAYER, 1966. Associate Professor of Health and Physical Education  
M.S. University of Southern California 1967

TOMMY F. KOFOED, 1987. Assistant Professor of Health  
D.H.SC. Loma Linda University 1978

BRUCE G. PEIFER, 1987. Instructor in Health and Physical Education  
M.S. Loma Linda University 1986

MANZOOR MASSEY, Lecturer in Health  
PH.D. University of California, Riverside

COLLABORATING FACULTY

WILLIAM J. NAPIER, Professor of Health and Physical Education  
PH.D. University of Southern California

ROBERT K. SCHNEIDER, Associate Professor of Health and Physical Education  
M.A. Loma Linda University

**Functions** The Department of Health, Physical Education, and Recreation has the following functions: instruction in a variety of physical activities; supervision of the Bill Dopp Equestrian Center, recreation and intramural activities program; and the preparation of health educators, teachers, and recreational leaders.

**Graduate program** A program leading to the Master of Arts degree in physical education and health is described in the BULLETIN of the Graduate School.

**Preparation for teaching** A student preparing to teach physical education at the elementary or secondary level should plan to qualify for teaching credentials, and during the freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements.

**Degrees offered** The Department of Health, Physical Education, and Recreation offers a Bachelor of Science degree in physical education or physical education with one of these three optional areas of concentration: health, fitness management, or scientific basis. A Bachelor of Science degree in health science or health science with an optional concentration in health education is available. Minors in physical education, physical education and health, and health science are available.

## MAJORS

### BACHELOR OF SCIENCE

#### Physical education

Core curriculum: Required of all students majoring in physical education:  
HLED 214, 216, 426, 444 PETH 344, 408

#### Physical education

Required: 65 units in physical education, including the core curriculum and  
HLED 429  
PEAC 108, 109, 181, 244-256, 274-278  
PETH 204, 264, 265, 266, 355, 356, 357, 385, 424, 427, 483

Required cognates: BIOL 131, 132

#### Concentration in health —

Required: 73 units in physical education, including the core curriculum and  
PEAC 108, 109, 181, 244-256  
HLED 225, 414, 415, 416, 429  
PETH 204, 264, 265, 266, 355, 356, 357, 385, 424, 427, 483  
Proficiency required in archery, badminton, golf, gymnastics, and tennis

Required cognates: BIOL 131, 132

#### Concentration in fitness management —

Required: 61 units, including the core curriculum and  
HLED 225  
PEAC 108, 109, 111, 112, 113, 115, 183 (select any 6)  
ACCT 205 in the School of Business and Management ARTS 244 (2 units)

BIOL 131, 132 MGMT 355 in the School  
of Business and Management  
Remaining units selected in consultation  
with the adviser

Concentration in Scientific Basis —

Required: 65 units, including  
the core curriculum and  
HLED 429  
PETH 424, 427  
BIOL 104, 104L, 105, 105L, 106 106L or  
CHEM 111, 112, 113 or PHYS 231, 232, 233  
BIOL 131, 132  
Remaining units selected in consultation  
with the adviser

**Health science**

Required: 68 units, including  
BIOL 131, 132, 185  
CHEM 121, 122  
HLED 214, 216, 225, 314, 317, 414, 415,  
416, 417 (2 units), 426, 429 (2 units), 444,  
467, 476  
PSYC 324

Concentration in health education —

Required: 84 units, to include the health science major  
and the following  
HLED 419 (8 units)  
PSYC 437 (4 units)  
SOCI 307  
HLED 425A (School Health) required for  
a California State teaching credential in  
health science

**MINORS**

Physical education

Required: 30 units (15 upper division), including  
PEAC 244-256  
PETH 264-266, 355-357

Recommended: PETH 204, 216, 408

Physical education and health

Required: 31 units (15 upper division), including  
PEAC 244-256  
HLED 214  
PETH 264-266, 355-357

Recommended: HLED 216, 414  
PETH 408

Health science  
 Required: 30 units (15 upper division), including  
 HLED 214, 414, 415, 444  
 Recommended: HLED 314, 416, 426  
 BIOL 131, 132

## COURSES

### PHYSICAL EDUCATION

#### LOWER DIVISION

##### PEAC 101-199 Physical Education Activity (1/2-1)

Motor skills and physiological development; adaptive programs as needed. Up to 12 courses applicable toward a baccalaureate degree. Does not apply toward a major in physical education.

PEAC 101	Swimming I	PEAC 137	Wind Surfing I
PEAC 102	Swimming II	PEAC 139	Wind Surfing II
PEAC 106	Scuba Diving	PEAC 140	Volleyball I
PEAC 108	Lifesaving	PEAC 141	Volleyball II
PEAC 109	Water Safety	PEAC 144	Baseball
PEAC 110	Independent Activities	PEAC 145	Basketball
PEAC 111	Fitness and Figure Control	PEAC 148	Flagball
PEAC 112	Weight Training	PEAC 149	Track and Field
PEAC 113	Jogging	PEAC 150	Soccer I
PEAC 114	Adaptive Activities	PEAC 151	Soccer II
PEAC 115	Aerobic Swimming	PEAC 154	Softball
PEAC 116	Gymnastics	PEAC 155	Women's Softball
PEAC 119	Olympians	PEAC 159	Water Polo
PEAC 120	Lifetime Fitness	PEAC 161	Badminton I
PEAC 121	Archery	PEAC 162	Badminton II
PEAC 123	Horsemanship Western Style I	PEAC 163	Diving
PEAC 124	Horsemanship Western Style II	PEAC 165	Tennis I
PEAC 125	Horsemanship Western Style III	PEAC 166	Tennis II
PEAC 126	Horsemanship English Style I	PEAC 171	Golf I
PEAC 127	Horsemanship English Style II	PEAC 172	Golf II
PEAC 130	Skiing I	PEAC 177	Backpacking
PEAC 131	Skiing II	PEAC 179	Rock Climbing
PEAC 134	Skating	PEAC 181	Basic Skills
PEAC 135	Sailing I	PEAC 183	Aerobic Rhythms
PEAC 136	Sailing II	PEAC 197	Wilderness Survival (2)

##### PEAC 244-256 Professional Team Activities (1)

PEAC 244	Baseball	PEAC 250	Soccer
PEAC 245	Basketball	PEAC 255	Softball
PEAC 248	Flagball	PEAC 256	Volleyball
PEAC 249	Track and Field		

**PEAC 274-278 Professional Individual Activities (1-2)**

PEAC 274 Tennis

PEAC 277 Golf

PEAC 275 Archery

PEAC 278 Badminton

PEAC 276 Gymnastics

Prerequisite: PEAC 116.

**PETH 204 Introduction to Health, Physical Education, and Recreation (2)**

Orients freshman majors and minors to the breadth, scope, and nature of the professional program in health, physical education, and recreation.

**PETH 264, 265, 266 Techniques of Officiating (2, 2, 2)**

Autumn: flagball and soccer. Winter: basketball and volleyball. Spring: softball, track, and field.

UPPER DIVISION

**PETH 344 Adaptive Physical Education (2)**

Theory and practice of adaptive physical education as applied to the exceptional person.

Prerequisite: BIOL 131, 132.

**PETH 355 Analysis of Fall Team Activities (3)**

Materials, methods, and teaching progression in flagball and soccer. Lecture and laboratory.

Prerequisite: Men, PEAC 248, 250; women, PEAC 251, 257.

**PETH 356 Analysis of Winter Team Activities (3)**

Materials, methods, and teaching progression in softball and volleyball. Lecture and laboratory.

Prerequisite: Men, PEAC 244, 256; women, PEAC 255, 256.

**PETH 357 Analysis of Spring Team Activities (3)**

Materials, methods, and teaching progression in track and field and basketball. Lecture and laboratory.

Prerequisite: Men, PEAC 245, 249; women PEAC 246, 255.

**PETH 364 Equine Science (2)**

Grooming, nutrition, reproduction, diseases. May be repeated for additional credit for new content to a maximum of 8 units.

**PETH 385 Practicum in Elementary School Physical Education (2)**

Observation and field experience with various grade levels in movement activities. Lecture and laboratory.

Prerequisite: PEAC 181.

**PETH 408 Management of Physical Education and Intramural Programs (4)**

Principles and policies applied to programs, staff, facilities, and equipment. Includes health, recreation, and intramurals.

**PETH 418 Topics in Physical Education (1-4)**

Course content may vary from year to year and may be repeated for additional credit.

**PETH 424 Biomechanics (4)**

Related to sports, rhythmical activities, and correction of functional defects. Three class periods, one three-hour laboratory per week.

Prerequisite: BIOL 131, 132.

**PETH 427 Motor Learning (4)**

Psychological principles involved in learning physical skills. Three class periods, one three-hour laboratory per week.

**PETH 483 Seminar in Health, Physical Education, and Recreation (2)**

Principles, history, and professional preparation.

**PETH 489 God-Man-Sport (4)**

Philosophical inquiry of the place of movement and sport within the framework of Seventh-day Adventist thinking. Does not apply toward a major or minor, but can apply toward the general requirement in religion.

**PETH 499 Directed Study (1-4)**

Emphasis on research.

**GRADUATE**

Consult Graduate School BULLETIN for details.

**PETH 506 Philosophy of Physical Education (4)**

**PETH 508 Literature and Issues of Physical Education Programs (4)**

**PETH 514 Seminar in Physical Education and Health (1-4)**

Course content may vary from year to year and may be repeated for credit.

**PETH 524 Human Performance Laboratory (1-4)**

**PETH 526 Scientific Aspects of Physical Activity (4)**

**PETH 527 Psychology of Physical Activity (4)**

**PETH 528 Laboratory Techniques (4)**

**PETH 555 Sociology of Sport (2)**

**PETH 564 History of Physical Education (2)**

**PETH 589 Research Methods (4)**

**PETH 599 Directed Study (1-4)**

**PETH 698 Thesis (arranged) (4-6)**

**HEALTH**

**LOWER DIVISION**

**HLED 214 Personal and Community Health (4)**

A survey of health principles applied to daily living taught from a Christian perspective. Topics include mental, consumer, and environmental health; drug-related problems; sex education; nutrition; disease; safety education. This course meets the California State requirement in health education for teaching credentials.

**HLED 216 Basic Emergency Care (2)**

First aid, CPR, treatment of injuries for children and adults. Lecture and laboratory.

**HLED 225 Human Nutrition (4)**

Fundamentals of normal nutrition. Carbohydrates, proteins, fats, vitamins, minerals, and their roles in human metabolism.



UPPER DIVISION

**HLED 314 Community Health (3)**

Problems, agencies, and programs of health in the local, state, national, and world community. Visits to public health facilities.

**HLED 317 Health and Society (3)**

A study of health problems affecting individuals and community, with special emphasis on the United States health care system. Strategies for meeting the health needs of society.

**HLED 414 Mental Health and Drug Abuse Education (4)**

Mental health, nutrition, abuse of drugs, alcohol, and tobacco. This course meets the California State requirement in health education for teaching credentials.

**HLED 415 Consumer Health and Disease (4)**

Consumer health, degenerative and communicable diseases. Teaching methods.

**HLED 416 Human Sexuality (2)**

Family living and sex education. Teaching methods.

**HLED 417 Safety Education (2-4)**

Principles of industrial, home, highway, and school safety; civil defense.

**HLED 419 Fieldwork in Health (1-12)**

Directed experience in public and private health agencies.

**HLED 425 Topics in Health (1-4)**

Course content may vary from year to year. May be repeated for additional credit.

**HLED 426 Exercise Physiology (4)**

Effects of movement upon the structure and function of body organs. Three class periods, one three-hour laboratory per week.

Prerequisite: BIOL 131, 132.

**HLED 429 Measurement and Evaluation (2-4) (physical education majors take 4 units)**

Statistics and tests relating to measurements in physical education and health; emphasis on test administration and application of results. Three class periods, one three-hour laboratory per week.

**HLED 444 Principles of Physical Fitness (2)**

The total physical fitness program. Theory and practice.

**HLED 467 Principles of Epidemiology (3)**

The study of disease occurrence in human populations.

**HLED 476 Environmental Health (3)**

The study of relationships between various environmental factors and the health of human populations.

**HLED 499 Directed Study (1-4)**

Emphasis on research.

**DEPARTMENT OF  
HISTORY and POLITICAL SCIENCE**

DELMER G. ROSS, 1976. Chairman; Professor of History and Political Science  
PH.D. University of California, Santa Barbara 1970

FREDERICK G. HOYT, 1955. Professor of History and Political Science  
PH.D. Claremont Graduate School 1963

RONALD D. GRAYBILL, 1986. Assistant Professor of History  
PH.D. Johns Hopkins University 1983

RENNIE B. SCHOEPFLIN, 1983. Assistant Professor of History  
M.A. University of Wisconsin 1980

JAMES E. BRAUN, Lecturer in History  
M.A. Loma Linda University 1982

COLLABORATING FACULTY

PAUL J. LANDA, Professor of Church History  
PH.D. Vanderbilt University

RANDALL R. BUTLER II, Associate Professor of History  
PH.D. Brigham Young University

KENT A. HANSEN, Assistant Professor of Political Science  
B.A. Loma Linda University  
J.D. Willamette University

The major in history or history and political science is recommended (1) for students who wish to prepare for secondary teaching, graduate study preparatory to college teaching, archival work, public service, or the study of law; and (2) for students who seek a broad background in the liberal arts. The recommendations of the department adviser assist the student in selecting a program pattern that meets individual objectives. Students planning to attend graduate school are urged to develop foreign language competence.

**Graduate program** For 1987-88 the graduate program is closed to new admissions.

**Preparation for teaching** A student preparing to teach history at the secondary level should plan to qualify for teaching credentials, and during the freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements.

A program leading to the Master of Arts degree in the teaching of history is described in the BULLETIN of the School of Education.

**Degrees offered** The Department of History and Political Science offers a Bachelor of Arts degree in history and a Bachelor of Arts degree in history and political science. Minors in history, Latin American studies, and political science are available.

## MAJORS

### BACHELOR OF ARTS

#### History

- Required: 54 units (37 upper division) in history, including  
HIST 207, 208, 209, 275, 294 (1 unit), 334, 335, 336, 494 (1 unit)  
24 units (20 units for pre-med/pre-dent) from HIST 354, 355, 405, 406, 409, 428, 487, 488
- Required cognates: Modern foreign language through level IV  
PLSC 207, 208
- Pre-Med/Pre-Dent requirements: Replace PLSC 207, 208 with RELH 486 and ANTH 448. Require HIST 409 but reduce the number of units required from 24 to 20 (see list above).
- Recommended: Courses in political science, behavioral sciences, and economics

#### History and political science

- Required: 62 units (37 upper division) in history and political science, including  
HIST 207, 208, 209, 275, 294 (1 unit), 334, 335, 336, 494 (1 unit)  
PLSC 207, 208, 314, 315  
16 additional units from  
HIST 405, 406, 409, 428, 487, 488  
PLSC 335, 454, 484, 485

Recommended: Modern foreign language through level IV  
Courses in behavioral sciences and economics

## MINORS

History	28 units (12 upper division), including HIST 207, 208, 209, 275
Latin American studies	28 units, as follows HIST 176, 177 (or equivalent), 275, 354, 355 8 units from HIST 428 ANTH 325A PLSC 454 SPAN 315, 367, 427 or 429, 486
Political science	32 units (16 upper division), including PLSC 207, 208, 314, 315 HIST 275

## COURSES

### HISTORY

#### LOWER DIVISION

#### **HIST 156, 157 Survey of American History and Institutions (4, 4)**

First quarter, to 1865; second quarter, since 1865. Fulfills the baccalaureate requirement in American history and the California teacher certification requirement, but does not apply toward a major or minor in the department. Credit not allowed for both 156 and 176, or for both 157 and 177.

Prerequisite: ENGL 111, 112, 113 (may be taken simultaneously).

#### **HIST 176, 177 The Americas (4, 4)**

The Western Hemisphere. First quarter to 1820; second quarter since 1820. Fulfills baccalaureate requirement in American history and the California teaching credential. Credit not allowed for both 156 and 176, or for both 157 and 177. Does not apply toward a major in the department.

Prerequisite: ENGL 111, 112, 113 (may be taken simultaneously).

#### **HIST 205 The Christian Centuries (4)**

An impressionistic approach to the history of Christianity, from its earliest days to the present. Using the film series, "The Christians," emphasis is given to the great cultural achievements fostered by Christianity in the arts, architecture, and literature, as well as the intellectual and theological contributions made by leading Christians. This course does not apply toward a major in history or religion. Identical to RELH 205.

**HIST 207 History of Western Civilization to 1300 (4)**

Development of civilization, with emphasis on political, economic, religious, social, and cultural institutions from the beginnings through the High Middle Ages.

**HIST 208 History of Western Civilization 1300-1815 (4)**

Development of civilization, with emphasis on political, economic, religious, social, and cultural institutions from the Late Middle Ages through the Age of Napoleon.

**HIST 209 History of Western Civilization Since 1815 (4)**

Development of civilization, with emphasis on political, economic, religious, social, and cultural institutions from the Industrial Revolution to the present.

**HIST 275 Research Methods and Historical Problems (4)**

An introduction to historical research methods and their application to selected historical problems. For students majoring or minoring in history and political science, and for others with consent of the department.

Prerequisite: HIST 156, 157 or equivalent.

**HIST 294 History Colloquium (½)**

May be repeated for credit, with a maximum of 1 unit to apply toward the major.

UPPER DIVISION

**HIST 307, 308 British Civilization (4, 4)**

A survey of British history from the earliest times to the present, including the rise and evolution of the Empire-Commonwealth, with special reference to the historical background of English literature for English majors, and/or Britain's constitutional heritage and contribution to the world for prelaw students. First quarter, to 1688; second quarter, since 1688. Offered alternate years.

**HIST 334 Colonial and Revolutionary America (to 1816) (4)**

Explores the patterns of exploration, colonization, and culturization that led to the formation of the American people; and studies the revolutionary and constitutional impulses that built a republic. Offered alternate years.

Prerequisite: HIST 156, 157 or equivalent.

**HIST 335 The Age of Jackson to the Great War (1816-1914) (4)**

Examines the development of the United States through an era of social and political tensions and reforms, Civil War, territorial expansion, and industrialization to reveal the sources of its international and domestic strengths and weaknesses on the eve of World War I. Offered alternate years.

Prerequisite: HIST 156, 157 or equivalent.

**HIST 336 Modern America (1914 to present) (4)**

Investigates the roots of the modern American temper, the nature of America's changing role in world affairs, and the evolution of a domestic social compromise. Offered alternate years.

Prerequisite: HIST 156, 157 or equivalent.

**HIST 344 History and Development of American Business (4)**

A survey of American business, economic and labor history from colonial times to the present. Offered alternate years.

Prerequisite: HIST 156, 157 or equivalent.

**HIST 354 Colonial Latin America (4)**

Latin America from the arrival of Columbus through the independence movements of the early nineteenth century, history of the Spanish and Portuguese empires in America. Conquest and colonization, political organization, race and society, the church, the economy, the Enlightenment, and various independence movements. Offered alternate years.

**HIST 355 Modern Latin America (4)**

Survey of Latin America from the nineteenth-century independence movements to the present, emphasizing events in the four principal nations of Latin America — Mexico, Brazil, Argentina, and Chile. Traces the traditional struggles of monarchists versus republicans, and conservatives versus liberals as they evolved into modern revolutionary reform movements. Roles played by the Church, the military, and other power groups. Offered alternate years.

**HIST 405 American Cultural and Intellectual History, Colonial Period to 1859 (4)**

An exploration of popular ideas, cultural patterns, and social thought as revealed in art, literature, and social commentary. Offered alternate years.

Prerequisite: HIST 156, 157 or equivalent.

**HIST 406 American Cultural and Intellectual History, 1859 to present (4)**

An exploration of popular ideas, cultural patterns, and social thought as revealed in art, literature, and social commentary. Offered alternate years.

Prerequisite: HIST 156, 157 or equivalent.

**HIST 407 The Scientific Revolution (4)**

An introduction to the formation of early modern science from Copernicus to Newton, emphasizing the interaction between European culture and the ideas and events in the physical and life sciences. Offered alternate years.

**HIST 408 History of Evolutionary Thought (4)**

An examination of the changing geological, biological, and paleontological ideas that transformed modern science and challenged traditional religious, social, and cultural ideals. Offered alternate years.

**HIST 409 Sickness and Health in American Society (4)**

A topical overview of the various ways in which Americans conceived of disease, practiced healing, and preserved health, including the institutions and professions they devised as aids in their quest for health. Offered alternate years.

**HIST 416, 417, 418 Modern Europe (4, 4, 4)**

Europe in the nineteenth and twentieth centuries, with special attention to Britain, France, Germany, Italy, and Russia; their part in two World Wars; the liquidation of colonial empires; the relative decline of Western European powers in relation to the USA and USSR; and the emergence of the present world power structure. First quarter, 1815-1914; second quarter, 1914-1938; third quarter, since 1938. Offered alternate years.

**HIST 428 Mexico (4)**

Mexico from the Spanish Conquest by Cortés through the twentieth-century Revolution. Offered alternate years.

**HIST 438, 439 American Diplomatic Relations (4, 4)**

First quarter, 1763-1900; second quarter, since 1900. Offered alternate years.

**HIST 458 Western America (4)**

The development of the American frontier and its contribution to American political and cultural institutions. Offered alternate years.

**HIST 459 California History (4)**

The history of California as a Spanish, Mexican, and an American possession, with emphasis on the impact of the gold rush on California's development. Offered alternate years.

**HIST 469 The Age of the Renaissance (3-4)**

A topical approach to the European Renaissance of the fourteenth, fifteenth, and early sixteenth centuries, with analytical probes into Renaissance society, politics, philosophy, religion, and the fine arts. Offered alternate years.

**HIST 485 History of Seventh-day Adventism (3-4)**

A study of major doctrinal and organizational developments within Seventh-day Adventism from its Millerite origins to the 1960s. Identical to RELH 485.

**HIST 486 Ellen G. White: Her Life and Thought (3-4)**

A study of the key events in the life of Ellen G. White (1827-1915); her major teachings; her role as church leader, author, and family member. Offered alternate years. Identical to RELH 486.

**HIST 487, 488 United States Constitution (4, 4)**

The federal Constitution and its relation to American institutions. First quarter, to 1880; second quarter, since 1880. Offered alternate years.

**HIST 489 The Religious Aspects of History (4)**

Historiography, with emphasis on philosophical and religious aspects and applications. Required for a major in the department; limited to seniors. Does not apply toward a major or minor.

**HIST 494 History Colloquium (½)**

May be repeated for credit, with a maximum of 1 unit to apply toward the major.

Prerequisite: Consent of the instructor.

**HIST 495 Readings in History (1-6)**

Limited to history or history and political science majors with a 3.0 minimum grade point average in the major. Special study in fields specified by the instructor; regular weekly conferences. May be repeated in different areas for additional credit to a maximum of 12 units.

Prerequisite: Consent of the department chairman.

**HIST 499 Directed Study (1-6)**

Prerequisite: Consent of the department chairman.

**POLITICAL SCIENCE**

LOWER DIVISION

**PLSC 207, 208 American Government (4, 4)**

Structure and functions of the government of the United States. Offered alternate years.

**PLSC 225 Introduction to Law (2-4)**

Orientation to the study and practice of law and the American legal system, intended for students interested in careers as attorneys, paralegal assistants, and legal secretaries. Topics include legal vocabulary and terminology, career specialization options, and a rudimentary survey of American jurisprudence.

UPPER DIVISION

**PLSC 314, 315 Comparative Government (4, 4)**

Background, constitutional organization, and activities of the governments of England, China, Russia, and Mexico. Offered alternate years.

**PLSC 335 Problems in International Relations (4)**

Major problems facing the international community, with emphasis on the relation of the United States thereto. Basically a discussion format. Offered alternate years.

**PLSC 454 Inter-American Relations (4)**

Relations between the United States and the nations of Latin America and relations of Latin American nations among themselves. The development of U.S. foreign policy with regard to Latin America, the growth of the Western Hemisphere concept, and the creation and function of the Organization of American States and other regional bodies. Offered alternate years.

**PLSC 484 Political Philosophy (4)**

Main currents of political philosophy from Plato to the present. Offered alternate years.

**PLSC 485 American Political Thought (4)**

American political ideas from the colonial period to the present. Offered alternate years.

**PLSC 495 Readings in Political Science (1-6)**

Limited to history and political science majors with a 3.0 minimum grade point average in the major. Special study in fields specified by the instructor; regular weekly conferences.

Prerequisite: Consent of the department chairman.

**PLSC 499 Directed Study (1-6)**

Prerequisite: Consent of the department chairman.

## PROGRAM IN HONORS

MARTIE P. ERNE, 1980. Coordinator  
M.A. West Virginia University 1976

The Honors Program augments the opportunities of the curriculum and the graduation requirements of the College with an intent to:

1. Provide an academic and social environment congenial to the development of maturing students, to the end that each one become responsible for his/her own education and development as an adult.
2. Share with the honors scholars the best of Christian culture, aid in the critical examination of intellectual and artistic activity, and participate in the study of world cultures, to the end that they see themselves as shapers of the future.
3. Allow honors scholars to gain a cultural view of world events and their significance and relationship to the individual, society, and the mission of the church.
4. Enable each honors scholar to complete a project of research, scholarship, or creative activity that is uniquely his/her own.
5. Recognize achievement in development as honors scholars by providing a forum for discussion and criticism as well as for publication and display of the products of student efforts, and by giving recognition to honors scholars at graduation.

Privileges enjoyed by the honors scholar include the following:

1. Participation in honors scholar activities of a social or cultural nature — such as field trips, lectures, concerts — resulting in fuller association with faculty as well as other scholars.
2. Participation in honors seminars designed to complement and enrich the general education requirements.
3. Opportunity to engage in independent research or a project of personal creativity resulting in an honors thesis.
4. Graduation with honors on successful completion of the requirements of the College of Arts and Sciences and the Honors Program.

**Admission** An entering freshman with a grade point average of 3.25 and an ACT score at the 60th percentile in both the English and mathematics sections is eligible for the Honors Program. A transfer or previously enrolled student may request honor status with a college grade point average of 3.25.



**Grades** An honors course requires a grade of at least a B (3.0) to satisfy Honors Program requirements. Seminars in which the student earns lower grades may still fulfill general education or elective requirements. An honors scholar must have at least a 3.5 grade point average before enrolling in the honors project. A student is no longer allowed honors status if at any time the cumulative grade point average is below 3.0.

**Requirements** 1. Regular participation in honors activities as sponsored and announced by the coordinator of the Honors Program.

2. The general education curriculum for the Bachelor of Arts honors scholar includes 16 units of honors seminars (HNRS 104, 204, 304, 404), 8 units of honors seminar electives, and 4 units of junior honors colloquium. In addition, the student completes the following:

Humanities: American history or Western civilization, 8 units

Humanities: Fine arts, 4 units

Freshman English: 9 units

Religious studies: 12 units

Religion in the major field: (numbered 489), 4 units

Introductory behavioral and social sciences: 4 units

Natural sciences, mathematics, and computing: 8 units

Health: 0-4 units

Physical education: 2½ units (5 activities to include PEAC 120)

Vocational/avocational skills: 0-4 units

Modern language, if needed

3. 6-10 units of honors project that conclude with an honors thesis. The thesis and project will be presented or published in a manner appropriate to the project. The colloquia and project may fulfill part of the requirements of the major program as arranged with the department of the major.

## COURSES

### HONORS

#### LOWER DIVISION

#### **HNRS 104 Freshman Honors Seminar: The Human Being and Society (4)**

Designed to orient freshmen both to written and oral skills required in the Honors Program. The seminar contains a series of "how to" sessions in addition to discussions centering on the meaning of individuality, the process of ethical decision making, and contributions to society. This course is open to all who meet the eligibility requirements of the Honors Program and is recommended for a more discriminate college education.

**HNRS 204 Sophomore Honors Seminar: History of Ideas (4)**

An introduction to philosophical thought, its development and application to other disciplines.

**HNRS 224 Seminar (2)**

May be repeated for additional credit with different course content.

**HNRS 234 Seminar (2)**

May be repeated for additional credit with different course content.

**HNRS 244 Seminar (2)**

May be repeated for additional credit with different course content.

**HNRS 254 Seminar (2)**

May be repeated for additional credit with different course content.

UPPER DIVISION

**HNRS 304 Junior Honors Seminar: World Religions (4)**

A study of the nature and function of religion and the expression given to religion in the world's major faith traditions. Not open to students who have taken ANTH 444 or RELT 237.

**HNRS 321, 322 Junior Honors Colloquia (2, 2)**

**HNRS 404 Senior Honors Seminar: Global Issues (4)**

**HNRS 421, 422, 423 Senior Honors Project (2-8)**

Student may enroll in 2 to 8 units per quarter, to a maximum of 10 units.

**HNRS 499 Directed Study (1-4)**

## PROGRAM IN LIBERAL ARTS

MARVELLA M. BEYER, 1986. Coordinator  
M.B.E. North Texas State University 1975

**Bachelor of Arts** The liberal arts major is a diversified major leading to the Bachelor of Arts degree and is distributed among the following four areas: English and speech (including grammar, literature, composition); mathematics and the physical or life sciences; social sciences (other than education and education methodology); and humanities and the fine arts (including foreign languages).

This major, which is open to any student in the College of Arts and Sciences, is also an approved major for those who are planning a career in multiple-subject instruction in elementary schools and early childhood education as commonly practiced in California. It also qualifies as a major for those students seeking the General Conference Department of Education Basic Credential in Elementary Education. Students interested in obtaining teaching credentials should consult with the credentials adviser in the School of Education for a list of professional education courses needed in addition to the major.

A concentration in Spanish bilingual/crosscultural studies is available in the liberal arts major through the Department of Modern Languages.

**Requirements** This program includes the following:

1. Completion of 190 units (60 upper division).
2. Completion of the general education requirements for the Bachelor of Arts degree.
3. Completion of the liberal arts major requirements, 126 units (40 upper division) as follows:

### **English and speech, 28-36 units**

*Required courses, 20-25 units*

- ENGL 111, 112, 113; or ENGL 124 (with a grade of B or better); or equivalent (4-9)  
ENGL 304 Expository Writing, or equivalent (4)  
ENGL 385 Modern Grammar, or equivalent (4)  
ENGL 415 Literature for Children, or equivalent (4)  
COMM 104 Fundamentals of Speech, or equivalent (4)

Additional courses in English or speech to bring the total number of units to 28-36.

### **Mathematics/physical or life sciences, 28-36 units**

*Required courses, 12 units*

- MATH 225 Concepts in Mathematics, or equivalent (4)  
BIOL 107 Physiology of Man, or equivalent (4)  
PHYS 117 Introduction to Physics, or equivalent (4)

Additional courses in mathematics or physical or life sciences to bring the total number of units to 28-36.

**Social sciences, 28-36 units**

*Required courses, 16 units*

HIST 156 Survey of American History and Institutions I, or equivalent (4)  
(to include Federal Constitution)

HIST 157 Survey of American History and Institutions II, or equivalent (4)  
(to include Federal Constitution)

PSYC 104 and/or 105 General Psychology, or equivalent (4-8)

SOCI 104 Introduction to Sociology, or equivalent (4)

SOCI 307 Ethnic Relations, or equivalent (4) (recommended)

Additional courses in social sciences to bring the total number of units to 28-36.

**Humanities/fine arts, 28-36 units**

*Required courses, 6-12 units*

One course in art (2-4)

One course in music (2-4)

One course in philosophy (2-4)

Additional courses in humanities or fine arts to bring the total number of units to 28-36 (may include one course in photography).

**4. Completion of the following other specific requirements:**

Health (HLED 214 or 414 required for a California State or Seventh-day Adventist denominational teaching credential)

Religion (18 units for a Seventh-day Adventist denominational teaching credential to include RELT 245 and RELH 254, 485)

A course numbered 489 in a department in the College of Arts and Sciences, or EDFO 404 (3) in the School of Education. (EDFO 404 required for a Seventh-day Adventist denominational teaching credential.)

## DEPARTMENT OF MATHEMATICS AND COMPUTING

JAMES W. BEACH, 1979. Chairman; Associate Professor of Mathematics  
D.A. Idaho State University 1977

WILTON E. CLARKE, 1986. Professor of Mathematics  
PH.D. University of Iowa 1975

VERNON W. HOWE, 1974. Professor of Mathematics and Computing  
PH.D. Dartmouth College 1971

HILMER W. BESEL, 1969. Associate Professor of Computing  
M.A. University of Nebraska 1952

GEORGE F. HILTON, 1984. Assistant Professor of Mathematics  
PH.D. Oklahoma State University 1984

JOSE M. MUINOS, 1982. Assistant Professor of Mathematics  
PH.D. United States International University 1987

ENOCH OI KEE HWANG, 1987. Assistant Professor of Computing  
M.SC. Simon Fraser University 1985

SCOTT PADEN, 1987. Assistant Professor of Computing  
M.S. Andrews University 1988

**Objectives** The department provides a curriculum in mathematics and computer science as a cultural study for all liberal arts students, as a basic tool for the scientist, and as a preparation for graduate study and for teaching.

**Preparation for teaching** A student preparing to teach mathematics at the secondary level should plan to qualify for teaching credentials, and in the freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements.

**Degrees offered** The Department of Mathematics and Computing offers a Bachelor of Arts degree in mathematics and Bachelor of Science degrees in biomathematics, computing/information systems, computing science, and mathematics. Minors in mathematics and computing are available.

## MAJORS

### BACHELOR OF ARTS

#### Mathematics

Required: 58 units, including  
CPTG 124 or 125  
MATH 131, 132, 133, 231, 232, 233, 324,  
345, 415, 421, 451, 485 (2 units)  
8 additional units of upper division  
computing or mathematics

Required cognates: PHYS 231

### BACHELOR OF SCIENCE

#### Biomathematics

Required: Offered with the Department of Biology  
74 units, as follows  
CPTG 124 or 125  
MATH 131, 132, 133, 231, 232, 233, 461,  
462  
BIOL 104, 105, 106, 447  
One of the following options, with units  
applied to the major as indicated:  
BIOL 404 (4 units)  
CHEM 481, 482 (4 units may apply)  
CHEM 481, 482, 483 (6 units may apply)  
BIOL 404 and CHEM 481, 482 (6 units  
may apply)  
BIOL 404 and CHEM 481, 482, 483  
(8 units may apply)  
2 units from MATH 485 or BIOL 405  
16 additional units of upper division  
mathematics, computing, or biology (ex-  
cluding MATH 489 and BIOL 489)

Required cognates: CHEM 111, 112, 113, 371

Recommended: CHEM 372, 373; PHYS 231, 232, 233

#### Computing/information systems

Required: 50 units, as follows  
CPTG 124, 125 or 126, 244, 245, 314, 324,  
334, 424, 445  
8 additional units of upper division com-  
puting or mathematics  
2 units from MATH 485 or BUAD 425 in the  
School of Business and Management  
MATH 131

Required cognates: ACCT 221, 222, BUAD 342  
MGMT 355, 356 ECON 254, 255, in the  
School of Business and Management  
BUAD 341 in the School of Business and  
Management or MATH 251

### Computing/science

Required: 82 units, as follows  
CPTG 124, 125 or 126, 244, 245, 314, 324,  
334, 445, 454, 499 (computing project in-  
ternship, 4 units)  
MATH 131, 132, 133, 231, 232, 233, 485  
(2 units)  
MATH 361, 362 or MATH 451, 452  
8 additional units of upper division  
mathematics or computing courses

Required cognates: PHYS 231, 232, 354, 358

Recommended: ACCT 221, 222

### Mathematics

Required: 62 units, as follows  
CPTG 124 or 125  
MATH 131, 132, 133, 231, 232, 233, 324,  
421, 431, 432, 485 (2 units)  
16 additional units of upper division  
computing or mathematics

Required cognates: PHYS 231  
8 units from PHYS 232, 233, 235, 244 or  
CHEM 351, 352, 353

Recommended: MATH 345, 415, 451, 422 (for those pursuing  
teaching credentials)

### MINORS

Mathematics 29 units, including  
MATH 131, 132, 133, 231, 485 (1 unit)  
Remaining units selected from courses  
applicable toward a major, with the ex-  
clusion of MATH 299, 499. 4 units of  
CPTG 124 or 125 or upper division CPTG  
may be applied to the minor.

Computing 36 units, including  
CPTG 124, 125 or 126, 244, 245, 324  
8 additional units of upper division CPTG  
8 units additional course work, selected  
with department approval

# COURSES

## COMPUTING

### LOWER DIVISION

#### **CPTG 104 Introduction to Information Systems (4)**

Conceptual basis of computer operations, logic, applications to business problems.

Prerequisite: Fulfillment of the general studies requirement in computational skills.

#### **CPTG 124 Programming — Pascal (4)**

The Pascal language, techniques in analysis of problems, design of efficient programs.

Prerequisite: MATH 121 or consent of the instructor.

#### **CPTG 125 Programming — BASIC (4)**

The BASIC-PLUS language, techniques in analysis of problems, design of efficient programs.

Prerequisite: MATH 121 or consent of the instructor.

#### **CPTG 126 Programming — COBOL (4)**

The COBOL language, techniques in analysis of problems, design of efficient programs.

Prerequisite: MATH 121 or consent of the instructor.

#### **CPTG 244 Data Structures (4)**

Basic concepts of data; lists, stacks, queues, strings, arrays, trees, and graphs. Selection and use of data structures. Advanced sorting and searching techniques.

Prerequisite: CPTG 124 and 125 or 126.

#### **CPTG 245 Introduction to Computer Architecture (4)**

Computer arithmetic. Machine language and corresponding assembly language programming techniques, including error and interrupt handling. Storage and processing structure of computers.

Prerequisite: CPTG 124 and 125 or 126.

#### **CPTG 299 Directed Study (1-4)**

May be repeated for additional credit with consent of the instructor.

### UPPER DIVISION

#### **CPTG 314 Management of Information Systems (4)**

The application of management techniques to the data processing department in an organization. Emphasis on equipment configuration, contract negotiation, cost containment techniques, and software evaluation. Offered alternate years.

Prerequisite: CPTG 124 or 125 or 126 or consent of the instructor.

#### **CPTG 324 Programming Languages (4)**

A formal definition of programming languages, including specification of syntax and semantics. Study of the design and implementation of high-level languages.

Prerequisite: CPTG 244, 245; or consent of the instructor.

#### **CPTG 334 Systems Analysis (4)**

Approaches to the analysis and design of management and information systems. Offered alternate years.

Prerequisite: CPTG 314 or 324; or consent of the instructor.

#### **CPTG 424 Database Design and Management (4)**

Data models, data description languages, query facilities, file organization, data security and reliability. Offered alternate years.

Prerequisite: CPTG 244, 314; or consent of the instructor.



**CPTG 434 Operating Systems (4)**

Study of the design and implementation of operating systems. Monitors, kernels, I/O handlers, memory management, process management, linkers, and loaders. Offered alternate years.

Prerequisite: CPTG 244, 245; or consent of the instructor.

**CPTG 445 Computer Architecture (4)**

Boolean algebra and digital logic. Hardware organizational hierarchies and microprogramming. Offered alternate years.

Prerequisite: CPTG 244, 245; or consent of the instructor.

**CPTG 454 Compiler Theory (4)**

Syntax and semantics, class of meta-languages and derivations, top-down and bottom-up parsing techniques, error detection and diagnostics, parsing tables, push-pop uses, code generation, interpreters. Offered alternate years.

Prerequisite: CPTG 324 or consent of the instructor.

**CPTG 486 Topics in Computing (2-4)**

Content determined by interests of faculty and students, with specific areas listed in class schedule. May be repeated with new content for additional credit.

Prerequisite: CPTG 244, 245; or consent of the instructor.

**CPTG 494 Internship (0-8)**

A minimum of twelve weeks of structured and supervised work experience. Limited to juniors and seniors majoring in computing/information systems.

Prerequisite: CPTG 244, 245, 324, and consent of the department chairman.

**CPTG 499 Directed Study (1-4)**

The study of topics or problems not covered in courses currently being taught. Limited to majors in the department. May be repeated for additional credit.

Prerequisite: CPTG 244, 245, and consent of the department chairman.

## MATHEMATICS

### REMEDIAL

**ASCE 916 Basic Mathematics (4 CEU)**

Arithmetic: decimals, fractions, percentages, applied problems. Does not apply toward any mathematics or computing program or toward the general requirements in natural sciences, mathematics, and health. Open only to students who have scored below the 50th percentile in both the ACT quantitative test (or equivalent) and the mathematics placement examination.

**MATH 006 Introductory Algebra (4)**

Review of arithmetic and a study of elementary algebra. This course will emphasize problem solving using algebra. Does not apply toward any mathematics or computing program, or toward the general requirements in natural sciences, mathematics, and health. Open only to students who have scored below the 50th percentile in both the ACT quantitative test (or equivalent) and the mathematics placement examination, or who have not taken secondary school algebra I or equivalent.

**MATH 007 Intermediate Algebra (4)**

Techniques for handling polynomial and rational expressions, solutions of equations, exponents and logarithms, the quadratic equation, graphs. The course reviews high school algebra I and covers the standard topics of high school algebra II. Does not apply toward any mathematics or computing major.

Prerequisite: Secondary school algebra I.

**MATH 121 College Algebra (4)**

Manipulation techniques for polynomial, rational, exponential, and radical expressions. Properties of the exponential and logarithmic functions. Solutions of systems of equations and inequalities. Complex numbers, theory of equations, curve sketching, combinatorics, sequences and series, finite induction. Does not apply toward any mathematics or computing program.

Prerequisite: MATH 007 or secondary school algebra II.

**MATH 122 Trigonometry and Analytical Geometry (4)**

Standard trigonometric identities, sine and cosine rules, two- and three-dimensional applications, complex numbers, De Moivre's theorem,  $n$ -th roots of unity. Equations of straight lines and conics; identification of conics and their basic geometrical properties. Does not apply toward any mathematics or computing program.

Prerequisite: MATH 121 or consent of the instructor.

**MATH 131 Calculus I (4)**

Functions, limits, continuity, definition of derivatives, techniques of differentiation, applications of derivatives, definite and indefinite integral, mean value theorem, fundamental theorem of calculus.

Prerequisite: MATH 121 or secondary school equivalent.

**MATH 132 Calculus II (4)**

Calculus of transcendental functions, techniques of integration, applications of integration, indeterminate forms, improper integrals, infinite series. MATH 131, 132 satisfies the calculus requirements for the School of Medicine.

Prerequisite: MATH 122 and 131 or secondary school equivalent.

**MATH 133 Calculus III (4)**

Taylor series, plane curves, polar, cylindrical and spherical coordinates, solid analytic geometry, vector-valued functions, partial differentiation and applications, multiple integrals and applications.

Prerequisite: MATH 132.

**MATH 225 Concepts of Mathematics (4)**

Set algebra; natural, integer, and rational number systems. Topics from elementary logic, number theory, geometry, and computer programming. Does not apply toward any mathematics or computing program.

Prerequisite: MATH 007 or secondary school equivalent.

**MATH 231 Mathematical Methods I (4)**

Matrix algebra, eigenvalues, introduction to vector spaces, infinite series, elementary functions of a complex variable.

Prerequisite: MATH 132 or consent of the instructor.

**MATH 232 Mathematical Methods II (4)**

Ordinary differential equations: operator methods, variation of parameters, series solutions, introduction to numerical methods. Fourier series.

Prerequisite: MATH 133 and 231 or consent of the instructor.

**MATH 233 Mathematical Methods III (4)**

Vector fields, vector calculus, divergence, and Stoke's theorems.

Prerequisite: MATH 232 or consent of the instructor.

**MATH 251, 252 Introduction to Statistics I, II (4, 4)**

Summation notation, descriptive statistics, probability, the normal distribution, testing hypothesis about the mean, linear correlation and regression, one-way analysis of variance, multiple regression, estimation, chi-square tests, nonparametric statistics. Does not apply toward any mathematics or computing program.

Prerequisite: MATH 007 or secondary school equivalent.

**MATH 299 Directed Study (1-4)**

May be repeated for additional credit with consent of the instructor.

UPPER DIVISION

**MATH 324 Linear Algebra (4)**

Vector spaces, linear transformations, matrices and determinates, eigenvalues and eigenvectors, canonical forms. Offered alternate years.

Prerequisite: MATH 231, 232, 233; or consent of the instructor.

**MATH 345 College Geometry (4)**

Elementary and modern plane euclidean geometry. Topics chosen from noneuclidean geometry, foundations of geometry. Offered alternate years.

Prerequisite: MATH 231, 232, 233; or consent of the instructor.

**MATH 361, 362 Numerical Methods I, II (4, 4)**

Interpolation and approximation, numerical differentiation and integration; solution of nonlinear equations, systems of equations, eigenvalues, numerical solutions to differential equations, error analysis. Offered alternate years.

Prerequisite: CPTG 124 or 125; MATH 231, 232, 233; or consent of the instructor.

**MATH 376 Discrete Structures (4)**

An algorithmic approach to combinatorics and graph theory, including recurrence relations, generating functions, inclusion-exclusion. Offered alternate years.

Prerequisite: CPTG 124 or 125; MATH 231, 232; or consent of the instructor.

**MATH 415 Sets and Number Systems (4)**

Introduction to informal axiomatic set theory; systematic development of the natural, integer, rational, and real number systems; topological properties of the real line. Offered alternate years.

Prerequisite: MATH 231, 232, 233; or consent of the instructor.

**MATH 421, 422 Abstract Algebra I, II (4, 4)**

Groups, quotient groups, rings, unique factorization domains, fields, field extensions; unsolvability of certain geometrical constructions. Offered alternate years.

Prerequisite: MATH 324 or consent of the instructor.

**MATH 431, 432 Analysis I, II (4, 4)**

The topology of the real line, metric spaces, uniform convergence and continuity, the derivative, the Riemann integral, outer measure. Offered alternate years.

Prerequisite: MATH 231, 232, 233, 415; or consent of the instructor.

**MATH 451, 452 Introduction to Mathematical Statistics I, II (4, 4)**

Probability, random variables, moment-generating functions, special distributions; large- and small-sample methods, theoretical frequency distributions; sampling theory, correlation and regression, testing goodness-of-fit, principles of estimation, hypothesis testing, nonparametric methods. Offered alternate years.

Prerequisite: MATH 231, 232, 233; or consent of the instructor.

**MATH 461, 462 Biomathematical Modeling (4, 4)**

Mathematical modeling of problems in the life sciences, including both deterministic and probabilistic models; computer simulations. Physiological and population problems studied. Offered alternate years.

Prerequisite: CPTG 124 or 125; MATH 231, 232, 233; BIOL 104, 105, 106; or consent of the instructor.

**MATH 485 Mathematics Seminar (1/2-2)**

Informal seminars dealing with topics chosen from areas of pure or applied mathematics or computer science, and which are not usually covered in regular mathematics or computing courses. May be repeated with new content for additional credit. Four units maximum may be counted on the major.

Prerequisite: MATH 131, 132, 133; or consent of the instructor.

**MATH 486 Topics in Mathematics (2-4)**

Content determined by the interests of faculty and students, with specific areas listed in class schedule. May be repeated with new content for additional credit.

Prerequisite: MATH 233 or consent of the instructor.

**MATH 489 Christianity and the Rational Man (4)**

Man's responses to God's call, structures of belief in religion and science. Does not apply toward a major or minor in mathematics or computing. Identical to PHYS 489.  
Prerequisite: Consent of the instructor.

**MATH 499 Directed Study (1-4)**

The study of topics or problems not covered in courses currently being taught. Limited to majors in the department. May be repeated for additional credit.  
Prerequisite: Consent of the department chairman.

## DEPARTMENT OF MODERN LANGUAGES

RUTH E. BURKE, 1976. Chairman, Associate Professor of German and Comparative Literature  
PH.D. University of California, Riverside 1984

JACQUES BENZAKEIN, 1968, Professor of French  
PH.D. University of California, Riverside 1985

MARGARETE A. HILTS, 1967. Professor of French  
PH.D. Case Western Reserve University 1956

ERNESTINA F. GARBUTT-PARRALES, 1976. Professor of Spanish  
PH.D. University of Southern California 1977

DAVID H. DUDLEY, 1980. Assistant Professor of French  
PH.D. Oregon State University 1980

JANET L. WEIGHALL, 1981. Assistant Professor of English as a Second Language  
M.A. Northern Arizona University 1978

**Objectives** The broad objectives of language study are to gain the insights into national thought, communication, and culture that should concern every educated person; to acquire foreign language facility for purposes of travel or residence abroad; and to meet the language requirements for an advanced degree in other fields.

The specific objectives of a major in language are (1) to attain the skills and develop the scholarship essential for teaching and for graduate study; and (2) to prepare for entrance to business and trade, civil service, dentistry, law, library science, medicine, and other professions requiring verbal skills and background in analytical thought.

**Adventist Colleges Abroad** In cooperation with Adventist Colleges Abroad, the department offers to both the student majoring in language and the general college student the privilege of study in Europe without losing credits or lengthening the course of study. Students who carefully plan their program with the department and their major professor may earn full credit for study at any of the overseas schools listed under Adventist Colleges Abroad in this BULLETIN.

Students enter this program for three quarters (nine months) beginning in September. To be eligible, the student must be admitted to the College of Arts and Sciences and have the endorsement of the Department of Modern Languages.

Although enrolled overseas, students are registered at this University; are considered in residence; and are eligible for scholarships, loans, and grants offered by the University. Credit earned is recorded each quarter in the Office of the Registrar.

**Independent study** A student who wishes to study on location a language not offered by the department but needed for his/her major concentration may present to the department a request for independent language study, accompanied by a detailed study plan and specific objectives as worked out by the student and the adviser. This arrangement is limited to students who have previously studied a language and who have demonstrated ability for independent study.

**Preparation for teaching** A student preparing to teach a modern foreign language at the elementary or secondary level should plan to qualify for teaching credentials, and during the freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements. The student who wishes to enroll in EDCI 457 in the School of Education must take LING 445.

Programs leading to Master of Arts degrees in the teaching of French, German, and Spanish are described in the BULLETIN of the School of Education.

**Degrees offered** The Department of Modern Languages offers Bachelor of Arts degrees in English as a second language, French, and Spanish. Minors in French, German, Spanish, and linguistics are available.

## MAJORS

### BACHELOR OF ARTS

#### English as a second language

Required: 62 units, including  
ANTH 104, 306, 325  
ENGL 385, 475  
ENSL 328, 339, 477, 495  
LING 418, 445, 477  
MDLG 437  
SOCI 307

Required cognates: A modern language through level IV

## French

- Required: 48 units upper division French, including  
FREN 307, 328, 329, 339, 425, 426  
6 additional courses in French literature, including a survey of French literature sequence, (e.g., FREN 344, 345, 346, or 347, 348, 349)  
**OR** 4 additional courses in French literature and LING 445 and 477 for students preparing for the waiver program for single-subject teaching in secondary school.
- Required cognates: 4 units European history  
4 units from history of art or music
- Recommended: Second language through level IV

## Spanish

- Required: 48 units upper division Spanish, including  
SPAN 315, 328, 329, 425 or 427  
5 additional courses in Spanish literature (3 from the 300 level and 2 from the 400 level)
- Required cognates: 4 units European history  
4 units from history of art or music  
LING 445, 477; SPAN 307, 409, 424 are required of students preparing for the waiver program for single-subject teaching in secondary school
- Recommended: Second language through level IV  
Additional course work in Spanish

## MINORS

- A minor in a modern language may not include courses numbered 101 and 102 or 211 and 212
- French 28 units  
German 28 units  
Spanish 28 units, including  
SPAN 328, 329
- Linguistics 28 units (presupposing a foreign language through level IV), including  
LING 477, 495 (4 units)  
Electives from ANTH 306 ENGL 385, 475  
ENSL 328, 339  
FREN 329 GRMN 315  
SPAN 328, 329 LING 418

## COURSES

### GENERAL

#### LOWER DIVISION

- MDLG 101 Selected Language (1-4)**  
May be repeated for additional credit.
- MDLG 299 Directed Study (1-4)**
- RUSS 299 Directed Study (1-4)**

#### UPPER DIVISION

- MDLG 317 Techniques of Written Translation (4)**
- MDLG 425 Culture and Civilization (4)**  
May be repeated with new content for additional credit.
- MDLG 437 Masterpieces of Literature (4)**  
May be repeated with new content for additional credit.
- MDLG 489 God and Western Literature (4)**  
Does not apply toward a major or minor.
- MDLG 496 Workshops in Modern Language (1-4)**
- MDLG 499 Directed Study (1-4)**
- RUSS 499 Directed Study (1-4)**

### ENGLISH AS A SECOND LANGUAGE

#### INTRODUCTORY

- ASCE 931, 932, 933 English as a Second Language (1-16 CEU each)**  
Basic structure of the language, with stress on vocabulary building, pronunciation, reading, and writing. Vocabulary slanted toward everyday activities. Practice sessions as needed.
- ENSL 103, 104, 105 English as a Second Language (4, 4, 4)**  
Elementary.
- ENSL 201, 202 English as a Second Language (4, 4)**  
Intermediate.
- ENSL 203, 204 English as a Second Language (4, 4)**  
Advanced.
- ENSL 205 English as a Second Language (1-4)**  
Pronunciation, vocabulary building, and use of English idiomatic expressions. To be taken concurrently with ENSL 206 until student is qualified to enter ENGL 111. May be repeated for additional credit to a maximum of 4 units.



**ENSL 206 English as a Second Language (1-4)**

Composition and syntax. To be taken concurrently with ENSL 205 until student is qualified to enter ENGL 111. May be repeated for additional credit to a maximum of 4 units.

**ENSL 299 Directed Study (1-12)**

LANGUAGE AND LINGUISTICS

**ENSL 328 Phonetics and Morphology (4)**

**ENSL 339 Advanced Language Proficiency (4)**

May be repeated for additional credit to a maximum of 8 units.

**ENSL 477 Practicum (10)**

Language testing, placement, and classroom procedures.

**ENSL 495 Readings in Linguistics (2-4)**

Identical to LING 495.

**ENSL 499 Directed Study (1-4)**

**ENSL 599 Special Studies (2-4)**

Identical to LING 599.

**FRENCH**

Prerequisite for courses numbered above 300: FREN 202 or consent of the instructor.

INTRODUCTORY

**FREN 101, 102 French I, II (4, 4)**

Language, civilization, culture. Individualized instruction. Conversation and laboratory periods as needed.

**FREN 201, 202 French III, IV (4, 4)**

Conversation and composition. Conversation and laboratory periods as needed.

**FREN 211, 212 French for the Professional (4, 4)**

Does not apply toward a major or minor in modern languages.

**FREN 299 Directed Study (1-4)**

LANGUAGE AND CULTURE

**FREN 328 Phonetics and Morphology (4)**

**FREN 329 Syntax and Stylistics (4)**

**FREN 339 Advanced Language Proficiency (4)**

May be repeated for additional credit to a maximum of 8 units.

**FREN 417 Translation of Modern Texts (4)**

**FREN 425 Culture and Civilization (4)**

**FREN 426 The French Community (4)**

**FREN 427 Sociological/Cultural Research (2-4)**

## LITERATURE

### **FREN 307 Analysis and Criticism (4)**

### **FREN 347, 348, 349 Literary Currents I, II, III (4, 4, 4)**

First quarter: Middle Ages and the Renaissance; second quarter: Classicism and Enlightenment; third quarter: Romanticism and Contemporary.

### **FREN 458 Themes in French Literature (4)**

May be repeated with new content for additional credit.

### **FREN 459 Major Literary/Cultural Figure(s) (4)**

May be repeated with new content for additional credit.

### **FREN 476 Genres in French Literature (4)**

May be repeated with new content for additional credit.

### **FREN 478 The Philosophes (4)**

Montaigne, Descartes, Pascal, Diderot, Montesquieu, Voltaire, Rousseau.

### **FREN 484 Existentialism (4)**

From Kierkegaard to Sartre, Camus, and Marcel.

### **FREN 499 Directed Study (1-4)**

## GRADUATE

### **FREN 504 History of the French Language (4)**

### **FREN 514 Structure and Style (4)**

May be repeated for additional credit.

### **FREN 599 Special Studies (2-4)**

## COURSES TAUGHT AT COLLONGES-SOUS-SALEVE, FRANCE

### **FREN 104 Elementary French (10-12)**

### **FREN 105A, 105B, 105C Introductory Conversation (1-3, 1-3, 1-3)**

### **FREN 106A, 106B, 106C Introductory Religious Conversation (1-2, 1-2, 1-2)**

### **FREN 121 Introduction to French Composition (2)**

### **FREN 131 Introduction to French Orthography (2)**

### **FREN 205A, 205B, 205C Elementary Conversation (1-3, 1-3, 1-3)**

### **FREN 207 Intermediate French (7-10)**

### **FREN 210 Phonetics (1)**

May be repeated for additional credit.

### **FREN 221 Elementary Composition (2-3)**

### **FREN 226A, 226B, 226C Elementary Religious Conversation (1-2, 1-2, 1-2)**

### **FREN 231 Elementary Orthography (2-3)**

### **FREN 304 Advanced French (6)**

### **FREN 325A, 325B, 325C Intermediate Conversation (1-3, 1-3, 1-3)**

**FREN 326A, 326B, 326C Intermediate Religious Conversation (1-2, 1-2, 1-2)**

**FREN 337A, 337B Intermediate Orthography (2-3, 2-3)**

May be repeated for additional credit.

**FREN 341 Readings in French Literature I (2)**

**FREN 342 Readings in French Literature II (2)**

**FREN 343 Readings in French Literature III (2)**

**FREN 344 Survey of French Literature I (2)**

**FREN 345 Survey of French Literature II (2)**

**FREN 346 Survey of French Literature III (2)**

**FREN 401 Intermediate Composition (2-3)**

**FREN 404, 405, 406 Advanced Vocabulary and Conversation (2, 2, 2)**

**FREN 407A, 407B, 407C Advanced Orthography (2-3, 2-3, 2-3)**

**FREN 411A, 411B, 411C Advanced Grammar (2-4, 2-4, 2-4)**

**FREN 414 Advanced Composition (2-3)**

**FREN 415A, 415B, 415C Advanced Essay Composition (3, 3, 3)**

**FREN 421, 422, 423 French Civilization (2-3, 2-3, 2-3)**

**FREN 481A, 481B, 481C Advanced French Literary History (3, 3, 3)**  
Before 1700.

**FREN 482A, 482B, 482C Advanced French Literary History (3, 3, 3)**  
Since 1700.

**FREN 491, 492, 493 Advanced Literary Discussion (3, 3, 3)**

## **GERMAN**

Prerequisite for courses numbered above 300: GRMN 202 or consent of the instructor.

### **INTRODUCTORY COURSES**

**GRMN 101, 102 German I, II (4, 4)**

Proficiency-based introduction to language, culture, and civilization. Conversation and laboratory periods as needed.

**GRMN 201, 202 German III, IV (4, 4)**

Intermediate language instruction. Conversation and laboratory periods as needed.

Prerequisite: GRMN 102 or equivalent.

**GRMN 211, 212 German for the Professional (4, 4)**

Does not apply toward a major or minor in modern languages.

**GRMN 299 Directed Study (1-4)**

LANGUAGE AND CULTURE

- GRMN 315 Advanced Grammar and Composition (4)**  
**GRMN 339 Advanced Language Proficiency (4)**  
May be repeated for additional credit to a maximum of 8 units.  
**GRMN 417 Translation of Modern Texts (4)**  
**GRMN 427 German Culture and Civilization (4)**

LITERATURE

- GRMN 345 Outline History of German Literature (4)**  
Main currents of German literature. Selections from works of representative authors.  
**GRMN 487 Genre Studies (4)**  
May be repeated with new content for additional credit.  
**GRMN 499 Directed Study (1-4)**

GRADUATE

- GRMN 504 History of the German Language (4)**  
**GRMN 588 Proseminar in German Literature (4)**  
**GRMN 599 Special Studies (2-4)**

COURSES TAUGHT AT BOGENHOFEN, AUSTRIA

- GRMN 206 Grammar-Spelling I (7½)**  
**GRMN 207 Composition-Dictation I (3)**  
**GRMN 208 Conversation I (1½)**  
**GRMN 209 Reading and Pronunciation I (1½)**  
**GRMN 306 Grammar and Spelling II (7½)**  
**GRMN 307 Composition-Dictation II (3)**  
**GRMN 308 Conversation II (1½)**  
**GRMN 309 Reading and Pronunciation II (1½)**  
**GRMN 316 Grammar and Spelling III (7½)**  
**GRMN 317 Composition-Dictation III (3)**  
**GRMN 318 Conversation III (1½)**  
**GRMN 319 Reading and Pronunciation III (1½)**  
**GRMN 341, 342 Survey of German Literature (4½, 4½)**

## SPANISH

Prerequisite for courses numbered above 300: SPAN 202 or consent of the instructor.

### INTRODUCTORY COURSES

SPAN 101, 102 Spanish I, II (4, 4)

SPAN 201, 202 Spanish III, IV (4, 4)

SPAN 211, 212 Spanish for the Professional (4, 4)

Does not apply toward a major or minor in modern languages.

SPAN 299 Directed Study (1-4)

### LANGUAGE AND CULTURE

SPAN 307 Reading, Composition, Orthography (4)

SPAN 328 Phonetics and Morphology (4)

SPAN 329 Syntax and Stylistics (4)

SPAN 339 Advanced Language Proficiency (4)

May be repeated for additional credit to a maximum of 8 units.

SPAN 409 Contrastive Analysis of Spanish and English (4)

SPAN 417 Translation of Modern Texts (4)

SPAN 424 Bilingualism and Biculturalism in Education (4)

SPAN 425 Hispanic Culture (4)

SPAN 427 Mexican-American Folklore and Culture (4)

SPAN 429 Chicanos of the Southwest (4)

### LITERATURE

SPAN 315 Analysis and Criticism (4)

SPAN 346 Medieval and Renaissance Literature (4)

SPAN 355 Baroque and Eighteenth-Century Literature (4)

SPAN 366 Nineteenth-Century Literature (4)

SPAN 367 Latin American Literature (4)

SPAN 474 Spanish and Latin American Literature for Children (4)

Prerequisite: SPAN 315.

SPAN 475 The Generation of '98 (4)

Prerequisite: SPAN 315.

**SPAN 476 Genres in Spanish Literature (4)**

May be repeated with new content for additional credit.

Prerequisite: SPAN 315

**SPAN 486 The Latin American Essay (4)**

Prerequisite for Spanish majors: SPAN 315

**SPAN 499 Directed Study (1-4)**

GRADUATE

**SPAN 504 History of the Spanish Language (4)**

From Vulgar Latin to modern Spanish, with particular emphasis on the phonology and morphology of Spanish.

**SPAN 525 Seminar in Spanish Literary Criticism (4)**

Reading of scholarly works illustrating critical methods and techniques of literary analysis.

Prerequisite: SPAN 315.

**SPAN 599 Special Studies (2-4)**

COURSES TAUGHT AT SAGUNTO, SPAIN

**SPAN 204, 205, 206 Intermediate Spanish Grammar (4, 4, 4)**

**SPAN 207, 208, 209 Intermediate Spanish Composition (2, 2, 2)**

**SPAN 214, 215, 216 Intermediate Spanish Conversation (2, 2, 2)**

**SPAN 321, 322, 323 Spain and Its Culture (2, 2, 2)**

**SPAN 324, 325, 326 Spanish Folklore (2, 2, 2)**

**SPAN 331, 332, 333 History of Spanish American Literature (3, 3, 3)**

**SPAN 341, 342, 343 History of Spanish Literature (3, 3, 3)**

**SPAN 395 Readings in Spanish Literature (1-3)**

**SPAN 401, 402, 403 Advanced Spanish Composition (2, 2, 2)**

**SPAN 404, 405, 406 Advanced Spanish Grammar (4, 4, 4)**

**SPAN 414, 415, 416 Advanced Spanish Conversation (2, 2, 2)**

## DEPARTMENT OF MUSIC

DONALD W. THURBER, 1975. Chairman; Professor of Music  
PH.D. North Texas State University 1977

DONALD J. VAUGHN, 1967. Associate Professor of Music  
M.MUS. University of Redlands 1963

WILLIAM R. CHUNESTUDY, 1984. Assistant Professor of Music  
M.MUS. University of Nebraska 1975

JEFFRY M. KAATZ, 1988. Assistant Professor of Music  
M.MUS. University of Southern California 1983

RENE M. RAMOS, 1983. Assistant Professor of Music  
M.MUS. Andrews University 1973

JOANNE K. ANDERSSON, Lecturer in Music  
M.MUS. Andrews University

EDWARD P. CASEM, Lecturer in Music  
M.A. Claremont Graduate School

LARRY DEACK, Lecturer in Music

RHONA HODGEN, Lecturer in Music  
M.MUS. California State University, Fullerton

JACQUELINE IVANOFF, Lecturer in Music  
B.MUS. University of Michigan

ANITA N. OLSEN, Lecturer in Music  
Licentiate Royal Academy of Music  
Licentiate Trinity College of Music (London)

GLORIA G. PROSPER, Lecturer in Music  
M.A. Occidental College

BETSY ROSS, Lecturer in Music  
M.A. Claremont Graduate School

KIMO SMITH, Lecturer in Music  
M.MUS. University of Southern California

**Objectives** The objectives of this department are to help the student gain an understanding and an appreciation of the musical heritage of man; to provide leisure-time cultural and artistic activities, such as group music experiences and intelligent listening to aid the student in acquiring the knowledge, techniques, and skills necessary for performers, composers, church musicians, and teachers.

**Preparation for teaching** A student preparing to teach music at the elementary or secondary level should plan to qualify for a teaching credential, and during the freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements. A student planning to teach is advised to complete the major program in music education.

A program leading to the Master of Arts degree in the teaching of music is described in the BULLETIN of the School of Education.

## COURSES IN APPLIED MUSIC

**Individual instruction** Individual instruction in piano, organ, voice, violin, orchestral or band instruments, and conducting is offered with or without credit. Credit is earned as follows: (a) a minimum of nine half-hour lessons per quarter, with five practice hours a week for each hour of credit; (b) participation in public recitals as specified by the instructor; (c) successful completion of a final examination.

**Music ensembles** A music ensemble course must be taken each quarter by a student majoring in music. Academic credit will not be applicable toward the major. Students pursuing a minor in music must be enrolled in the same music ensemble for three consecutive quarters.

**Limitation of credit** Credit in excess of 6 units of individual instruction courses must be supplemented by an equal number of units in theoretical studies. Eligibility for upper division credit is determined by the music faculty. The consent of the instructor must be secured before the student performs in public.

**Applicability to major programs** For students majoring in music, the following conditions apply:

1. Individual music instruction must be under the direction of the music faculty.
2. Individual instruction in the major field (voice, instrument) should be taken each year of residence; and the student must attain proficiency in one field.
3. Admission to upper division individual instruction courses is granted pending the successful completion of an audition before the music faculty.
4. Transfer students must take a minimum of 6 units of individual instruction courses in their primary field at this University.
5. All majors, regardless of their concentration, must pass the piano proficiency test. Details concerning this requirement may be obtained from the chairman of the department.



6. Candidates for the Bachelor of Music degree are required to present senior recitals as indicated in the various concentrations. These should demonstrate a high level of proficiency.

7. Attendance is required at a specified percentage of Department of Music programs as well as at certain concerts off campus.

**Degrees offered** The Department of Music offers a Bachelor of Arts degree in music and a Bachelor of Music degree in music with three areas of concentration: church music, music education, and performance. A minor in music is available.

## MAJORS

### BACHELOR OF ARTS

#### Music

Required: 61 units (23 upper division) in music, as follows

MUCT 111, 112, 113, 211, 212, 213, 315  
and one of the following: 314, 411, or 415  
MUHL 205, 335, 336, 337, 485

9 units (minimum) of performance, as follows

6 units at 200 level, 3 units at 300 level (or the student may prepare a special study project to be approved and supervised by the music faculty, selected from the areas of musicology, music theory, composition, or another approved area)

Required cognate: PHIL 435

Recommended: PHYS 204

### BACHELOR OF MUSIC

#### Music

##### Core curriculum

Required of all students receiving a Bachelor of Music Degree

Required: MUCT 111, 112, 113, 211, 212, 213, 315  
MUHL 335, 336, 337  
MUPF 216, 316 or 317

Required cognates: PHIL 435 PHYS 204

The student chooses one of the following areas of concentration:

##### Church music concentration

Required: 75 units in music, including the core curriculum

MUHL 205, 326, 485  
MUPF 328 (4 units), 398  
16 units (6 upper division) of performance  
in the primary field (organ, voice)

Recommended: RELH 445 or 446 or 447 MUCT 314

### Music education concentration

Required: 82 units in music, including  
the core curriculum  
MUCT 314 or 411 or 415  
MUED 244, 254, 264, 274, 305, 405  
MUPF 328 (2)  
MUHL 205  
12 units (6 upper division) of performance,  
10 of which are in one field

Recommended: MUPF 325 (for students with emphasis in  
piano)

### Performance concentration

Required: 76-82 units in music, including  
the core curriculum  
MUCT 411 or 415  
MUPF 398, 498 (a full senior recital plus  
one-half junior recital)  
24 units (12 of 300 level or above) of per-  
formance in the primary field  
Completion of one of the patterns below  
(pattern will be identified on the of-  
ficial transcript)

Patterns in performance:

PIANO—

MUHL 324 MUPF 325

ORGAN—

MUPF 328 (2 units)

INSTRUMENT OTHER THAN PIANO OR ORGAN—

MUPF 328 (2 units)

VOICE—

MUHL 327 MUPF 328 (4 units)

Required cognate: French or Ger-  
man through  
level III

Recommended: MUCT 314

### MINOR

Music 30 units (8 upper division), including  
MUCT 111, 112, 113  
MUHL 205 and two of the following:  
MUHL 335, 336, 337

## COURSES

### MUSIC COMPOSITION AND THEORY

#### LOWER DIVISION

##### **MUCT 105 Music Fundamentals (3)**

Rudiments of music, dictation, sight-singing, and ear-training. Primarily for students without previous music education. Does not apply toward a major in music.

##### **MUCT 111, 112, 113 Theory I (4, 4, 4)**

Fundamentals of musicianship, including four-voice writing of triads, diatonic modulation, nonharmonic tones. Emphasis on correlated ear-training and keyboard harmony. Must be taken in sequence. Four class periods, two one-hour laboratories per week.

Prerequisite: MUCT 105 or equivalent.

##### **MUCT 211, 212, 213 Theory II (4, 4, 4)**

First quarter: completes the study of four-voice writing, including the writing of an original chorale. Continued emphasis on ear-training and keyboard harmony. Second quarter: eighteenth-century counterpoint, including the chorale prelude, invention, fugue, canon. Third quarter: styles; comparative study of classic, romantic, impressionistic, and twentieth-century composers. Must be taken in sequence. Five class periods per week.

Prerequisite: MUCT 111, 112, 113.

#### UPPER DIVISION

##### **MUCT 314 Counterpoint (4)**

Sixteenth-century polyphony, with practice in the stylistic writing of two-part and three-part vocal music.

##### **MUCT 315 Music Form (4)**

Introduction to formal analysis. Principles of musical structure through the study of representative works, including the smaller forms, variation, rondo, sonata, and contrapuntal forms. Offered: 1988-89.

Prerequisite: MUCT 111, 112, 113.

##### **MUCT 411 Composition (4)**

Practice in writing original compositions in the smaller forms. Emphasis on twentieth-century compositional techniques. May be repeated for additional credit. Offered alternate years.

Prerequisite: MUCT 211, 212, 213 and consent of the instructor.

##### **MUCT 415 Orchestration (4)**

Instruments of the orchestra; arranging music for small ensembles and orchestra. Offered 1989-90.

Prerequisite: MUCT 211, 212, 213.

##### **MUCT 499 Directed Study (1-4)**

### MUSIC EDUCATION

#### LOWER DIVISION

##### **MUED 244 String Methods and Techniques (2)**

Basic techniques of the orchestral stringed instruments. Taught 1989-90.

##### **MUED 254 Woodwind Methods and Techniques (2)**

Orchestral woodwind instruments. Taught 1989-90.

**MUED 264 Brass Methods and Techniques (2)**

Orchestral brass instruments. Taught 1988-89.

**MUED 274 Percussion Methods and Techniques (2)**

Orchestral percussion instruments. Taught 1988-89.

UPPER DIVISION

**MUED 305 Music in the Elementary School (4)**

Rote and note singing; music listening; concepts of melody, rhythm, harmony.

**MUED 405 Music in the Secondary School (4)**

Choral and instrumental organizations; the place of music and the music teacher in the secondary school.

**MUED 499 Directed Study (1-4)**

**MUSIC HISTORY AND LITERATURE**

LOWER DIVISION

**MUHL 205 Introduction to Music (4)**

Basic music literature, with some attention to other arts.

UPPER DIVISION

**MUHL 324 Performance Repertoire: Piano (4)**

The various periods of piano literature: styles, interpretations, and development of the instrument. Attendance at designated concerts in Riverside and Los Angeles. Requires two quarters. Offered 1989-90.

**MUHL 327 Performance Repertoire: Voice (4)**

Solo literature from the lute air to twentieth-century art song, including examples from Italian, German, French, Russian, Scandinavian, and English repertoire. Requires two quarters. Offered 1989-90.

**MUHL 335 History of Western Music before 1600 (4)**

The development of musical style in Western civilization.

**MUHL 336 History of Western Music (1600-1800) (4)**

**MUHL 337 History of Western Music since 1800 (4)**

**MUHL 485 Music of the Christian Church (4)**

Vocal and instrumental music of the Christian Church, including our rich heritage of hymn singing from early-Christian times to the present.

**MUHL 499 Directed Study (1-4)**

**MUSIC PERFORMANCE**

LOWER DIVISION

**MUPF 216 Introduction to Conducting (2)**

Study of basic conducting techniques, including conducting patterns and score study.

## UPPER DIVISION

### **MUPF 316 Choral Conducting (2)**

Conducting and rehearsal techniques, diction, tone, selection of repertoire, stylistic interpretation, score preparation, and management and organization of a choral department. Offered 1989-90.

### **MUPF 317 Instrumental Conducting (2)**

Conducting and rehearsal techniques, score reading, instrumentation, style patterns. Offered 1988-89.

### **MUPF 325 Piano Pedagogy (4)**

General principles of piano teaching methods: development of the hand, phrasing, fingering, pedaling, scales and arpeggios, studies and repertoire, ornaments, musical terms and signs. Requires two quarters. Offered 1988-89.

### **MUPF 328 Vocal Pedagogy (2 or 4)**

Fundamental concepts of vocal technique; vocal repertoire appropriate for the developing singer. For voice emphasis students, instruction in analytic and diagnostic skills used in teaching, 4 units. For others, who serve as demonstration models, basic training in singing, 2 units. Requires two quarters. Offered 1989-90.

## APPLIED MUSIC STUDIES

**Individual Instruction** Courses may be repeated for additional credit. Attendance may be required at occasional class sessions. Credit at the 100 level does not apply toward a major in the primary performance area.

MUPF 144, 244, 344, 444 **Brass (1-2)**

MUPF 145, 245, 345, 445 **Organ (1-2)**

MUPF 146, 246, 346, 446 **Percussion (1-2)**

MUPF 147, 247, 347, 447 **Piano (1-2)**

MUPF 148, 248, 348, 448 **Strings (1-2)**

MUPF 149, 249, 349, 449 **Voice (1-2)**

MUPF 154, 254, 354, 454 **Woodwind (1-2)**

MUPF 155, 255, 355, 455 **Harpsichord (1-2)**

MUPF 156, 256, 356, 456 **Guitar (1-2)**

MUPF 158, 258, 358, 458 **Harp (1-2)**

MUPF 257, 357, 457 **Solo Concerto Performance (1)**

The performance, with accompanying piano or orchestra, of a movement of a concerto on the Concerto Program.

MUPF 398, 498 **Recital in Music (1, 1)**

MUPF 417 **Advanced Conducting (2)**

Prerequisite: MUPF 316 and 317.

**Group music** Membership in University music groups is open to qualified students with the consent of the instructor. Courses may be repeated for additional credit.

**MUPF 274, 374 Symphonic Band (1)**

Some college-owned instruments available each quarter.

**MUPF 275, 375 Sanctuary Choir (1)**

**MUPF 277, 377 University Singers (1)**

**MUPF 279, 379 University Orchestra (1)**

**MUPF 284, 384 Chamber Music (1)**

Prerequisite: Consent of the department chairman.

**MUPF 285, 385 Piano Ensemble (1)**

Prerequisite: Consent of the department chairman.

**MUPF 286A, 386A Brass Choir (1)**

Prerequisite: Consent of the department chairman.

**MUPF 286B, 386B Woodwind Ensemble (1)**

**MUPF 287, 387 Men's Chorus (1)**

Prerequisite: Consent of the department chairman.

**MUPF 369, 669 Seminar in Applied Music (1-4, 1-4)**

May be repeated for additional credit.

**MUPF 496 Workshop in Music (1-4)**

## RELIGIOUS MUSIC

**MURE 489 Music and Worship (4)**

Nature of worship; music as an aid to worship; the role of the choir, organist, director; congregational participation; music for youth and children; relation between church musicians and ministerial staff. Does not apply toward a major or minor. Offered alternate years.

**MURE 499 Directed Study (1-4)**

DEPARTMENT OF  
**OFFICE MANAGEMENT AND BUSINESS EDUCATION**

JOLENE A. ZACKRISON, 1987. Chairman; Assistant Professor of Office Management and Business Education  
M.A. Andrews University 1979

MARY H. YACOB, 1980. Associate Professor of Office Management and Business Education  
M.A. Pacific Union College 1964

**Objectives** The objectives of this department are: (1) to prepare students for careers in office management; (2) to prepare business education teachers; (3) to prepare qualified legal and medical secretaries, and word processors for business and professional offices.

**Preparation for teaching** A student preparing to teach secretarial or business skills at the secondary level should apply for teaching credentials through the credentials adviser in the School of Education. Consultation with the office management department adviser should be done early in the freshman year.

A program leading to the Master of Arts degree in the teaching of business education is described in the School of Education BULLETIN.

**Core curriculum** Required of all students majoring in an office management program.

Required: OMGT 103, 124, 125, 126, 214, 215, 216,  
274, 305, 315

Required cognates: ACCT 221 or 205 in the School of Business  
and Management

**Degrees offered** The Department of Office Management and Business Education offers a Bachelor of Science degree in business education and a Bachelor of Science degree in office management. An Associate in Arts degree in one of the following areas of concentration is available: administrative assistant, legal secretary, medical secretary, or word processing specialist. A minor in office management is available.

# MAJORS

## BACHELOR OF SCIENCE

### **Business education**

Required: The core curriculum  
ACCT 222 in the School of Business and Management  
BUAD 381, 382 in the School of Business and Management  
CPTG 104  
ECON 254, 255 in the School of Business and Management  
MATH 251  
MKTG 305 in the School of Business and Management  
OMGT 113 or ACCT 301 in the School of Business and Management; OMGT 264, 334, 336  
6-8 units selected from BUED 435-438

Required cognates: EDCE 204, 414, 430 in the School of Education  
EDFO 305 in the School of Education

Recommended: EDCE 457 and EDFO 404 in the School of Education

### **Office management**

Required: Completion of the major requirements for one of the areas of concentration for the Associate in Arts degree and  
ACCT 222 in the School of Business and Management  
BUAD 381 in the School of Business and Management  
CPTG 104  
ECON 254, 255 in the School of Business and Management  
MGMT 355 in the School of Business and Management  
OMGT 334, 335, 336, 464, 465

Recommended: BUAD 382 in the School of Business and Management  
FNCE 454 in the School of Business and Management  
MKTG 305 in the School of Business and Management  
OMGT 474



## MINOR

Office management 28 units (12 upper division), including  
OMGT 103, 125, 126, 264, 315, 334

## ASSOCIATE DEGREE PROGRAM

### ASSOCIATE IN ARTS

The student chooses one of the following areas of concentration:

#### **Administrative assistant**

Required: The core curriculum  
OMGT 113 (or equivalent), 264

Recommended: MGMT 355 in the School of Business and  
Management (for those who plan to pursue a four-year degree)  
OMGT 335

#### **Legal secretary**

Required: The core curriculum  
OMGT 254, 255  
BUAD 381 in the School of Business and  
Management

Recommended: MGMT 355 in the School of Business and  
Management (for those who plan to pursue a four-year degree)  
BUAD 382 in the School of Business and  
Management  
OMGT 335

#### **Medical secretary**

Required: The core curriculum  
OMGT 244, 245  
BIOL 107

Recommended: MGMT 355 in the School of Business and  
Management (for those who plan to pursue a four-year degree)  
OMGT 335

#### **Word processing specialist**

Required: The core curriculum  
OMGT 264, 335  
CPTG 104

Recommended: CPTG 125  
MGMT 355 in the School of Business and  
Management (for those who plan to pursue a four-year degree)

## COURSES

### OFFICE MANAGEMENT SKILLS AND PROCEDURES

#### LOWER DIVISION

**OMGT 101 Beginning Keyboarding (4)**

For students with no previous instruction. APPLE IIe computers are utilized.

**OMGT 102 Intermediate Keyboarding (4)**

For students with some previous instruction who wish to improve skills or to qualify for advanced keyboarding. APPLE IIe computers are utilized.

Prerequisite: OMGT 101 or equivalent.

**OMGT 103 Advanced Keyboarding (4)**

Typical keyboarding problems to be solved by the secretary on electronic keyboards and computers.

Prerequisite: OMGT 102 or equivalent.

**OMGT 104 Personal Keyboarding Review (2)**

Improvement of keyboarding skills. Individualized instruction, with emphasis on personal and business correspondence, term papers, and arranging material in columnar form. Does not apply toward a major in office management. Word processing software programs are utilized for instruction on the APPLE IIe computer.

**OMGT 111, 112, 113 Shorthand (4, 4, 4)**

Speed goal for year: 100 words per minute for three minutes on new material. Instruction in Gregg shorthand.

Prerequisite: OMGT 102 or consent of the instructor.

**OMGT 124 Business Machines (2)**

Development of speed and accuracy on computer keyboards, electronic calculators, and other office machines.

**OMGT 125 Filing and Records Management (2)**

Principles and procedures for establishment and use of various filing methods and for storage control, retrieval, transfer, restoration, and disposal of records.

**OMGT 126 Machine Transcription (2)**

Development of accuracy and production speed in transcribing machine dictation.

Prerequisite: OMGT 103; ENGL 113.

**OMGT 214 Word/Information Processing Concepts (2)**

Concepts and issues; career opportunities; office automation technology.

**OMGT 215 Word/Information Processing Applications (4)**

Development of proficiency in the production and revision of the major types of business documents through the utilization of integrated application projects.

**OMGT 216 Business Communication: Letters (4)**

Business letters as effective tools of management. Review of grammar, punctuation, word usage, editing, and letter styles.

Prerequisite: ENGL 113.

**OMGT 244 Medical Office Procedures (4)**

Organization and management of the medical office, with emphasis given to the specialized duties of the medical secretary. Introduction to medical terminology.

Prerequisite: OMGT 124, 125, 126.

**OMGT 245 Medical Terminology and Transcription (4)**

Prerequisite: OMGT 103.

**OMGT 254 Legal Office Procedures (4)**

Activities characteristic of secretarial work in the office of an attorney.

Prerequisite: OMGT 124, 125, 126.

**OMGT 255 Legal Terminology and Transcription (4)**

Prerequisite: OMGT 103.

**OMGT 264 Executive Office Procedures (4)**

Duties encountered by the administrative secretary in most offices: processing mail, making appointments, receiving callers, etc. Personal traits of the successful employee.

Prerequisite: OMGT 103.

**OMGT 274 Internship (4)**

Supervised observation and experience in offices. Weekly conference with supervisor. May be repeated once for additional credit.

Prerequisite: OMGT 244 or 254 or 264.

**OMGT 299 Directed Study (1-4)**

UPPER DIVISION

**OMGT 305 Office Management Seminar (½)**

Enrichment program for office management and business education students. Required of all students each quarter up to 6 units while majoring in a program of the department. Recommended for students minoring in a program of the department. A minimum of 3 units is required for part-time and transfer students.

**OMGT 315 Effective Office Relationships (4)**

Practical use of psychological principles in understanding individuals, group characteristics, leadership, and motivation. The art of listening and developing vocal habits and skills to produce good communication.

**OMGT 334 Office Systems and Technologies (4)**

Overview of management in office systems — technology, people and procedures — within organizational and environmental contexts. Improvement of productivity through appropriate application of office tools and techniques (manual or electronic).

Prerequisite: OMGT 214, 215, 244 or 254 or 264.

**OMGT 335 Office Systems Applications (4)**

Applications of office automation technologies from the user perspective to enhance productivity of office employees — executive/managerial, professional, and support personnel.

**OMGT 336 Office Telecommunications (2)**

An introduction to telecommunications in office systems, including networking, communications media, hardware, and software.

**OMGT 464 Women in Management (4)**

Leadership and management styles as they affect women and the organization. Examines stereotypes in business and strategies for bringing women into management: considers legal, social, and interpersonal factors. Course provides interactive skills for both men and women in management.

**OMGT 465 Business Communication: Reports (4)**

Application of communication theory, human relations concepts, research methods, and information technology to the internal communication of professionals who work in environments with automated information and communication systems. Primary and secondary research methodology; oral and written reports.

**OMGT 474 Internship in Office Management (1-4)**

Supervised work experience. Professional reading and conferences. Senior standing.  
Prerequisite: Consent of the department.

**OMGT 475 CPS Examination Simulation (2)**

A simulated overview of the areas covered in the Certified Professional Secretary examination. For students planning to take the examination. May be repeated for credit to a maximum of 4 units.

Prerequisite: Consent of the department.

**OMGT 489 Ethics for the Christian Office Employee (4)**

Attitudes, responsibilities, and traits which should distinguish the Christian in an office environment. Does not apply toward a major or minor but can apply toward the general requirement in religion. Offered alternate years.

**OMGT 499 Directed Study (1-4)**

**BUSINESS EDUCATION**

UPPER DIVISION

**BUED 435 Materials and Techniques in Shorthand (2)**

**BUED 436 Materials and Techniques in Typewriting (2)**

**BUED 437 Materials and Techniques in Accounting (2)**

**BUED 438 Materials and Techniques in Basic Business Subjects (2)**

**BUED 499 Directed Study (1-4)**

GRADUATE

**BUED 525 Trends and Problems in Business Education (4)**

Analysis of problems, trends, and recent developments in business education, with particular attention to individual student needs or interests.

**BUED 596 Workshop in Business Education (1-4)**

Concentrated consideration of a major problem or area in terms of procedures, materials, research, and individual projects.

**BUED 615 Curriculum Seminar in Business Education (4)**

History, philosophy, and processes of curriculum construction. Development of a curriculum and of individual business courses.

## DEPARTMENT OF PHYSICS

EDWIN A. KARLOW, 1978. Chairman; Professor of Physics  
PH.D. Washington State University 1971

IVAN E. ROUSE, 1978. Professor of Physics  
PH.D. Washington State University 1974

ALBERT E. SMITH, 1971. Professor of Physics  
PH.D. Michigan State University 1954

RICHARD L. BOBST, 1966. Associate Professor of Physics  
M.A. University of South Dakota 1965

**Objectives** Fostering the growth of intellectual curiosity that will extend through postcollege years and building an appreciation of the role of physics in everyday living constitute the general objectives of the department. For the physics major there are the additional objectives of adequate preparation for entrance to one of the professional curriculums or for graduate study in physics, for secondary teaching in physics, or for employment under the Civil Service classification of junior scientist-physicist or in a similar grade in private industry.

**Preparation for teaching** A student preparing to teach physics at the secondary level needs to obtain the credential for physical science by completing a major in physics that includes CHEM 111, 112, 113, 371; PHYS 344, 437. This single-subject waiver program for physical science—physics has been approved by the California Commission on Teacher Credentialing through June 1989. During the freshman or sophomore year, the student should consult the credentials adviser in the School of Education for a list of professional education courses that are also required.

**Core curriculum** Required of all students taking majors in the physics department.

Required:   PHYS 231, 232, 233, 235, 244, 324, 325  
                  1 unit from PHYS 184 and/or 384  
                  A maximum of 2 units of Seminar (PHYS  
                  184, 185, 384, 385) will be counted toward  
                  major requirements

Required cognates: CPTG 124 or 125  
MATH 131, 132, 133, 231, 232, 233

**Degrees offered** The Department of Physics offers a Bachelor of Arts degree in physics and Bachelor of Science degrees in biophysics and physics. An Associate in Science degree in engineering physics is available. A minor in physics is available.

## MAJORS

### BACHELOR OF ARTS

#### Physics

Required: 42 units in physics, including  
the core curriculum  
PHYS 415 (2 quarters)  
8 units of upper division PHYS electives

### BACHELOR OF SCIENCE

#### Biophysics

Required: 65 units in biology and physics, including  
the core curriculum  
BIOL 104, 104L, 105, 105L, 106, 106L, 404,  
466  
PHYS 404  
4 units of upper division PHYS electives  
4 units of upper division BIOL electives

Required cognates: CHEM 111, 112, 113, 371

#### Physics

Required: 66 units in physics, including  
the core curriculum  
PHYS 415 (2 quarters), 499 (4 units)  
28 units of upper division physics elec-  
tives

Required cognates: CHEM 111, 112, 113  
OR  
BIOL 104, 104L, 105, 105L, 106, 106L

## MINOR

Physics 28 units (8 upper division), selected in consultation with the department adviser

## ASSOCIATE DEGREE PROGRAM

A student in the associate degree program in engineering physics completes the general requirements for the Associate in Science degree (see

General Requirements) and 32 units of course work selected in consultation with the department adviser.

#### ASSOCIATE IN SCIENCE

#### Engineering physics

Required: 32 units of course work, selected in consultation with the department adviser

### COURSES

#### PHYSICS

##### LOWER DIVISION

#### PHYS 117 Introduction to Physics (4)

Elementary mechanics, fluids, sound, electricity, and optics. For students requiring general education science elective, and majors in nursing and elementary education. Three lectures, one two-hour laboratory per week. Does not apply toward a major in physics.

#### PHYS 118 Health Science Physics (4)

Problem solving and laboratory experiments in elementary physics. Topics covered will be those of particular interest to students in the various allied health fields. Attention given to developing problem-solving skills and laboratory techniques. Three lectures, one two-hour laboratory per week. Does not apply toward a major in physics.

Prerequisite: PHYS 117 and MATH 007, or equivalent.

#### PHYS 184 Introduction to Physics and Engineering (½)

Freshman or sophomore students register for this seminar during the fall term, which is devoted to exploring careers and opportunities for professional advancement in these fields. May be repeated with a maximum of one unit applying toward the major.

#### PHYS 185 Physics Seminar (½)

Informal seminars on physics and related topics of mutual interest to faculty and students. May be repeated for credit to a maximum of two units.

#### PHYS 204 Physics of Music and Speech (4)

Basic physics of mechanical vibrations and sound waves; acoustic characteristics of human auditory and vocal systems, and families of musical instruments; sound measurements, reproduction, and synthesis. Three lectures, one two-hour laboratory per week. May not be applied toward a major or minor in physics.

Prerequisite: MATH 007 or equivalent.

#### PHYS 231, 232, 233 General Physics I, II, III (4, 4, 4)

Develops the major themes in physics and includes topics from classical and modern physics. Recommended preparation for general physics includes high school courses in physics, algebra I and II, geometry, and trigonometry. Three lectures, one three-hour laboratory per week. Students with calculus should enroll in a section of the course with prerequisite B. Students with college algebra and trigonometry should enroll in a section with prerequisite A.

Prerequisite A: MATH 122 or equivalent.

Prerequisite B: MATH 131, 132, or equivalent.

#### PHYS 235 Physics of Waves (4)

Oscillators and modes of vibration; mechanical and electromagnetic waves; geometrical and physical properties of waves; wave equations, transmission, reflection, impedance.

Prerequisite: PHYS 233; MATH 133.

**PHYS 299 Directed Study (1-4)**

May be repeated for additional credit.

UPPER DIVISION

**PHYS 304 Astronomy (4)**

Introduction to astronomy for the nonscience student. Observational astronomy, the solar system, physics of stars and stellar systems. Three lectures and one laboratory per week. Does not apply toward a physics major.

**PHYS 324 Dynamics (4)**

Vector kinetics and kinematics of moving bodies in both moving and fixed reference frames, moments of inertia, work and energy, impulse and momentum. Keplerian motion, harmonic motion, conservative dynamic systems. Identical to ENGR 324.

Prerequisite: MATH 133; PHYS 231.

**PHYS 325 Advanced Mechanics (4)**

Central force motion, small oscillation theory, Lagrangian and Hamiltonian methods, continuum mechanics.

Prerequisite: PHYS 324; MATH 231.

**PHYS 335 Optical Systems (4)**

Radiometry, coherence theory, quantum optics; crystals, imaging systems, lasers.

Prerequisite: MATH 233; PHYS 235.

**PHYS 344 Introductory Quantum Physics (4)**

Experimental basis of quantum theory, Bohr theory, Schroedinger's equation, wave mechanics, quantum theory of the one-electron atom.

Prerequisite: MATH 233; PHYS 325.

**PHYS 384 Introduction to Physics and Engineering (½)**

Juniors, seniors, or transfer students register for this seminar during the fall term, which is devoted to exploring careers and opportunities for professional advancement in these fields. May be repeated with a maximum of one unit applying toward the major.

**PHYS 385 Physics Seminar (½)**

Informal seminars on physics and related topics of mutual interest to faculty and students. May be repeated for credit to a maximum of two units.

**PHYS 404 Biophysics (4)**

Physical phenomena associated with biological organisms.

**PHYS 415 Advanced Physics Laboratory (2)**

Experimental methods and instrumentation chosen to synthesize concepts studied in advanced physics courses. May be repeated for additional credit.

**PHYS 437 Geophysics (4)**

Application of classical physics to the study of the earth. The earth's gravitational, geomagnetic, geothermal, and seismic characteristics studied as well as the dynamics of the earth's crust, plate tectonics, and radioactive dating. Identical to GEOL 437.

Prerequisite: PHYS 233; MATH 131, 132.

**PHYS 464 Thermal Physics (4)**

Statistical concepts applied to the description of typical physical systems. Thermodynamic functions, chemical reactions, classical and quantum gases, thermal radiation, and kinetic theory.

Prerequisite: Junior standing in physics.

**PHYS 474 Nuclear Instrumentation and Measurements (4)**

Basic nuclear theory, interaction of radiation with matter, physics of detectors, experimental techniques involving: instrumentation, radiological safety, spectrometry, coincidence measurements, activation analysis. Two lectures, two three-hour laboratories per week.

Prerequisite: PHYS 233.



**PHYS 476 Applied Quantum Physics (4)**

Topics selected from the following: magnetic properties of atoms and solids, thermal and electric properties of solids, spectra of molecules and multielectron atoms, nuclear models and reactions, elementary particles.

Prerequisite: CHEM 353 or PHYS 344.

**PHYS 481 Electromagnetism I (4)**

Electrostatics, magnetostatics, properties of materials, Maxwell's equations.

Prerequisite: MATH 233.

**PHYS 482 Electromagnetism II (4)**

Time-varying fields, wave propagation. Special Theory of Relativity and other topics as time permits.

Prerequisite: PHYS 481.

**PHYS 486 Topics in Physics (1-4)**

Topics in physics selected by faculty and students to enrich and strengthen the physics curriculum. May not be used to replace a core or cognate requirement. May be repeated with new content for additional credit.

**PHYS 489 Christianity and the Rational Man (4)**

Man's response to God's call; structures of belief in religion and science. Does not apply toward a major or minor, but can apply toward the general requirement in religion. Identical to MATH 489.

**PHYS 494 Workshop in Physics (1-4)**

Content selected to support the continuing education needs of secondary school science faculty. May be repeated with new content for additional credit. May not be applied toward a major or minor in physics.

**PHYS 499 Directed Study (2-4)**

May be repeated for credit.

## DIGITAL AND LINEAR ELECTRONICS

### LOWER DIVISION

**PHYS 244 AC/DC Circuits (4)**

Ohm's Law in AC and DC circuits; phasors and complex impedance; network theorems and Thevenin's theorem; frequency characteristics of sinusoidal steady state; introduction to filters, RC integration/differentiation. Three lectures, one laboratory per week. Identical to ENGR 244.

Prerequisite: MATH 133; recommend MATH 232 and PHYS 232.

### UPPER DIVISION

**PHYS 354 Digital Computer Electronics (4)**

Microprocessor components, instructions, and programming; flip-flops, latches, decoders, counters, logic gates, and tri-state devices; introduction to I/O techniques, analog/digital conversions, microprocessor control. Experiments cover the properties of common digital integrated circuits and microprocessors. Two lectures, two laboratories per week.

Prerequisite: Consent of the instructor.

**PHYS 358 Analog Electronics (4)**

Principles of electronic components, circuits, and instruments commonly encountered in scientific laboratories. AC and DC circuits, transistor amplification, power supplies, oscillators, operational amplifiers, transducers. Two lectures, two laboratories per week.

Prerequisite: PHYS 232 or consent of the instructor.

**DEPARTMENT OF  
PSYCHOLOGY**  
**with an accredited program in social work**

ADENY SCHMIDT, 1974. Chairman; Associate Professor of Psychology  
PH.D. University of California, Los Angeles 1986

VERN R. ANDRESS, 1971. Professor of Psychology  
PH.D. United States International University 1976

PETER G. STRUTZ, 1965. Professor of Psychology  
PH.D. University of Alberta 1965

HECTOR M. BETANCOURT, 1985. Associate Professor of Psychology  
PH.D. University of California, Los Angeles 1983

G. VICTORIA JACKSON, 1986. Social Work Field Coordinator, Assistant Professor of Social  
Work  
M.S.W. University of Michigan 1972

EDWARD B. PFLAUMER, 1975. Assistant Professor of Psychology  
PH.D. United States International University 1983

COLLABORATING FACULTY

RICHARD R. BANKS, Associate Professor of Psychology  
PH.D. University of Notre Dame  
Director, Center for Student Development  
Loma Linda University, Loma Linda campus

JERRY W. LEE, Associate Professor of Health Promotion and Education  
PH.D. University of North Carolina  
Loma Linda University, School of Health

RONALD HUSTON, Assistant Professor of Marriage and Family Therapy  
PH.D. United States International University

LARRY W. SHEFFIELD, Staff Psychologist  
PH.D. California Graduate Institute  
Inland Regional Center

FIELD PERSONNEL IN SOCIAL WORK

LISA BERRYMAN  
M.S.W. San Diego State University  
Children's Services, Riverside County Mental Health Department

LINCOLN J. FRY  
PH.D. University of Southern California  
Child Protective Services, Rancho Cucamonga

ESTILE HILEMAN  
M.S.W. St. Louis University  
Loma Linda Community Hospital

LOTTIE A. HOLT

M.S.W. San Diego State University  
Loma Linda University Medical Center

CHARLES D. HURD

M.S.W. Fresno State University  
Adoptions Services, Department of Public Social Services, San Bernardino County

CRAIG M. JACKSON

M.S.W. Wayne State University  
Associate Director, Department of Social Work  
Loma Linda University Medical Center

JOHN MARTINEZ

M.S.W. University of Southern California  
Loma Linda University Medical Center

JOHN L. MELLEN

M.S.W. Fresno State University  
Child Placement, Department of Public Social Services, San Bernardino County

RUTH R. SHAMASH

M.S.W. Bar Ilan University  
Children's Services, Riverside County Mental Health Department

## PSYCHOLOGY DEPARTMENT

**Objectives** The general objective of the Department of Psychology is to teach psychology as the scientific study of human behavior and mental processes. More specifically, objectives include:

1. To provide students majoring in psychology with the appropriate preparation for academic or professional graduate schools by meeting the general requirements of the top graduate and professional programs in the country.
2. To conduct research and provide students with scientific training through (a) formal research classes and (b) opportunities for first-hand experience through collaborative research with the faculty.
3. To foster the application of psychological knowledge to a better understanding of one's self; the behavioral problems of individuals, groups, institutions, and society, which may be of interest to the different professions and disciplines.
4. Consistent with the philosophy and mission of Loma Linda University, as represented in its motto "to make man whole," the department pays special attention to the Christian beliefs, values, and lifestyle that inspire the University.

A major in psychology may prepare the individual for a career in psychology, marriage and family therapy, teaching, special education, medicine, dentistry, social work, psychiatric social work, speech therapy, theology, personnel administration, or residence hall deanship. While most

of these career areas require advanced study at the graduate level, graduates may also directly enter the job market in some of these fields.

**Degrees offered** The Department of Psychology offers five major programs: a Bachelor of Arts degree in psychology; Bachelor of Science degrees in psychology/psychobiology, and in psychology/health psychology; a Bachelor of Social Work degree in social work; an Associate in Arts degree in human services. A minor in psychology is available.

The Bachelor of Arts degree in psychology is a broad program and represents a variety of interests. The courses are organized around three concentration areas: (1) general/experimental, (2) personality/clinical, and (3) industrial/organizational.

The Bachelor of Science degree in psychology/psychobiology is a joint program of the Departments of Psychology and Biology. It emphasizes the biological correlates of behavior, and it is designed for students who plan to go on to postgraduate work in psychobiology or the health sciences.

The Bachelor of Science degree in psychology/health psychology is designed to provide the maximum concentration of theory and practicum experience for students interested in following a career as professionals in hospitals, rehabilitation and outpatient settings; in preventive medicine; or in areas dealing with tension-related or other health-related disorders.

The Bachelor of Social Work degree program is accredited by the Council of Social Work Education and is administered by the Social Work Program within the Department of Psychology. The primary objective of the B.S.W. program is to prepare students for entry at the beginning level of social work practice.

The Associate in Arts degree in human services is a two-year program designed to give students applied as well as theoretical skills to find immediate placement upon graduation. Graduates are also prepared to continue in the four-year programs.

## MAJORS

### BACHELOR OF ARTS

#### **Psychology**

Core curriculum	Required of all students planning to receive a Bachelor of Arts degree in psychology
Required:	32 units as follows: PSYC 104, 105, 204, 224, 304, 344, 349, 435 or 451
Required cognates:	MATH 251

The student chooses one of the following areas of concentration:

**General/experimental**

- Required: 52 units, including the core curriculum;  
PSYC 354, 404, 478, 488
- Required cognates: SOCI 104 or ANTH 104, two quarters of either  
anatomy and physiology or physics

**Personality/clinical**

- Required: 52 units, including the core curriculum;  
PSYC 356, 414, 454, 475
- Required cognates: SOCI 104 or ANTH 104, two quarters of  
anatomy and physiology

**Industrial/organizational**

- Required: 52 units, including the core curriculum;  
PSYC 336 or 355, 356, 414, 474
- Required cognates: CPTG 104  
ECON 254 or 255 in the School of Business  
and Management  
MGMT 355 in the School of Business and  
Management  
SOCI 104  
Two quarters of either anatomy and physi-  
ology or physics

**BACHELOR OF SCIENCE**

**Psychology/psychobiology**

- Required: 75 units (50 upper division), including  
BIOL 104, 104L, 105, 105L, 106, 106L  
One of the following options, with units  
applied to the major as indicated:  
BIOL 404 (4 units)  
CHEM 481, 482 (4 units may apply)  
CHEM 481, 482, 483 (6 units may apply)  
BIOL 404 and CHEM 481, 482 (6 units  
may apply)  
BIOL 404 and CHEM 481, 482, 483 (8  
units may apply)  
BIOL 447, 464  
PSYC 104, 105, 204, 349, 354, 451, 452

Remaining units selected from  
BIOL 315 (strongly recommended), 427,  
434, 446, 466, 469  
HLED 225  
PSYC 304, 324, 344, 435, 456, 458, 466,  
475, 478, 479, 486

Required cognates: CHEM 111, 112, 113, 371, 372, 373  
MATH 251

### **Psychology/health psychology**

Required: 64 units, including  
PSYC 104, 105, 204, 304, 336, 344, 349, 356,  
364, 434, 437, 451, 484, 486

Required cognates: ANTH 448  
BIOL 114, 115; or 131, 132

Recommended: PSYC 452, 458, 475

### MINOR

Psychology 28 units (16 upper division), including  
PSYC 104 or 105, 224 or 324, 344

### COURSES

PSYC 104 or 105 is prerequisite to all other courses in psychology except  
PSYC 005, 109, and 205.

#### DEVELOPMENTAL

##### **PSYC 005 Personal Study Skills (1)**

Pregeneral studies course emphasizing the motivation to study and applied techniques of study skills. Laboratory may be required. Does not apply toward a major or minor in psychology or behavioral science or toward the general requirement in personal/social relationships. May be repeated to a maximum of 4 units.

#### LOWER DIVISION

##### **PSYC 104 General Psychology: Social Science (4)**

Introduction to the scientific study of human behavior, with an emphasis on the social aspects of behavior.

##### **PSYC 105 General Psychology: Biological Science (4)**

Introduction to the scientific study of human behavior, with special emphasis on the physiological, cognitive, and motivational aspects of behavior.

**PSYC 109 Freshman Seminar (1)**

Introduction to college life, including time management, motivation, and program planning.

**PSYC 204 Quantitative Psychology (4)**

Review of statistical techniques most used in psychology, including correlation, regression, multiple regression, chi square, and analysis of variance. Special emphasis in understanding and interpreting statistics in psychological research publications.

Prerequisite: MATH 251.

**PSYC 205 Personal and Social Adjustment (4)**

Practical use of psychological principles in dealing with problems and circumstances related to personality development, social adjustment, and behavior change. Laboratory may be required. Does not apply toward a major in psychology.

**PSYC 224 Developmental Psychology: Childhood and Adolescence (4)**

The physical, mental, emotional, social, and religious/moral development occurring within the family context from conception through adolescence. Observations and/or laboratory experience. Not open to students who have taken PSYC 324.

**PSYC 225 Developmental Psychology: Adulthood and Aging (4)**

The physical, mental, emotional, social, and religious/moral development of adults occurring within the family and social context. Changes which occur from young adulthood through middle age, old age, and death. Observations and/or laboratory experience.

**PSYC 284 Contemporary Topics (4)**

Topics of current interest in the field of applied psychology. Content varies. Different sections may be repeated for additional credit.

**PSYC 299 Directed Study (1-4)**

Limited to department majors who wish to pursue independent investigations in psychology under the direction of a department faculty member. Approximately 40 clock hours of work per quarter per unit credit.

UPPER DIVISION

**PSYC 304 Social Psychology (4)**

Behavior of the individual as a member of the group and behavior patterns within groups. Social interaction, group organization and leadership; social influences on perception, cognitive processes, attitude formation and change. Identical to SOCI 304.

**PSYC 324 Psychology of Human Growth and Development (4)**

A life-span course emphasizing the physical, mental, emotional, social, and religious/moral development from conception through adulthood, aging, and death. Laboratory may be included. Not open to students who take PSYC 224.

**PSYC 334 Field Observation (1)**

Supervised observations in schools, dormitories, and other related social agencies, allowing the student to integrate theoretical and applied psychology experientially. Approximately 30 clock hours per quarter per unit of credit plus case discussions with the student's supervisor. May be repeated for additional credit to a maximum of 3 units.

**PSYC 336 Motivation and Emotion (4)**

Examination of current theories of human motivation and emotion, the experimental findings supporting the theories, and their applied value. Classroom and job-related motivation emphasized, particularly the effects of success and failure on performance. Other topics include stress, conflict, frustration, and perceptions of control. Study of the relationship between motivation and emotion.

**PSYC 344 Personality (4)**

A survey of the major topics in the field of personality, including personality theory; personality assessment; and the physiological, behavioral, and cultural roles of perception, learning, and motivation in personality.

**PSYC 349 Methods of Research (4)**

An introduction to the methodology used in designing and analyzing psychological experiments integrating theoretical and practical hypothesis testing with the use of appropriate parametric and nonparametric statistics. Laboratory practice in the formulation of testable hypotheses, solution of sampling problems, and the interpretation of results.

Prerequisite: MATH 251.

**PSYC 354 Experimental Psychology (4)**

The logic of scientific thought in the preparation and execution of psychological research. The role of the experiment in psychology. Includes the preparation of literature review and a research proposal.

Prerequisite: PSYC 204, 349; MATH 251.

**PSYC 355 Psychology of Small Groups (4)**

Factors influencing small-group productivity and morale. The influence of the group on the individual. Lecture, discussion, and small group exercises.

**PSYC 356 Principles of Psychological Testing and Measurement (4)**

Psychological testing procedures in evaluation and diagnosis of human behavior. Limited supervised experience in techniques of administration and scoring of tests, and the preparation and presentation of data in professional written reports.

Prerequisite: MATH 251 or consent of the instructor.

**PSYC 364 Introduction to Health Psychology (4)**

Study of the interrelationship of physical and behavioral factors in health and illness. A variety of basic topics in the field are covered, including stress and coping in illness, prevention and health promotion, illness behavior, impact of hospitalization, and health habits modification.

**PSYC 404 Advanced Experimental Psychology (4)**

Theory and methods in the scientific study of a specific area of psychology. Includes the design and execution of a research project.

Prerequisite: PSYC 204, 349, 354; MATH 251.

**PSYC 405 Psychology of Human Relations (4)**

Topics include the effective use of human resources; group management and leadership skills; interviewing, counseling, and conference techniques. Skills emphasized include expression, listening, participation, self-awareness, and group dynamics.

**PSYC 414 Interviewing and Counseling (4)**

Procedures, methods, and problems in the collection of personal data in a professional interview situation. Theories and techniques of academic, vocational, and therapeutic counseling in various settings designed to improve intra- and interpersonal behavioral patterns for more effective living. Consideration given to clinical, educational, and crisis-intervention counseling applications.

Prerequisite: PSYC 344 or consent of the instructor.

**PSYC 425 Psychology of Physical Disability (4)**

Psychological reactions to organic illness. Methods of dealings with these reactions considered with reference to clinical situations.

**PSYC 434 Field Instruction (1)**

Approximately 30 hours of work per quarter plus supervision conferences. May be repeated for additional credit to a maximum of 3 units.

**PSYC 435 Introduction to Learning and Memory (4)**

Review and analysis of major phenomena and theories of human and animal learning and memory. Introduction to the fields of problem-solving, thinking, and concept formation.

Prerequisite: PSYC 105.

**PSYC 437 Introduction to Behavior Modification (2-4)**

Principles and techniques of behavior modification, with emphasis on applications to areas such as self-change, business and industry, health care, mental health, and education.



**PSYC 451 Physiological Psychology I (4)**

An introduction to the study of the biological substrates of behavior. Emphasis placed on the structure and function of the sensory and effector mechanisms, the nervous system, and the endocrine system as they are involved in behavior. Laboratory investigation of the structural and functional organization of the brain and nervous system.

Prerequisite: BIOL 131 or consent of the instructor; PSYC 105.

**PSYC 452 Physiological Psychology II (4)**

The design and execution of experiments investigating the relationships among brain and body chemistry, brain function, and behavior. Includes lecture, laboratory, and the preparation and write-up of an individual research project with animals or humans.

Prerequisite: PSYC 105, 349, 451.

**PSYC 454 Introduction to Psychotherapy (4)**

Survey of current theories and techniques of counseling and psychotherapy.

Prerequisite: PSYC 414.

**PSYC 456 Sensation and Perception (4)**

Introductory survey of the human senses and their role in perception; consideration of how we sense the physical environment, with an emphasis on what physiological factors influence our perception of it. Includes laboratory experience.

Prerequisite: PSYC 451 or consent of the instructor.

**PSYC 458 Behavioral Pharmacology (4)**

Survey of drugs that affect the nervous system. Topics to be covered include: stimulants, anesthetics, neurotoxins, hallucinogens, drug addiction, psychopharmacology, endocrine pharmacology, and the biochemical basis of the therapeutic uses of drugs in diseases of the nervous system. Includes laboratory experience.

Prerequisite: PSYC 451 or consent of the instructor.

**PSYC 464 The Exceptional Child (4)**

Determinants, characteristics, problems, and adjustments of children who deviate markedly from the norm in mental, physical, emotional, and social aptitudes, traits, and tendencies. Educational methods for deviant children.

**PSYC 466 Mental Retardation (4)**

Etiology of mental retardation; diagnosis, characteristics, and classification of mental retardates. Degrees of impairment and resultant personality; school, family, and institutional problems.

**PSYC 474 Industrial and Personnel Psychology (4)**

Introduction to the application of psychology in industry and business. Topics include psychological solutions to personnel problems, including human relations; effective employee selection, training, motivation, and morale. Discussion of employer-employee relations, including factors influencing efficiency of work and job satisfaction.

**PSYC 475 Abnormal Psychology (4)**

Psychology of behavioral disorders, with emphasis on etiology, symptoms, and treatment.

Prerequisite: PSYC 344 or consent of the instructor.

**PSYC 478 History and Systems of Psychology (4)**

Philosophical and historical background of psychology, with consideration of contemporary schools and systems of psychology.

**PSYC 479 Human Neuropsychology (4)**

Introduction to brain behavior relationships, including cerebral asymmetry, disconnection syndromes, disorders of memory and language, biological substrates of affective behavior, motor and perceptual dysfunction, and drug actions.

Prerequisite: BIOL 111 or 131 or consent of the instructor.

**PSYC 484 Topics in Psychology (1-4)**

Topics of current interest in the field of psychology. Content varies. Different sections may be repeated for additional credit.

**PSYC 485 Theories of Learning (4)**

A critical and systematic survey of the major learning theories in the light of experimental evidence — including Hull, Skinner, Tolman, and Spence — with emphasis on modern behavioral concepts.

Prerequisite: PSYC 105.

**PSYC 486 Thanatology: Death and Dying (4)**

Psychological and social implications of death and dying as experienced by the terminally ill patient and significant others. Introduction to investigative techniques in homicide and suicide; analysis of equivocal deaths; the psychological autopsy.

Prerequisite: Consent of the instructor.

**PSYC 488 Seminar in Psychology (4)**

Variable content to meet special needs of students majoring in psychology.

Prerequisite: Consent of the instructor.

**PSYC 489 Religion and the Behavioral Scientist (4)**

Does not apply toward a major or minor. Identical to SOCI 489 and SOSR 489.

**PSYC 499 Directed Study (1-4)**

Limited to departmental majors with senior standing who wish to pursue independent investigations in psychology under the direct supervision of a department faculty member. Approximately 40 hours of work per quarter per unit of credit.

GRADUATE

**PSYC 544 Introduction to Behavior Modification (3-4)**

Principles and techniques of behavior modification, with emphasis on applications to areas such as self-change, business and industry, health care, mental health, and education.

**PSYC 554 Counseling Theories and Techniques (4)**

Survey of current theories and techniques of counseling and psychotherapy.

Prerequisite: PSYC 414.

**PSYC 555 Group Process Theory and Procedures (4)**

Group guidance; theories of group-individual interaction; communication processes; development and structure of organized groups.

Prerequisite: PSYC 414.

SOCIAL WORK PROGRAM

Social work is one of the major helping professions and healing arts in human services today. It is a profession that can make a difference in the way people shape their lives, their environment, and their world throughout a lifetime.

The primary objective of the baccalaureate degree social work program at Loma Linda University is to provide a Christian framework in which to prepare students for entry at the beginning level of social work practice. Other objectives are:

1. To prepare students for graduate education in social work or related professions.
2. To increase skills in human relationships.

3. To enrich the student's experience of daily living and commitment to community and church as knowledgeable citizens.

The baccalaureate degree social work program at Loma Linda University is accredited by the Council on Social Work Education.

## MAJOR

**Social work** Students interested in the social work (B.S.W.) degree are expected to obtain a broad liberal arts perspective and to take selected liberal arts courses before enrolling in professional foundation social work classes.

The Bachelor of Social Work degree is limited to those students having successfully completed the program of preparation in its entirety for beginning social work practice.

A student who intends to major in social work applies to and completes the admissions procedures for the social work program during the spring quarter of the sophomore year. Each application is considered by the admissions committee of the department, an interview is held with each applicant, and a letter of response is sent out to these students before the fall quarter of the junior year.

### BACHELOR OF SOCIAL WORK

#### **Social work**

Required:	64 units (46 upper division), as follows SOSR 104, 204 (2 units), 215, 217, 218, 311, 312, 317, 318, 319, 335, 415, 488 (6 units), 498 (12 units)
Required cognates:	ANTH 104 BIOL 107 MATH 251 PSYC 104, 324, 349 SOCI 104
Recommended:	ADJS 377 MGMT 355 in the School of Business and Management PSYC 304 SOCI 307, 376, 414

### ASSOCIATE IN ARTS

#### **Human services**

Required:	32 units as follows: PSYC 104, 224, 284 (8 units) SOSR 217, 298 (4 units), 311, 312
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## COURSES

### LOWER DIVISION

#### **SOSR 104 Introduction to Social Services (4)**

A survey of the social welfare system as a response to societal problems and needs; current fields of practice in social work, including church settings; professional principles, methods, values, and philosophy explored; social problems of selected target groups analyzed; weekly field trips and laboratory assignments (observation) at local agencies. Open to students in political science, child development, and behavioral sciences. Prerequisite to all SOSR courses.

#### **SOSR 204 Colloquium (½)**

A seminar of selected topics on contemporary social work issues. Required of all students majoring in social work each fall quarter they are in residence in the College. May be taken for additional credit to a total of 2 units.

#### **SOSR 215 Heritage of American Social Work (4)**

Analysis of historical development of the social welfare system within the context of economic, political, religious, and sociocultural influence of each period; implications for social welfare services and policies; historical development of casework, group work, and community organization.

Prerequisite: Consent of the instructor.

#### **SOSR 217 Social Work Theory and Practice I (4)**

Theory and principles of beginning social work interventions using a biopsychosocial approach for studying the functioning of individuals, families, households, groups, and communities. Basic interviewing and counseling techniques; problem identification and analysis. Professional knowledge, values, purpose, and ethics underlying social work practice. Simulated practice activities, recording, and weekly laboratory assignments.

Prerequisite: SOSR 104 or consent of the instructor.

#### **SOSR 218 Social Work Theory and Practice II (4)**

Analysis of social problems affecting people in micro- and macrosystems of society. Refinement of interviewing and counseling techniques and problem-solving interventions. Emphasis on crisis and brief intervention approaches applicable to generic social work practice; implications for use with female clients and a variety of ethnic or cultural populations.

Prerequisite: SOSR 217.

#### **SOSR 298 Field Placement (2,2)**

Supervised placement in selected social and service agencies, allowing the student to integrate social work theory and applied psychology experientially.

Prerequisite: SOSR 217, 311, 312; PSYC 224, 284 and consent of the field coordinator.

### UPPER DIVISION

Admission to the social work program requires the successful completion of SOSR 104, 215, and 217; and selected Liberal Arts courses; grade point average of 2.5; a written application; other admission procedures; and a personal interview. Lower division courses and permission of the instructor are prerequisites for upper division course work.

#### **SOSR 311 Human Behavior and Social Environment I (4)**

Social systems approach correlated with concepts of ego psychology in the study of human behavior from infancy through adolescence; normal and maladaptive personality development affecting individuals, households, groups, and communities; implications for the social worker and client systems within the context of biopsychosocial and spiritual environmental influences.

Prerequisite: PSYC 324.

**SOSR 312 Human Behavior and Social Environment II (4)**

Biopsychosocial approach to the study of normal and maladaptive behavior from young adulthood to senescence; analysis of sociocultural differences in dynamics and intervention methods for various social classes, women, ethnic groups, and communities; theoretical framework from ego psychology and social systems approaches.

Prerequisite: PSYC 324.

**SOSR 317 Social Work Methods: Casework (4)**

Analysis and comparison of several methods of social work intervention; biopsychosocial factors affecting individuals, families, households, and other interacting social systems; problem-solving strategies applied from a generic framework in simulated practice sessions; case analyses and laboratory assignments.

Prerequisite: SOSR 104 or consent of the instructor.

**SOSR 318 Social Work Methods: Group Work (4)**

Survey and evaluation of theory and group work methods employed by social workers; analysis of social systems at group and community levels; application of concepts and principles of group dynamics, prevention, and rehabilitation.

Prerequisite: SOSR 104 or consent of the instructor.

**SOSR 319 Social Work Methods: Community Organization (4)**

Exploration of the theoretical foundations of community organization as a focus of social work intervention; role of the social worker in identification, analysis, and evaluation of individual, group, and community problems; understanding of concepts of power, social policy, social change, and the community as a social system; comparison of community organization strategies with group and casework methods of intervention. Emphasis on ethnic and minority issues.

Prerequisite: Consent of the instructor.

**SOSR 324 Child Welfare (4)**

Survey of the development of services for children as individuals, as members of contemporary households and families, and as a part of their community; emphasis on social welfare policy and services affecting children in juvenile and dependency services; exploration of funding patterns, laws, and new resources available for the care of children. Offered alternate years.

**SOSR 335 Family Counseling (4)**

Exploration of historical background of social work services for families, women, and contemporary households; biopsychosocial sources influencing family function, structure, roles, and interaction; emphasis on enhancement of interpersonal, social, and spiritual components of family life; social systems theories and generic social work intervention methods analyzed and applied; videotaping of simulated family situations.

Prerequisite: SOSR 104 or consent of the instructor.

**SOSR 336 Social Work with the Aged (4)**

Exploration and assessment of the nature, scope, and presumed causes of problems for the aged. Aspects of adjustment to the aging process. Modes of working with the aged individual in group and community settings. Analysis of microsystems and macrosystems of service delivery. Offered alternate years.

**SOSR 415 Social Welfare Policy (4)**

Systematic analysis of major social problems of the modern world and the formulation of social policies, including social welfare policies, that influence social issues on all levels of society from individuals to communities and nations. Emphasis on policies and legislation relevant to ethnic and minority problems.

Prerequisite: SOSR 215 and consent of the instructor.

**SOSR 488 Field Seminar (2, 2, 2)**

Role of the professional social work practitioner; responsibility to multilevel client systems, agencies, and the profession; concepts of sanction, authority, power, and ethical codes. Required each quarter of the senior year. Concurrent registration in SOSR 498 required.

Prerequisite: SOSR 217, 317, 318, 319; completion of major admissions procedures; senior standing; and consent of the field coordinator.

**SOSR 489 Religion and the Behavioral Scientist (4)**

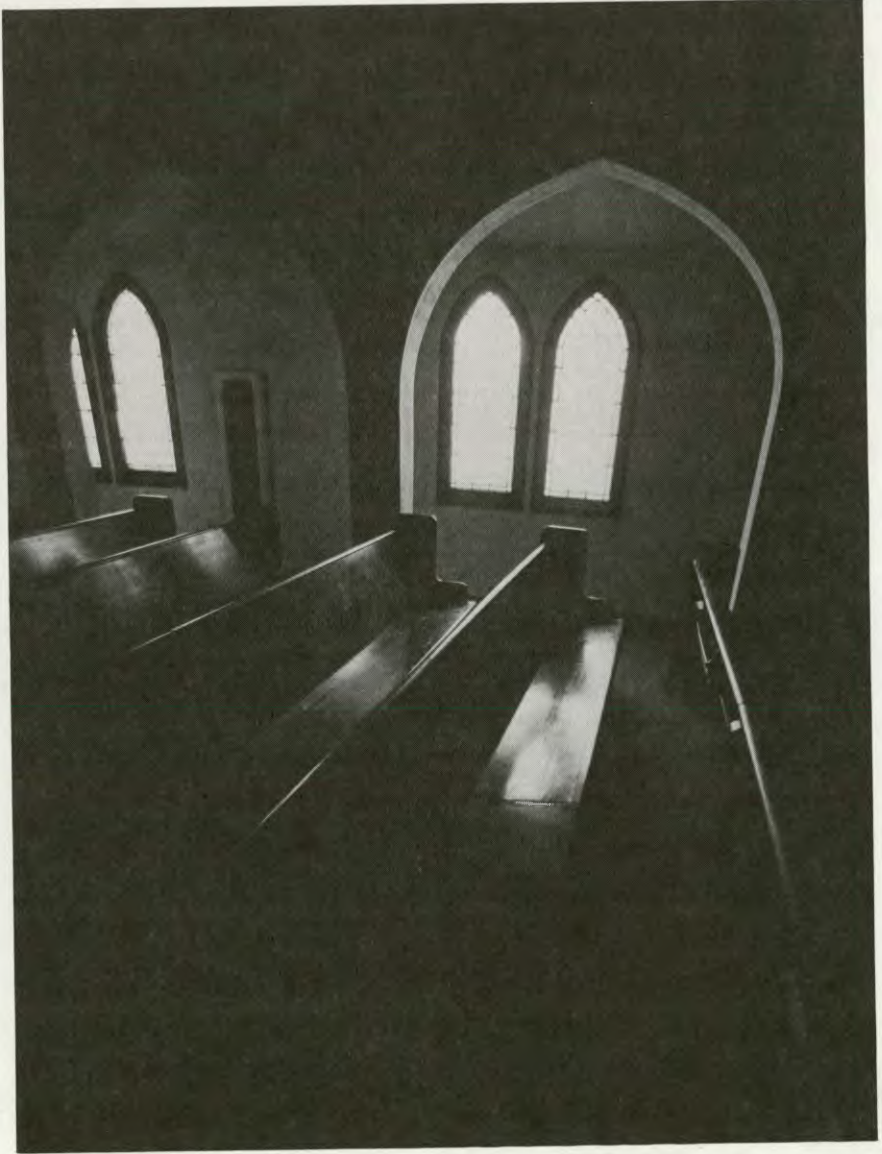
Does not apply toward a major or minor. Identical to SOCI 489 and PSYC 489.

**SOSR 498 Field Practicum (4, 4, 4)**

Externship program involving direct practice with clients in local service agencies; application of generalist social work practice skills. Required each quarter of the senior year.

Prerequisite: SOSR 217, 311, 312, 317, 318, 319; completion of major admissions procedures; senior standing; and consent of the field coordinator.

**SOSR 499 Directed Study (1-4)**



## PROGRAM IN RELIGION

KENNETH L. VINE, 1971. Dean, School of Religion; Professor of Old Testament  
PH.D. University of Michigan 1965

NIELS-ERIK A. ANDREASEN, 1977. Associate Dean, School of Religion; Professor of Old Testament  
PH.D. Vanderbilt University 1971

### LA SIERRA CAMPUS FACULTY

DALTON D. BALDWIN, 1963. Professor of Christian Theology  
PH.D. Claremont Graduate School 1975

V. BAILEY GILLESPIE, 1970. Professor of Theology and Christian Personality  
PH.D. Claremont Graduate School 1973

PAUL J. LANDA, 1971. Professor of Church History  
PH.D. Vanderbilt University 1976

T. RICHARD RICE, 1974. Professor of Theology  
PH.D. University of Chicago Divinity School 1974

CHARLES W. TEEL, JR., 1967. Professor of Religion and Sociology  
PH.D. Boston University 1972

EDWIN H. ZACKRISON, 1988. Associate Professor of Theology and Ministry  
PH.D. Andrews University 1984

RONALD D. GRAYBILL, 1986. Assistant Professor of Church History  
PH.D. Johns Hopkins University 1983

MADELYNN J. HALDEMAN, 1969. Assistant Professor of New Testament  
M.A. Andrews University 1982

STEVEN G. DAILY, 1980. Instructor in Religion  
D.MIN. School of Theology at Claremont, 1985

The School of Religion, while not a part of the College of Arts and Sciences, is closely affiliated with it. Members of the religion faculty who teach on the La Sierra campus are also members of the College faculty; and course work in the School of Religion forms part of every degree and program in the College. In connection with these interrelationships, the objectives of the School of Religion are:

**Objectives** 1. To lead students to an understanding of God as Creator and Redeemer, and of man's appropriate response to Him.

2. To develop an appreciation for and an understanding of the Bible as the written Word of God, an infallible rule of faith and practice for the Christian.

3. To direct students to an understanding of the basic teachings of the Christian faith and to an articulate expression of that faith as believed and taught by the Seventh-day Adventist church.

4. To lead students to a study of the Bible that utilizes the methodologies of biblical, theological, and historical studies, so that as laymen or ministers they will be able to participate in the work of the church as effective teachers of the Word.

5. To prepare students for the ministry of the church by teaching the basic skills necessary to move into practical fieldwork and seminary training.

6. To communicate to students a sense of personal vocation in connection with the church's mission to preach the Gospel of the kingdom to all the world.

7. To help students to develop a personal religious life of faith, prayer, worship, and service to their fellowmen.

**Ministerial studies** The ministerial studies program prepares individuals, on a preseminary level, for effective participation in the church's ministry within the contemporary world. It grounds this ministry in the biblical, historical, theological, and social witness of Christianity in general and Seventh-day Adventism in particular. The program endeavors to make the ministry proficient by careful development of such ministering arts as preaching, teaching, counseling, pastoral care, and leadership. It achieves this with the following specific objectives:

1. A cultivation of the personal and social dimensions of spiritual experience, including faith, prayer, worship, and service to others.

2. An understanding of the Old and New Testaments through use of the historical-theological method.

3. An introduction to the basic resources for biblical study, including a knowledge of the Greek language, for use in exegesis and sermon preparation.

4. A familiarity with the origin and transmission of the biblical text, the formation of the Canon, and its translation into various versions.

5. A knowledge of the historical development of Christian belief, practice, and mission, including the emphasis of the Seventh-day Adventist church.

6. An understanding of the basic tenets of Christianity as interpreted by Seventh-day Adventists, and an ability to communicate them to the contemporary world.

7. An application of theology to the practice skills of ministry, providing for the performance of the basic pastoral and educational tasks.

8. A study of Christian growth, methods of ministry, and effective witness in the community.



9. An examination of the church's corporate nature, the social dynamics of its institutionalization, and its interaction with other social structures.

Students who intend to major in ministerial studies apply to the School of Religion during the fall quarter of the sophomore year. In addition, they complete, during that quarter, a prescribed battery of diagnostic tests which cost \$25. These are planned, along with a two-hour counseling session, to help students evaluate themselves and their call to the ministry. Each application is considered by the faculty of the school, and a letter of response is sent to each applicant before the fall quarter of the junior year.

The student is also required to take a proficiency examination in the fundamental beliefs of Seventh-day Adventists. Those who fail to make a satisfactory score in this examination must make up the deficiency by enrolling in RELT 245. Formal acceptance into the ministerial program is a prerequisite for admission to RELP 361, 362, 374.

**Graduate program** A program leading to the Master of Arts degree in religion is described in the BULLETIN of the School of Religion.

**Degrees offered** The School of Religion through the College of Arts and Sciences offers Bachelor of Arts degrees in ministerial studies, pastoral ministry; ministerial studies, bilingual ministry; ministerial studies, educational ministry; religion; and religion and history. An Associate in Arts degree in Bible work and personal ministry and minors in religion and biblical languages are available.

## BACCALAUREATE MAJOR PROGRAMS

### BACHELOR OF ARTS

#### **Ministerial studies, pastoral ministry**

Required: RELB 104, 224, 225, 226, 244, 414, 415, 416  
RELE 447  
RELH 254, 445, 446, 447  
RELP 101, 102, 264, 361, 362, 374 (3 units),  
397 (3 units), 436  
RELT 434, 435, 436, 464

Required cognates: RELL 281, 282, 283, 381, 382, 383, 481, 482

#### **Ministerial studies, bilingual ministry**

Required: Completion of the ministerial studies requirement as listed for pastoral ministry  
Proficiency in intermediate Spanish  
(Spanish IV)  
RELP 398, 479 (3 units)  
SPAN 328, 329, 429, 486  
One additional course in Spanish literature

### **Ministerial studies, educational ministry**

Required: Completion of the ministerial studies requirement as listed for pastoral ministry  
REL P 400, 414 (3 units), 415, 468  
EDFO 404 in the School of Education  
For teaching credentials (optional) HLED 214 or 414 or the equivalent  
EDFO 305 in the School of Education  
EDCI 414, 433 (3 units), 456 (9 units), 574

### **Religion**

Required: 57 units in religion, including  
REL B 104, 224, 225, 226, 244, 414, 415, 416  
REL H 254, 445, 446, 447  
REL T 434, 435, 436

### **Interdisciplinary**

Students preparing for certain kinds of specialized ministry and/or graduate study may wish to combine a major in religion with a major or minor in another department of the College of Arts and Sciences. An interdisciplinary curriculum has been developed in religion and history (with emphasis in Church history). Information may be obtained from the Office of the Dean, School of Religion.

## **MINORS**

Religion 31 units (15 upper division), as follows  
REL B 104, 224 or 225, 244, 414 or 415  
REL H 254  
REL T 434, 435  
4 units upper division religion elective

Biblical languages 27 units, as follows  
RELL 281, 282, 283, 381, 382, 383, 481, 482, 483

## **ASSOCIATE DEGREE PROGRAM**

### **ASSOCIATE IN ARTS**

#### **Bible work**

#### **and personal ministry**

(Designed for the more mature student.)

Required: 48 units, including  
REL B 104, 206, 207, 244, 404 (4 units), 424  
REL P 264, 284 (6 units), 436  
REL T 205, 245, 354

Required cognates: PSYC 104 SOCI 104 SOSR 104

## COURSES

### BIBLICAL STUDIES

#### LOWER DIVISION

**RELB 104 Life and Teachings of Jesus (4)**

Life and ministry of Jesus as reconstructed from the Gospels; His teachings as they relate to current conditions and needs in the Church and world.

**RELB 206 Message and Times of the Old Testament (4)**

Survey of the Old Testament, with emphasis on its historical setting, unity, and revelation of the plan of redemption. Does not apply toward a major in religion or ministerial studies.

**RELB 207 Message and Times of the New Testament (4)**

Survey of the New Testament, with emphasis on its historical setting, unity, and abiding message as God's new covenant of grace. Does not apply toward a major in religion or ministerial studies.

**RELB 224 History and Theology of the Old Testament I (4)**

Creation to the time of David, with special consideration of the covenant relationship between God and Israel and of God's saving acts. Preaching values from the Old Testament.

**RELB 225 History and Theology of the Old Testament II (4)**

The time of Solomon to the postexilic era, with emphasis on the authority of the Old Testament for today's preaching.

**RELB 226 History and Theology of the Old Testament III (4)**

Emphasis on the prophetic gift as it was manifested within the setting and times of Old Testament prophets, from 800 B.C. to 400 B.C. Selected prophetic writings from each century studied within the framework of the hermeneutical principles given.

**RELB 244 Daniel and Revelation (4)**

Historical and prophetic study, with emphasis on gospel implications.

**RELB 245 Biblical Apocalyptic and the Advent Hope (4)**

A study of the books of Daniel, Revelation, and related biblical literature with a view to their prophetic interpretation and dynamic function in Christian life, faith, and hope.

**RELB 255 Understanding and Sharing Your Bible (4)**

A study of the Bible as Scripture in the church and as living word of God in Christian life and witness. (Not open to students majoring in ministerial studies.)

**RELB 299 Directed Study (1-4)**

Prerequisite: Consent of the instructor.

#### UPPER DIVISION

**RELB 404 New Testament Letters (2-4)**

Verse-by-verse study of selected documents, with emphasis on their theological and practical implications for Christians today. Does not apply toward a major or minor in religion or ministerial studies.

**RELB 414 New Testament Epistles I (3)**

Reconstruction of the life of Paul and the setting of his early letters from Acts. Thessalonian and Corinthian letters, with special attention to the doctrines and practical problems they were written to correct and to their significance for the church today.

**RELB 415 New Testament Epistles II (3)**

Romans, Galatians, and the prison letters of Paul, emphasizing the doctrines of sin, salvation, and sanctification, and the relation of law and grace to Christian liberty.

**RELB 416 New Testament Epistles III (3)**

Paul's ecclesiology, from his pastoral letters to Timothy and Titus, Hebrews, and the letters of James, Peter, John, and Jude as they relate to theological and ethical content of Christianity.

**RELB 424 Old Testament Prophets (4)**

Origin and development of Old Testament prophecy as a background for understanding the prophetic writings. Introduction to each writing prophet; the relevance of his message to his own time and to the present. Does not apply toward a major in religion or ministerial studies.

**RELB 445 Biblical Archaeology (2-4)**

The Bible in its religious, cultural, and political environment as illuminated by discoveries of modern archaeology. Does not apply toward a major in religion or ministerial studies.

**RELB 494 Fieldwork in Middle East Archaeology (1-8)**

Prerequisite: Consent of the instructor.

**RELB 499 Directed Study (1-4)**

Limited to students majoring in religion or ministerial studies.

Prerequisite: Consent of the instructor.

GRADUATE

Consult Graduate School and School of Religion BULLETINS for details.

**RELB 505 The Making of the Bible (3-4)**

**RELB 545 Biblical Archaeology (3-4)**

**RELB 558 Old Testament Theology (4)**

**RELB 559 New Testament Theology (4)**

**RELB 564 The Letter to the Romans (3-4)**

**RELB 568 The Letter to the Hebrews (3-4)**

**RELB 614 Old Testament Seminar (3-4)**

**RELB 624 New Testament Seminar (3-4)**

**RELB 630 Fieldwork in Middle East Archaeology (1-8)**

**RELB 674 Reading Tutorial in Biblical Studies (3-4)**

**RELB 698 Thesis (4)**

**RELB 699 Directed Study (2-6)**

CHRISTIAN ETHICS

LOWER DIVISION

**RELE 205 Biblical Ethics in the Modern World (4)**

An introduction to the study of biblical ethics. Focus on principles of biblical interpretation; general themes in biblical ethics; and specific issues addressed by Bible writers, with a view toward contemporary application.

UPPER DIVISION

**RELE 405 Moral Philosophy (3-4)**

A philosophical investigation of major moral concepts such as duty, the good, the right, the just; and their application to problems concerning the individual and society. Readings will include the works of moral philosophers, both ancient and modern.

Prerequisite: PHIL 205 or 206 or consent of the instructor.

**RELE 447 Religion and Society (4)**

Exploration of biblical themes which call the individual of faith and the community of faith to fulfill personal as well as social obligations. Examination of the dynamics involved as a religious movement evolves toward a religious institution. Models of relationship between church and world.

**RELE 448 Christian Professional and Business Ethics (4)**

Ethical issues emerging in professional and business transactions; an assessment of ethical theory followed by selected case studies.

**RELE 454 Christian Ethics and Social Issues (4)**

Theological foundations for social ethics and implications of Christian beliefs for selected problems in social policy.

**RELE 497 Proseminar in Christian Ethics (2-4)**

Prerequisite: Consent of the instructor.

GRADUATE

Consult Graduate School and School of Religion BULLETINS for details.

**RELE 524 Christian Bioethics (3-4)**

**RELE 545 Sociology of Religion (3-4)**

**RELE 548 Christian Social Ethics (3-4)**

**RELE 577 Theological Ethics (3-4)**

**RELE 588 Types of Ethical Theory (3-4)**

**RELE 624 Seminar in Christian Ethics (3-4)**

**RELE 674 Reading Tutorial in Christian Ethics (3-4)**

**RELE 694 Colloquium in Christian Ethics (1)**

**RELE 698 Thesis (4)**

**RELE 699 Directed Study (2-6)**

LOWER DIVISION

**RELH 205 The Christian Centuries (4)**

An impressionistic approach to the history of Christianity, from its earliest days to the present. Using the film series, "The Christians," emphasis is given to the great cultural achievements fostered by Christianity in the arts, architecture, and literature, as well as the intellectual and theological contributions made by leading Christians. This course does not apply toward a major in religion and ministerial studies. Identical to HIST 205.

**RELH 254 Ellen G. White and the Church (4)**

The prophetic ministry of Ellen G. White in relation to the origin and development of Adventism, with emphasis on the present significance of her writings.

UPPER DIVISION

**RELH 306 The Individual and the Church (4)**

The nature of the church, the function of the local congregation, and the role of the individual church member.

**RELH 415 Contemporary American Denominations (3-4)**

Introduction to the current denominational scene in America through lectures and the reading of primary and secondary source materials; guest representatives from various religious groups; and visits to Catholic, Protestant, Jewish, and sectarian services.

**RELH 445 The Christian Heritage: The Making of Christendom (4)**

Growth and expansion of the Christian Church and the development of Christian thought from the Apostolic Age to A.D. 1350.

**RELH 446 The Christian Heritage: The Reform of Christendom (4)**

Christianity in the High Middle Ages and the Reformation, with emphasis on sixteenth-century developments and the shaping of new movements and churches down to A.D. 1648.

**RELH 447 The Christian Heritage: Christendom since A.D. 1648 (4)**

Growth of modern religious traditions, their influence in Europe and North America, with particular emphasis on the American religious scene and the development of Adventism.

**RELH 466 The Early Christian Church (3-4)**

Study from primary sources of the important men, developments, and ideas in the Christian Church from apostolic times through the fifth century. Offered alternate years.

**RELH 468 History of the Papacy and Roman Catholicism (3-4)**

Historical and theological development of the Papacy and Roman Catholicism during patristic, medieval, and modern periods. Offered alternate years.

**RELH 474 The Lutheran Reformation (3-4)**

A study of Martin Luther, his theology, and the Reformation movement he initiated down to 1555. Offered alternate years.

**RELH 476 The Swiss Reformation and Calvinism (3-4)**

Leading men and movements of the Swiss Reformation, with particular emphasis on John Calvin and the theological and sociological legacy of Calvinism. Offered alternate years.

**RELH 478 The English Reformation (3-4)**

Main historical forces and religious movements of the English Reformation until the Westminster Assembly. Offered alternate years.

**RELH 485 History of Seventh-day Adventism (3-4)**

A study of major doctrinal and organizational developments within Seventh-day Adventism from its Millerite origins to the 1960s. Identical to HIST 485.

**RELH 486 Ellen G. White: Her Life and Thought (3-4)**

A study of the key events in the life of Ellen G. White (1827-1915); her major teachings; her role as church leader, author, and family member. Offered alternate years. Identical to HIST 486.

**RELH 497 Proseminar (4)**

Prerequisite: Consent of the instructor.

**RELH 499 Directed Study (1-4)**

Limited to students majoring in religion or ministerial studies.

Prerequisite: Consent of the instructor.

GRADUATE

Consult Graduate School and School of Religion BULLETINS for details.

**RELH 566 The Early Christian Church (3-4)**

**RELH 568 History of the Papacy and Roman Catholicism (3-4)**

**RELH 574 The Lutheran Reformation (3-4)**

**RELH 576 The Swiss Reformation and Calvinism (3-4)**

**RELH 578 The English Reformation (3-4)**

**RELH 585 History of Seventh-day Adventism (3-4)**

**RELH 586 Ellen G. White: Her Life and Thought (3-4)**

**RELH 604 Seminar: Problems in the History of Seventh-day Adventist Theology (3-4)**

**RELH 635 Seminar in Church History (4)**

**RELH 674 Reading Tutorial in Historical Studies (3-4)**

**RELH 698 Thesis (4)**

**RELH 699 Directed Study (2-6)**

**BIBLICAL LANGUAGES**

LOWER DIVISION

**RELL 281, 282, 283 Beginning Greek I, II, III (3, 3, 3)**

Linguistic analysis of grammatical structure of both New Testament Greek sentences and English sentences, with emphasis on their differences. A basic vocabulary is required.

UPPER DIVISION

**RELL 381, 382, 383 Intermediate Greek I, II, III (3, 3, 3)**

Emphasis on syntax as it occurs in the Greek New Testament. Passages for translation and for exegesis selected from the Gospels and the Pauline Epistles.

Prerequisite: Average grade of C for the 3 quarters of REL 281, 282, 283, with minimum grade of C in REL 283.

**RELL 481, 482, 483 Basic Hebrew (3, 3, 3)**

Biblical Hebrew grammar and textual materials.

**RELL 486 Proseminar in Biblical Languages (1-4)**

Prerequisite: Consent of the instructor.

**RELL 499 Directed Study (1-4)**

Prerequisite: Consent of the instructor.

## CHURCH AND MINISTRY

Courses in this section do not apply toward the general religion requirement in the College of Arts and Sciences or the School of Education.

### LOWER DIVISION

**RELP 101, 102 Introduction to Ministry I, II (1, 1)**

The call and role of the minister as they relate to the specific areas of ministerial education and practice.

**RELP 264 Evangelism (4)**

Theory and practice of communicating Adventist beliefs to individuals and groups.

**RELP 284 Seminar in Personal Ministry (2)**

Practice and application of the principles involved in Bible work and personal ministry. May be repeated for additional credit to a maximum of 6 units.

Prerequisite: Consent of the instructor.

### UPPER DIVISION

**RELP 361, 362 Homiletics I, II (4, 4)**

The art of preaching; church administration; and development of proper methodologies. Taken concurrently with RELP 374.

**RELP 366 Field Program in Pastoral Evangelism (4)**

Instruction and participation in visitation, Bible studies, church administration, special services, and public evangelism. Selected location. Summer only.

Prerequisite: Consent of the instructor.

**RELP 374 Externship (1)**

Practical application of the principles of church leadership and preaching by assignment to local churches. Taken concurrently with RELP 361 and 362. Limited to juniors and seniors majoring in ministerial studies. May be repeated for additional credit to a maximum of 6 units.

**RELP 397 Proseminar in Ministerial Studies (1/2)**

Limited to students majoring or minoring in religion or ministerial studies. May be repeated for additional credit to a maximum of 3 units.

**RELP 398 Proseminar in Bilingual Ministry (1/2)**

Discussion of the problems of the Spanish churches in the North American Division. Limited to those who major in bilingual ministry. May not be repeated.

**RELP 400 Proseminar in Educational Ministry (1/2)**

Discussions on the actual practice of educational ministry in school experience and the local church setting. Limited to students majoring or minoring in religion or ministerial studies with emphasis on the educational ministry. May not be repeated.

**RELP 414 Fieldwork in Educational Ministry (1)**

Practice in teaching in an educational setting, interaction with students in a learning setting either in a school or church. May be repeated for additional credit to a maximum of 3 units.

Prerequisite: RELP 468.

**RELP 415 Youth Ministry and the Local Church (2)**

Designed to provide insight into the theology, organization, and methods of local youth ministry. The problem of what to do in the local setting with youth as they grow toward God. Consideration of the problems of leadership, activities, models of ministry, and current materials available.



**RELP 435 Proseminar in Pastoral Counseling (2)**

Supervised clinical experience in a church counseling center. Actual counseling, case studies, reading, group conferences. May be repeated for additional credit to a maximum of 4 units.  
Prerequisite: Consent of the instructor.

**RELP 436 Pastoral Counseling (2)**

The biblical and theological bases of and methodologies for pastoral counseling as it relates to the unique role of the minister. For ministerial studies majors.

**RELP 468 Methods of Educational Ministry (3)**

A critical examination of the foundations, theories, and practices of Christian education as an aspect of ministry. Emphasis on practical application of theology and religious development as it relates to the educational setting. Development of materials for secondary Bible teaching.

Prerequisite: RELT 464.

**RELP 479 Spanish Preaching (1)**

May be repeated for additional credit to a maximum of 4 units.

Prerequisite: Consent of the instructor and acceptance into the ministerial studies program.

**RELP 499 Directed Study (1-4)**

Limited to students majoring in religion or ministerial studies.

Prerequisite: Consent of the instructor.

**GRADUATE**

Consult Graduate School and School of Religion BULLETINS for details.

**RELP 504 Research Methods in Religion (4)**

**RELP 514 Fieldwork in Educational Ministry (1)**

**RELP 515 Youth Ministry and the Local Church (3)**

**RELP 524 Clinical Pastoral Education (6-12)**

**RELP 525 Fieldwork in Pastoral Ministry (1)**

**RELP 527 Crisis Counseling (3-4)**

**RELP 536 Pastoral Counseling (3)**

**RELP 539 Theology of Ministry (3-4)**

**RELP 544 Theology, Encounter, and Family Therapy (3-4)**

**RELP 564 Religion, Marriage, and the Family (3)**

**RELP 568 Methods of Educational Ministry (3)**

**RELP 569 Methods in Health Evangelism (3-4)**

**RELP 586 Moral Learning and Values in Religious Formation (3)**

**RELP 604 Seminar in Church and Ministry (3-4)**

**RELP 605 Seminar in Personal Evangelism (1)**

**RELP 606 Seminar in Worship (3-4)**

**RELP 607 Seminar in Pastoral Counseling (3-4)**

**RELP 674 Reading Tutorial in Professional Studies (3-4)**

**RELP 691, 692, 693 Colloquium in Religious Studies (1, 1, 1)**

RELP 694B Seminar in Counseling Adventist Youth (3)

RELP 698 Thesis (4)

RELP 699 Directed Study (2-6)

## THEOLOGICAL STUDIES

### LOWER DIVISION

**RELT 104 Introduction to Christianity (4)**

An introduction to the basic Christian beliefs for students from a non-Christian culture. Does not apply toward a major in religion or ministerial studies.

**RELT 106 Introduction to Seventh-day Adventist Beliefs (4)**

The biblical basis, formulation, and implications of the theological convictions of Seventh-day Adventists, with emphasis on those beliefs that distinguish Adventists from other Christians. Limited to students who are not Seventh-day Adventists. Does not apply toward a major in religion or ministerial studies.

**RELT 205 Dynamics of Personal Religion (4)**

The experience of forgiveness, acceptance, and faith; the place and function of prayer, worship, Bible study, fellowship, and witness in religious life. Does not apply toward a major in religion or ministerial studies.

**RELT 237 Comparative Religion (4)**

A study of religion in human experience. Topics include religious phenomena, the function of religion, religious institutions, interaction between religion and culture, and consideration of Christianity and other major world religions. Not open to students who have taken ANTH 444 or HNRS 304.

**RELT 245 Studies in Seventh-day Adventist Beliefs (4)**

Fundamental doctrines of Christianity as taught by the Seventh-day Adventist church. Does not apply toward a major in religion or ministerial studies.

**RELT 299 Directed Study (1-4)**

Prerequisite: Consent of the instructor.

### UPPER DIVISION

**RELT 354 Adventist Eschatology (4)**

Study and chronological organization of final events of history as presented in the writings of Ellen G. White. Does not apply toward a major in religion or ministerial studies.

**RELT 434 Dimensions of Salvation (4)**

Soteriology, including Christology, atonement, and sanctification; the Sabbath; the church as the community of faith; the final destiny of man.

Prerequisite: Senior standing or consent of the instructor.

**RELT 435 Christian Understanding of God and Man (4)**

Theological methodology; the nature and function of revelation; attributes of God; the nature of man.

Prerequisite: Senior standing or consent of the instructor.

**RELT 436 Religious Belief and the Modern World (4)**

Reality and relevance of God for contemporary man.

Prerequisite: Senior standing or consent of the instructor.

**RELT 437 Current Issues in Adventism (2-4)**

Selected questions of current interest concerning theological understanding, ecclesiastical polity, church policies, and practices, etc., in preparation for active involvement in the life of the church. Does not apply toward a major in religion or ministerial studies.

Prerequisite: Consent of the instructor.

**RELT 449 Sanctuary and Atonement (2-4)**

A study of the biblical basis and historical development of the doctrine of the atonement as symbolized in the earthly sanctuary and fulfilled in Jesus Christ.

**RELT 464 Religious Development and Nurture (4)**

Biblical principles of emerging self-identity and faith concepts; religious development of children, adolescents, and youth; religious learning problems and practical methodologies in communicating religious values.

**RELT 499 Directed Study (1-4)**

Limited to students majoring in religion or ministerial studies.

Prerequisite: Consent of the instructor.

GRADUATE

Consult Graduate School and School of Religion BULLETINS for details.

**RELT 506 Seventh-day Adventist Belief and Life (2-3)**

**RELT 536 Religious Belief and the Modern World (3-4)**

**RELT 538 The Doctrine of Man (3-4)**

**RELT 539 The Doctrine of God (3-4)**

**RELT 548 The Doctrine of Christ (3-4)**

**RELT 564 Religious Development and Nurture (4)**

**RELT 604 Seminar in Religion and Science (3-4)**

**RELT 614 Seminar in Theological Studies (3-4)**

**RELT 615 Seminar in Philosophy of Religion (3-4)**

**RELT 616 Seminar in Religious Experience (3-4)**

**RELT 674 Reading Tutorial in Theological Studies (3-4)**

**RELT 698 Thesis (4)**

**RELT 699 Directed Study (2-6)**

## DEPARTMENT OF SOCIAL RELATIONS

ANTONIUS D. BRANDON, 1980. Chairman; Associate Professor of Marriage and Family Therapy  
PH.D. United States International University 1980

IAN P. CHAND, 1979. Professor of Sociology and Family Studies  
PH.D. Pennsylvania State University 1980

JOHN W. ELICK, 1965. Emeritus Professor of Anthropology and Sociology; Coordinator, Institute of World Mission  
PH.D. University of California, Los Angeles 1969

ANEES A. HADDAD, 1969. Professor of Sociology and Family Studies (on leave; Dean, College of Arts and Sciences)  
PH.D. University of Southern California 1971

JAMES H. STIRLING, 1963. Professor of Anthropology and Sociology  
PH.D. University of California, Los Angeles 1968

WON K. YOON, 1976. Professor of Sociology  
PH.D. Louisiana State University 1976

MARY E. MOLINE, 1977. Associate Professor of Marriage and Family Therapy  
PH.D. Brigham Young University 1979

RONALD G. HUSTON, 1986. Assistant Professor of Marriage and Family Therapy  
PH.D. United States International University, San Diego 1981

MICHELLE G. NADEN, 1987. Instructor in Marriage and Family Therapy and Sociology  
M.S. Loma Linda University 1984

ROBERT D. MACOMBER, Lecturer in Administration of Justice  
J.D. University of Southern California

### COLLABORATING FACULTY

VERN R. ANDRESS, Professor of Psychology  
PH.D. United States International University

M. JERRY DAVIS, Associate Professor of Religion and Pastoral Counseling  
REL.D. School of Theology at Claremont  
Loma Linda University Medical Center

### FIELD PERSONNEL

PANSY CHAND, M.ED.  
Director, Child Development Learning Center  
Loma Linda University

TYREE ELLISON, B.A.  
Training Officer and Coordinator of Volunteer Services  
Riverside County Juvenile Hall

NORMA LAW, M.P.A.  
Correctional Administrator  
California Rehabilitation Center, Norco

GERALDINE MURPHY, M.A.  
Director, Special Education/Projects/Pupil Personnel  
Banning Unified School District

BEVERLY L. ROUSE, M.A.  
Director, Child Development Preschool  
Loma Linda University

**Objectives** The Department of Social Relations seeks to broaden the student's understanding of how society is organized and how it functions with various cultural groups, and how to apply such knowledge in occupational and professional settings.

**Programs** The department offers the Bachelor of Arts degree in behavioral science, and Bachelor of Science degrees in behavioral science and in child development and early childhood education. An Associate in Science degree is also available in child and family science.

**Graduate programs** Graduate programs leading to the Master of Science degree in marriage and family therapy and the Master of Arts degree in sociology are described in the BULLETIN of the Graduate School.

**Field experience** Majors in the department are given the opportunity to participate on an internship basis with community and government agencies, educational programs, and other local organizations.

**Degrees offered** The Department of Social Relations offers both a Bachelor of Arts degree and a Bachelor of Science degree in behavioral science. Three optional areas of concentration are available for either degree: administration of justice, anthropology, and sociology. A Bachelor of Science degree is offered in child development and education, with an optional concentration in early childhood education. An Associate in Science degree is offered in child and family science. Minors in administration of justice, anthropology, behavioral science, child development, and sociology are available.

**Curriculum** The degree requirements for majors are as follows:

## MAJORS

### BACHELOR OF ARTS

#### **Behavioral science**

**Core curriculum** Required of all students planning to receive a Bachelor of Arts degree with a major in behavioral science.

Required: 39 units, as follows

ANTH 104

PSYC 104 or 105

SOCI 104, 304, 307, 404, 414, 285 and/or  
485 (3 units), 494, 495 (4 units)

Required cognates: MATH 251, 252

#### **Behavioral science**

Required: 67 units in behavioral science, including  
the core curriculum  
Electives to be selected in consultation  
with the adviser

Concentration in administration of justice —

Required: 67 units in behavioral science, including  
the core curriculum  
ADJS 377, 378  
SOCI 375, 376  
Electives to be selected in consultation  
with the adviser

Concentration in anthropology —

Required: 67 units in behavioral science, including  
the core curriculum  
ANTH 306, 316, 325, 498 (4 units)  
Electives to be selected in consultation  
with the adviser

Concentration in sociology —

Required: 67 units in behavioral science, including  
the core curriculum  
SOCI 306, 324, 424, 429  
CFSC 486  
Electives to be selected in consultation  
with the adviser

BACHELOR OF SCIENCE

**Behavioral science**

**Core curriculum** Required of all students planning to receive a Bachelor of Science degree with a major in behavioral science.

Required: 55 units, as follows  
ANTH 104  
PSYC 104 or 105, 324, 344, 475  
SOCI 104, 304, 307, 404, 414, 285 and/or  
485 (3 units), 494, 495 (4 units)  
CFSC 274

Required cognates: MATH 251  
HLED 416

**Behavioral science**

Required: 79 units in behavioral science, including  
the core curriculum  
Electives to be selected in consultation  
with the adviser

Concentration in administration of justice —

Required: 79 units in behavioral science, including  
the core curriculum  
ADJS 377, 378  
SOCI 375, 376  
Electives to be selected in consultation  
with the adviser

Concentration in anthropology —

Required: 79 units in behavioral science, including  
the core curriculum  
ANTH 306, 316, 325, 448  
Electives to be selected in consultation  
with the adviser

Concentration in sociology —

Required: 79 units in behavioral science, including  
the core curriculum  
SOCI 306, 324, 424, 429  
CFSC 404, 486  
Electives to be selected in consultation  
with the adviser

**Child development and education**

**Core curriculum** Required of all students planning to receive a Bachelor of Science degree with a major in child development and education.

Required: 72 units, as follows  
SOCI 104, 404, 414, 285 and/or 485 (3  
units), 495 (2 units)  
CFSC 244, 264, 265, 266, 274, 284, 285, 404,  
405, 477, 478, 479, 484 (8 units), 486

Required cognates: BIOL 107 EDPC 460 in the School of  
Education  
ENGL 415  
MATH 225 SPPA 277 in the School of  
Allied Health Professions  
PSYC 104 or 105, 224

Concentration in early childhood education —

The child development major with a concentration in early childhood education is designed to satisfy the requirements for the General Conference Department of Education Basic Credential in Elementary Education, and to meet the California State requirements for a preliminary teaching credential. Consult the credential officer in the School of Education.

Required: 60 units to include the child development major requirements, except that CFSC 284 is required and CFSC 285 and 484 are deleted. 35-45 units in the School of Education, including  
EDCI 204, 414, 415, 416, 417, 418, 425  
EDFO 305, 404

The freshman student must present a minimum grade point average of 2.0 (C). To



continue in any teacher education program, however, the student is expected to maintain a grade point average of 2.3 or higher.

## MINORS

Administration of justice	28 units (16 upper division) in administration of justice and sociology, selected in consultation with the program adviser
Anthropology	28 units (16 upper division) in anthropology, selected in consultation with the program adviser
Behavioral science	28 units (16 upper division), including ANTH 104 PSYC 104 or 105 SOCI 104 Remaining units selected in consultation with the program adviser
Child development	28 units (16 upper division), including CFSC 265, 266, 274, 486 Remaining units selected in consultation with the program adviser
Sociology	28 units (16 upper division), selected in consultation with the program adviser

## ASSOCIATE DEGREE PROGRAM

### ASSOCIATE IN SCIENCE

#### **Child and family science**

Required:	48 units, as follows CFSC 244, 264, 265, 266, 274, 284, 285, 404, 405, 477 SOCI 104, 285 and/or 485 (2 units), 414
Required cognates:	BIOL 107 ENGL 415 PSYC 104 or 105, 224

## COURSES

### ADMINISTRATION OF JUSTICE

#### UPPER DIVISION

**ADJS 377 Crime and Law (4)**

Legal aspects of delinquent and criminal behavior.

**ADJS 378 Probation and Parole (4)**

Role of the probation officer in the social rehabilitation of juvenile and adult offenders. Theory of probation and parole in relation to actual case histories. Taught by a parole officer.

**ADJS 435 Field Instruction (1-4)**

Experience and instruction under a professional worker in a public or private correctional agency. Credit earned at the rate of 1 unit per four hours per week. May be repeated for additional credit to a total of 4 units.

Prerequisite or concurrent: ADJS 378, consent of both the instructor and the agency.

**ADJS 488 Seminar in Administration of Justice (1-4)**

Selected topics. May be repeated with new content for additional credit.

Prerequisite: Consent of the instructor.

**ADJS 499 Directed Study (1-4)**

### ANTHROPOLOGY

#### LOWER DIVISION

**ANTH 104 Introduction to Anthropology (4)**

The nature of culture, with special reference to such features as technology, economic activities, community organization, kinship and marriage, social control, magic and religion, the arts, and other forms of cultural behavior. Wide array of examples from societies around the world. Credit not allowed for those with credit for ANTH 315.

**ANTH 275 Missions Orientation (2)**

Interdisciplinary approach to provide basic insights for those planning to live overseas. Orientation in cultural, linguistic, health, and religious aspects of life in selected overseas areas. Two class hours and one laboratory hour per week. Does not apply toward a major in anthropology.

**ANTH 299 Directed Study (1-4)**

Limited to department majors who wish to pursue independent investigations in anthropology under the direction of a department faculty member.

#### UPPER DIVISION

Unless it is otherwise indicated, ANTH 104 or consent of the instructor is prerequisite to all upper division courses.

**ANTH 304 Biological Anthropology (4)**

Processes influencing human variations, past and present; distribution of human types; ecological aspects of anthropology; paleopathology; human paleontology; fossil man.

**ANTH 306 Language and Culture (4)**

Introduction to descriptive and structural linguistics; relation of linguistic phenomena to habitual thought and behavior; sociolinguistics.

**ANTH 308 Geography of Man (4)**

Survey of the physical and cultural elements of landscape and their areal association; interpretation and differentiation; distributions of cultural traits. Four class periods, one four-hour laboratory per week.

**ANTH 315 Cultural Anthropology (4)**

Advanced course in ethnology and social organization. Credit not allowed for those with credit for ANTH 104.

**ANTH 316 Archaeology (4)**

Survey of research in the reconstruction of early culture sequences and the rise of ancient civilizations; field methods in archaeological research; cultural resource management.

**ANTH 325 Peoples of the World (4)**

Historical and comparative study. Aboriginal and contemporary culture patterns; problems of culture change; current social movements. Course content may vary to include concentrated studies of world areas such as Latin America, Africa, Middle East, Asia; also aboriginal peoples of North America. May be repeated for credit with different course emphasis.

**ANTH 348 Introduction to Medical Anthropology (2)**

A survey of cultural beliefs and practices relating to health and health care systems. Especially for undergraduate students in the allied health professions.

**ANTH 425 Sociocultural Change (4)**

Theories of cultural evolution, diffusion, acculturation, innovation; problems of directed change; effects of modernization on traditional societies; appropriate technology and international development.

**ANTH 434 Anthropology of Mission (2)**

A study of mission, applying the findings of anthropology as they relate to cultural change. The processes of religious development, the means of diffusion, the factors affecting religious acculturation, and analysis from case studies of programs planned to direct changes in religion.

**ANTH 444 Comparative Religion (4)**

Beliefs and practices relating to supernatural forces; animism, magic, witchcraft, ritual, shamanism; the role of religion as an integrative factor of culture; survey of great world religions, such as Christianity, Islam, Hinduism, Buddhism, and others. Not open to students who have taken HNRS 304 or RELT 237.

**ANTH 445 Culture and Personality (4)**

Psychological approach: national character, societal influences on childrearing, modal personality, culture and mental illness.

**ANTH 446 Folklore (4)**

Oral and written tradition as an index to cultural systems; various genres such as folktale, riddle, and proverb; folk medicine, origin myths, and legends.

**ANTH 448 Medical Anthropology (2-3)**

Sickness and health as universal factors in the human condition. World view as an explanatory system for behavior; ethnographic examples of curing systems and coping mechanisms; cross-cultural communication of health principles and practices.

**ANTH 488 Current Issues in Anthropology (2-4)**

**ANTH 494 Methods of Field Research (4)**

Field research design; analysis of approaches used by field workers in gathering and evaluating data; writing the research paper.

**ANTH 498 Laboratory Projects (1-6)**

**ANTH 499 Directed Study (1-6)**

Limited to students with senior standing and majoring in anthropology.

GRADUATE COURSES

Consult Graduate School BULLETIN for details.

**ANTH 506 Transcultural Health Care (3)**

Identical to NRSG 506.

**ANTH 534 Anthropology of Mission (3)**

Identical to RELM 534.

**ANTH 625 Seminar: Sociocultural Change (4)**

Evaluation of various theories of culture change. Individual research in specific culture-change problems.

**ANTH 634 Seminar: Social Theory (4)**

A seminar required of both sociology and anthropology master's degree candidates.

**ANTH 648 Seminar: Medical Anthropology (4)**

Research in traditional medical systems (folk medicine, curanderismo, shamanism, etc.), folk psychiatry, ethnopharmacognosy, dental anthropology.

**ANTH 694 Directed Reading (arranged)**

**ANTH 697 Research (4-6)**

**CHILD AND FAMILY SCIENCE**

LOWER DIVISION

**CFSC 244 Family Health (4)**

Health factors, focusing on human sexuality, weight control, alcohol and drug abuse, stress, depression, suicide, birth control, pregnancy, childbirth, newborn and child health, handling emergencies, aging, and death as related to the child and the family; CPR; first aid.

**CFSC 264 Foundations in Child Development and Education (4)**

Social-emotional behavior and development; health and safety; children with special needs; effective methods of working with children; interrelationships of parents, children, and teachers; history; advocacy; ethical issues; laws and legal issues related to preschool children.

**CFSC 265 Developing Creativity in Young Children (4)**

Development of curriculum in art, music, movement, special occasions, play, and literature for preschool children.

**CFSC 266 Learning Experiences for Young Children (4)**

Planning the preschool learning environment; curriculum in language arts, science, math, social studies, religion, cooking, and field trips for preschool children.

**CFSC 274 Dynamics of Love and Marriage (4)**

Relationships in marriage affecting communication, sexuality, masculinity-femininity, financial management, marital conflicts, relatives, religious factors, parent-child, and divorce. Identical to SOCI 314.

**CFSC 284, 285 Supervised Teaching in Child Care Centers (4, 4)**

Participation in an instructional capacity in a child care program.

Prerequisite: CFSC 264, 265, 266; or consent of the instructor.

**CFSC 299 Directed Study (1-4)**

## UPPER DIVISION

### **CFSC 404 Family Resource Management (4)**

Principles of family management in relation to needs and resources of individuals and families. Identical to SOCI 444.

Prerequisite: Consent of the instructor.

### **CFSC 405 Children and Stress (2)**

Crisis as it relates to the dynamics of stress in the lives of young children and their families.

### **CFSC 477 Administration of Child-Care Centers I (4)**

### **CFSC 478, 479 Advanced Administration of Child-Care Centers II, III (3, 1 or 2)**

Developing and managing child-care centers in the areas of fiscal and program management, and personnel relationships skills.

Prerequisite: CFSC 284 or consent of the instructor.

### **CFSC 484 Advanced Supervised Teaching in Child Care Centers (4-12)**

Supervised teaching of young children. May be repeated to a total of 16 units.

Prerequisite: CFSC 284 and consent of the department committee.

### **CFSC 486 Contemporary Parenting (4)**

Analysis of current theories and patterns of child rearing and parenting skills related to the wholistic development of the young child; exploration of contemporary issues in child rearing.

### **CFSC 499 Directed Study (1-4)**

## MARRIAGE AND FAMILY THERAPY

### GRADUATE

Consult Graduate School BULLETIN for details.

### CORE COURSES

#### GENERAL THEORY

- MFAM 501 Research Design and Methodology I
- MFAM 502 Research Design and Methodology II
- MFAM 542 Professional Seminar I
- MFAM 556 Psychopathology and Diagnostic Procedures
- MFAM 568 Group Theories in MFAM Therapy
- MFAM 614 Family Law and Ethics
- MFAM 669 Human Sexual Behavior
- SOCI 514 The Family: Crosscultural Family Values
- SOCI 614 Seminar in Family Communication

#### CLINICAL THEORY

- MFAM 515 Crisis Intervention Counseling and Psychotherapeutic Techniques
- MFAM 551 Marital Therapy Theory and Practice I
- MFAM 552 Marital Therapy Theory and Practice II
- MFAM 555 Counseling the Adolescent
- MFAM 584 Treating the Troubled Child

- MFAM 624 Psychological and Marital Assessment
- MFAM 642 Professional Seminar II
- MFAM 656D Personality Assessment

### PRACTICUM

- MFAM 534 Clinical Training
- MFAM 535, 536, 537 Case Presentation Seminar 2, 2, 2
- MFAM 634 Advanced Clinical Training
- MFAM 635, 636, 637 Case Presentation Seminar, 2, 2, 2
- MFAM 744 Clinical Internship
- NRSG 577 Family Systems Theory

### ELECTIVE COURSES

- MFAM 577 Family Life Workshop
- MFAM 579 Family Systems Seminar
- MFAM 604 Premarital Counseling
- MFAM 605 Gestalt Therapy
- MFAM 656 Seminar in Family Therapy
- MFAM 656C Advanced Human Growth and Development
- MFAM 656E Experimental Family Therapy
- MFAM 656F Medical Dimensions of Psychotherapy
- MFAM 656G Structural Family Therapy
- MFAM 656H Family Life Cycle Development
- MFAM 656I Family Violence and Chemical Abuse
- MFAM 657 Starting Private Practice in Family Therapy
- MFAM 667 Dissolution Counseling
- MFAM 670 Seminar in Sexual Therapy
- MFAM 671 Program Development in Relationship Enrichment
- MFAM 672 Practicum Development in Relationship Enrichment
- MFAM 675 Clinical Problems in Marriage and Family Therapy
- MFAM 694 Directed Study: Marriage and Family
- MFAM 695 Research Problems: Marriage and Family

### SOCIOLOGY

#### LOWER DIVISION

#### **SOCI 104 Introduction to Sociology (4)**

The science of society: social norms, social processes, social change, and social structure.

#### **SOCI 285 Proseminar in Behavioral Sciences (1/2)**

Contemporary issues in the behavioral sciences. Required of all students in the Department of Social Relations. May be repeated for additional credit.

#### **SOCI 299 Directed Study (1-4)**

Limited to department majors who wish to pursue independent investigations in sociology under the direction of a department faculty member.

UPPER DIVISION

Unless it is otherwise indicated, SOCI 104 or consent of the instructor is prerequisite to all upper division courses.

**SOCI 304 Social Psychology (4)**

Behavior of the individual as a member of the group and behavior patterns within groups. Social interaction, group organization, and leadership; social influences on perception, cognitive processes, attitude formation and change. Identical to PSYC 304.

**SOCI 306 Social Issues (4)**

Current issues agitating society; underlying social factors. Resolution of issues evaluated in the light of social theory.

**SOCI 307 Ethnic Relations (4)**

The impact of multicultural factors on children, their families, the functions of ethnic communities.

**SOCI 314 Sociology of Love and Marriage (4)**

Love, maturity, compatibility, conflict, religious factors, and specific areas of adjustment in marriage. Identical to CFSC 274.

**SOCI 315 Sociology of Developing Countries (4)**

A broad survey of models and theories for modernization of developing countries; critical examination of social, economic, and political problems facing the developing countries in Asia, Africa, and Latin America; understanding the present conditions of developing countries in the context of international politics dominated by the superpower nations.

**SOCI 324 Introduction to Family Counseling (4)**

A survey course of family function, dysfunction, and therapeutic modalities.

**SOCI 345 Complex Organizations (4)**

Study of the structures and functions of various types of complex organizations in modern society; examination of the process of goal setting, policy making, program implementation, and performance evaluation of organizations; human behavior, both expected and bureaucratic (dysfunctional), in the organizational setting.

**SOCI 375 Criminology (4)**

Crime as a social phenomenon. Psychological and sociocultural factors in the development of the criminal.

**SOCI 376 Juvenile Delinquency (4)**

Historical background; analysis of present forms of delinquency; evaluation of remedial measures now in common use.

**SOCI 404 Foundations of Social Thought (4)**

Historical background of behavioral sciences, particularly philosophy of the Enlightenment. Development of current social and anthropological theory.

**SOCI 414 Sociology of the Family (4)**

A study of the structure, function, and changing patterns of families in society; and the relationships between changes in society, family problems, and their impact on children.

**SOCI 415 Urban Sociology (4)**

The urban community: its history, social structure, and problems of interaction; processes of urbanization.

**SOCI 416 Collective Behavior (4)**

The crowd, the public, and the mass; social movements.

**SOCI 417 Sociology of Religion (4)**

Religion as a social institution; its relation to other social institutions; its organizational forms.

**SOCI 418 Gender Roles and Sexual Behavior (4)**

A survey of the impact of rapid social change on the social-sexual roles of males and females. Implications for social structure, family dynamics, and social-psychological adaptations of the individual.

**SOCI 424 Family Law and Ethics (2)**

Family and the law, social services, education, economy, religion, public policy, formation of values, and the diversity of values in a pluralistic society. The examination of ideologies, social consequences of value choices, and ethics and the family.

**SOCI 429 Family Life Education (2)**

The history, theoretical basis, and analysis of existing programs in family life education; the designing and evaluating of family-life education programs.

**SOCI 444 Family Resource Management (4) (Loma Linda campus only)**

Identical to CFSC 404.

**SOCI 485 Proseminar in Behavioral Sciences (½)**

Contemporary issues in the behavioral sciences. Required of all students in the Department of Social Relations. May be repeated for additional credit.

**SOCI 488 Current Issues in Sociology (2)**

**SOCI 489 Religion and the Behavioral Scientist (4)**

Does not apply toward a major or minor. Identical to PSYC 489 and SOSR 489.

**SOCI 494 Methods of Research (4)**

Research design; sampling, application of research principles, and writing.

Prerequisite: MATH 251, 252.

**SOCI 495 Fieldwork (1-4)**

Field experience in an applied setting such as an internship. Study of individual and family needs and the social institutions and agencies serving young children.

Prerequisite: Consent of the instructor.

**SOCI 499 Directed Study (1-4)**

Limited to students with upper division standing and majoring in sociology.

**GRADUATE COURSES**

Consult Graduate School BULLETIN for details.

**SOCI 505 Social Research Methods (4)**

Analysis of current social research methods. Practice in the use of techniques. Consideration of the philosophy of scientific method.

Prerequisite: An introductory course in statistics.

**SOCI 514 The Family: Crosscultural Family Values (4)**

Systematic and comparative analysis of the American Family and family systems of other cultures. Changing family patterns. The future of the family in an urbanizing world into the twenty-first century. The family as a value-maintaining and a value-transmitting institution.

**SOCI 525 Population (2-4)**

Introduction to demography. Analysis of the development and current status of population problems. Consideration of current population-control programs and their progress. Offered on demand.

**SOCI 604 Seminar: Social Psychology (4)**

Consideration of specific areas of social psychology. Evaluation of current research in the field. Offered on demand.

**SOCI 605 Seminar: Middle Eastern Cultural History (4)**

Survey of the cultural history of the development of civilization in the East.



**SOCI 607 Seminar in Ethnic Relations (4)**

Critical examination of the various contemporary issues in ethnic and race relations, especially in the United States. Provides theoretical frameworks and empirical findings on the subject.

**SOCI 614 Seminar: The Family (4)**

Evaluation of current research on the family, especially in the United States. Research project on some aspect of family structure or function.

**SOCI 616 Seminar: Collective Behavior (4)**

Analysis of various manifestations of collective behavior of major social movements and their effects on society.

**SOCI 618 Seminar: Population (4)**

Consideration of specific areas of demographic research. Analysis of census data, particularly of the United States. Offered on demand.

**SOCI 624 Seminar: Sociology of Religion (4)**

Individual and group research into religion as a social institution, its relation to other social institutions, and its organizational forms. Offered on demand.

**SOCI 625 Seminar: The Community (4)**

Study into current research on the community, especially problems of the urban and suburban community. Offered on demand.

**SOCI 634 Seminar: Social Theory (4)**

A seminar required of both sociology and anthropology master's degree candidates. Credit for either SOCI 634 or ANTH 634, not both.

**SOCI 674 Seminar: Medical Sociology (4)**

Study of medicine as a social institution. Research into various aspects of the medical community and its relation to the rest of society. Offered on demand.

**SOCI 694 Directed Reading (arranged)**

**SOCI 697 Research (4-6)**

**SOCI 698 Thesis (10)**

# INTERDEPARTMENTAL COURSES

## LINGUISTICS

A minor in linguistics is offered through the Department of Modern Languages.

**LING 418 Psycholinguistics (4)**

An introduction to psycholinguistics. Traditional and contemporary theories of syntax, semantics, phonology, and linguistic grammar. Investigation of the encoding and decoding process in language use. Source-receiver adaptation. Taught by Department of Modern Languages.

**LING 445 Language Colloquium (4)**

Required of teaching majors. Taught by Department of Modern Languages.

**LING 477 General Linguistics (4)**

A study of language within its social contexts, the acquisition of language, phonology, morphology, syntax, semantics, and the theory and recent developments in sociolinguistics and psycholinguistics. Taught by Department of English. Offered alternate years. Identical to ENGL 477.

**LING 495 Readings in Linguistics (2-4)**

Identical to ENSL 495.

**LING 599 Special Studies (2-4)**

Identical to ENSL 599.

## PHILOSOPHY

### LOWER DIVISION

**PHIL 204 Introduction to Philosophy (4)**

An introduction to the central questions and methods of philosophical inquiry, reviewing issues such as reality, knowledge, religion, morality, and human society.

**PHIL 208 Logic (4)**

Analysis of principles of deductive and inductive reasoning, using methods of classical and modern logic.

### UPPER DIVISION

**PHIL 435 Aesthetics (4)**

Principles underlying the creation and appreciation of the fine arts, leading to a basis for evaluation of artistic expression.

LA SIERRA HALL





# III

**The Trustees  
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La Sierra Campus Administration  
La Sierra Campus Committees  
The College of Arts and Sciences  
Alumni Federation  
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Instructional Resources  
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STUDENT AFFAIRS

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Coordinator of Freshman Advisement  
and Orientation

IRIS M. LANDA, M.A.

Coordinator, Counseling Center

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Coordinator, Health Service

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Assistant Director

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Dana G. Thompson

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Ignatius I. Yacoub  
ASLLU Campus Ministries  
Director

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ASLLU President



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 V. Bailey Gillespie  
 Warren J. Halversen  
 Lyle Heise  
 Lynita Mayer  
 Dexter Richardson

Charles Soliz, Jr.  
 Charles W. Teel, Jr.  
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 Lloyd H. Wilson  
 Students

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Chris D. Stottlemeyer  
 Richard D. Tkachuck  
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 ASLLU President  
 2 Residence Assistants  
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# THE COLLEGE OF ARTS AND SCIENCES

ANEES A. HADDAD, PH.D., Dean

MARVELLA M. BEYER, M.B.E., Assistant to the Dean

## ADMINISTRATIVE COMMITTEES

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Adeny Schmidt

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Jolene A. Zackrison

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Anees A. Haddad,  
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Marvella M. Beyer,  
*Co-chairman*

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Margarete A. Hilts

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\* Dorothy M. Comm  
\* V. Bailey Gillespie  
# Frederick G. Hoyt

# Earl W. Lathrop  
\* Ivan E. Rouse  
§ Rhonda J. Scott-Ennis

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# James H. Stirling,  
*Chairman*  
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§ T. Richard Rice

§ Vernon L. Scheffel  
# H. Raymond Shelden

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§ Marti P. Erne,  
*Coordinator*  
§ Edwin A. Karlow

§ Frank A. Knittel  
§ C. Diane Macaulay  
# Rene M. Ramos

\* Adeny Schmidt  
# Rennie B. Schoepflin

\* Term extends through academic year 1988-89  
# Term extends through academic year 1989-90  
§ Term extends through academic year 1990-91

#### RANK AND TENURE

- |                                |                                       |   |
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#### RETENTION

- |   |   |   |
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| § Warren J. Halversen<br>* Virginia M. Hanson | § Jose M. Muinos                        | * Student                                 |

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- |   |  |  |
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| * Verna A. Barclay-Reid<br># James W. Beach<br># Richard L. Bobst | # David D. Osborne<br># Joseph R. Rocha                        | * Charles Soliz, Jr.<br>* C. Roger Tatum                           |

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- |  |   |   |
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| § Paul J. Landa,<br>Chairman<br>Marvella M. Beyer<br>§ David H. Dudley | § Betty T. McCune<br># Edward B. Pflaumer<br># Rennie B. Schoepflin<br>* H. Raymond Shelden | * James H. Stirling<br>* Peter G. Strutz<br>§ Donald C. Van Ornam |
|--|---|---|

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- |                                  |  |  |
|----------------------------------|--|--|
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|----------------------------------|--|--|

- \* Term extends through academic year 1988-89  
# Term extends through academic year 1989-90  
§ Term extends through academic year 1990-91

FACULTY of the COLLEGE, with  
COLLABORATING FACULTY MEMBERS, LECTURERS, and OTHERS

Teachers holding faculty status in the College of Arts and Sciences constitute the Faculty of the College.

Some whose primary faculty appointments are in other Schools of the University or other departments of the college are listed in departments of the College as Collaborating Faculty.

Lecturers have teaching positions but not faculty status in the College.

All teachers listed in the departments are found in the alphabetical listing below, with the exception of field personnel. The code letters indicate the department where information about the teacher is found.

ART	Art	MATH	Mathematics and Computing
BIOL	Biology	MDLG	Modern Languages
CHEM	Chemistry	MUSC	Music
COMM	Communication	OMGT	Office Management and Business Education
ENGL	English	PHYS	Physics
GEOL	Geological Sciences	PSYC	Psychology
HIST	History and Political Science	RLGN	School of Religion
HLPE	Health, Physical Education, and Recreation	SORL	Social Relations

Andersson, Joanne K.	MUSC	Clark, Wilton E.	MATH
Andersson, Knut	GEOL	Collins, Alan R.	ART
Andreassen, Niels-Erik A.	RLGN	Comm, Dorothy M.	ENGL
Andress, Vern R.	PSYC, SORL	Cowles, David L.	BIOL
Arany, Larry B.	COMM		
		Daeck, Larry	MUSC
Baldwin, Dalton D.	RLGN	Daily, Steven G.	RLGN
Beach, James W.	MATH	Davis, M. Jerry LLUMC	SORL
Benzakein, Jacques	MDLG	Dudley, David H.	MDLG
Besel, Hilmer W.	MATH	Dunn, Robert P.	ENGL
*Betancourt, Hector M.	PSYC		
Bobst, Richard L.	PHYS	Elick, John W.	SORL
*Bradley, Gary L.	BIOL	*Erne, Martie Parsley	COMM
Brand, Leonard R.	BIOL, GEOL		
Brandon, Antonius D.	SORL	Fisk, Lanny H.	GEOL
Briggs, Cordell A.	ENGL		
Buchheim, H. Paul	GEOL	Garbutt-Parrales, Ernestina F.	MDLG
*Burke, Ruth E.	MDLG	*Gillespie, V. Bailey	RLGN
Chand, Ian P.	SORL	Graybill, Ronald D.	HIST, RLGN
Chilson, Robert A.	BIOL		
*Churches, Roger A.	ART	*Haddad, Anees A.	SORL
Clausen, Conrad D.	BIOL, GEOL	Hagelgantz, Opal I.	ENGL
Chunestudy, William R.	MUSC	Haldeman, Madelynn J.	RLGN

\*Honors program faculty

Hamerslough, Walter S.	HLPE	Ramos, Rene M.	MUSC
Hansen, Kent A.	HIST, SORL	Reeves, John M.	PSYC
Hanson, Virginia M.	BIOL	*Rice, T. Richard	RLGN
Hilton, George	MATH	Ross, Betsy	MUSC
Hilts, Margarete A.	MDLG	Ross, Delmer G.	HIST
Hodgen, Rhona	MUSC	Roth, Ariel A.	BIOL, GEOL
Holmes, Ivan G.	CHEM, GEOL	Rouse, Ivan E.	GEOL, PHYS
Howe, Vernon W.	MATH		
*Hoyt, Frederick G.	HIST	Sajid, Maria T. F.	CHEM
Huston, Ronald G.	SORL	Scheffel, Vernon L.	HLPE
Hwang, Enoch Oi Kee	MATH	*Schmidt, Adeny	PSYC
		Schneider, Robert K.	HLPE
Ivanoff, Jacqueline	MUSC	*Schoepflin, Rennie B.	HIST
		Schwab, Ernest R.	BIOL
Jackson, G. Victoria	PSYC	Shelden, H. Raymond	CHEM
Jacques, Brian J.	COMM	*Smith, Albert E.	PHYS
		Smith, Beatrice J.	ENGL
Kaatz, Jeffrey M.	MUSC	Smith, Kimo	MUSC
*Karrow, Edwin A.	GEOL, PHYS	Stirling, James H.	SORL
Kelln, Linda M.	BIOL	Strutz, Peter G.	PSYC, SORL
Knittel, Frank A.	ENGL		
Kofoed, Tommy F.	HLPE	Tatum, G. Roger	CHEM
Kryger, Roy G.	CHEM	*Teel, Charles W., Jr.	RLGN, SORL
		Teele, Marilyn C.	ENGL
Landa, Paul J.	HIST, RLGN	Thurber, Donald W.	MUSC
Lathrop, Earl W.	BIOL	Tkachuck, Richard D.	BIOL
Lee, Jerry W. SH	PSYC		
		Vaughn, Donald J.	MUSC
Macomber, Robert D.	SORL	Vine, Kenneth L.	RLGN, SORL
Massey, Manzoor	HLPE		
Matthews, Kenneth E.	ENGL	Walls, Arthur M.	PHYS
McFarland, Roger L.	HLPE	Webster, Clyde L.	GEOL
Mitchell, Norman L.	BIOL	Weighall, Janet L.	MDLG
Muinos, Jose M.	MATH	Weismeyer, Helen I.	HLPE
		Wilson, Leland Y.	CHEM
Napier, William J.	HLPE		
		Yacoub, Mary H.	OMGT
Olsen, Anita N.	MUSC	Yoon, Won K.	SORL
Paden, Scott	MATH	Zackrisson, Edwin H.	RLGN
Patt, Susan Davis	ART	Zackrisson, Jolene A.	OMGT
Peifer, Bruce G.	HLPE		
Pflaumer, Edward B.	PSYC		
Prosper, Gloria G.	MUSC		

\*Honors program faculty

Certain persons retain faculty status in the College. These include former teachers who have been designated emeritus faculty by the Board of Trustees and those who have been appointed to other positions of service to the University.

- WILFRED J. AIREY, Emeritus Professor of History and Political Science  
PH.D. University of Washington
- STANLEY BULL, Emeritus Professor of Psychology  
PH.D. University of Michigan
- JOHN W. ELICK, Emeritus Professor of Anthropology and Sociology  
PH.D. University of California at Los Angeles
- H. RUSSELL EMMERSON, Emeritus Professor of Architectural Engineering  
B.E. University of Southern California
- JOHN T. HAMILTON, Emeritus Professor of Music  
M.MUS. Northwestern University
- RICHARD B. LEWIS, Emeritus Professor of English  
PH.D. Stanford University
- HELEN F. LITTLE, Emeritus Professor of English  
M.A. University of Nebraska
- V. NORSKOV OLSEN, Professor of Church History  
PH.D. University of London  
DR. THEOL. University of Basel
- NORVAL F. PEASE, Emeritus Professor of Religion  
PH.D. Michigan State University
- JAMES W. RIGGS, JR., Emeritus Professor of Physics  
PH.D. Texas A and M University
- H. RAYMOND SHELDEN, Emeritus Professor of Chemistry  
M.S. University of Colorado
- WALTER F. SPECHT, Emeritus Professor of New Testament  
PH.D. University of Chicago
- J. PAUL STAUFFER, Emeritus Professor of English  
PH.D. Harvard University

## ALUMNI FEDERATION

The Alumni Federation was organized in 1958. This organization provides an avenue by which the several alumni associations, distinctive of emphasis represented by curriculums of the University, join their common concern for the continued welfare of the institution. In turn, through the Federation the University demonstrates its interest in the continued general and professional development of the alumni, whom it regards as the ultimate and true expression of its accomplishments.

By united and reciprocal interaction, the Federation and the University seek to ensure a growing community of scholars, practitioners, and citizens dedicated to excellence. Vitally concerned with excellence in education, the Federation lends itself to enlarging the sphere of influence for good envisioned by the founders of the University.

The Federation seeks to foster unity and loyalty and to promote the growth of the total institution and at the same time the best interests of each part. The Federation endeavors—

1. To foster the natural bond among alumni of each individual school, maintaining the right of alumni to direct their own group activities.
2. To assist the University and its schools in their duty to provide for the continuing general welfare of all students, faculty, and alumni.
3. To encourage alumni through constituent associations to assist in providing adequate and dependable financial support both for the University and for alumni activities.

# ACCREDITATION

## The University

THE UNIVERSITY: Founded as College of Evangelists 1905-06. Chartered as College of Medical Evangelists by the state of California December 13, 1909. Accredited by Northwest Association of Secondary and Higher Schools April 7, 1937. Accredited by Western Association of Schools and Colleges (prior to January 1962, Western College Association) February 24, 1960. Became Loma Linda University July 1, 1961. Professional curriculums started and approved as indicated.

ARTS AND SCIENCES: Founded in 1922 as La Sierra Academy, a secondary school; in 1927 became Southern California Junior College; in 1946 was accredited as the four-year La Sierra College; in 1967 became College of Arts and Sciences of the University.

THE GRADUATE SCHOOL: Started in 1954. Accredited through University accreditation.

SCHOOL OF BUSINESS AND MANAGEMENT: Started in 1986. Accredited through University accreditation.

SCHOOL OF RELIGION: Started in 1987. Accredited through University accreditation.

## The Professions

CYTOTECHNOLOGY: Started in 1982. Initial approval by the Committee on Allied Health Education and Accreditation in collaboration with the Cytotechnology Programs Review Committee January 20, 1983.

DENTAL HYGIENE: Started in 1959. Approved by the Council on Dental Education of the American Dental Association since September 7, 1961.

DENTISTRY: Started in 1953. Approved by the Council on Dental Education of the American Dental Association since May 23, 1957.

EDUCATION: School of Education organized in 1968 and approved by the California State Board of Education June 12, 1969; approval of programs is maintained with the California State Commission on Teacher Credentialing.

HEALTH INFORMATION ADMINISTRATION: Started as medical record administration in 1963. Approved by the Council on Medical Education of the American Medical Association since December 1, 1963. Currently approved by the Committee on Allied Health Education and Accreditation in collaboration with the American Medical Record Association.

MEDICAL RADIOGRAPHY: Started in 1941 as radiological technology. Approved by the Council on Medical Education of the American Medical Association November 19, 1944. Currently approved by the Committee on Allied Health Education and Accreditation in collaboration with the Joint Review Committee on Education in Radiologic Technology.

MEDICAL SONOGRAPHY: Started in 1976 as diagnostic medical sonography. Approved by the Committee on Allied Health Education and Accreditation in collaboration with the Joint Review Committee on Education in Diagnostic Medical Sonography October 24, 1985.

MEDICAL TECHNOLOGY: Started in 1937. Approved by the Council on Medical Education of the American Medical Association since August 28, 1937. Currently approved by the Committee on Allied Health Education and Accreditation in collaboration with the National Accrediting Agency for Clinical Laboratory Sciences.

MEDICINE: Started in 1909. Approved by the Association of American Medical Colleges and the Council on Medical Education of the American Medical Association since November 16, 1922.

NUCLEAR MEDICINE: Approved by the Council on Medical Education of the American Medical Association June 23, 1973. Currently approved by the Committee on Allied Health Education and Accreditation in collaboration with the Joint Review Committee on Educational Programs in Nuclear Medicine Technology.

NURSING: Hospital school started at Loma Linda in 1905. Hospital school added at Los Angeles in 1924. Degree school organized in 1948. Accredited by the National Nursing Accrediting Service December 10, 1951, with approval continuing under the National League for Nursing. Initial 1917 approval of the California State Board of Health extended until college program approved July 1, 1952, by the California Board of Registered Nursing. California Board of Registered Nursing approval since 1952. Public Health Nursing preparation recognized 1959.



**NUTRITION AND DIETETICS:** Started in 1922 as a certificate program; baccalaureate degree conferred 1932-54; graduate program offered since 1954. Internship program continuously approved by The American Dietetic Association from 1957 through 1974; reestablishment of baccalaureate program authorized October 1971. Coordinated undergraduate program accredited by The American Dietetic Association since 1974.

**OCCUPATIONAL THERAPY:** Started in 1959. Initial approval by the Council on Medical Education of the American Medical Association June 10, 1960. Full approval March 30, 1962. Currently approved by the Committee on Allied Health Education and Accreditation in collaboration with the American Occupational Therapy Association.

**PHYSICAL THERAPY:** Started in 1941. Initial approval by the Council on Medical Education of the American Medical Association June 6, 1942. Currently approved by the American Physical Therapy Association.

**PUBLIC HEALTH:** Started in 1948; reorganized in 1964. Approved by the American Public Health Association June 23, 1967. Accredited by the Council on Education for Public Health, 1974.

**PUBLIC HEALTH SCIENCE:** Started in 1974. Approved through University accreditation.

**RADIATION THERAPY:** Approved by the Council on Medical Education of the American Medical Association December 1, 1974. Currently approved by the Committee on Allied Health Education and Accreditation in collaboration with the Joint Review Committee on Education in Radiologic Technology.

**RESPIRATORY THERAPY:** Started in 1971. Initial approval by the Council on Medical Education of the American Medical Association September 1972. Full approval June 1973. Currently approved by the Committee on Allied Health Education and Accreditation in collaboration with the Joint Review Committee for Respiratory Therapy Education.

**SOCIAL WORK:** Started in 1972. Accredited by the Council on Social Work Education May 1980.

## INSTRUCTIONAL RESOURCES

### LIBRARIES

The University has two main libraries (one on the Loma Linda campus and one on the La Sierra campus). The joint holdings are as follows:

Books, bound periodicals, audiovisual materials	694,475
Current periodical subscriptions	4,285

Bus service is provided on schedule each weekday between the two campus libraries so that students and faculty can have access to both libraries. Immediate information can be obtained and lending arrangements made by telephone or mail.

Materials unavailable in either campus library or in the immediate community are obtainable through interlibrary loan. An electronic mail system is used for interlibrary communication. Computerized search services are available to offer computer-printed bibliographies through Medline and other databases in which the libraries participate.

#### LA SIERRA CAMPUS

Books, bound periodicals, audiovisual materials	377,958
Current periodical subscriptions	1,500

The La Sierra campus library is a general liberal arts collection, with concentrations in history, religion, English, and education. A collection of nineteenth-century Seventh-day Adventist books and pamphlets is in the Heritage Collection. In addition to the microfiche Library of American Civilization already purchased (21,000 titles), the library is augmenting microform holdings.

LOMA LINDA CAMPUS

Books, bound periodicals, audiovisual materials	316,517
Current periodical subscriptions	2,785

The acquisitions of the Del E. Webb Memorial Library on the Loma Linda campus are in medicine, dentistry, allied health professions, and graduate programs; and included in the acquisitions is a liberal arts undergraduate collection in support of certain graduate and professional programs. About half of the resources are in medical and related fields. Some rare materials in the history of medicine are included in the holdings.

Since 1957 this library has been the official west coast depository for Seventh-day Adventist literature regularly provided by church publishing houses in North America. The publications are in the Heritage Collection established in 1971. Here also are the Ellen G. White source materials, University archives, and an in-process collection of published and unpublished works pertaining to the early Adventist movement.

The Human Relations Area Files on microfiche make available primary source materials on most of the known cultures of the world.

**Consortium** The following colleges and universities have formed a consortium under the name Inland Empire Academic Library Cooperative to give full borrowing privileges to students and faculty members of the following institutions:

- Azusa Pacific University, Azusa
- California Baptist College, Riverside
- California State University, San Bernardino
- California State Polytechnic University, Pomona
- University of La Verne, La Verne
- Loma Linda University, Loma Linda and La Sierra campuses
- University of California, Riverside
- University of Redlands, Redlands
- Community colleges in the area

**Community** Within driving distance of the University campuses are other collections accessible to faculty and students: the University of California (Los Angeles and Irvine campuses), the University of Southern California, the Los Angeles public library, the inland area public libraries, and the unique holdings of the Henry E. Huntington Library and Art Gallery.

TO COMMUNICATE WITH  
THE COLLEGE OF ARTS AND SCIENCES

**By mail**

COLLEGE OF ARTS AND SCIENCES  
Loma Linda University  
La Sierra Campus  
Riverside, California 92515

**By telephone**

ADMINISTRATION

Area 714

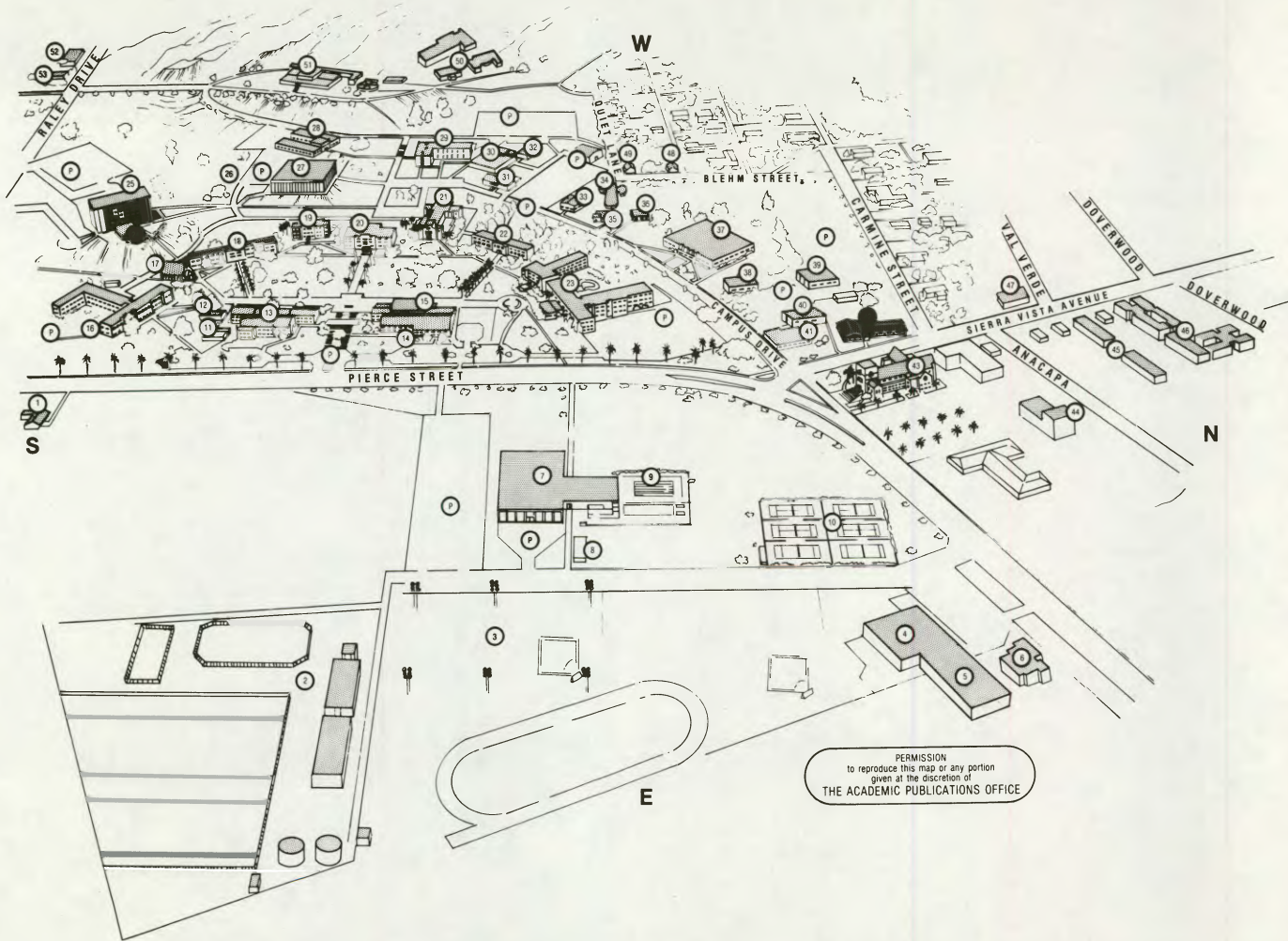
785-2019	Provost	785-2044	Library
785-2210	Dean of the College	785-2237	Placement
785-2176	Admissions	785-2022	Public Relations
785-2002	Campus Business Administrator	785-2229	Sierra Towers (men's residence)
785-2100	Dean of Students	785-2130	South Hall (women's residence)
785-2006	Office of University Records	785-2006	Veterans' Information
785-2060	School of Business and Management		
785-2266	School of Education		
785-2041	School of Religion		

DEPARTMENTS AND PROGRAMS

SERVICES

785-2237	Academic Advisement
785-2492	Alumni Affairs
785-2025	Angwin Hall (women's residence)
785-2005	Associated Students
785-2196	Bookstore
785-2002	Business Administrator
785-2124	Calkins Hall (men's residence)
785-2081	Chaplain
785-2011	Counseling Service
785-2227	Dean of Men
785-2166	Dean of Women
785-2147	Employment Information
785-2213	Extension
785-2251	Financial Aid
785-2138	Food Service
785-2237	Freshman Orientation
785-2031	Gladwyn Hall (women's residence)
785-2100	Housing
785-2100	Immigration
785-2288	KSGN Radio

785-2170	Art
785-2105	Biology
785-2148	Chemistry
785-2159	Communication
785-2137	Engineering Program
785-2241	English
785-2508	Geological Sciences
785-2084	Health, Physical Education, and Recreation
785-2067	History and Political Science
785-1310	Honors Program
785-2211	Liberal Arts
824-4547	Marriage and Family Therapy
785-2197	Mathematics and Computing
785-2257	Modern Languages
785-2036	Music
785-2160	Nursing
785-2039	Office Management and Business Education
785-2136	Physics
785-2099	Psychology
785-2041	Religion
785-2099	Social Relations
785-2099	Social Work



# LA SIERRA CAMPUS MAP

## NUMERICAL LEGEND

- 1 Agriculture
- 2 Dopp Equestrian Center
- 3 Recreation fields
- 4 College Market / Bookstore
- 5 Convenience Center
- 6 Soup Stone Restaurant
- 7 Alumni Pavilion / Gymnasium
- 8 Physical Education office
- 9 Swimming pool
- 10 Tennis courts
- 11 Safety and Security
- 12 Administrative Annex
- 13 Administration Building (academic, financial): The President / Provost / Vice Presidents for Academic Administration, Development and Public Relations, Financial Administration / Accounting Service / Alumni Affairs / Dean of Students / Secretarial and Business Education / Graduate School Dean / Offices of Admissions and Records, Business, News and Public Information, Payroll, Personnel, Purchasing / Student Admissions, Affairs, Aid, Employment, Finance, Loans, Recruitment
- 14 Student Center
- 15 The Commons / Food Service (cafeteria)
- 16 Calkins Hall: men
- 17 Matheson Chapel
- 18 South Hall: women
- 19 San Fernando Hall: Physics
- 20 La Sierra Hall: Counseling Center / Division of Religion / English / History and Political Science / Mathematics / Modern Languages / School of Education
- 21 Hole Memorial Auditorium: Auditorium / Education / Music / Testing
- 22 Gladwyn Hall: women
- 23 Angwin Hall: women
- 24 Meier Chapel
- 25 Sierra Towers: men
- 26 John Clough Park
- 27 University Library: Learning Advancement Program / Media Services
- 28 Ambs Hall: Industrial Studies
- 29 School of Business and Management / Child Development Learning Center
- 30 Communication / KSGN / Nursing
- 31 Art
- 32 Nursing

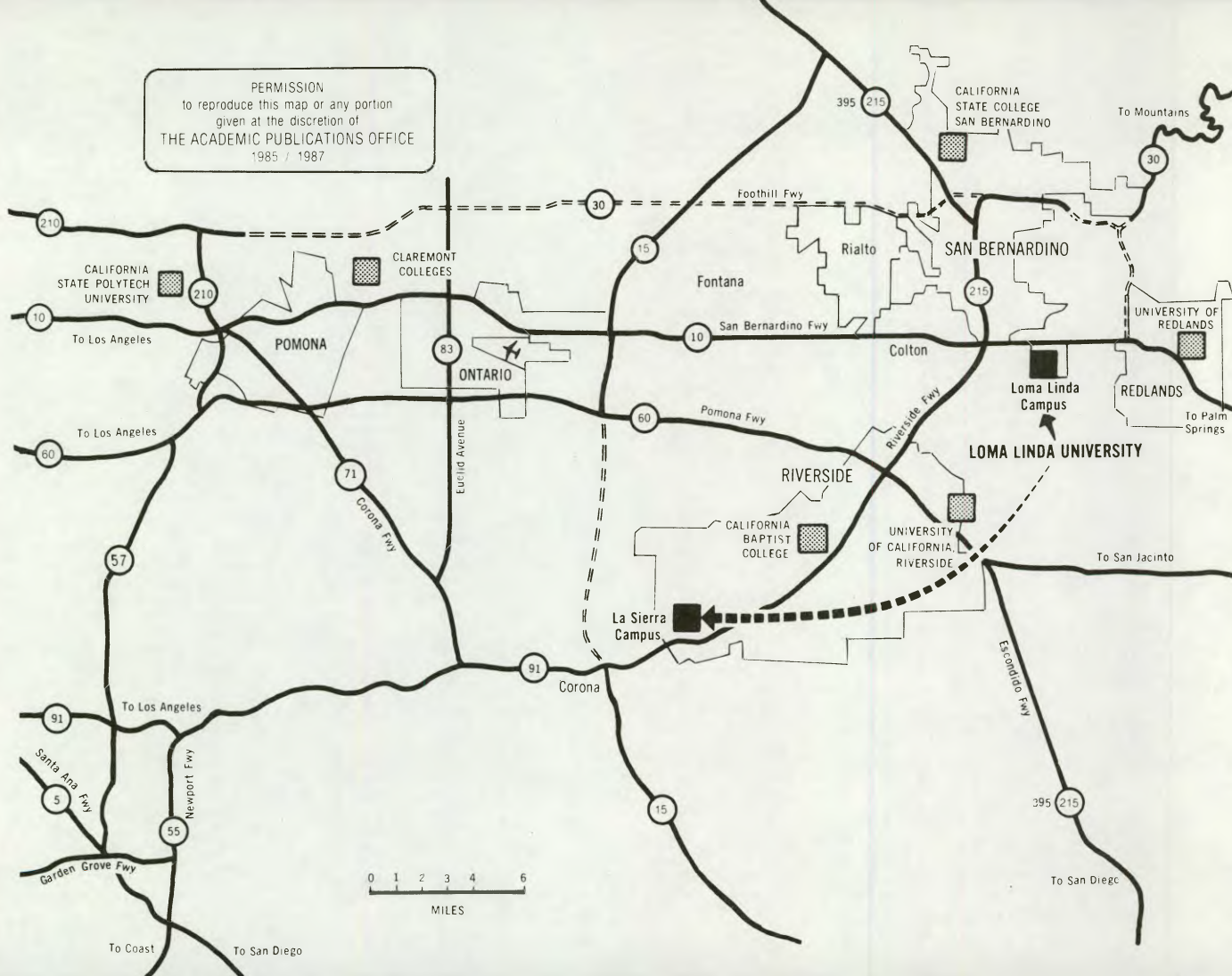
- 33 Mail Service / Custodial Service
- 34 Cossentine Hall/World Museum of Natural History
- 35 Health Service
- 37 Palmer Hall: Animal quarters / Biology / Chemistry
- 38 Biology Annex
- 39 Geological Sciences Annex
- 40 Behavioral Sciences Annex
- 41 Behavioral Sciences: Anthropology / Psychology / Social Work / Sociology
- 42 Sierra Vista Chapel / Welfare Center
- 43 La Sierra Collegiate Church
- 44 Geological Sciences Research Center
- 45 Walnut Grove Apartments
- 46 Sierra Vista Apartments
- 47 Sierra Vista House
- 48 Child Development Preschool
- 49 Geological Sciences
- 50 Visual Art Center
- 51 Physical Plant Services (maintenance)/ Receiving
- 52 Rhoads House
- 53 Raley House

## ALPHABETICAL LEGEND

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# UNIVERSITY INFORMATION

## BOTH CAMPUSES

General University interests	The President's Office
Admission	Office of Admissions
Student welfare, housing, visas	Student Affairs Office
Student finance	Student Aid and Finance Office
Records	Office of University Records

## LA SIERRA CAMPUS

MAIL: Riverside California 92515	TELEPHONE (area 714): 1/800/422-4LLU Riverside
College of Arts and Sciences	Dean 785-2210
School of Business and Management	Dean 785-2060
School of Education	Dean 785-2266
School of Religion	Dean 785-2041

## LOMA LINDA CAMPUS

MAIL: Loma Linda California 92350	TELEPHONE (area 714): 1/800/422-4LLU
School of Dentistry	796-0141 Redlands 824-0030 Riverside, San Bernardino
All other Schools	796-3741 Redlands 824-4300 Riverside, San Bernardino
School of Allied Health Professions	Dean 824-4545
CYTOTECHNOLOGY	824-4966
HEALTH INFORMATION ADMINISTRATION	824-4976
MEDICAL TECHNOLOGY	824-4966
NUTRITION AND DIETETICS	824-4593
OCCUPATIONAL THERAPY	824-4628
PHYSICAL THERAPY	824-4632
PUBLIC HEALTH SCIENCE	824-4630
RADIOLOGIC TECHNOLOGY	824-4931
RESPIRATORY THERAPY	824-4932
SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY	824-4998
School of Dentistry	Dean 824-4683
DENTISTRY	
DENTAL HYGIENE	
School of Health	Dean 824-4578
School of Medicine	Dean 824-4462
School of Nursing	Dean 824-4360
School of Religion	Dean 824-4536
The Graduate School	Dean 824-4528

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