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college of arts and sciences

1983-84



Bulletin of **LOMA LINDA UNIVERSITY**

Bulletin of LOMA LINDA UNIVERSITY
College of Arts and Sciences 1983-84

The information in this BULLETIN is made as accurate as 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

9 to 5 Monday-Thursday

9 to 12 Friday

Student Finance

9 to 3 Monday-Thursday

9 to 12 Friday

University Records

9 to 3 Monday-Thursday

9 to 12 Friday

CLOSED

Saturday, Sunday,
and legal holidays

BULLETIN OF

LOMA LINDA UNIVERSITY

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sciences**

LOMA LINDA UNIVERSITY

1983-84

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1983

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		

20
21
27

SUMMER SESSION 1983

Registration
Beginning of classes and laboratories
Last day to enter a course and to withdraw with no transcript record.
Information concerning workshops, institutes, and other special courses appears in the Summer Session BULLETIN

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						

4
25
29

Independence Day recess
Last day to withdraw with a W 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			

AUG. 15-
SEPT. 16

English Language Institute

September

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	

1
25
26
27
28

Summer Commencement
AUTUMN QUARTER 1983
Testing and orientation
Advisement and registration for all new students
Registration for all former students
Beginning of classes and laboratories

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					

11
24-29

Last day to enter a course and to withdraw with no transcript record
Autumn Week of Devotion

1983

CALENDAR

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			

14	College Day
23-27	Thanksgiving recess
28	Last day to withdraw with a W 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	Final examinations
15	End of autumn quarter

1984

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				

4	WINTER QUARTER 1984 Registration
5	Beginning of classes and laboratories
18	Last day to enter a course and to withdraw with no transcript record
23-27	Mission Emphasis Week
30	Education Day

February

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			

20	Presidents' Day recess
25	Adventist Higher Education Day
27	Last day to withdraw with a W grade

March

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

4	Campus Visitors' Day
12-15	Final examinations
15	End of winter quarter
	SPRING QUARTER 1984
26	Registration
27	Beginning of classes and laboratories

1984

CALENDAR

April

S	M	T	W	T	F	S		
1	2	3	4	5	6	7	5-8	Alumni Homecoming
8	9	10	11	12	13	14	9	Last day to enter a course and to withdraw with no transcript record
15	16	17	18	19	20	21		
22	23	24	25	26	27	28	9-14	Spring Week of Devotion
29	30							

May

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	21	Last day to withdraw with a W grade
20	21	22	23	24	25	26	24	Awards Assembly
27	28	29	30	31			28	Memorial Day recess

June

S	M	T	W	T	F	S		
					1	2	4-7	Final examinations
3	4	5	6	7	8	9	7	End of spring quarter
10	11	12	13	14	15	16	8-10	Commencement Events
17	18	19	20	21	22	23		SUMMER SESSION 1984
24	25	26	27	28	29	30	18	Registration
							19	Beginning of classes and laboratories Information concerning workshops, institutes and other special courses appears in the Summer Session BULLETIN
							25	Last day to enter a course and to withdraw with no transcript record

July

S	M	T	W	T	F	S		
1	2	3	4	5	6	7	4	Independence Day recess
8	9	10	11	12	13	14		
15	16	17	18	19	20	21	20	Last day to withdraw with a W grade
22	23	24	25	26	27	28		Six-week session ends JULY 27
29	30	31						

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	AUG. 20-	
26	27	28	29	30	31		SEPT. 21	English Language Institute

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.

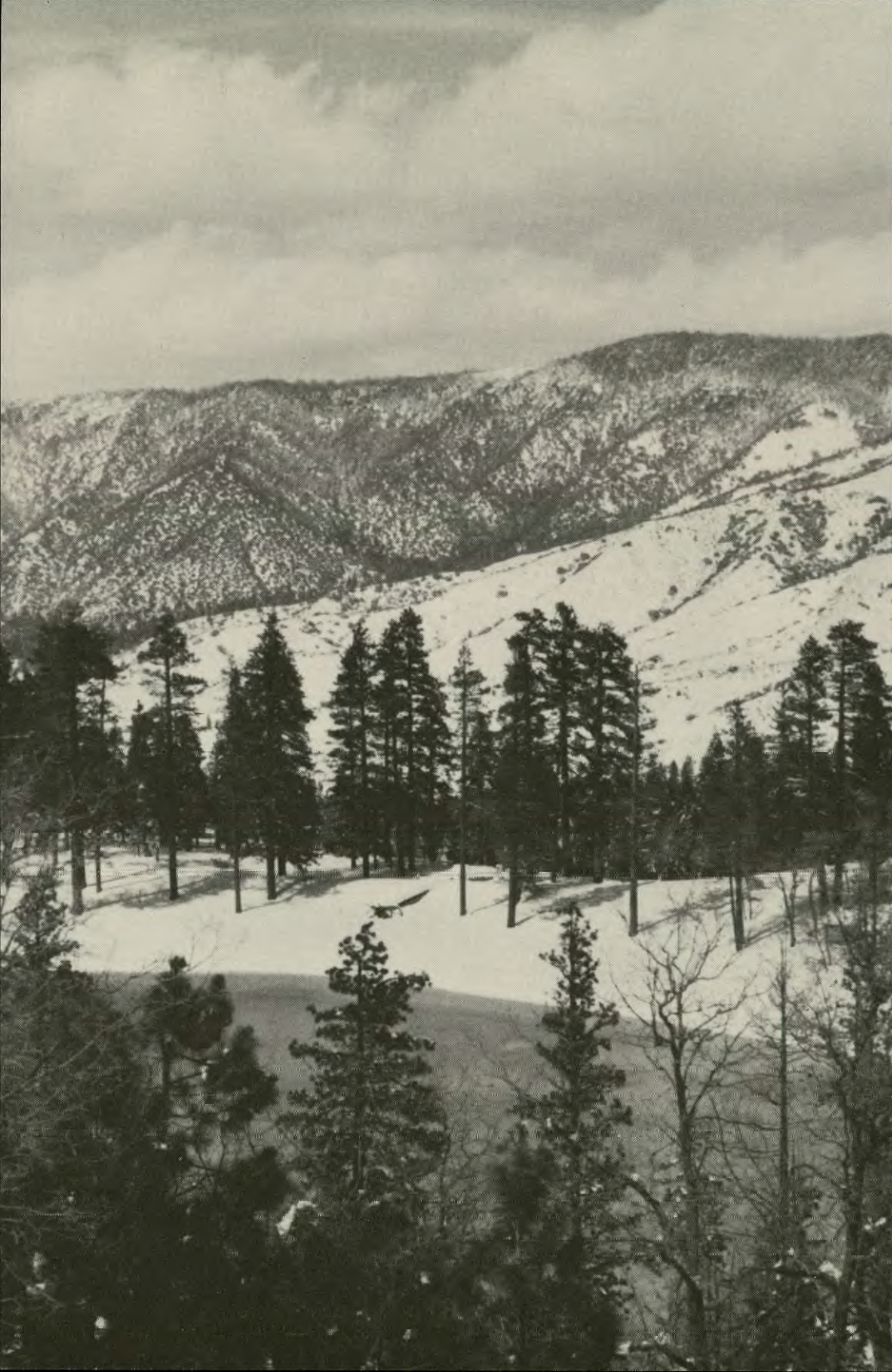
On the La Sierra campus, at the west edge of Riverside, curriculums in applied and liberal arts and sciences, preprofessional programs for the health-related professions, and programs in graduate professional education are offered by the College of Arts and Sciences and the School of Education. On the Loma Linda campus, in the San Bernardino-Redlands area, professional curriculums are offered by the Schools of Allied Health Professions, Dentistry, Health, Medicine, and Nursing. Graduate programs of the departments of the schools are offered from both campuses through the Graduate School. The Division of Religion also offers courses on both campuses.

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 curriculums of the University are approved by their respective professional organizations.

Curriculums are offered leading to the Associate in Arts, Associate in Science, Bachelor of 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 993 full-time teachers. Part-time and voluntary teachers, especially clinicians in the professional curriculums, bring the total past 1,700. Men and women from as many as eighty nations are represented in the annual enrollment of over 5,000 students.

The University is committed to equal opportunity and does not discriminate against qualified persons on the basis of handicap, sex, race, color, or national and ethnic origin in its educational and admissions policies, financial affairs, employment programs, student life and services, or any University-administered program. It does, however, retain the right to give preference in student admissions to qualified Seventh-day Adventist students. While this right is retained, it is emphasized that the admission of students is not limited only to Seventh-day Adventist applicants.



STATEMENT OF PURPOSE

The fundamental purpose of Loma Linda University is stated in its motto: "To make man whole." As an institution of higher learning established and operated by Seventh-day Adventists, the University is dedicated to helping its teachers and students — as individuals and as a community — to reach their highest potential in education, in research, and in service. As a community of both faith and learning, the University is founded on the conviction that religious commitment invigorates the disciplined use of all of a person's mental abilities, and that all knowledge is ultimately derived from — and related to — one transcendent Source. The University also believes that education "to make man whole" is concerned with attitudes, goals, and values as well as with information and ideas.

Accordingly, the University's first function is to provide education that is comprehensive and integrative, including for every student (1) a mature understanding of oneself as a person in relation to God and to other persons; (2) an awareness and appreciation of the nature of ultimate reality, of the created universe, and of human existence; (3) a mastery of the basic knowledge and skills necessary for professional success or for advanced study in a particular discipline or vocation; (4) a commitment to personal integrity and generous service; (5) an attitude of continuing curiosity and inquiry, and a sense of the excitement of discovery; and (6) a lifestyle that facilitates the maximum usefulness of a person's abilities.

The University's second function is to enable and encourage its teachers and students to be creative and constructive members of the Seventh-day Adventist church and of society. This means that the University is involved in (1) expanding human knowledge through competent and responsible research, (2) serving as a major resource of information and personnel for the church as it endeavors to fulfill its mission around the world, and (3) responding to the needs of the surrounding communities. Thus the University's intention "to make man whole" refers not only to the education it offers to its students but also to the contribution both it and they can make, personally and professionally, to the church and to the contemporary world.

In the achievement of its fundamental purpose, each part of the University has its own distinctive role. The Board of Trustees and the administration provide the appropriate environment — the physical facilities, the personnel, and the intellectual and spiritual atmosphere. The members of all faculties serve both as educational guides and as role models for their students. The College and the Graduate School provide both general and specialized education in the liberal arts and sciences. The professional schools provide training for the major health professions and for careers in education. All of this occurs in the context, and as a consequence, of personal and collective religious commitment.

ADOPTED BY THE PRESIDENT'S COMMITTEE
March 16, 1976





I

General Information
Admission Information
Financial Information
Student Affairs
Academic Policies and Practices

GENERAL INFORMATION

THE COLLEGE OF ARTS AND SCIENCES of Loma Linda University is the most recent stage of development of a 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.

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, political science; and

religion, including biblical studies, theology, 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: accounting and management, agriculture, studio art, consumer related sciences, data processing, industrial studies, applied music, physical education, office management, and speech-language pathology and audiology.

CURRICULUMS

The College has organized various curriculums of differing lengths and emphases:

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*,

or *Bachelor of Social Work (B.S., B.Mus., B.S.W.)* curriculum is four years of course work with somewhat greater concentration in a major field and correspondingly less breadth in the liberal arts.

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.

Certificate The certificate curriculum (Cert.) is one year (or more) of course work devoted almost entirely to vocational education.

MAJOR PROGRAMS

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

Administration of Justice	Liberal Arts
Agriculture	Mathematics and Computing
Anthropology and Sociology	Modern Languages
Art	Music
Biology	Office Management and Business Education
Business and Economics	Physical Education, Health and Recreation
Chemistry	Physics
Communication	Psychology
Consumer Related Sciences	Religion
English	Social Work
Geological Sciences	Speech-Language Pathology and Audiology
History and Political Science	
Industrial Arts and Technology	

PREPROFESSIONAL PROGRAMS

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

PROGRAM	SCHOOL
Certificate	
Cytotechnology	Allied Health Professions
Dental Assisting	Dentistry
Medical Sonography	Allied Health Professions
Nuclear Medicine Technology	Allied Health Professions
Radiation Therapy Technology	Allied Health Professions
Special Imaging Technology	Allied Health Professions

Associate degree A.S.

Dental Assisting	Dentistry
Medical Radiography	Allied Health Professions
Nursing	Nursing
Respiratory Therapy	Allied Health Professions

Baccalaureate degree B.S.

Cytotechnology	Allied Health Professions
Dental Hygiene	Dentistry
Medical Record Administration	Allied Health Professions
Medical Technology	Allied Health Professions
Nursing	Nursing
Nutrition and Dietetics	Allied Health Professions
Occupational Therapy	Allied Health Professions
Physical Therapy	Allied Health Professions
Public Health Science	Allied Health Professions
Radiological Technology	Allied Health Professions
Respiratory Therapy	Allied Health Professions

Master's degree M.A., M.H.A., M.P.H., M.S., M.S.P.H.

Biostatistics	Health
Education	Education
Environmental Health	Health
Epidemiology	Health
Health Administration	Health
Health Education	Health
Health Services	Health
International Health	Health
Nursing	Nursing
Nutrition	Graduate School
Public Health Nutrition	Health

Specialist degree ED.S.

Counselor Education/ School Psychology	Education
Curriculum and Instruction	Education
Educational Administration and Leadership	Education
Educational Supervision	Education

Doctoral degree D.D.S., D.H.Sc., DR.P.H., ED.D., M.D.

Dentistry	Dentistry
Epidemiology	Health
Health Sciences	Health
Medicine	Medicine
Educational Administration/Leadership	Education

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.

GRADUATE PROGRAMS

Graduate School Through the Graduate School, departments of the College of Arts and Sciences and the Division of Religion offer programs leading to a master's degree in anthropology, biology, earth history, English, history, marriage and family counseling, Middle Eastern studies, paleobiology, physical education and health, religion, sociology, and speech-language pathology. 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.

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: Séminaire Adventiste du Salève, Collonges-sous-Salève

Spain: Colegio Adventists 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 associate dean. The dean and his administrative associate also hold faculty appointments on the College faculty.

Faculty Officers of the faculty include the dean, who serves as its chairman and presides at its general meetings; an associate dean, who serves as vice chairman; a secretary; and a parliamentarian elected by the faculty.

Committees The administration of the La Sierra campus is guided by the work of four faculty governance committees, which are elected by the faculty as a whole and bring to it recommendations regarding specified areas of general faculty concern: academic affairs, administrative affairs, faculty affairs, and student affairs.

The Department Chairmen's Committee of the College consists of the dean, associate dean, and chairmen of the departments of instruction. Three other administrative committees are appointed by the dean and report to him: admissions, academic standards, and student recommendations.

La Sierra campus administrative committees on which the College faculty holds major representation include the committees on awards and scholarships, library, faculty social activities, 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

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 insure 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. The financial aid application deadline is June 1.

ADMISSION OF FRESHMEN

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) a grade point average of at least C (2.0), (c) the specified amount of credit in particular subject areas (see below), (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 Admissions 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 the fulfillment of alternative requirements. One such requirement may be satisfactory completion of specified courses especially designed 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.

Recommended subjects The following pattern of secondary school credit is acceptable for admission to the College. A student who has not completed all of the subjects listed below may be able to take course work on the college level to complete these subject areas.

English, 30-40 semester periods

Mathematics, 10 semester periods (algebra recommended)

Natural sciences, 20 semester periods (10 semester periods of a science with laboratory)

Social sciences, 20 semester periods (American history and government, and world history recommended)

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

Electives to complete 160 semester periods in college preparatory subjects

Recommended subjects for a preprofessional program In order to ensure adequate preparation for and maximum flexibility in the college curriculum, a student who is planning to take a preprofessional program, or who plans to major in one of the sciences, should complete the following pattern:

English, 30-40 semester periods

Foreign language, 20 semester periods

Mathematics, 20-30 semester periods (algebra I, algebra II, and geometry)

Natural sciences, 30 semester periods (biology, chemistry, and physics)

Social sciences, 20-30 semester periods (including American history and government and world history)

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

Electives to complete 160 semester periods in college preparatory subjects

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.

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 transferred from a college outside the United States or 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.

3. Credit for remedial courses taken at another institution is not transferable to Loma Linda University.

4. 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.

5. 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.

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 G.E.D. 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 per-

son 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 22) 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 English translations of their transcripts; (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.

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 five 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 during each quarter of each academic year (12 units for the undergraduate, 8 units for the graduate student). 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 employment is limited by regulations of the Immigration and Naturalization Service to no more than 20 hours per week.

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 Aid and 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 Recruitment and 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 Aid and 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:

9:00-3:00 Monday through Thursday
9:00-12:00 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 \$100 room deposit by residence hall students; (b) the tuition charge for the current quarter; (c) the minimum guarantee deposit of \$1,830 for international applicants before issuance of the I-20. For further details, see the Schedule of Charges, Deposits, International Students, Payment Plans, 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. The minimum transaction is \$1.

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 31 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 \$100 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 \$1,830. 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.

Under the "bursary plan" of the Seventh-day Adventist church, international students may apply for financial aid through the treasurer of their division. Undergraduate students accepted under this plan receive funds matching the church division funds up to 25 percent of the cost of tuition. Employment in the United States is subject to the regulations of the Immigration and Naturalization Service.

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 Aid and 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.

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 1983-84 (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 offcampus 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.
 ASLLU 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.]

- \$2647 Residence hall: 12 to 18.5 units per quarter, with 21 meals per week.
- 2606 Residence hall: 12 to 18.5 units per quarter, with any 15 meals per week.
- 2571 Residence hall: 12 to 18.5 units per quarter, with any 10 meals per week.
- 1830 Offcampus (tuition only): 12 to 18.5 units per quarter.

UNIT CHARGE

- \$ 156 Per unit, fewer than 12 units.
- 98 Per unit, more than 18.5 units.

APPLIED MUSIC CHARGES

- \$ 130 For 9 one-half hour lessons, not for academic credit. (Charges are payable in advance at the Cashier's Office.)
- 45 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

- \$ 78 Per unit (see audit regulations, page 28).

DEPOSITS REQUIRED

- \$ 100 Residence hall room reservation to accompany Residential License Agreement.
- 50 Residence hall room damage and cleaning deposit.
- 1830 International student (minimum for most international students).

SPECIAL CHARGES (payable in cash)

- \$ 10 Application (nonrefundable).
- 25 Late application for fall, winter, spring, summer terms (nonrefundable): Application after August 15, December 1, March 1, May 1.
- 25 Application (nonrefundable): International students.
- 10 Reapplication after 3 quarters of nonresidence (nonrefundable).
- 10 Late registration, first day after published registration date. \$3 per day thereafter.
- 5 Business Office collection charge for unpaid department charges or check returned for insufficient funds.

- 15 Waiver examination (for each numbered course).
- 30 Equivalency examination (for each numbered course).
- 20 Thesis or project continued, per quarter.
- 3 Change of identification card.
- 2 Transcript of credit, after first one.
- Library fine or loss, parking fine, property or supplies breakage or loss.
- Special physical education activities.
- 8 Vehicle registration (\$20/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, offcampus 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 5 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 21- and 15-meal plans (any part of a day is counted as a full day). The 10-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 30-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 voucher. 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 or 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 page 30. 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 30-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 may be chosen. No change of meal plan may be made during the quarter.

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

Two methods of payment are available to the student and/or parents:

- Direct to the University
- Contract with a loaning agency

The details of these methods are explained in the following sections.

Direct 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.

Contract payment with outside agency The student or parents may contract with a loaning agency for the expenses of the quarter, the school year, or the entire curriculum (keeping in mind that processing a loan contract takes approximately 4 or 5 weeks). The contract may be negotiated for 1 academic year, with 8 to 12 monthly payments; or for periods up to 4 academic years, with monthly payments extended over 48, 60, or 72 months.

If a contract payment plan is selected, the payment check is made to the loaning agency, not to the University.

The benefits of the plans are: (a) payments are predetermined so that financial plans can be made in advance; (b) payments are reduced to a minimum by being spread over a period of time; (c) if the account is insured, the contract becomes paid in full on the death or total disability of the person responsible for payments; some contracts also insure the student; (d) no cancellation fee is charged by the loan agency in case of withdrawal from registration.

EMPLOYMENT

Application A student who needs to work part time to assist with expenses must obtain a work permit from the student employment office. The student applying for a scholarship, grant, or loan, or for work, is requested to provide evidence of financial need by filing a *Financial Aid Form* (FAF) or a *Student Aid Application for California* (SAAC) with College Scholarship Service (CSS). Forms are available from secondary school counselors or the Student Aid and Finance Office. Filing should be completed by March 15 so that the necessary information will be received in the Student Aid and Finance Office by May 1.

Campus work Campus employment opportunities are offered primarily by such services as cafeteria, dairy, farm, grounds, housekeeping, maintenance, Fast Pack, 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 \$1000 a year.

Cash payment Cash payment for part-time employment by the University is made on a bi-weekly 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 title 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 To apply for aid or enter on a contract payment plan, the student should (a) be acquainted with the information in the Schedule of Charges and in Budgeting for Financial Aid, (b) be aware that processing an aid application or loan contract takes considerable time, and (c) begin planning long enough in advance so that funds are available in time for registration.

Required forms Financial aid to students is granted on the basis of need. So that need can be evaluated in a consistent way, students seeking aid are required to submit a *Financial Aid Form* (FAF) or a *Student Aid Application for California* (SAAC) to College Scholarship Service (CSS) by March 15.

The analysis of this form must be in the Student Aid Office file by May 1 in order to be considered for aid with the first group processed. Those whose files are complete after May 1 are considered for aid on the same basis but only as funds are available.

The FAF or SAAC, 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 Financial Aid Form or Student Aid Application to California 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 FAF or SAAC 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) In order to continue to be eligible for federal aid, a student must be making satisfactory academic progress. This means that a student must complete at least two-thirds of the units attempted each quarter and achieve a cumulative grade point average of at least 2.0. (See "acceptable progress" on page 47.)

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.

Evaluation of a student's eligibility to continue to receive federal aid will be made at least once a year.

Citizenship To qualify for federal financial aid, a student must be a United States citizen or a person in the United States for other than temporary purposes and intending to become 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 (formerly Basic Educational Opportunity Grant)
- Supplemental Educational Opportunity Grant
- National Direct Student Loan
- Guaranteed Student Loan
- College Work-Study Program

Determination of what aids are 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.

National Direct Student Loan Up to \$1,500 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 6 percent interest. There

are some other specific provisions for further delaying payments. The student should check with the Student Aid and Finance Office for information regarding individual situations.

Pell Grant (formerly BEOG) 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 *Application for Determination of Pell Grant Eligibility* available from high school counselors or from the Student Aid and Finance 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 offcampus jobs at recreation or camping centers may be available during both the summer and the academic year.

Guaranteed Student Loan (GSL) These federally and state guaranteed loans are available to undergraduate and graduate students on the basis of need. The loan is obtained from a bank. As of January 1, 1981, the interest rate may be 7 percent or 9 percent, depending on the individual student's situation. Also as of January 1, 1981, the repayment deferment time will vary from 6 to 9 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 up to \$2,500 per year; for graduate or professional students the amount is \$5,000 per year. Please check with the Student Aid and Finance Office to determine the regulations that fit your category.

United Student Aid Fund Certain banks handle United Student Aid Fund (USAF) loans instead of GSL. The regulations and policies for USAF loans are the same as for the GSL program.

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 aids. 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 scholarship Scholarships 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 \$3,400 at the college of the student's choice. Applications for state aid are available from all secondary school counselors and the Student Aid and Finance Office.

The state of California also offers the College Opportunity Grant and the Vocational Training Grant. Applications are available from all secondary school counselors and from the Student Aid and Finance 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 and Finance Office for the application period (this period has been during January preceding the applicable school year).

Monthly contract loan plans The student not eligible for low-interest federally sponsored loans may elect a contract plan (some plans with interest; two prepayment plans with a service charge but no interest). Under such plans a student may contract for one year (with 8 to 12 monthly payments) or up to four years (with monthly payments extended up to 60 months). Contracts are signed and payments are made directly to the agency.

Revolving loan funds A number of low-interest revolving loan funds, from which limited loans are granted to qualifying students, have been set up as named:

Robert E. Cleveland Loan Fund
Dartley Revolving Student Loan Fund
William B. Greene Loan Fund
Milton and Ethel Griese Loan Fund
Richard Guy Memorial Fund
Robert A. Hanson Loan Fund

Miracle Loan Fund
F. Oliphant Memorial Fund
Fadelma Ragon Sargeant Loan Fund
Ellen Rickard Memorial Fund
Sierra Singers Trust Fund
Marie Stover Memorial Fund

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
Bank of America Scholarship
Burkhardt Scholarship
Dean's Award
Farmers Insurance Group Scholarship
Friends of Loma Linda University,
La Sierra campus

James Irvine Foundation Award
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
Judge M. C. Taft Law Scholarship
Teledyne-Wilson 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, \$9,522

Offcampus student, \$8,637

Application for financial aid for each academic year (with required supporting documents) should be received at the Student Aid and Finance Office by May 1. Aid commitments are made for the 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 two months in advance.

STUDENT AFFAIRS

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 Aid and 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.

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, prescription, and care.

University Health Service and Student Reimbursement Plans The health, vitality, and welfare of its students and dependents are of major concern to the University. The prevention of sickness and injury and the maintenance of optimum health are fostered by two plans.

The UNIVERSITY HEALTH SERVICE PLAN provides health services to all eligible students and dependents. Benefits include:

1. Professional services rendered by Health Service physicians.
2. Referrals by Health Service physicians for laboratory tests and diagnostic x-rays in accordance with the Student Reimbursement Plan.
3. Medications provided by Health Service.

Counseling service is also available through the University Counseling Center.

The STUDENT REIMBURSEMENT PLAN complements the University Health Service Plan by reimbursing the student when referred by the Health Center for limited expenses of illness and injuries in excess of any benefits to which the student may be entitled under any medical protection or personal insurance policy or membership in any hospital association. Details of this plan are outlined in a brochure available from Health Service.

All students for whom full tuition is being received — both graduate and undergraduate — attending Loma Linda University and enrolled for seven (7) units or more per quarter (excluding courses for which the student received an IP grade and which are carried over to the next quarter without the payment of tuition) are automatically covered by both the Student Health Service and the Student Reimbursement Plans. Students enrolled for less than seven (7) units per quarter who desire coverage should contact the Department of Risk Management. No coverage will apply until financial arrangements have been completed.

All students may secure family coverage for both plans. Eligible dependents are the spouse (residing with the insured student) and unmarried children over fourteen days old and under nineteen years of age who are not self-supporting and reside with the student.

The individual student's coverage will become effective on the date of registration or three days prior to registration if the student is on campus. Coverage of dependents will be effective on the date the application and premium are received by the Department of Risk Management.

For further information contact the Department of Risk Management, University Arts Building, Suite 103, Loma Linda, California; telephone (714) 824-4386.

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 offcampus 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 California driver's license.

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:

- Agriculture Club
- Associated Students of Loma Linda University
- Black Student Association
- Business Club
- Campus Ministries
- Chinese Club
- Consumer Related Sciences Club
- Filipino Club
- Film Society
- Food Service Advisory Board
- Geology Club
- Heperec Club (health, physical education, recreation, youth services)
- Industrial Studies Club
- International Dimensions
- International Students Club
- Japanese Club
- Korean Club
- Mathematics and Computing Club
- Men's Residence Hall Council
- Office Management Club
- Olympians
- Organizacion Latinoamericana Estudiantil (O.L.E.)
- Photography Club
- Professional Education Association
- Social Work Club
- Student Missionary Club
- Women's Residence Hall 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.

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 Aid and 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 later than the second week of the term.

Attendance 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 twenty 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 two weeks of the quarter.

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

Nondegree 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 postbaccalaureate.

Permission to take classes A student who enrolls for four 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 10-12 class hours, together with requisite study, preparation, and practice, or 30 laboratory hours.

Course sequence Credits toward graduation are not granted for a beginning or introductory course which is taken after a more advanced course in the same area, nor 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 Institute, 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 a 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.

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.

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 that 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 Records Office 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 fourteenth calendar 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 two weeks 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 to raise a grade only once.

Academic probation A student whose 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.

Academic disqualification A student on critical academic probation whose grade point average at the end of the quarter is below 2.0 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 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 to have made minimum measurable progress toward the satisfactory completion of the course of study only if a cumulative grade point average of 2.0 is maintained and two-thirds of the units attempted each quarter are completed.

Dean's List A Dean's 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 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 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 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:

- With honors, 3.5
- With high honors, 3.8
- With highest honors, 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 the honors designation 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 four examinations 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 30 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 30 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 examination in English. There is a 32-unit maximum for CLEP credit. A current list of the exami-

nations which are accepted for credit is available from the Office of the Dean or from the Office of University Records. Credit 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 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.

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 thirty days prior to graduation.

RESIDENCY REQUIREMENT

Thirty-six of the last forty-four units of credit needed for graduation with a baccalaureate degree, including sixteen units in the major and eight in the minor (if any), must be taken in residence at Loma Linda University. (For the associate degree twenty-four of the last thirty-two units and twelve units in the major fulfill the residency requirement.) This policy allows eight of the last forty-four 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 offcampus 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 offcampus or correspondence course work or is not on campus during the final quarter.

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 prohibit participation in graduation ceremonies by a student who has not satisfactorily completed all the requirements for a degree.



II

General Requirements Organization of Instruction Departments and Programs of Instruction

GENERAL REQUIREMENTS

On the recommendation of the faculty of the College, the University awards degrees and certificates to students who have satisfactorily completed the prescribed curriculums with a grade point average of C (2.0), received no grade less than C in any course counted in the major or minor, and have met their financial obligations to the University.

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 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. A copy of the current *Graduation Regulations* should be obtained from the Office of University Records early in the junior year of enrollment.

BACHELOR OF ARTS

A candidate for the Bachelor of Arts degree completes 190 units of course work (60 upper division), of which 36 of the last 44 units (16 units in the major program and 8 units in a minor program, if any) are completed in residence at Loma Linda University.

The curriculum for this degree consists of an appropriate major program and the following pattern of general education.

Skills In basic intellectual and physical skills, including:

Communication skills, ENGL 101 and 102 (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 fully met; SPCH 104;

Computation skills, acceptable test score, or MATH 005 or 006;

Movement skills, 6 physical education activities; and

Vocational/avocational skills, 8 units; 4 units waived for 10 semester periods on the secondary level; 4 units, or the equivalent, outside the major.

Life in society In the traditional academic disciplines, 56 to 64 units of course work, including:

American history, HIST 156 and 157 or 176 and 177; or HIST 165 or INDM 263; determined by placement examination;

Humanities, 32 units distributed in four of six areas (with no more than 8 units of the major program applicable in any one area): history of civilization (4 units required if a student has not satisfactorily completed one full year of world history at the secondary level), literature, music, art, philosophy, ancient or modern language (8 units in one language required if a student has not satisfactorily completed two full years of one language at the secondary level);

Natural sciences, mathematics, health, 12-16 units (16 units required unless a student has satisfactorily completed one full year each of biology, chemistry, and physics at the secondary level) in two of six areas: biology, chemistry, physics, mathematics, geology, health (biology or health required if a student has not satisfactorily completed at least ½ unit of health at the secondary level, but not more than 4 units may be in health); and

Personal/social relationships, 8 units (including at least one introductory course in behavioral science).

Life under God In religious studies, 20 units of course work (8 upper division), of which 8 units are completed during the first year in residence and 4 units each succeeding year, including:

In the Division of Religion, 16 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, but may include INDM 112.

In the major department, 4 units (course 489).

Recommended courses A list of courses acceptable for meeting the general education requirements is available from the Office of the Dean.

BACHELOR OF SCIENCE, BACHELOR OF MUSIC, BACHELOR OF SOCIAL WORK

A candidate for the Bachelor of Science, Bachelor of Music, or Bachelor of Social Work degree completes 190 units of course work (60 upper division), of which at least 36 units of the last 44 units (16 units in the major program and 8 units in a minor program, if any) are completed in residence at Loma Linda University.

The curriculum for either of these degrees consists of an appropriate major program and the following pattern of general studies:

Skills In basic intellectual and physical skills, 11-27 units of course work as defined for the Bachelor of Arts degree.

Life in society In the traditional academic discipline, 24-32 units of course work, including:

American history, HIST 156 and 157 or 176 and 177; or HIST 165 or INDM 263, determined by placement examination;

Humanities, 12 units;

Natural sciences, mathematics, health OR personal/social relationships (whichever is not included in the major program), 8 units; if neither area is included in the major program, a student completes a total of 12 units in the two areas, including at least 4 units in each.

Life under God In religious studies, 20 units of course work (8 upper division) as defined above for the Bachelor of Arts degree.

PROGRAM IN INTERNATIONAL DIMENSIONS

A program in International Dimensions (*see Interdepartmental Courses*) is available that fulfills the general education requirement for a Bachelor of Arts or a Bachelor of Science degree. The program consists of the following pattern of courses:

Human being and society, 12 units (INDM 111, 112, 113);

World areas, 24 units (INDM 161, 162, 163, 261, 262, 263);

International dimensions seminar, 4 units (to be selected from INDM 271, 272, 273, 274, 275);

Modern language, 16 units (students having studied language in secondary school may subtract 4 units from this requirement for each year of language taken. Others who know a second language may take equivalency examinations to fulfill all or part of this requirement);

Natural sciences, mathematics, 12 units (in the following five areas: biology, chemistry, physics, mathematics, geology);

Computation skills, acceptable test score, or MATH 005 or 006;

Vocational/avocational skills, 4 units (photography strongly recommended);

Life under God, 8 units (4 upper division) to be selected from courses listed in the College of Arts and Sciences BULLETIN as follows: RELB and RELT, all courses except those numbered 499;

In the major department, 4 units (course 489);
Movement skills, 6 physical education activities.

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 and provides opportunity for a project of independent research or creative activity.

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 and aid in the critical examination of culture, to the end that they see themselves as shapers of the future
3. Enable each Honors Scholar to complete a project of research, scholarship, or creative activity that is uniquely his/her own, to the end that each develops the confidence and skills appropriate to a college graduate.
4. 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. Enrollment in certain Honors Courses open to students who have satisfied prerequisites of achievement or ability.
4. Opportunity to engage in independent research or a project of personal creativity resulting in an Honors Thesis.
5. 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 Seminar or Honors Course requires at least a B (3.0) to satisfy an Honors Program requirement. Courses and seminars with lower grades may still fulfill general education 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 The curriculum of the Honors Scholar is the same as that for any other candidate for a baccalaureate degree except as follows:

1. 16 units of Honors Seminars or Honors Courses (including at least 8 units of Honors Seminars). Each seminar or course fulfills part of a specific general education requirement. The Honors Scholar may elect a seminar for four units of credit with permission of the seminar coordinator after the completion of ENGL 102 or 124.

2. Regular participation in Honors Activities as sponsored and announced by the director of the Honors Program.

3. 6 units of Honors Colloquia.

4. 6-10 units of Honors Project that concludes 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.

Graduation with honors A student is graduated with honors upon recommendation of the honors committee and with the cumulative grade point average figured at the beginning of the last term before graduation as follows:

With honors	3.5
With high honors	3.8
With highest honors	3.9

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 (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, 10-18 units of course work, including:

Communication skills, ENGL 101 and 102; (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; SPCH 104;

Computation skills, acceptable test score, or MATH 005 or 006; and

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; and

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 (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, 10-18 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 above for the Associate in Arts degree.

JOB-ORIENTED BASIC SKILLS

The Job-Oriented Basic Skills Program (JOBS) is a one-year (three quarters) program, consisting of 37 units, that combines certain basic skills courses with courses designed to prepare the student for a job in such areas as office work, agriculture (plants, animals), consumer related sciences (child care, general home economics), industrial arts (automotive, construction, drafting, metals, and wood construction).

Four basic skills courses, four courses in a vocational sequence, one course in religion, and two physical education activity courses make up the program. A letter of completion is given at the end of the program.

DEPARTMENTS AND PROGRAMS OF INSTRUCTION

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

CLASSIFICATION OF COURSES

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

SUBJECT	DEPARTMENT/PROGRAM	
ACCT	Accounting	Business and Economics
ADJS	Administration of Justice	Administration of Justice
AGRI	Agriculture	Agriculture
ANAT	Anatomy	Biology, Graduate School
ANTH	Anthropology	Anthropology and Sociology
ART	Art	Art
AUTO	Automotive Technology	Industrial Arts and Technology
AVIA	Aviation	Industrial Arts and Technology
BIOL	Biology	Biology
BUAD	Management	Business and Economics
BUED	Business Education	Office Management and Business Education
CHEM	Chemistry	Chemistry
CFSC	Child and Family Science	Consumer Related Sciences
COMM	Communication	Communication
CMME	Communcation Media	Communication
CNST	Construction	Industrial Arts and Technology
CPTG	Computing	Mathematics and Computing
DRFT	Drafting	Industrial Arts and Technology
ECON	Economics	Business and Economics
ENGL	English	English
ENGR	Engineering	Physics
ENSL	English as a Second Language	Modern Languages
FDNT	Foods and Nutrition	Consumer Related Sciences
FREN	French	Modern Languages
GEOL	Geology	Geological Sciences
GRMN	German	Modern Languages
HMEC	Home Economics	Consumer Related Sciences
HIST	History	History and Political Science
INDM	International Dimensions	Interdepartmental Courses
INDS	Industrial Arts	Industrial Arts and Technology
INTR	Interior Design	Consumer Related Sciences
LING	Linguistics	Interdepartmental Courses
MATH	Mathematics	Mathematics and Computing

MDLG	Modern Language	Modern Languages
MEST	Middle Eastern Studies	Middle Eastern Studies, Graduate School
METL	Metals	Industrial Arts and Technology
MFAM	Marriage and Family Counseling	Marriage and Family Counseling, 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	Physical Education
PETH	Physical Education Theory	Physical Education
PHIL	Philosophy	History, Interdepartmental Courses
PHTO	Photography	Industrial Arts and Technology
PHYS	Physics	Physics
PLSC	Political Science	History and Political Science
PSYC	Psychology	Psychology
RDNG	Reading Improvement	English
RELB	Religion, Biblical Studies	Religion
RELE	Religion, Christian Ethics	Religion
RELH	Religion, Historical Studies	Religion
RELL	Religion, Biblical Language	Religion
REPL	Religion, Professional Studies	Religion
RELT	Religion, Theological Studies	Religion
RUSS	Russian	Modern Languages
SOCI	Sociology	Anthropology and Sociology
SOSR	Social Work	Social Work
SPAN	Spanish	Modern Languages
SPCH	Speech	Communication
SPPA	Speech Pathology and Audiology	Speech-Language Pathology and Audiology
TXTL	Textiles and Clothing	Consumer Related Sciences
WOOD	Wood	Industrial Arts and Technology

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.

**PROGRAM IN
ADMINISTRATION OF JUSTICE**

IAN P. CHAND, Coordinator; Associate Professor of Sociology
PH.D. Pennsylvania State University

VERN R. ANDRESS, Professor of Psychology
PH.D. United States International University

JERRY W. LEE, Associate Professor of Psychology
PH.D. University of North Carolina

WON K. YOON, Associate Professor of Sociology
PH.D. Louisiana State University

KENT A. HANSEN, Lecturer in Administration of Justice
J.D. Willamette University

ROBERT D. MACOMBER, Lecturer in Administration of Justice
J.D. University of Southern California

CLAUDE T. MANGRUM, Lecturer in Administration of Justice
M.A. Kent State University

FIELD PERSONNEL

RICHARD COLSON, B.S.
Senior Deputy Probation Officer
Riverside County Probation Department

TYREE ELLISON, B.A.
Training Officer and Coordinator of Volunteer Services
Riverside County Juvenile Hall

BILL HOWE, M.P.A.
Lieutenant
Corona Police Department

NORMA LAW, M.P.A.
Correctional Administrator
California Rehabilitation Center, Norco

REBECCA ORME, B.S.
Bailliff
Riverside Superior Court

LEROY B. WASHINGTON, B.S.
U.S. Probation Officer
Central District of California, Los Angeles

BACCALAUREATE MAJOR PROGRAMS

Objectives The Program in Administration of Justice is designed for students planning to enter fields such as corrections, probation, and parole; for persons already employed in these fields; and for students preparing for graduate study. Collaborating agencies include the California Institution for Women and the Riverside County Probation Department.

MAJORS

BACHELOR OF ARTS

Administration of justice

Required: 48 units in the behavioral sciences,
including
ADJS 377, 378, 379, 435 (3 quarters)
ANTH 104 or 315
PSYC 104, 344, 475
SOC 104, 375, 376

Required cognates: MATH 251, 252

Recommended: PSYC 304, 356

COURSES

UPPER DIVISION

ADJS 345 Group Counseling in the Prison Setting (4)

Dynamics of group formation, behavior; techniques of group counseling in the correctional institution setting. Emphasis on role of leader within framework of both directive and non-directive techniques. Limited supervised experience as a group participant.

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 379 Correctional Institutions (4)

Theory of corrections, various types of correctional institutions.

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 clock hours per week. May be repeated for additional credit to a total of 4 units.

Prerequisite or concurrent: ADJS 378 or 379; 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)

DEPARTMENT OF AGRICULTURE

DOUGLAS F. HAVENS, Chairman; Assistant Professor of Agriculture
M.A. Loma Linda University
M.S. University of California, Riverside

DALE L. ANDERSON, Associate Professor of Agriculture
M.S. Oklahoma State University

C. ARNOLD BORAM, Associate Professor of Agriculture
M.ED. University of Missouri

JOHN E. CARR, Associate Professor of Agriculture
M.S. Michigan State University

HARRY M. GRUBBS, Instructor in Agriculture
B.S. Andrews University

RODOLFO A. STEGER, Instructor in Agriculture
B.A. Centro Educational Superior Union

RICHARD R. HARWOOD, Visiting Associate Professor of Agriculture
PH.D. Michigan State University

Objectives The continuous operation of full-scale agricultural, poultry, and dairy businesses on the 400-acre farm on the La Sierra campus of the University offers opportunities for the student who wishes to prepare for vocations in these areas or to pursue further studies in agriculture.

The general student may also gain an understanding of these pursuits and their significance to society, as well as some limited skill in farming.

Because the farm is managed by the faculty of the Department of Agriculture, the student has an opportunity to combine practical experience with theoretical understanding in each phase of farm operation.

Preparation for teaching A student preparing to teach agriculture 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 specific information.

A graduate program leading to the Master of Arts degree in the teaching of agriculture is described in the BULLETIN of the School of Education. This program includes AGRI 514, 515, 517; an additional 33 units of postbaccalaureate study; and fulfillment of the requirements for a secondary

teaching credential A student who has included the appropriate course work in professional education (including directed teaching) in the undergraduate curriculum may be able to complete the requirements for the master's degree in an additional year of study.

Work requirement A student majoring in a program in agriculture is required to work as an employee of the department (in addition to the student's course work) for a period of time determined by the faculty on the basis of the student's previous farm experience.

Core curriculum Required of all students majoring in the agriculture department (with the exception of the major in intensive food production).

Required: AGRI 105, 204, 205, 235, 324, 354, 436, 454, 484
Required cognates: AUTO 234 or 334 BIOL 104, 105, 106
CHEM 101, 102 (CHEM 111, 112, 113 in place of CHEM 101, 102 recommended preparation for graduate work)

MAJORS

BACHELOR OF SCIENCE

General agriculture

Required: 66 units in agriculture, as follows
the core curriculum
AGRI 104, 114, 214, 216, 224, 234, 334, 444

Recommended: BIOL 456

Intensive food production

Offered with the Department of Biology
Required: 80 units in agriculture and biology, as follows
AGRI 104, 105, 114, 204, 224, 234, 235, 354, 441, 442, 443
BIOL 104, 105, 106, 185, 414, 456, 475, 478, 485

Recommended: AGRI 205, 304 BIOL 447 PSYC 104

Required cognates: CHEM 101, 102, 103 MATH 121
4 units from AUTO 234, 334 or METL 174, 175, 176

Livestock production

Required: 62 units in agriculture, as follows
the core curriculum
AGRI 114, 234, 334, 335, 336, 434, 437

Recommended: BIOL 466
Required cognates: CHEM 103

Plant production

Required: 66 units in agriculture, as follows
the core curriculum
AGRI 104, 214, 215, 216, 224, 304, 345,
444
Recommended: BIOL 456, 475, 485

MINOR

Agriculture 30 units (8 upper division), selected in consultation with the department adviser

ASSOCIATE DEGREE PROGRAM

ASSOCIATE IN SCIENCE

Agriculture

Required: AGRI 104, 105, 114, 204, 224, 234, 235, 324,
334, 354, 484
AGRI 299 (4 units in one area)
Required cognate: AUTO 234

COURSES

LOWER DIVISION

AGRI 104 Vegetable Gardening (4)

First quarter: cool-season crops, propagation, culture methods, marketing. Third quarter: warm-season crops, plant production, propagation, culture, producing, marketing. Two class hours, two laboratories per week.

AGRI 105 Basic Soil Science (4)

Genesis, physical and chemical properties, and classification of soils. Three class hours, one laboratory per week.

AGRI 108 Agriculture Skills for Country Living (4)

Practical aspects of gardening, greenhouse culture, plant propagation, and care of farm animals.

AGRI 114 Poultry Husbandry (4)

Avian anatomy and physiology as it affects production, breeds, breeding, strain selection, incubation of poultry, nutrition, feeds and microingredient additives in poultry feeding. Sanitation; prevention, control, and treatment of diseases.

AGRI 204 Field Crops (4)

Distribution, cultural methods, and economic importance of field crops. Field trips as needed. Offered alternate years.

AGRI 205 Forage Crops (4)

Economical use of land for other than field crops. Providing year-around pasture. Field trips as needed. Offered alternate years.

AGRI 214 Horticulture (4)

The plant; plant requirements; culture, growth, and propagation. Three class hours, one laboratory per week.

AGRI 215 Pomology (4)

Small and large fruit culture, individual fruits.

AGRI 216 Greenhouse Culture (4)

Scheduling, planning, and propagation of horticulture plants. Experience in growing and management of plants under glass. Preparation and handling of potting and propagation mixes.

AGRI 217 House Plants (2)

A study of foliage house plants. Their identification, culture, care, and propagation. Factors for selecting plants for interior landscaping.

AGRI 224 Farm Machinery (4)

Selection, operation, and maintenance of farm machinery and implements. Two class hours, two laboratories per week. Offered alternate years.

AGRI 234 Animal Husbandry I (4)

History, breeds, characteristics, adaptability, judging, and products of farm animals.

AGRI 235 Farm Analysis and Accounting (4)

Fundamental principles of accounting as applied to agricultural practices. Analysis of farm data for management use.

AGRI 245 Organic Gardening (4)

Organic gardening practices for growing plants. Composting, crop rotation, mulching, "natural" fertilizers, and biological pest management. Natural interaction of plant, soil, environment, insects, and man. Two class hours, two laboratories per week.

AGRI 299 Directed Study (1-4)

Practical experience: farm, creamery, livestock, poultry. May be repeated in a different area for additional credit.

UPPER DIVISION

AGRI 304 Soil Management and Fertility (4)

Management principles applied to soil improvement. Three class hours, one laboratory per week. Offered alternate years

Prerequisite: AGRI 105.

AGRI 314 Poultry Production (4)

Principles and practices: ranch layout, housing system, brooding, production programs, record keeping. Field trips. Offered alternate years.

Prerequisite: AGRI 114.

AGRI 324 Irrigation (4)

Methods of application, crop requirements and water supply in the Southwest and other arid regions. Three class hours, one laboratory per week. Offered alternate years.

AGRI 334 Animal Husbandry II (4)

Care and management of farm animals, marketing, sanitation, and diseases. Offered alternate years.

AGRI 335 Dairy Cattle Management (4)

Economic aspects, selection, breeding, feeding, sanitation, diseases, and management of dairy cattle. Offered alternate years.

AGRI 336 Dairy Industry (4)

Common practices of processing and testing milk products. Three class hours, one laboratory per week. Offered alternate years.

AGRI 337 Floriculture (4)

Identification, propagation, and use of potted and outdoor flowers in the household and in landscape design. Especially for flower lovers and homeowners. Laboratory. Offered alternate years.

AGRI 338 Landscape Design and Practice (4)

Recognition, selection, and adaptation of landscape materials to fit into the environment.

AGRI 345 Plant Propagation (4)

Methods of propagating useful and ornamental plants. Three class periods, one laboratory period per week.

AGRI 354 Agriculture Management I (4)

The modern farm in relation to management concepts, cost analysis, government involvement, and general farm practices in ecology and environment.

AGRI 356 Agricultural Biometrics (4)

Application of statistical analysis to agricultural experiments. Standard error, statistical significance, sampling, coefficient of variation and regression as applied to agricultural situations.

AGRI 414 Soil Analysis (4)

Methods of soil analysis as carried out in the laboratory and field. Emphasis on macronutrients: nitrogen, phosphorus, potassium, calcium, magnesium, and sulfur. Interpretation of soil analysis in terms of crop needs and determination of fertilizer needs for profitable production.

AGRI 424 Plant Breeding (4)

Methods of improving various crops through application of the science of genetics. Application to the major world food crops.

AGRI 434 Animal Nutrition (4)

Principles of nutrition of farm animals, application to feeding practices. Offered alternate years.

AGRI 435 Poultry Management (4)

Experience with poultry and poultry facilities. Laboratory only.

Prerequisite: AGRI 114.

AGRI 436 Agriculture Economics and Marketing (4)

Current economic and marketing practices in relation to the economy. Offered alternate years.

Prerequisite: AGRI 235.

AGRI 437 Artificial Insemination of Cattle (4)

Fundamental techniques used in the artificial breeding of cattle. Discussion of physiological and disease problems related to reproduction.

Prerequisite: AGRI 334, 335.

AGRI 441, 442, 443 Intensive Food Production I, II, III (4, 4, 4)

Efficient methods of food production, innovative and productive procedures utilized under various soil and climate conditions. Three quarters required in sequence.

AGRI 444 Introduction to World Crops (4)

Relationship between man and plant; plant environment, crop production, plant industry, the marketplace. Offered alternate years.

AGRI 454 Agriculture Management II (4)

A management-oriented project to demonstrate the student's knowledge of the skills and techniques of managing an agriculture operation.

Prerequisite: AGRI 354.

AGRI 455 Tropical Agriculture (4)

Agricultural practices of the small farmer in tropical areas. Methods of increasing yield and quality of crops in tropical climates.

AGRI 474 Agriculture Internship (12)

On-the-job experience providing an opportunity for junior and senior students to work off campus. Professional experience to contribute toward career development, with an emphasis on management training. Full-time work for one quarter. Written reports and consultation with an adviser are required. Department approval is required before enrolling.

AGRI 484 Seminar in Agriculture (1)

Two units required for B.S. degree.

AGRI 489 Adventist Philosophy of Agriculture (4)

Agriculture viewed from the perspective of biblical and religious teachings, concepts of moral worth, the balanced person. Does not apply toward a major or minor. Offered alternate years.

AGRI 499 Directed Study (1-4)

GRADUATE

AGRI 509 Plant Analysis (4)

Determination of nutrients in plants and comparison of results with current norms. Utilization of analysis results to recommended optimum fertility treatment.

AGRI 514 Soil Chemistry (4)

Methods of soil analysis, diagnosis of soil problems.

Prerequisite: CHEM 111, 112, 113; or approval of the instructor.

AGRI 515 Nutrition of Horticultural Plants (4)

Nutrient elements, their absorption and utilization. Detection and correction of plant deficiencies.

AGRI 516 Soil Microbiology (4)

Culture of soil microorganisms and their effect on plant production.

Prerequisite: BIOL 104, 105, 106.

AGRI 517 Crop Protection (4)

Composition and use of organic and chemical herbicides and pesticides. Hazards and precautions.

**DEPARTMENT OF
ANTHROPOLOGY AND SOCIOLOGY**

WON K. YOON, Chairman; Associate Professor of Sociology
PH.D. Louisiana State University

JOHN W. ELICK, Professor of Anthropology; Curator, Anthropological Museum
PH.D. University of California, Los Angeles

ANEES A. HADDAD, Professor of Sociology
PH.D. University of Southern California

JAMES H. STIRLING, Professor of Anthropology and Sociology
PH.D. University of California, Los Angeles

IAN P. CHAND, Associate Professor of Sociology
PH.D. Pennsylvania State University

C. DIANE MACAULAY, Instructor in Sociology
M.A. Loma Linda University

COLLABORATING FACULTY

JERRY W. LEE, Associate Professor of Psychology
PH.D. University of North Carolina

CHARLES W. TEEL, JR., Associate Professor of Religion and Sociology
PH.D. Boston University
Loma Linda University, Division of Religion

ROBERT E. FORD, Assistant Professor of Cultural Geography
PH.D. University of California at Riverside
Loma Linda University, School of Health

Objectives The aim of the Department of Anthropology and Sociology is to broaden the student's understanding of the organization and function of society and to develop a perspective from comparison of different cultures.

Anthropology is the study of the diversity of human cultural ways, both in various parts of the present world and in ancient times. This diversity includes languages, religions, social structures, economic patterns, world views, and others. It is also concerned with the differences in physical characteristics of human population, such as racial features.

Sociology is the study of people in groups, such as families, social classes, ethnic groups, and complex organizations. All societies have sought to establish order and regularity in their groups and to ensure that the rewards of life will be distributed in certain ways. Sociologists examine these ways.

The factors that operate to promote cultural stability and change, the effects of contact between peoples of different cultures, and the social movements of the modern world scene are best understood against a background of theory and practice. Thus the department stresses a thorough grounding in social and cultural theory, and field training in the observation of behavior and the application of these principles.

Graduate programs Graduate programs leading to the Master of Arts degree in sociology and anthropology are described in the BULLETIN of the Graduate School.

MAJORS

BACHELOR OF ARTS

Anthropology

Required: 48 units in anthropology, including
ANTH 104 or 315, 304, 306, 316, 494

Required cognates: SOCI 104, 404 PSYC 104
MATH 251, 252 (or equivalent)

Sociology

Required: 48 units in sociology, including
SOCI 104, 304, 404, 414, 494

Required cognates: ANTH 104 or 315
MATH 251, 252 (or equivalent)
PSYC 104

BACHELOR OF SCIENCE

Behavioral science

Required: 64 units (40 upper division), including
ANTH 104 or 315, 306
PSYC 104, 224 or 324, 344
SOCI 104, 304, 306 or 414

Remaining units in at least two of the
areas of the behavioral sciences selected
in consultation with the program ad-
viser

Behavioral science and religion

- Required: 110 units in the behavioral sciences and religion, as follows
ANTH 104 or 315
PSYC 104, 205, 324 (4 units), 344, 414, 475
RELB 104, 206, 207, 244, 404 (4 units), 424
RELP 264
RELT 205, 245, 254, 354
SOCI 104, 304, 307, 314, 376, 414, 417, 488, 489 or PSYC 489
SOSR 104
- Required cognates: BIOL 131, 132
EDFO 506 in the School of Education

MINORS

- 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 or 315 PSYC 104 SOCI 104
Remaining units selected in consultation with the program adviser
- Sociology 28 units (16 upper division), selected in consultation with the program adviser

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 associations; interpretation and differentiation; distributions of cultural traits. Four class periods, one four-hour laboratory per week.

ANTH 309 Cultural Ecology (4)

Relationship between culture and the natural environment. Comparative cultural values and the econiche of man.

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 directed toward manipulation or control of supernatural forces; animatism, animism, magic, witchcraft, ritual, concepts of the afterlife, shamanism, the role of religion as an integrative factor of culture. Identical to MEST 444.

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 (4)

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 (2-3)

ANTH 489 Religion and the Behavioral Scientist (4)

Does not apply toward a major or minor. Identical to PSYC 489, SOSR 489, and SOCI 489.

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.

RELB 445 Biblical Archaeology (2-4)

GRADUATE

Consult Graduate School BULLETIN for details.

ANTH 506 Transcultural Health Care (3)

ANTH 534 Anthropology of Mission (3)

ANTH 544 Comparative Religion (4)

ANTH 604 Seminar: Cultural Anthropology (4)

ANTH 625 Seminar: Sociocultural Change (4)

ANTH 626 Seminar: Anthropological Linguistics (4)

ANTH 634 Seminar: Social Theory (4)

ANTH 644 Seminar: Comparative Religion (4)

ANTH 648 Seminar: Medical Anthropology (4)

ANTH 665 Fieldwork in Ethnography (arranged)

ANTH 694 Directed Reading (arranged)

ANTH 697 Research (4-6)

ANTH 698 Thesis (4-6)

SOCIOLOGY

LOWER DIVISION

SOCI 104 Introduction to Sociology (4)

The science of society: social norms, social processes, social change, and social structure

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 pre-requisite 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)

Prejudice and discrimination in the interrelationships of society and its ethnic components.

SOCI 314 Sociology of Love and Marriage (4)

Love, maturity, compatibility, conflict, religious factors, and specific areas of adjustment in marriage.

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 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 bureau-pathological (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)

Structure and function; changing patterns; future in urban society. Relationships between changes in society and widespread family problems.

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 488 Current Issues in Sociology (2)

SOCI 489 Religion and the Behavioral Scientist (4)

Does not apply toward a major or minor. Identical to ANTH 489, 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 499 Directed Study (1-4)

Limited to students with upper division standing and majoring in sociology.

GRADUATE

Consult Graduate School BULLETIN for details.

SOCI 505 Social Research Methods and Methodology (4)

SOCI 514 The Family: Crosscultural Family Values (4)

SOCI 525 Population (2-4)

SOCI 604 Seminar: Social Psychology (4)

SOCI 605 Seminar: Middle Eastern Cultural History (4)

SOCI 607 Seminar: Ethnic Relations (4)

SOCI 614 Seminar: The Family (4)

SOCI 615 Seminar: The Middle East in the Twentieth Century (4)

SOCI 616 Seminar: Collective Behavior (4)

SOCI 618 Seminar: Population (4)

SOCI 624 Seminar: The Sociology of Religion (4)

SOCI 625 Seminar: The Community (4)

SOCI 634 Seminar: Social Theory (4)

SOCI 674 Seminar: Medical Sociology (4)

SOCI 694 Directed Reading (arranged)

SOCI 697 Research (4-6)

SOCI 698 Thesis (4-6)

DEPARTMENT OF ART

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

ALAN R. COLLINS, Professor of Art
F.R.B.S. The Fellow of the Royal Society of British Sculptors
A.R.C.A. The Royal College of Art

SUSAN DAVIS PATT, Assistant Professor of Art
M.ED. Miami University

MYUNG KWANG KWON, Visiting Lecturer in Art
M.F.A. Hong-Ik University (Seoul)

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 any 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.

MAJORS

BACHELOR OF ARTS

Visual arts

Required: 56 units (30 upper division) in art, including
ART 111, 112, 305, 306, 307, 496 (3 units)
4 units in drawing
4 units in painting
8 units from painting, graphic design,
printmaking
8 units from crafts, ceramics, sculpture

BACHELOR OF SCIENCE

Graphic design

Required: 60 units (32 upper division) in art, including
ART 111, 112, 244, 305, 306, 307, 344 (8
units), 496 (3 units, 2 units to be com-
pleted during senior year)
6 units in drawing
4 units in painting

Studio specialization

Required: 60 units (32 upper division) in art, including
ART 111, 112, 305, 306, 307, 495 (8 units),
496 (3 units, 2 units to be completed dur-
ing senior year)
6 units in drawing
4 units in painting

Area of specialization: 12 units in one of the following: painting,
design, printmaking, ceramics, sculpture
The student's area of specialization will be
listed on the transcript.

MINOR

Art 30 units (12 upper division) in art, including
ART 205 or 305 or 306 or 307
Remaining units selected in consultation
with department adviser

COURSES

LOWER DIVISION

ART 111 Design I (4)

An introduction to monochromatic design in two and three dimensions.

ART 112 Design II (4)

Color contrasts and harmonies, and their application to two- and three-dimensional design.

ART 144 Technical Illustration (2-4)

An exploration of tools and techniques for the production of graphs, charts, and drawings that are used in technical and scientific illustrations. May be repeated for additional credit to a maximum of 6 units.

ART 205 Introduction to Art (4)

Art and its role in society.

ART 224 Beginning Drawing (2)

Exercises in seeing acutely and representing what is seen.

ART 234 Beginning Painting (2-4)

Basic concepts and techniques of painting in a variety of media. May be repeated for additional credit to a maximum of 6 units.

ART 244 Basic Graphic Design (2-4)

Concepts and techniques of visual imagery, preparation of materials for printing, posters, transparencies for projection, etc. May be repeated for additional credit to a maximum of 6 units.

ART 245 Lettering and Calligraphy (2)

The study of classical and contemporary letter forms and their application. Practice in pen, brush, and chisel. Course may be repeated once for additional credit.

ART 254 Printmaking (2-4)

Varied content from quarter to quarter, with specific areas listed in the class schedule (serigraphy, relief, intaglio, lithography, etc.). May be repeated for additional credit to a maximum of 6 units.

ART 264 Crafts (2-4)

Varied content from quarter to quarter, with specific areas listed in the class schedule (fibers, weaving, textile printing and dyeing, mosaics, plastic casting and fabrication, wood carving, etc.). May be repeated with new content for additional credit.

ART 274 Ceramics (2-4)

Hand and wheel construction of various pottery forms, mixing and application of glazes. May be repeated for additional credit to a maximum of 6 units.

ART 284 Sculpture (2-4)

Clay, stone, plaster, and other materials. May be repeated for additional credit to a maximum of 6 units.

ART 299 Directed Study (1-4)

Independent project in studio or art history.

Prerequisite: Consent of the instructor.

UPPER DIVISION

ART 304 Development of Aesthetic Awareness (2)

Aesthetic development in relation to mental, social, and physical growth, from the scribbling child to maturity; the meaning of art at various stages of growth; the importance of aesthetics in the development of values.

ART 305, 306, 307 History of Western Art (4, 4, 4)

Comparison of cultures: art forms and symbols. First quarter: early to Renaissance; second quarter: Renaissance through 18th century; third quarter: 19th and 20th centuries.

ART 314 Advanced Design (2-4)

A problem-solving approach to design that relates basic principles to specific projects in various studio areas. May be repeated for additional credit.

Prerequisite: ART 111 and 112 or consent of the instructor.

ART 320 Intermediate Drawing (2-4)

Introduction to a variety of drawing media and a search for a personal style. May be repeated for additional credit to a maximum of 6 units.

Prerequisite: ART 224.

ART 324 Advanced Drawing (2-4)

Exercises to develop a mature personal drawing style. May be repeated for additional credit to a maximum of 6 units.

Prerequisite: ART 320.

ART 325 Drawing Human Anatomy (2-4)

Drawing principles and skills related to human anatomy, with emphasis on anatomical structure and function. May be repeated for additional credit to a maximum of 6 units.

Prerequisite: 6 units of drawing or consent of the instructor.

ART 334 Advanced Painting (2-4)

May be repeated for additional credit to a maximum of 6 units.

Prerequisite: ART 234 or consent of the instructor.

ART 344 Advanced Graphic Design (2-4)

Conceptual problem solving in contemporary visual communication. May be repeated for additional credit.

Prerequisite: ART 244 or consent of the instructor.

ART 345 Rendering (2-4)

Techniques in visual representation for advertising. May be repeated for additional credit to a maximum of 6 units.

Prerequisite: ART 244.

ART 346 Illustration (2-4)

Exploration of contemporary techniques and concepts. May be repeated for additional credit to a maximum of 6 units.

Prerequisite: ART 244.

ART 354 Advanced Printmaking (2-4)

May be repeated for additional credit to a maximum of 6 units.

Prerequisite: ART 254 or consent of the instructor.

ART 364 Advanced Crafts (2-4)

May be repeated for additional credit with different content.

Prerequisite: ART 264 or consent of the instructor.

ART 374 Advanced Ceramics (2-4)

May be repeated for additional credit to a maximum of 6 units.

Prerequisite: ART 274 or consent of the instructor.

ART 384 Advanced Sculpture (2-4)

May be repeated for additional credit to a maximum of 6 units.

Prerequisite: ART 284 or consent of the instructor.

ART 385 Modelmaking (2-4)

Exploration of techniques used in building scale models for use by architects, engineers, and designers. May be repeated for additional credit to a maximum of 6 units.

ART 404 Art and the Curriculum (2-4)

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

ART 405 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 489 The Artist and Christian Symbolism (4)

Art and its relationship to Christian belief and experience. Does not apply toward a major or minor.

ART 495 Senior Project (4)

Relating 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.

ART 496 Art Seminar (1-2)

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

ART 497 Practicum (2-8)

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

ART 499 Directed Study (1-4)

Independent project in studio or art history.

Prerequisite: Consent of the instructor.

GRADUATE

ART 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**

LEONARD R. BRAND, Chairman; Professor of Biology
PH.D. Cornell University

C. DOUGLAS EDDLEMAN, Professor of Biology
PH.D. University of Texas at Austin

LESTER E. HARRIS, JR., Professor of Biology
M.S. University of Maryland

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

HAROLD R. MILLIKEN, Professor of Biology
M.A. University of Virginia

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

ARIEL A. ROTH, Professor of Biology
PH.D. University of Michigan

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

ARTHUR V. CHADWICK, Associate Professor of Biology
PH.D. University of Miami

CONRAD D. CLAUSEN, Associate Professor of Biology
PH.D. Loma Linda University

ROBERT A. CHILSON, Assistant Professor of Biology
PH.D. University of Wisconsin

LINDA M. KELLN, Instructor in Biology
M.S. Loma Linda University

VIRGINIA M. HANSON, Assistant Instructor in Biology
M.A. Loma Linda University

WAYNE J. KELLN, Department Associate
B.S. Loma Linda University

COLLABORATING FACULTY

ELWOOD S. McCLUSKEY, Associate Professor of Physiology
PH.D. Stanford University
Loma Linda University, School of Medicine

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 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.

MAJORS

BACHELOR OF ARTS

Biology

- Required: 41 units in biology, including
BIOL 104, 105, 106, 405 (3 quarters), 447,
464
BIOL 404 or CHEM 481, 482, 483
(CHEM 481, 482, and 483 will also be
accepted in lieu of 4 units of upper
division biology elective. 4 units of
upper division biology elective will
be waived for majors completing
BIOL 404 and CHEM 481, 482.)
1 upper division plant science course
(minimum)
- Required cognates: CHEM 111, 112, 113, 371, 372, 373
MATH 121 or 131 or 161
- Recommended: PHYS 211 and 8 units from PHYS 212-215
One of the patterns in biology, listed under
Bachelor of Science, may be elected.

BACHELOR OF SCIENCE

Biology

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

BIOL 404 or CHEM 481, 482, 483 (CHEM
481, 482, and 483 will also be accepted
in lieu of 4 units of upper division
biology elective. 4 units of upper divi-
sion biology elective will be waived
for majors completing BIOL 404 and
CHEM 481, 482.)

1 upper division plant science course
(minimum)

Required cognates: CHEM 111, 112, 113, 371, 372, 373
MATH 121 or 131 or 161

PHYS 211 and 8 units from PHYS 212-215

Recommended: A pattern in biology (which will be identified
on the transcript)

Patterns in biology (optional):

Botany —

16 units from BIOL 414, 418, 419, 456, 468,
474, 478, 485 or any field station course
approved by the faculty

Ecology and Field Biology —

BIOL 414, 415

8 units from BIOL 406, 424, 425, 449, 465,
467, 469, 475

1 approved field station course

Zoology —

BIOL 408, 466, 469

8 units from BIOL 434, 435, 438, 465, 467,
470, 475, or any field station course ap-
proved by the faculty

Biology/Research curriculum A research curriculum is open to qualified students who are interested in gaining experience in biological research. Inasmuch as the research curriculum requires a minimum of two years in the program, interested students should apply early, preferably at the beginning of the first quarter in the freshman year.

Required: BIOL 104, 105, 106, 109 (the first quarter the student is in the program), 188, 296
Additional courses selected by the student with the advice of a committee of 3 faculty members of the department
One or more oral examinations over principal field of interest
Research conducted under the guidance of the adviser

Required cognates: CHEM 111, 112, 113
Additional courses selected by the student with the advice of the committee

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

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

Intensive food production Offered with the Department of Agriculture (see requirements under that department).

Combined major If a combined major is desired, a Bachelor of Science degree is individually constructed, with course work in biology and a related department, as determined by advisers from the two departments and approved by the dean.

MINOR

Biology 29 units in biology, including
BIOL 104, 105, 106, 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 metabolism regulation, development and cellular differentiation. Three class hours, one three-hour laboratory per week.

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

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 and muscle physiology. Three class hours, one three-hour laboratory per week.

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

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, animal behavior, and energy cycles. Three class hours, one three-hour laboratory per week.

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

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 109 Research Seminar (½ unit per quarter)

Analysis of current research in biology. May be repeated for additional credit.

Prerequisite: Research curriculum in biology.

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.

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. 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. 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 188 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 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 under the direction of a staff member. May be repeated for additional credit.

Prerequisite: BIOL 188 or consent of the instructor.

UPPER DIVISION

BIOL 315 Biological Techniques (4)

Common research methods and instruments. Two class hours, two two-hour laboratories per week.

Recommended: BIOL 466; PHYS 212.

Prerequisite BIOL 104, 105, 106.

BIOL 326 Natural History (4)

Identification, distribution, and life habits of plants and animals of California. Does not apply toward a major in biology. Three class hours per week; 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, 105, 106; 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.

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.

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 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, one 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, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106.

BIOL 424 Wilderness Ecology (3)

Comparative study of biotic communities in a selected wilderness area. An intensive two-week field course.

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

BIOL 425 Limnology (4)

Physical, biological, and spiritual aspects of fresh water and their human implications. Four class hours per week; Sunday field trips.

Prerequisite: BIOL 104, 105, 106.

BIOL 427 Human Ecology (2)

Human populations in relation to the environment.

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. Two class hours, two three-hour laboratories per week.

Prerequisite: BIOL 104, 105, 106.

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. Formerly BIOL 538.

Prerequisite: BIOL 104, 105, 106.

BIOL 446 Mammalian Anatomy (4)

An intensive course in basic human anatomy, enhanced by a comparative study of the cat. Two class hours, two three-hour laboratories per week.

Prerequisite: BIOL 104, 105, 106.

BIOL 447 Genetics (4)

Heredity and variation as demonstrated by higher and lower organisms.

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 diseases. Taxonomy and morphology of fungi. Enrollment limited to 15 students. Three class hours, one three-hour laboratory per week. Formerly BIOL 387.

Prerequisite: BIOL 104, 105, 106.

BIOL 459 Histological Microtechniques (2)

Applied laboratory production of permanent microscope slides.

Prerequisite: BIOL 104, 105, 106.

BIOL 464 Principles of Development (4)

Gametogenesis, fertilization, morphogenesis, differentiation, and regeneration illustrated in the sea urchin, amphibian, chick, and human. Three class hours, 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.

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.

BIOL 468 Plant Anatomy (4)

Microscopic anatomy of plant tissues, emphasizing origin and development. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106.

BIOL 469 Animal Behavior (4)

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

Prerequisite: BIOL 104, 105, 106.

BIOL 470 Protozoology (4)

Morphology, taxonomy, and life history of free-living and parasitic protozoa. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106.

BIOL 474 Microbiology (5)

Bacteria, yeasts, 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.

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 flowering, and hormonal control. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 104, 105, 106.

BIOL 485 Systematic Botany (4)

Classification of flowering plants. Three class hours, one three-hour laboratory per week.

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 (8)

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 488 Paleobiology (4)

Principles of paleontology and study of the various groups of fossil organisms. Three class hours per week; Sunday field trips.

Prerequisite: BIOL 104, 105, 106.

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 495 Undergraduate Research (1-4)

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

Prerequisite: BIOL 188 or 388 or consent of the instructor.

BIOL 497 Supervised Project (1-4)

Laboratory project or library study of a biological topic. Limited to biology majors with a minimum overall grade point average of 2.5. May extend through a second or third quarter.

Prerequisite: Consent of the department chairman.

BIOL 499 Directed Study (1-4)

Experimental or library study of a problem of restricted scope. Limited to biology majors and to students with special preparation and a minimum overall grade point average of 2.5

Prerequisite: Consent of the department chairman.

COURSES TAUGHT AT ROSARIO BEACH MARINE STATION

- BIOL 407 Introduction to Oceanography (4)**
- BIOL 416 Biology of Marine Invertebrates (4)**
- BIOL 448 Biology of Lower Plants (4)**
- BIOL 454 Behavior of Marine Organisms (4)**
- BIOL 457 Marine Biophysics (4)**
- BIOL 460 Marine Ecology (4)**
- BIOL 462 Ichthyology (4)**
- BIOL 477 Natural History of Vertebrates (4)**

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 524 Advanced Invertebrate Biology (3)**
- BIOL 525 Selected Topics in Marine Biology (2)**
- BIOL 536 Seminar in Animal Behavior (2)**
- BIOL 544 Biosystematics and Speciation (4)**
- BIOL 546 Advances in Molecular Genetics (3)**
- BIOL 558 History and Philosophy of Science (4)**
- BIOL 564 Biochemistry and Physiology of Symbiotic Organisms (4)**
- 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 404 General Statistics (3)
- STAT 521 Biostatistics I (4)
- STAT 522 Biostatistics II (4)
- STAT 523 Biostatistics III (4)
- STAT 568 Data Analysis (2-3)
- STAT 698 Research Consultation (1-4)

**DEPARTMENT OF
BUSINESS AND ECONOMICS**

IGNATIUS I. YACOUB, Chairman; Professor of Business and Economics
PH.D. Claremont Graduate School

ARTHUR E. KLEIN, Professor of Business and Economics
M.A. Michigan State University

PETER G. STRUTZ, Professor of Psychology
PH.D. University of Alberta

ROBERT M. FORD, JR., Associate Professor of Business and Economics
M.B.A. Andrews University

LINVOL G. HENRY, Associate Professor of Business and Economics
M.S. Long Island University
Certified Public Accountant

WILLIAM J. KEY, Associate Professor of Business and Economics
M.B.A. Washington State University

GAIL L. KOSIER, Assistant Professor of Business and Economics
M.B.A. University of North Carolina
Certified Public Accountant

DANA G. THOMPSON, Assistant Professor of Business and Economics
M.B.A. West Virginia University

SAMUEL CROFT, Lecturer in Business and Economics
B.S.L. Willamette University
J.D. Willamette University

CALVIN J. HANSON, Lecturer in Insurance
B.S. Loma Linda University
Certified Property and Casualty Underwriter

NABIL Y. RAZZOUK, Lecturer in Business and Economics
D.B.A. Arizona State University

The Department of Business and Economics offers majors in business administration and accounting to prepare students for a career in church or government service, public accounting, or private business.

Core curriculum Required of all students majoring in the business and economics department.

Required: ACCT 221, 222, 314
BUAD 341, 355, 381, 382, 405, 420, 454, 474
CPTG 204
ECON 254, 255, 414

Required cognate: Evidence of basic typewriting skills (secondary school or college course work)

MAJORS

BACHELOR OF ARTS

Accounting

Required: 86 units, as follows
the core curriculum
ACCT 301, 302, 303, 354, 367
8 units chosen from ACCT 355, 404, 414,
451, 452, 465, 472

Business administration

Required: 90 units, as follows
the core curriculum
BUAD 342, 356, 375, 414, 486
12 units chosen from ACCT 301, 354
BUAD 334, 365, 366, 374, 455, 464

BACHELOR OF SCIENCE

Accounting

Required: 98 units, as follows
the core curriculum
ACCT 301, 302, 303, 354, 367, 404
BUAD 342
12 units chosen from ACCT 355, 414, 451,
452, 465, 472

Business administration

Required: 90 units, as follows
the core curriculum
BUAD 342, 356, 375, 414, 486
12 units chosen from ACCT 301, 354
BUAD 334, 365, 366, 464

Business education

Offered with the Department of Office Management (see requirements under that department).

Computing/administration

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

MINORS

Accounting	28 units, including ACCT 221, 222
Management	28 units, including ACCT 221, 222 BUAD 355
Economics	28 units, including ECON 254, 255, 314, 324, 414

ACCOUNTING

LOWER DIVISION

ACCT 205 General Survey of Accounting (4)

A course for nonbusiness majors covering the major concepts of accounting: theory, terminology, financial statements, and basic analysis as used in professional offices, small businesses, and service organizations. Does not apply toward a major or minor in the Department of Business and Economics.

ACCT 221, 222 Principles of Accounting I, II (4, 4)

Modern accounting and analysis. Accounting for proprietorships, partnerships, and corporations. Business transactions and accounting analysis.

Prerequisite: MATH 121.

UPPER DIVISION

ACCT 301, 302, 303 Intermediate Accounting I, II, III (4, 4, 4)

Problems of valuation as related to assets, liabilities, and proprietorships. Accounting implications of corporate organizations; preparation and analysis of financial statements and reports.

Prerequisite: ACCT 221, 222.

ACCT 314 Managerial Accounting (4)

Accounting for internal purposes, emphasizing decision-making, operating and capital budgeting, cost-volume-profit analysis, relevant costing and responsibility accounting, cost/profit centers, and cost allocation.

Prerequisite: ACCT 221, 222.

ACCT 354 Federal Income Tax I (4)

Provisions of federal income tax laws and regulations affecting the determination of net taxable income, with emphasis on preparation of individual returns.

Prerequisite: ACCT 221, 222.

ACCT 355 Federal Income Tax II (4)

Federal taxes on partnerships, corporations, estates, trusts; reorganizations and tax planning.
Prerequisite: ACCT 354.

ACCT 367 Cost Accounting (4)

Process and job-order cost accounting; further emphasis on standard costs, distribution costs, and flexible budgets
Prerequisite: ACCT 221, 222, 314.

ACCT 404 Auditing Theory and Practice (4)

Survey of professional ethics and legal liability, procedures of the certified public accountant in investigation and verification, preparation of the auditor's report, special reporting problems.
Prerequisite: ACCT 301, 302, 303.

ACCT 414 Current Accounting Theory (4)

Concepts and standards found in current accounting literature, current value accounting, implementation of theory in practical applications.
Prerequisite: ACCT 301, 302, 303.

ACCT 451, 452 Advanced Accounting (4, 4)

Specialized topics covered include partnerships, special business situations, consolidations, foreign operations, fiduciary accounting, and reporting.
Prerequisite: ACCT 301, 302, 303.

ACCT 465 Accounting for Nonprofit Organizations (4)

Theory and practice of the fund accounting concept as applied to government and not-for-profit organizations, including hospitals, colleges, and universities.
Prerequisite: ACCT 301, 302, 303.

ACCT 472 C.P.A. Review (4)

A comprehensive review of accounting theory and accounting practice (including tax principles) in preparation for the C.P.A. examination.
Prerequisite: ACCT 354, 451, 452.

ACCT 499 Directed Study (1-4)

Directed study for varying credits. Limited to students majoring in the department.
Prerequisite: Consent of the department chairman.

MANAGEMENT

LOWER DIVISION

BUAD 235 Money Management for Young Moderns (4)

Comprehensive financial problems and opportunities in society today. Realistic case problems, with direct applicability to personal financial planning. Does not apply toward a major or minor in the Department of Business and Economics.

UPPER DIVISION

BUAD 334 Investments (4)

A study of the various investment opportunities in savings, real estate, securities, money market instruments, and business investment.

BUAD 341 Inferential Business Statistics (4)

Sampling, probability, normal distribution, regression, correlation, and time series analysis covered, with an emphasis on financial applications of statistics.
Prerequisite: MATH 121.

BUAD 342 Quantitative Analysis for Business Decisions (4)

Making decisions with the use of decision theory, time series smoothing and forecasting methods, linear regression models, benefit cost analysis, Monte Carlo simulation, linear programming, and network models.

Prerequisite: MATH 121; BUAD 341.

BUAD 355 Principles of Management (4)

Making decisions; organizing and managing work, time, and jobs; understanding the management process; developing managerial values and skills; evaluating and improving performance.

BUAD 356 Personnel Management (4)

Study of the personnel function, which includes the development of programs for recruitment, selection, performance evaluation, training, supervision, compensation, pensions, and government regulations.

BUAD 361 Small Business Management (4)

A comprehensive application of the management process as it relates to the operation of a small business. Topics to be covered include: selecting, financing, organizing, and controlling the chosen business; licensing, permits, employees, payroll; and physical characteristics of the owner.

BUAD 365 Production Management (4)

Using the production function to develop work projects, procedures, and methods for institutional, service, and industrial operations; controlling costs; providing support services, materials, and equipment.

Prerequisite: BUAD 341.

BUAD 366 Materials Management (4)

Buying practices of institutional and industrial operations. Interrelationships of purchasing, quality control, receiving, and inventory control. Emphasis on quality, service, and price. Legal aspects of purchasing. Management patterns relating to proper maintenance of inventory records, materials handling, and storage.

BUAD 374 Principles and Practices of Insurance (4)

Risk and insurance; applications to business management and personal affairs; concepts and methods of handling risk; insurance carriers, contracts, underwriting; loss prevention and settlement; government insurance programs; economic functions of insurance.

BUAD 375 Organizational Communication (4)

Effective organizational communications, written and oral; consultations, meetings, and conferences; designing information documents; forms control; maintaining a streamlined but useful information system.

Prerequisite: ENGL 101, 102; SPCH 104.

BUAD 381 Business Law I (4)

Legal institutions and principles; judicial system, contracts, business torts and crimes, constitutional considerations, partnerships, agencies, corporations; real and personal property.

BUAD 382 Business Law II (4)

Interaction of government regulations and agencies in the domestic and international environment; negotiable instruments, secured transactions, sales, antitrust, bankruptcy, interstate commerce, tax considerations, and international transactions.

BUAD 405 Marketing (4)

Applying marketing knowledge to institutional, service, and industrial organizations; sales, advertising, and public relations decision-making through case, simulation, and field studies.

BUAD 414 Organizational Behavior (4)

Understanding the organizational environment; organizing for communication, high performance, and performance evaluation; selecting and developing the team; establishing favorable superior, peer, and subordinate relationships.

Prerequisite: BUAD 355.

BUAD 420 Career Planning (2)

Designing career paths, choosing career alternatives, self-employment, writing the resume, organizing the job search, interviews, obtaining the first position, career objectives, and promotions.

BUAD 424 Internship (12)

A twelve-week structured and supervised work experience. Taken concurrently with BUAD 499 (4 units) or ACCT 499 (4 units). Limited to juniors and seniors majoring in administration or accounting.

BUAD 454 Managerial Finance (4)

Analysis of operations; decision models for determining size and character of assets, liabilities, and equities; capital budgeting; sources and costs of capital.

Prerequisite: ACCT 221, 222, 314; ECON 254, 255.

BUAD 455 Real Estate Principles (4)

Real estate fundamentals, including ownership, appraisal law, practices, financing, values, transfers, trends, regulations, and economic effects. Principles useful to consumer or investor.

BUAD 464 Credit Administration (4)

Evaluation of customer credit, risk assumption, policies, and standards necessary for profit optimization, insurance, third-party payers, and institutional applications.

BUAD 474 Business Policy and Strategy (4)

Using managerial skills to develop integrated strategies, policies, and action plans for the organization under conditions of uncertainty, complexity, and change. Open to seniors only.

Prerequisite: BUAD 342, 355, 381, 405, 454.

BUAD 486 International Environment and Management (4)

Understanding the international environment; its cultural, economic, legal, and political aspects; markets and business customs; dealing with foreign governments and nationals; financing international business; protecting investments.

Prerequisite: ECON 254, 255; BUAD 355.

BUAD 489 Developing Personal Values (4)

Development of the whole person through the exploration of the religious, moral, ethical, societal, ecological, economic, mental, and physical aspects and issues. Does not apply toward a major or minor.

BUAD 499 Directed Study (1-4)

Self-directed research for varying credit. Limited to students majoring in the department.

Prerequisite: Consent of the department chairman.

ECONOMICS

LOWER DIVISION

ECON 254, 255 Economics I, II (4, 4)

The nature and causes of economic growth, inflation, recession, unemployment, shortages, and surpluses. Supply, demand, competition, monopoly, economic choice, capitalism, socialism, international trade, government taxation and spending policy, and monetary systems.

Prerequisite: Fulfillment of the general studies requirement in computational skills.

UPPER DIVISION

ECON 314 Intermediate Macroeconomic Analysis (4)

Theory and analysis of determinants of economic conditions at the national level. Economic growth, price stability, employment, interest rates; current applications, monetarist and neo-Keynesian perspectives. Offered alternate years.

Prerequisite: BUAD 341; ECON 254, 255.

ECON 324 Intermediate Microeconomic Analysis (4)

Theories of the firm, production, pricing, resource allocation; demand theory, modern theories of economic behavior, and market imperfections. Offered alternate years.

Prerequisite: BUAD 314; ECON 254, 255.

ECON 414 Financial Institutions, Markets, and Instruments (4)

The banking system of the United States and its functions. The relationship of banking, money, and credit to the economy. Offered alternate years.

Prerequisite: ECON 254, 255.

DEPARTMENT OF CHEMISTRY

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

WILLIAM M. ALLEN, Professor of Chemistry
PH.D. University of Maryland

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

DAVID RICHARDSON, Professor of Chemistry
PH.D. Utah State University

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

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

RONALD A. GALAWAY, Associate Professor of Chemistry
PH.D. University of California, Riverside

MARIA TERESA F. SAJID, Assistant Professor of Chemistry
M.S. Ateneo de Manila University

COLLABORATING FACULTY

W. BARTON RIPPON, Professor of Biochemistry
PH.D. University of Newcastle
Loma Linda University, School of Medicine

RENE EVARD, Associate Professor of Biochemistry
PH.D. Michigan State University
Loma Linda University, School of Medicine

E. CLIFFORD HERRMANN, Associate Professor of Biochemistry
PH.D. Virginia Polytechnic Institute and State University
Loma Linda University, School of Medicine

GEORGE M. LESSARD, Associate Professor of Biochemistry
PH.D. University of California, Riverside
Loma Linda University, School of Medicine

The Department of Chemistry offers majors in chemistry, biochemistry, and physical science to prepare students for careers in these areas as well as the health sciences and teaching.

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, 224, 351, 352, 371, 372,
373, 404 (1 unit)
Required cognates: MATH 131, 132 PHYS 211, 212
Computer skills, course work on secondary or college level, including programming or equivalent skills

MAJORS

BACHELOR OF ARTS

Biochemistry

Required: 60 units in chemistry, including
the core curriculum
CHEM 481, 482, 483
Required cognates: BIOL 104, 105, 106

Chemistry

Required: 60 units in chemistry, including
the core curriculum
CHEM 353, 374
8 units from CHEM 421, 422, 423
Required cognates: PHYS 213 or 214 or 215

BACHELOR OF SCIENCE

Biochemistry

Required: 71 units in chemistry, including
the core curriculum
CHEM 421 or 422, 481, 482, 483, 498 (1
unit)

Required cognates: BIOL 104, 105, 106

Chemistry

Required: 71 units in chemistry, including the core curriculum
CHEM 353, 374 (8 units from 421, 422, 423), 498 (1 unit)

Required cognates: MATH 133 PHYS 213 or 214 or 215

Physical science

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

Required: 72 units in chemistry and physics, including the core curriculum (PHYS 211, 212 count on major)
CHEM 415 or 421
GEOL 104
PHYS 213, 214, 215, 304

Required cognates: BIOL 104, 105, 106 CHEM 204
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

COURSES

LOWER DIVISION

CHEM 101, 102, 103 are designed for liberal arts students and those preparing to enter nursing and other allied health programs. Credit does not apply toward a major program in chemistry or biochemistry or toward preprofessional requirements for dentistry, medicine, or medical technology. Three class periods, one three-hour laboratory per week.

CHEM 101 Introductory Inorganic Chemistry (4)

CHEM 102 Introductory Organic Chemistry (4)

Prerequisite: CHEM 101 or equivalent.

CHEM 103 Introductory Biochemistry (4)

Prerequisite: CHEM 102 or equivalent.

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 for two quarters in the principles and techniques of quantitative analysis; qualitative analysis the third quarter. 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 104.

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 334 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.

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; MATH 131, 132; PHYS 211, 212.

CHEM 352 Physical Chemistry/Dynamics (4)

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

Prerequisite: CHEM 111, 112, 113, 351; MATH 131, 132; PHYS 211, 212.

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 111, 112, 113, 352; MATH 131, 132; PHYS 211, 212.

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

First and second quarters: an integrated study of the chemical and physical properties of aliphatic and aromatic compounds. Three class periods, one three-hour laboratory per week.

Third quarter: includes biochemical compounds. Four class periods 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 385 Nutritional Biochemistry (4)

A study of metabolism, macronutrition, vitamins, trace elements, food additives, processing, and the nutritional requirements in life periods in a framework of optimal health and prevention of disease. Not applicable to a biochemistry major.

Prerequisite: CHEM 371, 372, 373.

CHEM 404 Chemistry Seminar (½)

May be repeated for credit with a maximum of 2 units applying toward the major.

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. 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 and chromatographic separation and 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. Application includes mass spectrometry, x-ray, and radionuclear methods of analysis. Three class periods, one three-hour laboratory per week, including a term project.

Prerequisite: CHEM 421 or 422 or equivalent.

CHEM 431 Geochemistry (4)

Chemical concepts and their geochemical applications in areas of interest in geology.

Identical to GEOL 431.

Prerequisite: CHEM 111, 112, 113; GEOL 104 or consent of the instructor.

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 (4)

Components of biological systems: proteins, enzymes, carbohydrates, nucleic acids.

Prerequisite: CHEM 371, 372, 373.

CHEM 482 Biochemistry (4)

Metabolism of carbohydrates, lipids, proteins, and nucleic acids.

Prerequisite: CHEM 481.

CHEM 483 Biochemistry (4)

Advanced topics. Two class periods, two three-hour laboratories per week.

Prerequisite: CHEM 482.

CHEM 489 Science and the Christian Faith (4)

Does not apply toward a major or minor.

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, Chairman; Assistant Professor of Communication
M.A. California State University, Northridge

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

MARTIE PARSLEY ERNE, Instructor in Communication
M.A. West Virginia University

L. CALVIN OSBORN, Lecturer in Communication
PH.D. University of Southern California

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.

Programs The department offers Bachelor of Arts degrees in speech communication and mass media. Mass media students may select an emphasis in journalism, public relations, and advertising; or in radio, television, and film.

The speech communication major is designed for students with a general interest in the communication process. It may be used as a preprofessional major or as preparation for graduate school.

The mass media programs are 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, and film 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.

MAJORS

BACHELOR OF ARTS

Mass media

Required core curriculum: CMME 226, 227, 415
COMM 488
Proficiency in typewriting by the beginning of junior year

Emphasis in journalism, public relations, and advertising

Required: 60 units, including the required core curriculum
CMME 340, 346
12-14 units from
CMME 228, 229, 238, 337, 365, 427, 434

Remaining units to be in consultation with departmental adviser from
CMME 234, 237, 345, 348, 358, 427, 495
COMM 376, 465
SPCH 326, 328
or other department courses related to the student's career goals

Required cognates: The student will choose one of the following cognate groups

Group 1 —
ART 111, 244
ECON 254 PHTO 224

Group 2 —
ACCT 205 ART 144 BUAD 405
PHTO 224

Group 3 —
A cognate package approved by the department

Emphasis in radio,
television, and film

Required: 60 units, including
the required core curriculum and
CMME 126, 221, 222, 255, 316
2 courses selected from
CMME 228, 238, 365
Remaining units to be selected in con-
sultation with departmental adviser from
CMME and COMM courses and from
SPCH 216, 315, 326, 328

Required cognates: 14-16 units selected from
ACCT 205 ART 144 CPTG 225
ECON 254, 255 PHTO 224, 324
PHYS 204 or 215

OR

A cognate package approved by the de-
partment

Speech communication

Required: 52 units, including
CMME 226, 340
COMM 244, 376, 488
SPCH 216, 326, 328, 424

Required cognates: 8 units from
ART 111, 112, 244 PSYC 344, 474, 544
PHTO 224 SOCI 304

MINORS

Mass media 28 units, including CMME 226
Speech communication 28 units, including
SPCH 104, 216, 328, 417
RELP 361 and/or 362 may apply for stu-
dents majoring in ministerial studies

SPEECH COMMUNICATION

LOWER DIVISION

SPCH 104 Fundamentals of Speech (4)

Oral communication of ideas to others; self-appraisal; evaluation of the speech of others. Does not apply toward any major in communication.

Prerequisite: Placement examination performance satisfactory for entrance to ENGL 101. Students for whom English is a second language must first complete ENGL 101.

SPCH 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.

SPCH 204 Oral Interpretation (4)

Theory and practice of oral communication of poetry, prose, drama; contributing to an understanding and appreciation of literature.

SPCH 216 The Speaking Voice (4)

Study and development of vocal habits and skills which produce communicative speech through voice analysis, appropriate exercises, and interpretative readings.

UPPER DIVISION

SPCH 315 Transcription Phonetics (3)

Speech sounds as elements of language; application to understanding and speaking languages. Emphasis on the International Phonetic Alphabet and its application.

SPCH 325 Oral Reading of the Bible (4)

Primarily for the ministerial student wishing to develop ability in effective, meaningful oral communication of Scripture.

SPCH 326 Semantics (4)

Functions of language in a cultural context; ways in which meaning is derived from symbols, words, and actions.

SPCH 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.

SPCH 329 Advanced Public Address (4)

Practical experience in platform speaking. Emphasis on organization, logic, and persuasive concepts. Analysis and critiques.

SPCH 417 Discussion and Argumentation (4)

Forces contributing to the productivity and cohesiveness of groups; nature of group leadership and organization.

SPCH 424 Classical Rhetorical Theory (4)

Rhetorical concepts in the classical world, with emphasis on Plato, Aristotle, Cicero, and Quintilian in relation to modern rhetorical theory. Offered alternate years.

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 including practical application of basic radio station operating techniques and procedures.

CMME 218 Advanced Announcing (2)

Analysis of announcing techniques and practice in their application. Emphasis on radio announcing but some television announcing included.

Prerequisite: CMME 126 or consent of the instructor.

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.

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 226 Mass Media (4)

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

CMME 227, 228 Newswriting (3, 3)

Gathering news and writing news stories; assignments such as beginning reporters encounter in their first newspaper job. CMME 228 includes preparation of news broadcasts.

CMME 229 Advanced Reporting and News Editing (3)

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

Prerequisite: CMME 227.

CMME 234 Photojournalism (4)

Pictures to give graphic impact to news and feature stories. Processing and editing of pictures taken by the student.

CMME 236 Audio Production (2)

A study of the theory of audio signal processing and practical applications of microphones, amplifiers, monitors, equalizers, and other equipment used in audio production.

Prerequisite: CMME 126; PHYS 204 or 215 or consent of the instructor.

CMME 237 Principles of Advertising (4)

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

CMME 238 Copywriting (3)

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

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

CMME 255 Fundamentals of Cinematography (4)

Personal cinematic expression. 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 265 Film As Art (4)

Understanding film and film aesthetics. Developing an appreciation of film art.

UPPER DIVISION

CMME 316 Broadcasting Systems (4)

Study of the commercial and public broadcasting systems operating in the United States. Also an introduction to broadcasting systems used in other countries.

Prerequisite: CMME 226.

CMME 327 Multi-Image Programming Techniques (4)

Planning and creation of multi-image productions. Tailored to students' special interests.

CMME 337 Magazine Article Writing (3)

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

CMME 340 Public Opinion (4)

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

CMME 345 Institutional Public Relations (4)

Origin, objectives, and contemporary practice of institutional public relations as a social process. Offered alternate 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 alternate years.

CMME 348 Development and Fund Raising (4)

Principles and techniques of fund raising and development. Design of development campaigns, personal motivation of donors, tax incentives.

CMME 353 Radio Programming (4)

Examination of radio formats. Application of demographic data.

CMME 354 Station Management (4)

Duties of the station manager and relations with personnel and regulatory agencies.

CMME 355 Advanced Film Production (4)

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

Prerequisite: CMME 255 or consent of the instructor.

CMME 358 Advertising Sales (4)

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

CMME 365 Script Writing (4)

Techniques involved in writing scripts.

CMME 415 Mass Media 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 alternate years.

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

CMME 421 Television Production I (2)

Principles and techniques of television production. Emphasis on the functions of the various members of the television crew. Laboratory required.

Prerequisite: CMME 222 or consent of the instructor.

CMME 422 Television Production II (2)

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

Prerequisite: CMME 421 or consent of the instructor.

CMME 427 Newspaper Makeup and Production (4)

Various styles of makeup, production procedures. Practical experience; field trips. Offered alternate years.

Prerequisite: CMME 227, 229.

CMME 434 Magazine Editing (4)

Development of editorial formulas; selection of articles and illustrations; makeup.

CMME 455 Documentary Film Production I (4)

The producer's role in documentary film. Research, scripting, preproduction planning. Study of the documentary film genre: its history, aesthetics, and conventions. Offered alternate years.

Prerequisite: CMME 222 or 255 or consent of the instructor.

CMME 456 Documentary Film Production II (4)

Documentary production and postproduction techniques. Shooting, editing, sound. Actual experience producing documentaries planned in CMME 455. Offered alternate years.

Prerequisite: CMME 455 or consent of the instructor.

CMME 495 Practicum/Internship (1-12)

On-the-job experience arranged and supervised for advanced students. Not more than 12 units of CMME 495 may be applied to the major. Up to 4 additional units may be used as free elective units. Departmental consent required.

COMMUNICATION, GENERAL

LOWER DIVISION

COMM 244 Interpersonal Communications (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.

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 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.

COMM 465 Topics in Communication (4)

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

COMM 488 Theory of Communication (4)

Modern developments and experimentation in communication theory. Offered alternate years.

COMM 489 Christian Communication (4)

Message of Christianity as the medium for closing the communication gap between man and God. Philosophies of communication. Does not apply toward a major or minor.

COMM 499 Directed Study (2-4)

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

**DEPARTMENT OF
CONSUMER RELATED SCIENCES**

TOINI SHOBE, Interim Chairman; Professor of Consumer Related Sciences
ED.D. University of Southern California

MARILYN M. BEACH, Assistant Professor of Consumer Related Sciences
M.A. Loma Linda University

PATRICIA M. FOLL, Assistant Professor of Consumer Related Sciences
M.ED. Miami University

MICHELLE G. HENRY, Assistant Professor of Consumer Related Sciences
M.A. George Peabody College for Teachers

KATHLEEN A. RUF, Assistant Professor of Consumer Related Sciences
PH.D. University of Wisconsin

VERNON L. CRAIN, JR., Instructor in Consumer Related Sciences
M.S. Loma Linda University

GAIL T. RICE, Lecturer in Family Health
M.A. Andrews University

COLLABORATING FACULTY

KATHLEEN K. ZOLBER, Professor of Nutrition
PH.D. University of Wisconsin
Loma Linda University, School of Health

Objectives The objectives of the Department of Consumer Related Sciences are to provide specialized instruction for professional careers and to emphasize the paramount interests and well-being of the individual, the consumer, and the family.

Preparation for teaching A student preparing to teach 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.

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

MAJORS

BACHELOR OF SCIENCE

Child development

Required: 87 units in consumer related sciences, as follows

CFSC 244, 274, 275, 276, 277, 284 (4 units),
285 (4 units), 477, 478, 484 (8 units), 485
(2 units), 486

FDNT 225, 318

HMEC 289, 304 (3 units), 444, 446, 447

INTR 356, 448

TXTL 258

Required cognates:

BIOL 107 or 115

EDCE 460 in the School of Education

ENGL 415 PEAC 133, 181

PSYC 104, 224 SPPA 277

Child development / Early childhood education

This major program satisfies the requirements for the General Conference Department of Education Standard Credential in Elementary Education. With the successful passing of the National Teachers' Examination, it also meets the California state requirements for a preliminary teaching credential.

Required: 49 units in consumer related sciences, as follows

CFSC 244, 274, 275, 276, 277, 285 (4 units),
477, 478, 485 (2 units), 486

FDNT 225

HMEC 289, 304 (3 units)

45 units in education, as follows

EDCI 204, 414, 415, 416, 417, 418, 425 in
the School of Education

EDFO 305, 404 in the School of Education

Required cognates;

BIOL 107 or 115

EDCE 460 in the School of Education

ENGL 415

MATH 225

PEAC 133, 181

PSYC 104, 224

RELT 245, 254

RELH 485

SPPA 277

Dietetics

Offered through the School of Allied Health Professions. See the chairman of the Department of Consumer Related Sciences for pre-dietetics requirements offered in the College of Arts and Sciences.

Home economics

- Required: 72 units in consumer related sciences, as follows
CFSC 244, 274, 486
FDNT 204, 225, 318
HMEC 226, 289, 304 (3 units), 444, 446, 447, 475, 497
INTR 356, 448
TXTL 254, 257, 274, 364
- Required cognates: BIOL 107 CHEM 101, 102, 103
PSYC 104, 224
- Recommended: SOCI 104 or ECON 254
- Emphasis in education
(optional): EDCI 204, 414, 430 EDFO 305, 404 in the School of Education
- Emphasis in business
(optional): ACCT 221, 222 ECON 254
BUAD 355, 366, 405

Textiles and fashion merchandising

- Required: 62 units in consumer related sciences, as follows
CFSC 244, 274
HMEC 226, 289, 304 (3 units), 446, 475, 485 (4 units)
TXTL 254 (8 units), 257, 258, 264, 274, 364, 454, 465, 467
- Required cognates: ACCT 221, 222 ART 111, 112, 224, 244
CHEM 101 CPTG 225 ECON 254
BUAD 355, 366, 405
- Recommended: HMEC 485 (4 additional units)
INTR 356

MINORS

- Child development 28 units, as follows
CFSC 244, 274, 275, 276, 277, 486, 489
- Clothing 28 units (16 upper division, selected in consultation with the department adviser)
- Home economics 29 units, as follows
CFSC 274, 289 FDNT 204, 225
TXTL 254, 258 HMEC 304 (1 unit), 446

ASSOCIATE DEGREE PROGRAMS

ASSOCIATE IN SCIENCE

Child and family science

- Required: 33 units in consumer related sciences, as follows
CFSC 244, 274, 275, 276, 277, 284 (4 units),
285 (4 units)
FDNT 225
HMEC 304 (1 unit)
- Required cognates: BIOL 107 CFSC 489 PEAC 133, 181
PSYC 104, 224 SPPA 277
2 units avocational skills
- Recommended: ENGL 415 TXTL 258

CHILD AND FAMILY SCIENCE

LOWER DIVISION

CFSC 244 Family Health (4)

Health factors focusing on human sexuality, weight control, alcohol, stress, depression, suicide, birth control, pregnancy, childbirth, newborn and child health, handling emergencies, aging and death as related to the individual and the family.

CFSC 274 Dynamics of Love and Marriage (4)

Relationships in marriage affecting communication, sexuality, masculinity-femininity, financial management, marital conflicts, relatives, in-laws, religious factors, parent-child, and divorce.

CFSC 275 Socialization of Young Children (4)

Social-emotional behavior and development in early childhood; health and safety, children with special needs, effective methods of working with children; interrelationships of parents, children, and teachers; history of early childhood education.

CFSC 276 Developing Creativity in Young Children (4)

Development of creativity and self-expression in preschool children through art, music, movement, play, and literature.

CFSC 277 Learning Experiences for Young Children (4)

Developing and planning preschool curriculum and learning environment; cognitive development in areas of language arts, science, math, social studies, religion, cooking; special occasions and field trips.

CFSC 284 Preschool Experience (4)

Observation and participation in childcare program.

Prerequisite: CFSC 275, 276, 277; or consent of the instructor

CFSC 285 Administration and Supervision of Preschool (4)

Participation in administration and supervision of child care programs.

Prerequisite: CFSC 275, 276, 277; or consent of the instructor.

CFSC 299 Directed Study (1-4)

UPPER DIVISION

CFSC 477, 478 Administration of Child Care Centers I, II (4, 4)

Developing and operating childcare centers; fiscal and program management skills and interpersonal relationships skills. Offered alternate years.

Prerequisite: CFSC 284, 285 or consent of the instructor.

CFSC 484 Directed Teaching in Child Development Centers (8-12)

Application of child development principles in working with young children.

Prerequisite: CFSC 284, 285 and consent of the CRS fieldwork committee.

CFSC 485 Fieldwork in Family and Community Services (2-4)

Analysis of individual and family needs and the social institutions and agencies serving these needs. Offered alternate years.

Prerequisite: Consent of the instructor.

CFSC 486 Parenting (4)

Analysis of current theories and patterns of child rearing and parenting skills related to the wholistic development of the child; exploration of contemporary issues in child rearing.

CFSC 489 Moral Development of the Child (4)

Analysis and comparison of contemporary moral development theorists and Ellen G. White's principles of influencing the moral behavior of children; effects of family interaction; development of a personal philosophy.

CFSC 499 Directed Study (1-4)

CFSC 574 Family Relationships (4)

Interaction and interpersonal relationships through various stages of the family life cycle; influence of family on development of values, goals, attitudes, behavior patterns.

Prerequisite: CFSC 274 or consent of the instructor.

CONSUMER SCIENCE

LOWER DIVISION

HMEC 226 Orientation to Occupational Programs in Home Economics (1)

Development and administration of occupational and career programs for youth and adults in school and the community. Offered alternate years.

HMEC 289 Personal Development for the Professional (4)

Social and professional codes of ethics; habits, manners, and grooming.

HMEC 299 Directed Study (1-4)

Individual guided study. Limited to students majoring in the department.

UPPER DIVISION

HMEC 304 Consumer Related Sciences Seminar (1/2)

Contemporary issues in consumer related sciences. Required of all students majoring in a program in the Department of Consumer Related Sciences, for a total of 3 units.

HMEC 404 Workshops in Consumer Related Sciences (1-4)

HMEC 444 Management in Family Living (4)

Principles of home management in relation to needs and resources of individuals and families. Offered alternate years.

Prerequisite: Consent of the instructor.

HMEC 446 Consumer Issues (4)

Personal and family money management, consumer decision making, credit, evaluation of consumer information and protection.

Prerequisite: Upper division standing.

HMEC 447 Household Equipment (2)

Selection, use, and care of household appliances and equipment. Offered alternate years.

HMEC 475 Demonstration Techniques (4)

Selection, organization, and presentation of material for professional home economics demonstrations. Offered alternate years.

Prerequisite: Departmental major or consent of the instructor.

HMEC 485 Home Economics Field Experience (1-4)

May be repeated for additional credit to a maximum of 8 units.

HMEC 497 Knowledge and Skills in Home Economics (4)

Application and development of individualized instructional products, demonstration materials, and other instructional aids. Offered alternate years.

HMEC 499 Directed Study (1-4)

Individual guided study. Limited to students majoring in the department.

HMEC 504 Workshops in Selected Topics (1-4)

HMEC 505 Home Economics in Contemporary Society (4)

Required of all candidates for Master of Arts degree in secondary teaching in home economics.

HMEC 544 Trends in Consumer Problems (2-4)

HMEC 567 Trends and Issues in Home Economics (2-4)

HMEC 584 Seminars in Selected Topics (2-4)

HMEC 595 Readings and Conferences (2-4)

HMEC 597 Selected Problems in Consumer Related Sciences (4)

HMEC 598 Project (3-4)

HMEC 599 Research and Thesis (4)

FOODS AND NUTRITION SCIENCE

LOWER DIVISION

FDNT 204 Principles of Food Preparation (4)

Physical and chemical properties of foods, methods and techniques of food preparation, consumer evaluation, and basic sanitation. Three class hours, three laboratory hours per week.

FDNT 225 Human Nutrition (4)

Nutrients, their digestion and metabolism; nutritional requirements at various age levels. For the medically oriented student.

FDNT 266 Culinary Specialties (2)

Varied content offered each quarter with specific areas listed in class schedule. Offered primarily for general students. Applies toward pre-dietetics electives. May be repeated with new content for additional credit. Laboratory required.

FDNT 269 Diet and Disease (2)

Dietary changes as required by various physiological conditions altered by disease and abnormalities.

UPPER DIVISION

FDNT 318 Meal Planning and Preparation (4)

Aesthetic family meals: food selection, preparation, and service in relation to management of time, energy, and money. Three class hours, three laboratory hours per week.

FDNT 414 Vegetarian Cookery for the Family (2)

Planning and preparation of vegetarian protein foods; analysis of meatless diets. One class hour, three laboratory hours per week.

FDNT 416 Experimental Foods (2 or 4)

Relation of physical and chemical reactions in food preparation to product quality; application of experimental procedures. Three class hours, three laboratory hours per week. Taught as needed.

Prerequisite: CHEM 101, 102.

FDNT 499 Directed Study (1-4)

INTERIOR DESIGN

LOWER DIVISION

INTR 246 Interior Decorating (2-4)

Planning the effective use of space in a home to enhance the appropriate functional and visual atmosphere. The correct use of color in background and furniture emphasized.

UPPER DIVISION

INTR 356 Decorating and Furnishing the Home (4)

Art principles applied to selection and use of furniture, fabrics, and accessories appropriate for various types of homes.

INTR 448 Housing (4)

Planning and financing; psycho-social, functional, and aesthetic factors in housing. Offered alternate years.

TEXTILES AND CLOTHING

LOWER DIVISION

TXTL 254 Clothing Construction (2 or 4)

Principles and application of construction techniques. Instruction adapted to student's previous experience. Laboratory required. May be repeated for additional credit for advanced work to a maximum of 8 units.

TXTL 257 Techniques of Fitting (4)

Application of pattern alteration and garment fitting techniques and alterations. May be repeated for additional credit.

Prerequisite: TXTL 254 or consent of the instructor.

TXTL 258 Clothing for the Family (4)

Emphasis on the psychological, physical, and social significance of dress as it relates to family members. Laboratory required.

TXTL 264 Fashion Merchandising (4)

An introduction to production, retailing, and consumption patterns in the fashion industry on national and international levels. Offered alternate years as needed.

TXTL 274 Creative Stitchery (2)

Application of various stitchery techniques. May be repeated for additional credit to a maximum of 6 units.

TXTL 299 Directed Study (1-4)

UPPER DIVISION

TXTL 364 Introduction to Textiles (4)

Textile fibers, yarns, fabrics, and finishes, with emphasis on selection, use, and care by the consumer. Offered alternate years.

TXTL 454 Creative Pattern Making (4)

Principles and techniques of pattern making. May be repeated for additional credit.

Prerequisite: TXTL 254, 257 or consent of the instructor.

TXTL 465 Clothing and Society (4)

Survey of influences on clothing and textiles, including sociological, psychological, historic, and economic factors. Offered alternate years as needed.

TXTL 467 Advanced Textiles (4)

Physical and chemical properties of textile fibers; yarn and fabric structure; current developments in the textiles field. Offered alternate years.

Prerequisite: TXTL 364.

TXTL 499 Directed Study (1-4)

TXTL 552 Advanced Flat Pattern Design (2-4)

Prerequisite: TXTL 454 and consent of the instructor. Offered as needed.

TXTL 558 Tailoring (4)

Application of tailoring techniques. Offered as needed.

Prerequisite: TXTL 254 and consent of the instructor.

TXTL 565 Advanced Clothing and Society (4)

Survey of influences on clothing, including sociological, psychological, historic, and economic factors. Development of textiles from ancient times among peoples of diverse cultures. Major focus on textiles and clothing from Western civilization. Offered as needed.

DEPARTMENT OF ENGLISH

LLEWELLYN E. FOLL, Chairman; Professor of English
PH.D. Michigan State University

DOROTHY M. COMM, Professor of English
PH.D. University of Alberta

ROBERT P. DUNN, Professor of English
PH.D. University of Wisconsin

GROSVENOR R. FATTIC, Professor of English
PH.D. Michigan State University

OPAL I. HAGELGANTZ, Professor of English
ED.D. University of Nebraska

MARILYN C. TEELE, Professor of English
M.ED. Boston University

CORDELL A. BRIGGS, Assistant Professor of English
PH.D. Howard University

KENNETH E. MATTHEWS, Assistant Professor of English
M.A. Andrews University

BEATRICE J. SMITH, Assistant Professor of English
M.A. Loma Linda University

CAROLE J. RICK, Instructor in English
M.A. Loma Linda University

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.

MAJORS

BACHELOR OF ARTS

English

Required: 62 units (36 upper division) in English, including
ENGL 205, 417, 445, 465, 485 (2 units)
8 units from ENGL 224, 225, 425
8 units from ENGL 304, 305, 306, 404, 406
8 units from ENGL 385, 475 or LING 477
16 units from ENGL 434-438
4 units from ENGL 457-459

Required cognates: HIST 307 or 308
Foreign language through level IV
1 upper division reading course in the foreign language or ENGL 354 or 354A (Classical Heritage)
4 units from HIST 435-437 or PHIL 204-208 or 435
4 units from ART 305-307 or MUHL 335-337 or ENGL 247A (Discovering Ourselves in Art) or 255B (the Bible in Literature and Art)

Writing

Required: 58 units in English and communication, including
ENGL 205, 304, 404, 417, 485 (2 units), 495 (4 units)
CMME 226, 227, 228
4 units from ENGL 224, 225, 425
4 units from ENGL 385, 475 or LING 418, 477 or ANTH 306
8 units from ENGL 434-438
4 units from ENGL 305, 306, 406
6 units from CMME 229, 234, 238, 327, 337, 365

Required cognates: 8 units from HIST 207, 208, 209
Foreign language through level IV
1 upper division reading course in the foreign language or ENGL 354 or 354A (Classical Heritage)

MINOR

English/writing

English/writing 30 units at or above the 200 level, including ENGL 205

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.

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.

ENGL 055 Introduction to Technical Writing (4)

A basic writing course for professional students who are not placed into ENGL 101. It is not intended for students in the College of Arts and Sciences, the School of Education, or the Division of Religion. It carries only elective credit when transferred into a degree program in one of these schools.

NOTE: A sequence of courses in English as a second language is available through the Department of Modern Languages.

LOWER DIVISION

ENGL 101 Freshman English (4)

Techniques and practice of expository writing.

Prerequisite: Satisfactory performance on a placement examination or a C or better in ENGL 005.

ENGL 102 Freshman English (4)

Techniques and practice of critical, argumentative, and research writing.

Prerequisite: ENGL 101.

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 ENGL 101, 102. Students performing at a grade level of B or better not required to take ENGL 101, 102. Students performing at a grade level of B- or lower must take only ENGL 102.

Prerequisite: Satisfactory performance on a placement examination and consent of the instructor.

Satisfactory completion of ENGL 102 or 124 or the equivalent is prerequisite to registration for courses numbered above 200.

ENGL 204 Writing Laboratory (1-4)

Individual and/or group instruction on specific writing problems. A student may take the course voluntarily or by reference from a teacher only after completion of the freshman English requirement or the equivalent. Not applicable on the major or minor in English or writing.

ENGL 205 Literary Analysis (4)

An introduction to major literary forms, critical approaches to literature, and writing about literature. Primarily for English majors and minors.

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 234 English Literature to 1750 (4)

ENGL 235 English Literature since 1750 (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, etc.). Offered primarily for general students, but applies toward a major in English. May be repeated with new content for additional credit.

ENGL 247 Major Themes in Art and Literature (4)

An interdisciplinary study of an idea or theme (e.g., the dignity of man, war and peace, man and nature) as treated in literature, music, and the visual arts.

ENGL 255 Religious Literature (4)

ENGL 299 Directed Study (1-4)

UPPER DIVISION

ENGL 304 Expository Writing (4)

ENGL 305 Poetry Writing (4)

Offered alternate years.

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.

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.

ENGL 404 Narrative Writing (4)

ENGL 406 Visiting Writer (1-4)

Intensive study with a visiting writer. Students will study the works of the instructor and also produce original work of their own under his/her instruction. May be repeated for additional credit under the direction of another visiting writer.

Prerequisite: Consent of the instructor.

ENGL 415 Literature for Children (4)

Readings in works written for children.

ENGL 416 Literature for Adolescents (4)

ENGL 417 Knowledge and Skills in Literature (4)

Offered alternate years.

ENGL 425 Major American Authors or Movements (4)

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 437 Nineteenth-Century English Literature (4)

Offered alternate years.

ENGL 438 Twentieth-Century English Literature (4)

ENGL 445 Biblical Literature (4)

ENGL 457 Chaucer (4)

Offered alternate years.

ENGL 458 Shakespeare (4)

Offered alternate years.

ENGL 459 Milton (4)

Offered alternate years.

ENGL 465 Literary Criticism: The Major Texts (4)

Offered alternate years.

ENGL 475 History of the English Language (4)

Offered alternate years.

ENGL 485 English Colloquium (½)

Required of English majors during the junior and senior years. May be repeated for additional credit.

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 495 Senior Writing Project (4-8)

A major, individualized writing project or internship.

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 (4)

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

LANNY H. FISK, Chairman; Associate Professor of Geological Sciences
PH.D. Loma Linda University

KNUT ANDERSSON, Assistant Professor of Geological Sciences
PH.D. University of Wyoming

H. PAUL BUCHHEIM, Assistant Professor of Geological Sciences
PH.D. University of Wyoming

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

ARTHUR V. CHADWICK, Associate Professor of Biology
PH.D. University of Miami

CONRAD D. CLAUSEN, Associate Professor of Biology
PH.D. Loma Linda University

IVAN E. ROUSE, Associate Professor of Physics
PH.D. Washington State University

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 unique undergraduate research and senior thesis program, 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 interpretation 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 environmental and 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.

MAJORS

BACHELOR OF SCIENCE

Geology

- Required: 65 units of geology, including
GEOL 104, 105, 106, 204, 205, 206, 304,
305, 306, 315, 325, 398, 425, 498
- Required cognates: CHEM 111, 112, 113
MATH 121, 122 (or equivalent); MATH 131,
132
A course in statistics or computer programming
PHYS 211, 215, and one of the following:
PHYS 212, 213 or 214

Emphasis in
paleontology: 3 courses in paleontology
Required cognates: BIOL 104, 105, 106

MINOR

Geology 32 units of geology, including
GEOL 104, 105, 106, 204, 205, 206, 489

COURSES

LOWER DIVISION

GEOL 104 Physical Geology (4)

Composition and structure of the earth, with emphasis on the physical processes and forces acting upon and within it. Three class hours, one three-hour laboratory or a field trip per week.

GEOL 105 General Paleontology (4)

An 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 and one three-hour laboratory per week. One field trip required.

Prerequisite: One year of high school biology or BIOL 106.

GEOL 106 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.

GEOL 204 Minerology (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.

GEOL 205 Lithology (4)

Descriptive and systematic study of igneous, metamorphic, and sedimentary rocks in hand specimens and in thin section. Petrographic principles and use of the optical microscope are emphasized. Two class hours and two three-hour laboratories or a field trip per week.

Prerequisite: GEOL 204 or consent of the instructor.

GEOL 206 Petrology (4)

Study of the origin, occurrence, and history of igneous, metamorphic, and sedimentary rocks. Three class hours and one three-hour laboratory or a field trip per week.

Prerequisite: GEOL 205 or consent of the instructor.

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 and one three-hour laboratory or field trip per week.

Prerequisite: GEOL 205, 206, or consent of the instructor.

GEOL 305 Stratigraphy (4)

A study of the principles of litho-, bio-, and chronostratigraphy and methods of correlation of sedimentary rocks. Three class hours, one laboratory or field trip per week.

Prerequisite: GEOL 206, 304, or consent of the instructor.

GEOL 306 Structural Geology (4)

The 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.

Prerequisite: GEOL 305 and physics.

GEOL 315 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 325 Field Methods in Geology (4)

Introduction to techniques of geologic mapping on both topographic maps and aerial photographs, use of field equipment, and preparation of geologic reports. Two class hours and one full-day field trip per week.

Prerequisite: GEOL 305 and 306.

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.

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.

Prerequisite: GEOL 325.

GEOL 431 Geochemistry (4)

Chemical concepts and their geochemical applications in areas of interest in elementary geology. Identical to CHEM 431.

Prerequisite: CHEM 111, 112, 113; GEOL 104 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 will be studied; as well as the dynamics of the earth's crust, plate tectonics, and radioactive dating. Identical to PHYS 437.

Prerequisite: Three quarters general physics and 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 204, 205, 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 and one laboratory or a field trip per week.

Prerequisite: GEOL 206, 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 and one laboratory or a field trip per week.

Prerequisite: GEOL 453.

GEOL 472 Petroleum Geology (4)

Study of the methods of locating and exploiting reserves of oil and natural gas. Two lectures and laboratories per week. One field trip required.

Prerequisite: GEOL 305, 306, or consent of the instructor.

GEOL 474 Field Studies in Geology (1-4)

An in-depth study of the regional geology of selected areas such as southern California, Mohave Desert, or one or more natural parks. Includes both literature and field study.

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.

Prerequisite: GEOL 106 or consent of the instructor.

GEOL 498 Undergraduate Research and Thesis (2)

Original laboratory or field research under the direction of a staff member. Writing of a thesis 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 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 and a minimum grade point average of 2.5.

Prerequisite: Consent of a staff member to direct the project.

COURSES TAUGHT AT ROSARIO BEACH MARINE STATION

GEOL 467 Introduction to Oceanography (4)

A physical, chemical, and geological study of the oceans and ocean basins. Offered during alternate summers at the Rosario Beach Marine Station in cooperation with Walla Walla College.

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 Paleolimnology (3)

GEOL 556 Paleoenvironments (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
HISTORY and POLITICAL SCIENCE**

FREDERICK G. HOYT, Chairman; Professor of History and Political Science
PH.D. Claremont Graduate School

WILFRED J. AIREY, Emeritus Professor of History
PH.D. University of Washington

PAUL J. LANDA, Professor of Church History
PH.D. Vanderbilt University
Loma Linda University, Division of Religion

WALTER C. MACKETT, Professor of History
PH.D. University of Southern California

DELMER G. ROSS, Professor of History and Political Science
PH.D. University of California, Santa Barbara

JONATHAN M. BUTLER, Associate Professor of Church History
PH.D. University of Chicago Divinity School

KENT A. HANSEN, Assistant Professor of Political Science
B.A. Loma Linda University
J.D. Willamette University

COLLABORATING FACULTY

GODFREY T. ANDERSON, Research Professor of American History
PH.D. University of Chicago
Loma Linda University, Graduate School

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, 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 A program leading to the Master of Arts degree in history is described in the BULLETIN of the Graduate School.

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.

MAJORS

BACHELOR OF ARTS

History

- Required: 52 units (36 upper division) in history, including
HIST 207, 208, 209, 265
HIST 444, 445, 446 or HIST 447, 448, 449
24 additional upper division units distributed over four of seven areas:
Europe to 1485, Europe since 1485,
United States to 1865, United States since 1865, Far East, Latin America, Church history.
- Required cognates: Modern foreign language through level IV
- Recommended: Courses in political science, behavioral sciences, and economics

History and political science

- Required: 60 units (20 upper division) in history and political science, including
HIST 207, 208, 209, 265
PLSC 204, 205, 206, 214, 215, 216
- Recommended: Modern foreign language through level IV
Courses in behavioral sciences and economics

Latin American studies

- Offered with the Department of Modern Languages
- Required: 56 units, as follows
HIST 176, 177 (or equivalent), 354, 355
SPAN 367, 425, 486
PLSC 454
ANTH 325
4 units from ANTH 306, 309
8 units from HIST 285, 428, 429
8 units from SPAN 427 or 429, 474, 475, 477, 484, 486
- Required cognate: Spanish through level IV
- Recommended: HIST 207, 208, 209

Western thought

- Required: 72 units, as follows
HIST 207, 208, 209, 435, 436, 437, 497,
506 or 469
PHIL 204, 205, 207
PLSC 484, 485
RELH 445, 446, 447
8 units from ENGL 354 FREN 484
HIST 466 PHIL 208, 435 SOCI 404
RELT 436 RELH 487, and other depart-
mentally approved courses
- Required cognate: Modern foreign language through level IV
A student who completes the major pro-
gram in Western thought is regarded as
having met the general requirements in
the humanities.

MINORS

- History 28 units (12 upper division), including
HIST 207, 208, 209, 265
- Latin American studies 32 units, as follows
HIST 176, 177 (or equivalent), 285, 354,
355
SPAN 367
8 units from HIST 428, 429
ANTH 334 PLSC 454
SPAN 427 or 429, 486
- Political science 32 units (8 upper division), including
PLSC 204, 205, 206, 214, 215, 216
- Philosophy 32 units, as follows
PHIL 204, 205, 207, 208
HIST 435, 436, 437
4 units from FREN 484 PHIL 435
RELH 487 RELT 436

NOTE: A student pursuing a major or minor in this department who does not place at the 50th percentile or above on the American History Placement Examination must also take HIST 156, 157 or 176, 177.

COURSES

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.

HIST 165 Issues in American History (4)

Selected topics from the entire range of American history. Fulfills baccalaureate requirements in American history for students who qualify by a placement examination, but does not apply toward a major or minor in the department.

HIST 168 The Black Experience (4)

An overview of Black American history, from a consideration of African culture and civilizations through an exploration of contemporary social issues.

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.

HIST 207 History of Western Civilization to 1300 (4)

Development of civilization, with emphasis on political, economic, religious, social, and cultural institutions.

HIST 208 History of Western Civilization 1300-1815 (4)

HIST 209 History of Western Civilization Since 1815 (4)

HIST 265 Problems in American History (4)

Detailed investigation of selected problems. For students majoring in the department, and for others with departmental consent.

Prerequisite: HIST 156, 157 or equivalent.

HIST 285 Problems in Hemispheric History (4)

Detailed investigation of selected issues in the history of the Americas.

Prerequisite: HIST 176, 177 or equivalent

UPPER DIVISION

HIST 305 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 towards a major in history or religion. Identical to RELH 305.

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 1815; second quarter, since 1815.

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.

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.

HIST 396 Oral History (2)

Methods of oral history, interviewing, and oral history programs. Uses of oral history in teaching and writing history; techniques of gathering, preparing, and preserving oral history; field experience.

HIST 404 History of Rome (4)

The development of the Roman state, through monarchy, Republic, and empire. Special emphasis on the relation of Roman history to the Scriptures and prophecy and the factors contributing to the decline and fall of the Roman Empire. Offered alternate years.

HIST 414 The French Revolution and Napoleon (4)

A consideration of the background for and events during the French Revolution and how they contributed to the Napoleonic Era. Offered alternate years.

HIST 416, 417, 418 Modern Europe (4, 4, 4)

Europe in the 19th and 20th 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 425, 426 History of Russia (4, 4)

First quarter, Czarist Russia 862-1917; second quarter, Communist Russia since 1917. Offered alternate years.

HIST 428 Mexico (4)

Mexico from the Spanish Conquest by Cortés through the twentieth-century Revolution. Offered alternate years.

HIST 429 Central America and the Caribbean (4)

Emphasizes the national history of the republics of Central America, Panama, and the Spanish-speaking nations of the Caribbean. Offered alternate years.

HIST 435, 436, 437 History of Ideas (4, 4, 4)

Themes in European philosophy viewed historically and contextually, with some attention to methodological problems. First quarter: Plato, Aristotle, Augustine, and Aquinas; second quarter: Kant, Hegel, Marx, Kierkegaard; third quarter: Sartre, Levi-Strauss, James, and Wittgenstein. Offered alternate years.

HIST 444, 445, 446 American Diplomatic Relations (4, 4, 4)

First quarter, 1763-1880; second quarter, 1880-1939; third quarter, since 1939. Offered alternate years.

HIST 447, 448, 449 United States Constitution (4, 4, 4)

The federal Constitution and its relation to American institutions. First quarter, to 1820; second quarter, 1820-1933; third quarter, since 1933. Offered alternate years.

HIST 454 American Colonial History (4)

The history of the American colonies from the early explorations through the Revolutionary War, with special emphasis on the development of political institutions and cultural heritage. Offered alternate years.

HIST 455 Religion in American Life (3-4)

The place of religion in American intellectual, political, social, and cultural developments from the colonial period to the present. Identical to RELH 455.

HIST 456 Civil War and Reconstruction (4)

The issues and events leading up to the American Civil War, the campaigns and strategy of the war, and an evaluation of the period of the reconstruction of the divided nation. 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 464, 465 Asia in World Affairs (4, 4)

Reciprocal influences of Europeans, Americans, and Asians. First quarter, from the age of discovery to the eve of World War II; second quarter, since World War II. Offered alternate years.

HIST 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. Identical to RELH 466. Offered alternate years.

HIST 467 The Medieval Church (3-4)

Study from primary sources of the important men, developments, and ideas in the Christian Church from the sixth through the fifteenth centuries. Identical to RELH 467. Offered alternate years.

HIST 468 History of the Papacy and Roman Catholicism (3-4)

Historical and theological development of the Papacy and Roman Catholicism during the patristic, medieval, and modern periods. Identical to RELH 468. 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 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. Identical to RELH 474.

HIST 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. Identical to RELH 476.

HIST 478 The English Reformation (3-4)

Main historical forces and religious movements within the English Reformation until the Westminster Assembly. Offered alternate years. Identical to RELH 478.

HIST 484 Twentieth-Century Church History (3-4)

Modern religious trends and their impact upon church and society. Offered alternate years. Identical to RELH 484.

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 1922. 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) and her major theological contributions. Offered alternate years. Identical to RELH 486.

HIST 487 Natural Theology: A Historical Survey (3-4)

A historical survey, beginning with the Middle Ages, of different approaches to the question of faith and reason, or what can be known of God by rational inquiry alone, within Christian thought. Identical to RELH 487.

HIST 488 Protestant Thought in the Twentieth Century (3-4)

An examination of the major figures, issues, and resources of contemporary Protestant theology. Identical to RELH 488.

HIST 489 The Religious Aspects of History (4)

Philosophy of history, with emphasis on religious aspects and applications. Required for a major in the department; limited to seniors majoring in history. Does not apply toward a major or minor.

HIST 494 History Colloquium (4)

May be repeated with new content for additional credit.

Prerequisite: Consent of the instructor.

HIST 495 Readings in History (1-6)

Limited to history 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 497 Proseminar (4)

HIST 499 Directed Study (1-6)

Prerequisite: Consent of the department chairman.

RELH 445, 446, 447 The Christian Heritage (4, 4, 4)

GRADUATE

Consult Graduate School BULLETIN for details.

HIST 504 Research Methods in History (2)

HIST 506 Historiography (4)

HIST 555 Religion in American Life (4)

HIST 566 The Early Christian Church (4)

HIST 567 The Medieval Church (4)

HIST 568 History of the Papacy (4)

HIST 569 The Age of the Renaissance (4)

HIST 574 The Lutheran Reformation (4)

HIST 576 The Swiss Reformation and Calvinism (4)

HIST 578 The English Reformation (4)

HIST 584 Twentieth-Century Church History (4)

HIST 585 History of Seventh-day Adventism (4)

HIST 586 Ellen G. White: Her Life and Thought (4)

HIST 587 Natural Theology: A Historical Survey (4)

HIST 588 Protestant Thought in the Twentieth Century (4)

HIST 634 Seminar in European History (4)

HIST 635 Seminar in Church History (4)

- HIST 647 Seminar in American History (4)**
- HIST 655 Seminar in Latin America (4)**
- HIST 694 Special Problems in History (directed individual study) (arranged)**
- HIST 697 Research (4)**
- HIST 698 Thesis (2)**

POLITICAL SCIENCE

LOWER DIVISION

PLSC 204, 205, 206 American Government: National, State, Local (4, 4, 4)

Structure and functions of the government of the United States. Offered alternate years.

PLSC 214, 215, 216 Comparative Government (4, 4, 4)

Background, constitutional organization, and activities of the governments of England, France, Germany, China, Russia, and Mexico. 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

HIST 447, 448, 449 United States Constitution (4, 4, 4)

HIST 464, 465 Asia in World Affairs (4, 4)

PLSC 335, 336, 337 Problems in International Relations (4, 4, 4)

A score or more of the 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.

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.

DEPARTMENT OF INDUSTRIAL ARTS AND TECHNOLOGY

ARTHUR M. WALLS, Chairman; Associate Professor of Industrial Arts and Technology
M.A. California State University, Long Beach

ROBERT L. WARNER Associate Professor of Industrial Arts and Technology
M.MUS. Northwestern University

NEAL G. STEVENS, Instructor in Industrial Arts and Technology
B.A. Loma Linda University

CURTIS HARRIS, Lecturer in Aviation
M.D. Loma Linda University

MERLE D. MORSE, Lecturer in Industrial Arts and Technology
B.A. Loma Linda University

Objectives Programs of the Department of Industrial Arts and Technology are designed for students who desire (1) to enter careers in automotive mechanics, aviation, metals, wood construction, construction drafting, photography, and institutional plant engineering; (2) to gain knowledge of and proficiency in these operations, and to prepare for employment in occupational trades, management, and administrative areas; and (3) to prepare for the teaching of industrial arts.

Preparation for teaching A student preparing to teach completes the major in industrial arts and during the freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning current requirements.

Core curriculum The core curriculum is required of all students majoring in the Department of Industrial Arts and Technology (except the major in photography).

Required: AUTO 134 (4 units)
 DRFT 141
 INDS 394, 484, 498
 METL 174, 264
 PHTO 224
 WOOD 254

MAJORS

BACHELOR OF SCIENCE

Industrial arts

- Required: 58 units (32 upper division) in industrial studies, as follows
the core curriculum
- Required cognate: PETH 417 (4 units)
- Emphasis areas: Automotive Technology —
AUTO 234, 235, 238, 334, 335, 336
Aviation —
AVIA 101, 102, 103, 104, 201, 202, 204, 205,
206, 208, 304, 305, 404, 405, 406, 407
Construction —
CNST 181, 182, 183, 184, 185, 186, 283
DRFT 244
WOOD 255, 354, 356
Drafting —
DRFT 142, 244, 245, 344, 345, 346
Metal Technology —
METL 175, 176, 264, 364, 365, 374, 384

Industrial technology

- Required: 58 units (32 upper division) in industrial studies, as follows
the core curriculum
- Required cognates: ACCT 221 ART 111 or 112 BUAD 355, 405
ECON 254 MATH 104 PETH 417 (4 units)
PHYS 117
- Emphasis areas: Automotive Technology —
AUTO 234, 235, 238, 334, 335, 336
Aviation
AVIA 101, 102, 103, 104, 201, 202, 204, 205,
206, 208, 304, 305, 404, 405, 406, 407
Construction —
CNST 181, 182, 183, 184, 185, 186, 283
DRFT 244
WOOD 255, 354, 356
Drafting —
DRFT 142, 244, 245, 344, 345, 346
Metal Technology —
METL 175, 176, 264, 364, 365, 374, 384

Photography

Required: 56 units (32 upper division) in industrial technology, including PHTO 224, 324, 325, 326, 424, 425, 499 (4 units) INDS 387, 498, and 4 units selected in consultation with the adviser.

Required cognates: ART 111, 112

MINOR

Automotive technology 30 units, including AUTO 134 (4 units), 234, 235, 238, 334, 335, 336 METL 174

Industrial technology 32 units (14 upper division) of course work selected in consultation with the department adviser

Aviation technology 30 units of aviation, including AVIA 101, 102, 103, 104, 201, 202, 204, 205, 208, 304, 305

Photography 32 units as follows PHTO 224, 324, 325, 326, 425, and 12 additional units listed for the major in photography, selected in consultation with the adviser

ASSOCIATE DEGREE PROGRAMS

ASSOCIATE IN SCIENCE

Automotive service technology

Required: 38 units in industrial studies, as follows AUTO 134 (4 units), 234, 235, 238, 334, 335, 336 METL 174, 264 INDS 288, 394

Required cognate: PETH 417

Institutional plant engineering

Required: 52 units in industrial technology, including AUTO 134 (4 units) CNST 181, 184, 185, 186 DRFT 141, 244, 346 PETH 417 (4 units) METL 174, 264, 384 INDS 288 WOOD 254 900 clock hours of commercial work related to the major field

CERTIFICATE PROGRAMS

Automotive service technology

Required: 44 units, including
AUTO 134 (4 units), 234, 235, 236, 238, 299
(4 units taken in consultation with the
adviser), 334, 335, 336
METL 174, 264, 384

Required cognates: RELB 104 or 206 or 207 or RELT 104 or 106
or 205

House construction

Required: 40 units, including
CNST 181, 182, 183, 184, 185, 186, 283,
299
DRFT 244 WOOD 254

Required cognates: RELB 104 or 206 or 207 or RELT 104 or 106
or 205

Students interested in preparation for specific trades should contact the department for the development of a program to suit their particular needs.

AUTOMOTIVE TECHNOLOGY

LOWER DIVISION

AUTO 134 Automotive Care (2-4)

Theory, detection, and minor repair procedures in electrical, fuel, cooling, lubrication, and brake systems. Maintenance and body care. May be repeated for additional credit.

AUTO 234 Automotive Engine Rebuilding (4)

Theory and function of automotive engines; rebuilding procedures. May be repeated for additional credit.

AUTO 235 Automotive Air Conditioning (2)

Theory, function, and service of automotive refrigeration systems. Offered alternate years.

AUTO 236 Automotive Carburetion and Injection (2)

Theory, function, and service of automotive carburetion and injection systems.

AUTO 238 Automotive Body Repair (4)

Techniques and practice of automotive body rebuilding and refinishing. May be repeated for additional credit.

AUTO 299 Directed Study (2-4)

UPPER DIVISION

AUTO 334 Automotive Tune-up and Emissions (4)

Theory, function, and service of automotive fuel, ignition, cooling, and emission systems. May be repeated for additional credit.

Prerequisite: AUTO 134.

AUTO 335 Automotive Electrical Systems (2)

Theory, function, and service of automotive electrical components. Offered alternate years.
Prerequisite: AUTO 134.

AUTO 336 Automotive Chassis (4)

Design theory, unit function, and repair procedures of front-end alignment, suspension, and brake systems. May be repeated for additional credit. Offered alternate years.

AUTO 499 Directed Study (2-4)

AVIATION TECHNOLOGY

These courses prepare students to pass Federal Aviation Administration written and flight examinations. There are specific prerequisites for flight courses.

Students contract for the required flight training at their own expense. They meet regularly with the department aviation coordinator and receive a grade when the flight experience requirements have been met.

LOWER DIVISION

AVIA 101 Private Pilot Flight Training, Phase 1 (1)

To be taken with AVIA 201 and 202, dual instruction for 10 hours; additional laboratory fee.

AVIA 102 Private Pilot Flight Training, Phase 2 (1)

Supervised solo and dual instruction necessary for solo cross country; additional laboratory fee.

AVIA 103 Private Pilot Flight Training, Phase 3 (2)

Solo cross country and dual instruction necessary for night operation and final recommendation for private pilot certificate; additional laboratory fee.

AVIA 201 Private Pilot Ground School, Phase 1 (2)

History, basic aerodynamics, engines and propulsion systems, basic meteorology.

AVIA 202 Private Pilot Ground School, Phase 2 (2)

Federal air regulations, airman's information manual, navigation, communications and radio navigation, advanced meteorology, final preparation for the FAA written examination.

AVIA 204 Commercial Pilot Ground School (2)

AVIA 205 Commercial Pilot Flight Training (2)

AVIA 206 Multi-Engine Flight Training (1)

AVIA 208 Preventive Aircraft Maintenance (4)

Inspection and repair of aircraft components which may be done by pilots in accordance with Federal Aviation Regulations.

AVIA 299 Directed Study (2-4)

UPPER DIVISION

AVIA 304 Instrument Pilot Ground School (4)

AVIA 305 Instrument Pilot Flight Training (2)

AVIA 404 Certified Flight Instructor Ground School (2)

- AVIA 405 **Certified Flight Instructor Flight Training (2)**
AVIA 406 **Certified Flight Instructor Instrument Ground School (2)**
AVIA 407 **Certified Flight Instructor Instrument Flight Training (2)**
AVIA 499 **Directed Study (2-4)**

CONSTRUCTION

LOWER DIVISION

CNST 181, 182, 183 House Construction I, II, III (4, 4, 4)

Designed for the "do-it-yourselfer." Includes the foundations, framing, electrical wiring, plumbing, roofing, and finish carpentry. At its completion one should be able to build a dwelling with minimal help. Offered alternate years.

CNST 184 Residence Electrical Wiring (2)

Theory and practice of electrical installations according to building codes. To be taken concurrently with CNST 182. Offered alternate years.

CNST 185 Residence Plumbing (2)

Theory and practice of plumbing systems installation according to building codes. To be taken concurrently with CNST 182. Offered alternate years.

CNST 186 Mechanical Equipment of Buildings (2)

Maintenance theory and practice for plumbing, electrical, heating, and air conditioning systems in relation to safety rules. Offered alternate years.

CNST 283 Practical Solar Energy (2)

Theory and construction for solar apparatus. Offered alternate years.

CNST 299 Directed Study (2-4)

DRAFTING

LOWER DIVISION

DRFT 141 Technical Drawing (4)

Technical language of industry. Skills and knowledge in graphic methods of shape and size description used in technical planning, documenting, and distributing within the production industries.

DRFT 142 Advanced Technical Drawing (4)

Translating and communicating engineering design. Layout procedures and conventions used in the production of working drawings. May be repeated for additional credit.

DRFT 244 Architectural Drafting (4)

Architectural design problems in function, aesthetics, and comparative consumer costs. Drafting references, conventional symbols, and standards used in preparing residence plans for building trades. May be repeated for additional credit.

DRFT 245 Orientation to Engineering (4)

An introduction to a creative profession.

DRFT 299 Directed Study (2-4)

UPPER DIVISION

DRFT 344 Advanced Architectural Drafting (4)

Project planning methodology, and drafting for construction systems in use in residence and public buildings. May be repeated for additional credit. Offered alternate years.

DRFT 345 Engineering Graphics (4)

Geometric applications, survey illustrations, project planning. May be repeated for additional credit. Offered alternate years.

DRFT 346 Structural Drafting (4)

Application of structural data, references, and codes in planning usable details and project drawings of typical structures. May be repeated for additional credit. Offered alternate years.

DRFT 499 Directed Study (2-4)

PHOTOGRAPHY

LOWER DIVISION

PHTO 224 Basic Photography (4)

Black and white photography. Includes history, theory, and practice Using cameras, light meters, and laboratory equipment.

PHTO 299 Directed Study (1-4)

UPPER DIVISION

PHTO 324 Advanced Photography (4)

Expansion of techniques established in basic photography. Principles of photo design and their application. Theory of natural and artificial light. May be repeated for additional credit.

PHTO 325 Color Photography (4)

Nature and properties of color. Laboratory skills in producing color slides, negatives, color prints, and cibachrome. Special effects with color. May be repeated for additional credit.

PHTO 326 New Directions in Photography (4)

Brings the creative photographer up to date with contemporary styles and photographic procedure. A point of departure from which students take on new viewpoints.

PHTO 424 Experimental Photography (4)

Skills in technical processes. Techniques in the Sabbatier effect, tone-line, solarization, high contrast, and other material and chemical modifications. Individual guidance and evaluation. May be repeated for additional credit.

PHTO 425 Applied Photography (4)

A cross-section of the technical problems facing the professional photographer. Theory and application of the view-camera, lenses, studio lighting, and advanced darkroom procedure. Individual guidance and evaluation. May be repeated for additional credit.

PHTO 499 Directed Study (1-4)

METAL TECHNOLOGY

LOWER DIVISION

METL 174 Introduction to Welding (2)

Theory and operation of oxyacetylene, electric arc, TIG, MIG, and resistance spot welding equipment.

METL 175 Oxyacetylene Welding (4)

Operation and technical data. May be repeated for additional credit. Offered alternate years.

METL 176 Electrical Welding (4)

Operation and technical data. May be repeated for additional credit. Offered alternate years.

METL 264 Metal Machines I (4)

Basic skills in engine lathe, drill press, and common hand tools (drills, reamers, taps and dies, files, etc.), measuring instruments, and layout. Shop drawings.

METL 299 Directed Study (2-4)

UPPER DIVISION

METL 364 Metal Machines II (4)

Advanced processes of turning, milling, and hand work, together with operations involving shaping, grinding, finishing, gear calculating, and cutting. Problems in fixtures. Emphasis on close-tolerance work. May be repeated for additional credit.

Prerequisite: METL 264.

METL 365 Dental Materials (4)

Technical methods and practice with dental materials. Applications of casting, carving processes, machining and hand tooling techniques. Evaluation of design, surface quality, fits, and finishes. Emphasis on tolerance and dimension control.

METL 374 Advanced Welding (4)

Proficiencies in TIG, MIG, arc, and oxyacetylene welding. May be repeated for additional credit. Offered alternate years.

Prerequisite: METL 174 or 175 or 176.

METL 384 Machine Tool Maintenance (4)

Study and practical experience in care and repair of industrial shop equipment. Areas of study selected with adviser. May be repeated for additional credit.

METL 499 Directed Study (2-4)

WOOD CONSTRUCTION

LOWER DIVISION

WOOD 254 Furniture Construction I (4)

Materials and processes. Emphasis on quality construction and buying. Student-selected project. Open to both men and women. May be repeated for additional credit.

WOOD 255 Woodturning (2)

The wood lathe and its use. Cutting tool design, sharpening, and use. Student-selected spindle and face plate projects. May be repeated for additional credit.

Prerequisite: WOOD 254.

WOOD 299 Directed Study (2-4)

UPPER DIVISION

WOOD 354 Furniture Construction II (4)

Continuation of WOOD 254, with emphasis on industrial practices. Fieldwork. Teacher-specified testing projects. May be repeated for additional credit.

WOOD 356 Upholstery (4)

Basic reupholstering techniques and selection of materials to complete commercial and household furniture. May be repeated for additional credit.

WOOD 499 Directed Study (2-4)

PROFESSIONAL STUDIES

LOWER DIVISION

INDS 288 Plant Maintenance Management (4)

Maintenance supervision, personnel organization, relationships with business, purchasing, and administrative personnel.

INDS 299 Directed Study (2-4)

UPPER DIVISION

INDS 387 Problems in Industrial Arts (4)

Problems selected in consultation with department chairman. Research problems, supervisory experience for prospective teachers or tradesmen.

INDS 394 Shop Planning and Organization (4)

Principles of planning laboratories for industrial work. Equipment selection, acquisition, positioning, and maintenance. Offered alternate years.

INDS 454 Finishing Methods and Materials (4)

Industrial finishing methods; wood, metal, plastics, and fabrics. Offered alternate years.

INDS 484 History of Industrial Education (4)

Origins and progress of trade and technical work in the United States. Organization, objectives, and scope of employment preparation today. Offered alternate years.

INDS 489 Industrial Philosophy (4)

Foundations of vocational philosophy; the relationship of Adventism to the contemporary world of work; the role of industrial educators. Does not apply toward a major or minor. Offered alternate years.

INDS 498 Project in Industrial Production (4)

Selected project representing an area of concentration in the major field to demonstrate the best effort of a senior. May be repeated for additional credit. Retention of completed work for temporary or permanent exhibition at the discretion of the department.

INDS 499 Directed Study (2-4)

PROGRAM IN LIBERAL ARTS

HAROLD E. FAGAL, Coordinator; Associate Dean, College of Arts and Sciences
PH.D. Fuller Theological Seminary

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.

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, 20-24 units

- ENGL 101 and 102; or ENGL 124 (with a grade of B or better); or equivalent (4-8)
- ENGL 304 Expository Writing, or equivalent (4)
- ENGL 385 Modern Grammar, or equivalent (4)
- ENGL 415 Literature for Children, or equivalent (4)
- SPCH 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 General Psychology I, or equivalent (4)

SOCI 104 Introduction to Sociology, or equivalent (4)

SOCI 307 Ethnic Relations, or equivalent (4)

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 foreign language.)

4. Completion of the following other specific requirements:

Health science (required for a California and Seventh-day Adventist denominational teaching credential)

Physical education activity courses (6 quarters, 3 units)

Religion, 16 units (18 units for a Seventh-day Adventist denominational teaching credential to include RELT 245, 254, and RELH 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
MARRIAGE AND FAMILY THERAPY**

ANTONIUS D. BRANDON, Chairman; Associate Professor of Marriage and Family Therapy
PH.D. United States International University

ANEES A. HADDAD, Professor of Sociology
PH.D. University of Southern California

S. ALBERTA MAZAT, Professor of Marriage and Family Therapy
M.S.W. University of Denver

IAN P. CHAND, Associate Professor of Sociology
PH.D. Pennsylvania State University

MARY E. MOLINE, Associate Professor of Marriage and Family Therapy
D.H.S.C. Loma Linda University
PH.D. Brigham Young University

S. DOUGLAS MOLINE, Assistant Professor of Marriage and Family Therapy
PH.D. Brigham Young University

COLLABORATING FACULTY

VERN R. ANDRESS, Professor of Psychology
PH.D. United States International University

HARRISON S. EVANS, Professor of Psychiatry
M.D. Loma Linda University
Loma Linda University, School of Medicine

BENJAMIN KOVITZ, Professor of Psychiatry
M.D. University of Wisconsin
Loma Linda University, School of Medicine

FRED H. OSBOURN, Clinical Supervisor
PH.D. School of Theology at Claremont
Marriage Therapy Practice

L. FRANCES PRIDE, Professor of Nursing
PH.D. University of Maryland
Loma Linda University, School of Nursing

ELMER P. SAKALA, Professor of Gynecology and Obstetrics
M.D. Loma Linda University
Loma Linda University, School of Medicine

PETER G. STRUTZ, Professor of Psychology
PH.D. University of Alberta, Canada

M. JERRY DAVIS, Associate Professor of Religion and Pastoral Counseling
REL.D. School of Theology at Claremont
Loma Linda University Medical Center

Objectives Marriage and family therapy is an interdisciplinary program providing a Christian environment for the study of marriage and family — its growth, enrichment, and therapy. The program fulfills requirements for the Master of Science degree. It is designed to give the student a broad academic background for understanding the family, its needs, and its problems, and to prepare the graduate to assist families in working through their problems. The master's degree enables the graduate to qualify for internship and subsequent state licensure as a marriage and family therapist, to teach college or adult education courses in marriage and family life, to direct family life and enrichment programs for church or secular organizations, to direct or participate in church-related or other community marriage and family clinics, or to go directly into marriage and family therapy.

Marriage and family therapy has been established in California by law as a profession requiring state licensure. Persons who desire to enter the profession must have proper academic and supervised clinic preparation and must pass the state written and oral licensing examinations. Persons previously practicing as licensed marriage and family counselors must update their credentials by approved continuing education programs. Other states than California have enacted or plan similar legislation. The master's program at this University meets licensing standards.

In addition to preparing registrants for the master's degree, the program provides course work and clinical training for those who do some marriage or family therapy as part of their jobs (pastors and others in helping professions). Clinical supervision also is provided for those who already have earned a master's degree but need additional clinical time to qualify for the state licensing examination.

Loma Linda University's marriage and family therapy graduate program has been accredited by the American Association for Marriage and Family Therapy.

Graduate program A program leading to the Master of Science degree in marriage and family therapy is described in the BULLETIN of the Graduate School.

Because of the sequence of courses, students are admitted only in the fall quarter.

COURSES

GRADUATE

Consult Graduate School BULLETIN for details.

- MFAM 504 Research Design and Methodology (4)
- MFAM 515 Crisis Intervention Counseling and Psychotherapeutic Techniques (2-4)
- MFAM 534 Clinical Training (2)
- MFAM 535 Case Presentation Seminar I (2)
- MFAM 542 Professional Seminar I (2)
- MFAM 551 Marital Therapy: Theory and Practice I (4)
- MFAM 552 Marital Therapy: Theory and Practice II (4)
- MFAM 555 Counseling the Adolescent (2)
- MFAM 556 Psychopathology and Diagnostic Procedures (2)
- MFAM 577 Family Life Workshop (2)
- MFAM 584 Treating the Troubled Child (2)
- MFAM 604 Premarital Counseling (2)
- MFAM 605 Gestalt Therapy (2-4)
- MFAM 614 Family Law and Ethics (2)
- MFAM 624 Psychological and Marital Assessment (2)
- MFAM 634 Advanced Clinical Training (2)
- MFAM 635 Case Presentation Seminar II (2)
- MFAM 642 Professional Seminar II (2)
- MFAM 656 Seminar in Family Therapy (2)
- MFAM 657 Private Practice in MFT (2)
- MFAM 667 Dissolution Counseling (2-4)
- MFAM 669 Human Sexual Behavior (4)
- MFAM 670 Seminar in Sexual Therapy (2)
- MFAM 671 Program Development in Relationship Enrichment (2)
- MFAM 672 Practicum in Relationship Enrichment (2)
- MFAM 675 Clinical Problems in Marriage and Family Therapy (2)
- MFAM 694 Directed Study: Marriage and Family (2-4)

MFAM 695 Research Problems: Marriage and Family (2-6)

MFAM 744 Clinical Internship (4)

**DEPARTMENT OF
MATHEMATICS AND COMPUTING**

JAMES W. BEACH, Chairman; Associate Professor of Mathematics
D.A. Idaho State University

VERNON W. HOWE Professor of Mathematics
PH.D. Dartmouth College

GEORGE O'BRIEN, Professor of Mathematics
PH.D. Yale University

HILMER W. BESEL, Associate Professor of Computing
M.A. University of Nebraska

BARRY G. GRAHAM, Associate Professor of Mathematics
PH.D. University of California, Riverside

G. ROBERT GRANT, Director of Academic Computing; Assistant Professor of Computing
B.S. Loma Linda University

COLLABORATING FACULTY

WILLIAM J. KEY, Associate Professor of Business and Economics
M.B.A. Washington State University

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 during the freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements.

MAJORS

BACHELOR OF ARTS

Mathematics

- Required: 54 units, including
CPTG 225
MATH 131, 132, 133, 231, 232, 233, 325,
345, 415, 451, 485 (2 units)
8 additional units of upper division
computing or mathematics
- Required cognates: PHYS 211
4 units related course work selected in con-
sultation with the department adviser

BACHELOR OF SCIENCE

Biomathematics

- Required: Offered with the Department of Biology.
74 units, as follows
CPTG 225
MATH 131, 132, 133, 231, 232, 233, 464
BIOL 104, 105, 106, 404, 447
2 units from MATH 485 or BIOL 405
20 additional units of upper division
mathematics, computing, or biology
(including 4 units of biology and ex-
cluding MATH 489 and BIOL 489). The
sequence CHEM 481, 482, 483 may be
substituted for BIOL 404 and 4 units
of upper division biology elective.
CHEM 481 and 482, taken in addition
to BIOL 404, may be substituted for 4
units of upper division biology elec-
tive.
- Required cognates: CHEM 111, 112, 113, 371, 372, 373
PHYS 211

Computing/administration

- Required: Offered with the Department of Business and
Economics.
98 units, as follows
ACCT 221, 222, 314
CPTG 204, 225, 314, 324, 325, 334, 441, 442
MATH 121

ECON 254, 255
BUAD 341, 342, 355, 356, 381, 420 (2 units), 454; 424 and 499 (computing project internship, 16 units)

Computing/science

Required: 86 units, as follows
CPTG 204, 225, 314, 324, 325, 334, 441, 442, 454, 499 (computing project internship, 4 units)
MATH 121, 131, 132, 133, 231, 232, 233, 485 (2 units)
8 units from MATH 361, 362, 451, 452
8 additional units of upper division mathematics or computing courses

Required cognates: PHYS 211, 212, 350, 354
ACCT 205

Mathematics

Required: 58 units, as follows
CPTG 225
MATH 131, 132, 133, 231, 232, 233, 324 or 325, 421, 431, 432, 485 (2 units)
12 additional units of upper division computing or mathematics

Required cognates: PHYS 211
12 units related course work selected in consultation with department adviser

Recommended: MATH 345, 415, 451, 325 or 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 exclusion of MATH 229, 499. 4 units of CPTG 225 or upper division CPTG may be applied to the minor.

Computing 36 units, including
CPTG 225, 324, 325, 441
MATH 121
8 additional units of upper division CPTG
8 units additional course work, selected with department approval

COMPUTING

LOWER DIVISION

CPTG 204 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 225 Computer Programming (4)

The BASIC-PLUS language, techniques in the analysis of problems, design of efficient programs.
Prerequisite: MATH 104 or consent of the instructor.

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.
Prerequisite: CPTG 225 or equivalent.

CPTG 324 Programming Languages (4)

The study and implementation of high-level languages, including COBOL, FORTRAN, and PASCAL; structured approach; assembly language.
Prerequisite: CPTG 225 or proficiency with BASIC-PLUS and RSTSE

CPTG 325 Programming Theory (4)

Binary number system, 1's and 2's complements, automatized signed arithmetic, double precision, complex numbers; character encodings, computer arithmetic, round-off, bias, overflow, accuracy; string storage and manipulation; recursion, graph theory, vectors, trees; polish notation, machine language, subroutines; parameter passing by value, by reference, and by call name; indirect addressing; external procedure, type matching, stacks, chains; examples from FORTRAN, BASIC, and PASCAL.

Prerequisite: CPTG 324; MATH 121 or experience with PASCAL and FORTRAN.

CPTG 334 Systems Analysis (4)

Approaches to the analysis and design of management and information systems.
Prerequisite: MATH 121; CPTG 314 or 324; or consent of the instructor.

CPTG 441, 442 Computing Theory I, II (4, 4)

Mathematical description of the logical organization at the complete computer level, as well as several layers of sublevels; systems design, peripheral interfacing, data-bus management, memory management; operating systems, batch and time-sharing and real-time systems; component technologies. Offered alternate years.

Prerequisite: CPTG 325 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, tables, push-pop uses, code generation, interpreters. Offered alternate years.

Prerequisite: CPTG 325 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 325 or consent of the instructor.

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: Consent of the department chairman.

MATHEMATICS**REMEDIAL****MATH 005 Basic Mathematics (4)**

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 Arithmetic and 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 high school algebra I or equivalent.

LOWER DIVISION**MATH 104 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: High 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. Introduction to trigonometry. Does not apply toward any mathematics program.

Prerequisite: MATH 104 or high school algebra II.

MATH 122 Trigonometry and 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 161, 162, 163 Calculus for the Life Sciences I, II, III (4, 4, 4)

The techniques of calculus applied to the formulation and analysis of mathematical problems in the life sciences, including physiological, population, ecosystem, and biochemical models. In addition to analytical methods of calculus, mathematical techniques include elementary numerical methods for solving differential equations, computer simulations, and elementary statistical methods. Satisfies the calculus requirement for the School of Medicine.

Prerequisite: Same as for MATH 131, 132, 133; course work in biology and chemistry.

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 104 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 245 Euclidean Geometry (4)

Review of elementary geometry, including the circumcenter, centroid, incenter, excenters, orthocenter, and the 9-point circle of a triangle; Simpson's line, Ptolemy's theorem. Coaxial circles, poles and polars. Ceva's and Menelau's theorems. Locus and construction problems. Elements of solid geometry.

Prerequisite: MATH 121 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 104 or secondary school equivalent.

MATH 265 Finite Mathematics (4)

Introduction to combinatorics, probability, expected value, matrix algebra and applications, linear programming, the simplex method; applications using the computer. Does not apply toward any mathematics or computing program.

Prerequisite: MATH 104 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 325 Survey of Abstract Algebra (4)

A study of vector spaces, groups, rings, and fields arising out of algebras associated with integers and with polynomials in one variable. Offered alternate years.

Prerequisite: MATH 231, 232, 233 or consent of the instructor.

MATH 335 Complex Variables (4)

Complex numbers, analytic functions, Cauchy's theorem, contour integration, residues, conformal mapping. 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, 245 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 225; MATH 231, 232, 233 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 MATH 325 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 Reimann 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 464 Biomathematical Modeling (4)

Mathematical modeling of problems in the life sciences, including both deterministic and probabilistic models; computer simulations. Physiological and population problems studies. Offered alternate years.

Prerequisite: CPTG 225, 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 courses. May be repeated with new content for additional credit.

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 response 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.

GRADUATE

MATH 521, 522 History of Mathematics (4, 4)

A systematic study of the evolution of important mathematical ideas from ancient times to the twentieth century. Emphasis placed on studying problems which have been influential in promoting mathematical development.

Prerequisite: Senior standing or consent of the instructor.

MATH 599 Directed Study (1-4)

Prerequisite: Consent of the department chairman.



PROGRAM IN MIDDLE EASTERN STUDIES

This program is closed for 1983-84 admissions.

ANEES A. HADDAD, Coordinator; Professor of Sociology
PH.D. University of Southern California

JOHN W. ELICK, Professor of Anthropology
PH.D. University of California, Los Angeles

COLLABORATING FACULTY

A. GRAHAM MAXWELL, Professor of New Testament
PH.D. University of Chicago
Loma Linda University, Division of Religion

JACK W. PROVONSHA, Professor of Philosophy of Religion and Christian Ethics
M.D. Loma Linda University
PH.D. Claremont Graduate School
Loma Linda University, Division of Religion

Objectives The Middle Eastern studies program, an interdisciplinary program sponsored by the graduate faculties of certain departments of behavioral sciences in cooperation with the Division of Religion, leads to a Master of Arts degree. It is designed for students in any of these fields and for others (such as ministers, teachers, or missionaries) whose work naturally stimulates interest in the Muslim world.

The program offers opportunities for firsthand study of an area of great importance politically, religiously, culturally, and historically. The Middle East has long been of interest to the Seventh-day Adventist church because of its biblical emphasis and its eschatological concern. Furthermore, continuous crises have made the Middle East a focal point of interest to the whole world. The graduate program in Middle Eastern studies is intended to further understanding among peoples of the Middle East and of the Western world — particularly the United States.

Another basic objective is to serve the academic needs of church workers in Islamic countries around the world — particularly those in the Middle East where Middle East College (Beirut, Lebanon) is affiliated with Loma Linda University.

Graduate program A graduate program leading to the Master of Arts degree in Middle Eastern studies is described in the BULLETIN of the Graduate School.

MIDDLE EASTERN STUDIES

UPPER DIVISION

MEST 351, 352 Introductory Arabic (8)

MEST 425 Peoples of the Middle East (4)

MEST 444 Comparative Religion (4)

Identical to ANTH 444.

MEST 445 Religions of the Middle East and the Western World (2-4)

GRADUATE

MEST 505 Social Research Methods and Methodology (4)

MEST 526 The Legacy of Hellenism (2)

MEST 527 Muhammad and His Times (2)

MEST 537 The Qur'an (3)

Identical to RELM 537.

MEST 605 Seminar: Middle Eastern Cultural History (4)

MEST 615 Seminar: The Middle East in the Twentieth Century (4)

MEST 644 Seminar: Comparative Religion (4)

Identical to ANTH 644.

MEST 694 Directed Reading (arranged)

MEST 697 Research (5)

MEST 698 Thesis (5)

**DEPARTMENT OF
MODERN LANGUAGES**

JACQUES BENZAKEIN, Chairman; Associate Professor of French
M.A. University of Wisconsin

MARGARETE A. HILTS, Professor of French
PH.D. Case Western Reserve University

ERNESTINA F. GARBUTT-PARRALES, Associate Professor of Spanish
PH.D. University of Southern California

RUTH E. BURKE, Assistant Professor of German and Comparative Literature
M.A. University of California, Riverside

DAVID H. DUDLEY, Assistant Professor of French
PH.D. Oregon State University

JUAN R. VELEZ, Assistant Professor of Spanish
M.A. University of California, Riverside

JANET L. WEIGHALL, Assistant Professor of English as a Second Language
M.A. Northern Arizona University

COLLABORATING FACULTY

LINDA K. SEAL, Instructor in English as a Second Language
M.A. Loma Linda University

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 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.

MAJORS

BACHELOR OF ARTS

English as a second language

- Required: 51 units (40 upper division), exclusive of courses numbered 101, 102, including
- ANTH 104, 306
 - ENGL 304, 385, 425, 475
 - LING 418, 445, 477, 495 (4 units)
 - SOCI 307
 - SPCH 315
 - 4 units in literature/civilization/culture of an area in which the student wants to work in English as a second language
- A modern language through level IV

French (pregraduate study)

- Required: 48 units upper division French, including
FREN 306, 307, 425, 426
6 additional courses in French literature
- Required cognates: 4 units European history
4 units from history of art or music
- Recommended: Second language through level IV

French (teacher preparation, secondary)

- Required: 48 units upper division French, including
FREN 306, 307, 327, 425, 426
- Required cognates: LING 445, 477
4 units European history
4 units from history of art or music
- Recommended: Second language through level IV

German

- Required: 44 units upper division German and linguistics, including
GRMN 405, 427
LING 477
LING 445 (for those preparing for elementary or secondary teaching)
- Required cognates: 4 units literature other than German
4 units European history
- Recommended: Additional courses in linguistics
Second foreign language

Spanish (liberal arts/bilingual/crosscultural)

- Required: 126 units in Spanish and other disciplines (28-36 units in each of the following four areas: English and speech, mathematics and physical or life sciences, social sciences, humanities with an emphasis in Spanish), including
ANTH 104
BIOL 107
ENGL 304, 385, 415
HIST 156, 157
INDM 162
LING 477
MATH 225, 251
MUED 305
PHYS 304
PSYC 104
SOCI 307
SPAN 304, 305, 307, 409, 424, 427, 429, 474
1 course from 400-level Spanish literature

Spanish (pregraduate study)

- Required: 44 units upper division Spanish, including
SPAN 304, 305, 315, 425
5 additional courses in Spanish literature
- Required cognate: 1 course European history
- Recommended: Second language through level IV
Additional course work in Spanish

Spanish (teacher preparation)

- Required: 44 units upper division Spanish and linguistics, as follows
SPAN 304, 305, 307, 315, 409, 424, 425 or 427
1 literature course each from the 300 and 400 levels
LING 445, 477
36-39 units professional education courses (see School of Education BULLETIN)
- Required cognate: 1 course European history
- Recommended: Second language through level IV

Latin American studies

Offered with Department of History and Political Science (see requirements under that department).

MINORS

- French 28 units, including
FREN 201, 202
- German 28 units, including
GRMN 201, 202
- Spanish 28 units, including
SPAN 201, 202, 304, 305
- Linguistics 28 units (presupposing a foreign language through level IV), including
LING 477, 495 (4 units)
Electives from ANTH 306, SPPA 277
SPCH 315, 326 ENGL 385, 475
FREN 306 GRMN 405
SPAN 304, 305 LING 418

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 429 Paris, Crossroad of the Western World (4)

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 499 Directed Study (1-4)

RUSS 499 Directed Study (1-4)

ENGLISH AS A SECOND LANGUAGE

ASCE 931, 932, 933 English as a Second Language (4, 4, 4 CEU)

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 English as a Second Language (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)

Pronunciation, vocabulary building, and use of English idiomatic expressions. To be taken concurrently with ENSL 206 until student is qualified to enter ENGL 101. May be repeated for additional credit.

ENSL 206 English as a Second Language (1)

Composition and syntax. To be taken concurrently with ENSL 205 until student is qualified to enter ENGL 101. May be repeated for additional credit.

ENSL 299 Directed Study (1-4)

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 299 Directed Study (1-4)

LANGUAGE AND CULTURE

FREN 306 Grammar and Composition (4)

FREN 307 Analysis and criticism (4)

FREN 327 Advanced Conversation (2)

May be repeated for additional credit to a maximum of 6 units.

FREN 425 Culture and Civilization (4)

FREN 426 The French Community (4)

FREN 427 Sociological/Cultural Research (4)

LITERATURE

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 456 The Theater (4)

May be repeated with new content for additional credit.

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 485 Literature of French-Speaking Africa (4)

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-SALÈVE, FRANCE

FREN 104 Elementary French (10)

FREN 204 Pre-intermediate French (8)

FREN 207 Intermediate French (6)

FREN 210 Phonetics (1)

May be repeated for additional credit.

FREN 221, 222, 223 Elementary Composition (2, 2, 3)

FREN 231, 232, 233 Elementary Orthography (2, 2, 3)

FREN 337 Intermediate Orthography (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 (3)

May be repeated for additional credit.

FREN 404, 405, 406 Advanced Vocabulary and Conversation (2, 2, 2)

FREN 407, 408 Advanced Orthography (3, 3)

May be repeated for additional credit.

FREN 410A, 410B Principles of Translation (2, 2)

FREN 411 Advanced Grammar (4)

May be repeated for additional credit.

FREN 414, 415 Advanced Composition (3, 3)

FREN 421, 422, 423 French Civilization (3, 3, 3)

FREN 481A, 481B, 481C Advanced Literary History (3, 3, 3)

Before 1700.

FREN 482A, 482B, 482C Advanced 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)

Grammar and pronunciation; reading of simple prose; conversation and laboratory drill.

GRMN 201, 202 German III, IV (4, 4)

Review of grammar, with emphasis on idioms. Reading of German prose to furnish a background of life, culture, and geographical aspects of Germany.

Prerequisite: GRMN 102 or equivalent.

GRMN 299 Directed Study (1-4)

LANGUAGE AND CULTURE

GRMN 305 Readings in the Sciences and Humanities (4)

To acquaint the student with the achievements of some outstanding Germans. Recommended for students wishing to acquire the reading knowledge expected of graduate students.

GRMN 327 Practical German Conversation (2)

May be repeated for additional credit to a maximum of 6 units.

GRMN 405 Advanced Grammar and Composition (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 466 Enlightenment and Classicism (4)

Works of Lessing, Goethe, Schiller, and their contemporaries, considered from the cosmopolitan perspective of the eighteenth century.

GRMN 474 Romanticism (4)

German romanticism; its chief exponents.

GRMN 475 Realism (4)

German authors from 1830 to 1890.

GRMN 484 Contemporary Literature I (4)

Modern German drama from Naturalism to the present.

GRMN 485 Contemporary Literature II (4)

Modern prose and poetry.

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)**
SPAN 299 **Directed Study (1-4)**

LANGUAGE AND CULTURE

- SPAN 304 **Advanced Grammar I: Phonetics and Morphology (4)**
- SPAN 305 **Advanced Grammar II: Syntax and Stylistics (4)**
- SPAN 307 **Reading, Composition, Orthography (4)**
- SPAN 327 **Conversation (2)**
May be repeated for additional credit to a maximum of 6 units.
- SPAN 409 **Contrastive Analysis of Spanish and English (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 **Survey of Nineteenth-Century Literature (4)**
- SPAN 367 **Latin American Literature (4)**
- SPAN 474 **Spanish and Latin American Literature for Children (4)**
- SPAN 475 **The Generation of '98 (4)**
- SPAN 477 **The Contemporary Novel (4)**
- SPAN 484 **Modern Theater and Poetry (4)**
- SPAN 486 **The Latin American Essay (4)**
- 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 Romance.
- 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 231, 232 Advanced Spanish Grammar (4, 4)
SPAN 234 Advanced Spanish Composition (2)
SPAN 237 Advanced Spanish Conversation (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 404 Advanced Spanish Grammar (4)
SPAN 407, 408 Advanced Spanish Composition (2, 2)
SPAN 414, 415 Advanced Spanish Conversation (2, 2)

**DEPARTMENT OF
MUSIC**

DONALD W. THURBER, Chairman; Associate Professor of Music
PH.D. North Texas State University

PERRY W. BEACH, Professor of Music
PH.D. Eastman School of Music

ANITA N. OLSEN, Associate Professor of Music
Licentiate Royal Academy of Music
Licentiate Trinity College of Music (London)

JOANN R. ROBBINS, Associate Professor of Music
D.M.A. University of Southern California

DONALD J. VAUGHN, Associate Professor of Music
M.MUS. University of Redlands

JOANNE K. ANDERSSON, Assistant Professor of Music
M.MUS. Andrews University

RENE M. RAMOS, Assistant Professor of Music
M.MUS. Andrews University

CAROL L. CHEEK, Instructor in Music
M.MUS. University of Southern California

DANIEL D. COMSTOCK, Instructor in Music
M.A. California State University at Los Angeles

KIMO SMITH, Instructor in Music
M.MUS. University of Southern California

RHONA HODGEN, Lecturer in Music
M.MUS. California State University at Fullerton

ROBERT MARCUS, Lecturer in Music
M.MUS. California State University at Fullerton

HERBERT BLOMSTEDT, Visiting Professor of Music
Diplomate Royal Academy of Music (Stockholm)
D.MUS. (HON.) Andrews University

SIR DAVID V. WILLCOCKS, Visiting Professor of Music
M.A. Cambridge University
D.MUS. (HON.) Leicester University

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.

Class instruction Class instruction may be offered in voice as necessary in lieu of individual instruction.

Group music Group music courses may be repeated to a maximum of 12 units and must be taken each quarter by a student majoring in music, except as indicated for the specific degree. A student who registers for credit in a music organization is expected to be in the organization for the entire school year.

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. It is recommended that all students majoring in music with a voice emphasis take SPCH 315.

7. 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.

8. Attendance is required at a specified percentage of Department of Music programs as well as at certain concerts off campus.

MAJORS

BACHELOR OF ARTS

Music

Required: 63 units (23 upper division) in music, as follows

MUCT 111, 112, 113, 211, 212, 213, 314 or 315

MUHL 205, 335, 336, 337

MURE 485 or 486

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)

6 units of music organizations

Required cognate: PHIL 435

Recommended: PHYS 204

BACHELOR OF MUSIC

Church music

Required: 110-112 units in music, including
MUCT 111, 112, 113, 211, 212, 213, 314,
315
MUHL 205, 326, 335, 336, 337
MUPF 316, 317, 328
MUPF 398, 498 (two public recitals: one
in the primary emphasis, the other in
the secondary emphasis, or a combi-
nation of both)
MURE 485, 486, 487
16 units (6 upper division) of perform-
ance in the primary field (organ,
voice)
12 units (3 upper division in either
organ or voice if the primary em-
phasis is conducting) divided between
the two fields not chosen for primary
emphasis
12 units of choral organizations

Required cognates: PHIL 435 PHYS 204

Recommended: RELH 445 or 446 or 447

Music education

Required: 87-89 units in music, as follows
MUCT 111, 112, 113, 211, 212, 213, 314 or
315, 411, 415
MUED 305
MUPF 241, 242, 251, 252, 261, 262, 316,
317, 328
MUHL 205 and two courses from MUHL
335, 336, 337
12 units (6 upper division) of perfor-
mance, 10 of which are in one field
11 units of organization

Required cognates: PHIL 435 PHYS 204

Recommended: MUPF 325 (for students with primary em-
phasis in piano)

Performance

Required: 108-114 units in music, as follows
MUCT 111, 112, 113, 211, 212, 213, 314,
315
MUHL 205, 335, 336, 337
MUPF 316, 317, 398, 498 (a full senior
recital plus one-half junior recital)
24 units (12 of 400 level) of performance
in the primary field

8 units of performance and a departmental proficiency test passed in one secondary field

Completion of one of the patterns below (pattern will be identified on the official transcript)

Required cognates: PHIL 435 PHYS 204
Patterns in performance:

PIANO—
MUCT 441, 415 MUHL 324 MUPF 225, 325

1 unit from MUPF 277-286 or 377-386
9 units of organizations

ORGAN—
MUCT 411, 415 MUHL 326 MUPF 328 (2 units)

12 units of organizations

INSTRUMENT OTHER THAN PIANO OR ORGAN—
MUCT 411, 415 MUPF 328 (2 units)
12 units of organizations

VOICE—
MUHL 327 MURE 487 MUPF 328 (4 units)

12 units of choral organizations
French or German through level IV

MINOR

Music 30 units (12 upper division), including
MUCT 111, 112, 113
MUHL 335, 336, 337

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. Offered alternate years.

MUCT 315 Music Form (4)

Smaller forms, through the sonata, the rondo, and the contrapuntal forms. Offered alternate years.

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 alternate years.

Prerequisite: MUCT 211, 212, 213.

MUCT 499 Direct Study (1-4)

MUSIC EDUCATION

UPPER DIVISION

MUED 305 Music in the Elementary School (4)

Rote and note singing; music listening; concepts of melody, rhythm, harmony.

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 alternate years.

MUHL 326 The Organ and Service Playing (2)

Organ and organ literature; problems and techniques of hymn playing, modulation, improvisation, accompaniment of choir and soloists; music selection. Offered alternate years.

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 alternate years.

MUHL 335, 336, 337 History of Music (4, 4, 4)

First quarter: earliest times through 1600. Second quarter: 1600-1800. Third quarter: 1800 to present.

Prerequisite: MUCT 105 or equivalent.

MUHL 499 Directed Study (1-4)

MUSIC PERFORMANCE

LOWER DIVISION

MUPF 225 Accompanying (2)

Principles of and practice in accompanying both vocal and instrumental music. An additional unit may be earned by accompanying a senior recital. Offered alternate years.

Prerequisite: Consent of the instructor.

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. Open to juniors and seniors only.

MUPF 317 Instrumental Conducting (2)

Conducting and rehearsal techniques, score reading, instrumentation, style patterns. Open to juniors and seniors only.

MUPF 325 Performance Techniques: Piano (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 alternate years.

MUPF 328 Performance Techniques: Voice (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 alternate years.

CLASS INSTRUCTION

MUPF 241, 242 Stringed Instruments (1, 1)

Basic techniques of the orchestral stringed instruments. Taught 1984-85.

MUPF 251, 252 Woodwind Instruments (1, 1)

Orchestral woodwind instruments. Taught 1985-86.

MUPF 261, 262 Brass and Percussion Instruments (1, 1)

Orchestral brass and percussion instruments. Taught 1983-84.

MUPF 265 Voice Class (1)

Beginning voice taught by the class method. May be repeated for additional credit.

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 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 276, 376 **Concert Orchestra (1)**

MUPF 277, 377 **University Singers (1)**

MUPF 278, 378 **Chamber Orchestra (1)**

MUPF 284, 384 **Chamber Music (1-4)**

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 Male 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.

RELIGIOUS MUSIC

MURE 485 Church Music (4)

Vocal and instrumental music of the Church from the sixteenth century to the present. Offered alternate years.

MURE 486 Hymnology (4)

Christian humnody from the Reformation to the present; examination of current hymnals, including modern trends. Offered alternate years.

MURE 487 Sacred Choral Literature (4)

Development of choral singing within the Christian Church; literature of all periods; building of repertoire; styles and performance techniques demonstrated in a collegium musicium setting. Offered alternate years.

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)

MURE 685 Seminar in Church Music (4)



**DEPARTMENT OF
OFFICE MANAGEMENT AND BUSINESS EDUCATION**

LOURDES E. SILVA, Chairman; Associate Professor of Office Management and Business Education
ED.S. Loma Linda University

CHARLENE A. BAKER, Professor of Office Management and Business Education
M.A. Columbia University
Professional Diploma, Teacher of Business Subjects, Columbia University

LOIS E. McKEE, Professor of Office Management and Business Education
ED.D. University of Nebraska

MARY H. YACOUB, Associate Professor of Office Management and Business Education
M.A. Pacific Union College

LINDA K. SEAL, Instructor in Office Management and Business Education
M.A. Loma Linda University

Objectives The objectives of this department are: (1) to prepare the four-year student for careers in office management; (2) to prepare business education teachers for secondary schools; (3) to prepare qualified secretaries and word processors for business and professional offices; (4) to enhance the written communication skills of all students.

Preparation for teaching A student preparing to teach secretarial or business skills at the secondary level should plan to qualify for teaching credentials and during the freshman or sophomore year should consult both the department adviser and 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 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, 121, 122, 305, 315, 324, 325, 326
Required cognates:	ACCT 221 or 205 HMEC 289
Recommended:	BUAD 235

MAJORS

BACHELOR OF SCIENCE

Business education

Required: The core curriculum
ACCT 222
BUAD 366, 381, 382
CPTG 204
ECON 254, 255
HMEC 446
MATH 251
OMGT 211 or ACCT 301; OMGT 264, 376
6-8 units selected from BUED 435-438

Required cognates: EDCI 204, 414, 430 in the School of Education
EDFO 305 in the School of Education

Recommended: EDCI 457 EDFO 404 in the School of Education

Office management

Required: Completion of the major requirements for one of the Associate in Arts degrees and
ACCT 222
BUAD 355, 356, 381
CPTG 204
ECON 254, 255
OMGT 327, 376, 464

Recommended: BUAD 366, 382, 486

MINOR

Office management 28 units (12 upper division), including
OMGT 103, 121, 122, 264, 315, 376

ASSOCIATE DEGREE PROGRAMS

ASSOCIATE IN ARTS

Administrative secretary

Required: The core curriculum
OMGT 211, 264

Legal secretary

Required: The core curriculum
OMGT 254, 255
BUAD 381

Medical secretary

Required: The core curriculum
OMGT 224, 245
BIOL 107

Word processing specialist

Required: The core curriculum
OMGT 264, 327
CPTG 204

OFFICE MANAGEMENT SKILLS AND PROCEDURES

LOWER DIVISION

OMGT 101 Beginning Typewriting (4)

For students with no previous instruction.

OMGT 102 Intermediate Typewriting (4)

For students with some previous instruction who wish to improve skills or to qualify for advanced typewriting.

Prerequisite: OMGT 101 or equivalent.

OMGT 103 Advanced Typewriting (4)

Typical typewriting problems to be solved by the secretary.

Prerequisite: OMGT 102 or equivalent.

OMGT 104 Personal Typing Review (2)

Improvement of typing 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.

OMGT 110 Speedwriting (2)

A new system of shorthand for use in personal notetaking. Programmed instruction. Does not apply toward a major in office management.

OMGT 111, 112, 113 Shorthand (4, 4, 4)

Speed goal for year: 80 words per minute for three minutes on new material.

OMGT 121 Office Services I (4)

Evaluation and refinement of basic skills in office work, telephone techniques, filing, 10-key adding machine, machine transcription.

Prerequisite: OMGT 102.

OMGT 122 Office Services II (4)

Calculating machines, reprographics, office simulation.

Prerequisite: OMGT 121.

OMGT 124 Business Machines (2)

Development of fast and accurate use of adding and calculating machines; introduction to office telephone techniques, records management, and dictating equipment.

OMGT 211 Shorthand Dictation and Transcription (4)

Development of shorthand speed; fast and accurate transcription of letters at the typewriter. Speed goal: 120 words per minute for three minutes on new material.

Prerequisite: OMGT 103 (may be taken concurrently), 113, or equivalent.

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; human relationships.

Prerequisite: OMGT 122.

OMGT 245 Medical Terminology and Transcription (4)

Prerequisite: OMGT 103, 122.

OMGT 254 Legal Office Procedures (4)

Activities characteristic of secretarial work in the office of an attorney.

Prerequisite: OMGT 121, 122

OMGT 255 Legal Terminology and Transcription (4)

Prerequisite: OMGT 103, 122

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, 122.

OMGT 274 Practicum (3)

Supervised observation and experience in offices. Weekly conference with supervisor. May be repeated once for additional credit.

Prerequisite: Consent of the department

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.

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 324 Business Communications (4)

Effective written communication as a tool of management.

Prerequisite: ENGL 102; OMGT 102.

OMGT 325 Word Processing Concepts (2)

An introductory course in word processing concepts and issues.

OMGT 326 Automated Typing Systems (4)

Instruction on the Xerox 800 Automated Typing System and machine transcription of business documents.

Prerequisite: OMGT 103, 122, 325; ENGL 102.

OMGT 327 Computerized Word Processing (2)

Use of visual display equipment to perform word processing applications. Typing of projects in the student's specialized area.

Prerequisite: OMGT 103, 122; 325; ENGL 102.

OMGT 376 Office Administration (4)

Functions and activities. Interrelationships of personnel, equipment, and service.

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.

Prerequisite: Upper division standing.

OMGT 474 Internship in Office Management (1-4)

Supervised work experience. Professional reading and conferences. Upper division only.

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 514-520 Workshop in Business Education (2-3)

Concentrated consideration of a major problem or area in terms of procedures, materials, research, and individual projects.

BUED 514 Shorthand

BUED 517 Bookkeeping and Accounting

BUED 515 Typewriting

BUED 518 General Business

BUED 516 Office Practice

BUED 519 Data Processing

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 614 Seminar in Office Administration (4)

Contemporary problems in office administration. Emphasis on trends and developments and on individual student research.

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
PHYSICAL EDUCATION, HEALTH and RECREATION**

WALTER S. HAMERSLOUGH, Chairman; Professor of Physical Education
ED.D. University of Oregon

VERNON L. SCHEFFEL, Professor of Physical Education
D.P.E. Springfield College

SANDRA R. CAVANAUGH, Associate Professor of Physical Education
ED.D. Brigham Young University

ROGER L. McFARLAND, Associate Professor of Physical Education
M.ED. Wayne State University

EUGENE W. NASH, Associate Professor of Physical Education
M.P.H. Loma Linda University

ROBERT K. SCHNEIDER, Associate Professor of Physical Education
M.A. Loma Linda University

HELEN I. WEISMAYER, Associate Professor of Physical Education
M.S. University of Southern California

ERVIN H. MATEER, Lecturer in Physical Education
B.A. Loma Linda University

COLLABORATING FACULTY

NELSON E. THOMAS, Professor of Physical Education
PH.D. Florida State University

Functions The Department of Physical Education, Health 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.

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.

Public health Programs emphasizing community health education, general public health, health services administration, or occupational health promotion in a medical and public health context, are offered through the School of Allied Health Professions.

MAJORS

BACHELOR OF SCIENCE

Physical education

Core curriculum Required of all students majoring in physical education: PETH 214, 216, 344, 408, 426, 444

Required: 65 units in physical education, including the core curriculum and
PEAC 108, 109, 181 244-257, 274-278
PETH 204, 264, 265, 266, 355, 356, 357, 385, 424, 427, 429 (4 units), 483

Required cognates: BIOL 114, 115 or 131, 132

Physical education with emphasis in health

Required: 69 units in physical education, including the core curriculum and
PEAC 108, 109, 181, 244-257
PETH 204, 264, 265, 266, 355, 356, 357, 385, 414, 415, 416, 424, 427, 429 (4 units), 483

Proficiency required in archery, badminton, golf, gymnastics, and tennis

Required cognates: BIOL 114, 115 or 131, 132 FDNT 225

Physical education with emphasis in fitness management

Required: 65 units, including the core curriculum and
PEAC 108, 109, 111, 112, 113, 115, 169, 183 (select any 6)

PETH 334

ACCT 205 ART 244 (2 units)

BIOL 131, 132 BUAD 355

FDNT 225

Remaining units selected in consultation with the adviser

Physical education with emphasis in scientific basis

Required: 65 units, including
the core curriculum and
PETH 424, 427, 429
BIOL 104, 105, 106 or CHEM 111, 112, 113
or PHYS 211-215 (12 units)
BIOL 131, 132
Remaining units selected in consultation
with the adviser

Recreation

Core curriculum Required of all students majoring in recreation:
PEAC 244-257 (2 units), 274-278 (2 units); PETH 204, 235, 334, 385, 408,
438, 439 (12 units), 483

Required: 60 units in recreation, including
the core curriculum and
PEAC 108, 109
23 units from ART 264, 274 BUAD 355
MUCT 105 MUED 305 PETH 377
PSYC 304, 355 SOSR 104 SPCH 204

Recreation with emphasis in equestrian recreation

Required: 60 units, including
the core curriculum and
PEAC 123-128 (2 courses)
PETH 364, 365
19 units from PETH 361, 362 (recom-
mended) AGRI 105, 205, 234, 334 BUAD
355

Recreation with emphasis in therapeutic recreation

Required: 60 units, including
the core curriculum and
PETH 344, 437
20 units from
ANTH 445 PETH 424, 427
PSYC 304, 324, 344, 425, 451, 464, 466,
475
SOCI 375, 376
SOSR 104, 311, 312

Health science

Required: 71 units, including
BIOL 114, 115, 185
CHEM 101, 102, 103
FDNT 225
PETH 214, 216, 314, 317, 414, 415, 416,
417 (2 units), 426, 429 (2 units), 444,
464, 473
PSYC 324 (4 units)

Health science with emphasis in health education

- Required: 87 units, to include the health science major and the following
PETH 419 (8 units)
PSYC 437
SOCL 307
PETH 418B (School Health) required for a California state teaching credential in health science

MINORS

Physical education

- Required: 30 units (15 upper division), including
PEAC 244-257
PETH 264-266, 355-357
- Recommended: PETH 204, 216, 408

Physical education and health

- Required: 31 units (15 upper division), including
PEAC 244-257
PETH 214, 264-266, 355-357
- Recommended: PETH 216, 408, 414

Recreation

- Required: 30 units (15 upper division) selected in consultation with the department adviser

Health science

- Required: 30 units (15 upper division), including
PETH 214, 414, 415, 444
- Recommended: PETH 314, 416, 426
BIOL 115

COURSES

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 143	Floor Hockey
PEAC 102	Swimming II	PEAC 144	Baseball
PEAC 103	Swimming III	PEAC 145	Men's Basketball
PEAC 104	Synchronized Swimming I	PEAC 146	Women's Basketball
PEAC 105	Synchronized Swimming II	PEAC 147	Field Hockey
PEAC 106	Scuba Diving I	PEAC 148	Men's Flagball
PEAC 107	Scuba Diving II	PEAC 149	Track and Field
PEAC 108	Lifesaving	PEAC 150	Men's Soccer
PEAC 109	Water Safety	PEAC 154	Men's Softball
PEAC 110	Independent Activities	PEAC 155	Women's Softball
PEAC 111	Fitness and Figure Control	PEAC 157	Women's Flagball
PEAC 112	Weight Training	PEAC 158	Women's Soccer
PEAC 113	Jogging	PEAC 159	Water Polo
PEAC 114	Adaptive Activities	PEAC 161	Badminton I
PEAC 115	Aerobic Swimming	PEAC 162	Badminton II
PEAC 116	Gymnastics I	PEAC 163	Diving I
PEAC 117	Gymnastics II	PEAC 164	Diving II
PEAC 118	Gymnastics III	PEAC 165	Tennis I
PEAC 119	Olympians	PEAC 166	Tennis II
PEAC 120	Lifetime Fitness	PEAC 167	Tennis III
PEAC 121	Archery	PEAC 169	Racquetball I
PEAC 123	Horsemanship Western Style I	PEAC 170	Racquetball II
PEAC 124	Horsemanship Western Style II	PEAC 171	Golf I
PEAC 125	Horsemanship Western Style III	PEAC 172	Golf II
PEAC 126	Horsemanship English Style I	PEAC 173	Golf III
PEAC 127	Horsemanship English Style II	PEAC 177	Backpacking
PEAC 128	Horsemanship English Style III	PEAC 178	Winter Backpacking
PEAC 130	Skiing I	PEAC 179	Rock Climbing
PEAC 131	Skiing II	PEAC 181	Basic Skills
PEAC 133	Folk Rhythms	PEAC 182	Self-Test Tumbling
PEAC 134	Skating	PEAC 183	Aerobic Rhythms
PEAC 135	Sailing	PEAC 184	Aerobic Conditioning
PEAC 138	Cycling	PEAC 185	Cross Country Skiing
PEAC 140	Volleyball I	PEAC 194	Self-Defense I
PEAC 141	Volleyball II	PEAC 195	Self-Defense II

PEAC 244-257 Professional Team Activities (1)

PEAC 244	Baseball	PEAC 250	Men's Soccer
PEAC 245	Men's Basketball	PEAC 251	Women's Soccer
PEAC 246	Women's Basketball	PEAC 255	Softball
PEAC 248	Men's Flagball	PEAC 256	Volleyball
PEAC 249	Track and Field	PEAC 257	Women's Flagball

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 Physical Education, Health 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 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; disease; safety education. This course satisfies the California requirement in drug and tobacco education for teacher certification.

PETH 216 Basic Emergency Care (2)

First aid, CPR, treatment of athletic injuries. Lecture and laboratory.

PETH 235 Outdoor Recreation (2)

Methods of leadership in camping activities. Special attention given to understanding campers and reaching the goals and purposes of the program. Lecture and field experience. Offered alternate years.

PETH 264, 265, 266 Techniques of Officiating (2, 2, 2)

Autumn: flagball and soccer. Winter: basketball and volleyball. Spring: softball and track and field.

UPPER DIVISION

PETH 314 Community Health (3)

Problems, agencies, and programs of health in the local, state, national, and world community. Visits to public health facilities.

Prerequisite: PETH 214.

PETH 317 Health and Society (3)

A study of health problems affecting individuals and community, with special emphasis on the U.S. health care system. Strategies for meeting the health needs of society.

PETH 334 Leisure, Recreation, and Society (4)

Principles and organizations; public and private agencies; community resources; methods of converting leisure into useful, cultural, and creative activities. Lecture and laboratory. Offered alternate years.

PETH 344 Adaptive Physical Education (2)

Theory and practice of adaptive physical education as applied to the exceptional person.

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 361, 362 Basic Horse Training Techniques (2, 2)

Principles of horse training. Lecture and laboratory.

PETH 364, 365 Equine Science (2, 2)

Grooming, nutrition, reproduction, diseases.

PETH 377 Wilderness Survival (2)

Skills and knowledge needed for survival in extreme conditions, including first aid, building of shelters and tools, edible and useful plants, etc.

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 414 Mental Health and Drug Abuse Education (4)

Mental health, abuse of drugs, alcohol, and tobacco. Teaching methods.

Prerequisite: PETH 214.

PETH 415 Consumer Health and Disease (4)

Consumer health, degenerative and communicable diseases. Teaching methods.

Prerequisite: PETH 214.

PETH 416 Human Sexuality (2)

Family living and sex education. Teaching methods.

Prerequisite: PETH 214.

PETH 417 Safety Education (2-4)

Principles of industrial, home, highway, and school safety; civil defense.

PETH 418 Topics in Physical Education and Health (1-4)

Course content may vary from year to year and may be repeated for credit.

PETH 419 Fieldwork in Health (1-12)

Directed experience in public and private health agencies.

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 114 or 131, 132.

PETH 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 115 or 131, 132.

PETH 427 Motor Learning (4)

Psychological principles involved in learning physical skills. Three class periods, one three-hour laboratory per week.

PETH 429 Tests and Measurements (2-4)

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.

PETH 437 Recreation and Programs for Special Groups (2)

Recreational activities and programs for mentally and physically ill, handicapped, and special groups. Lecture and laboratory.

PETH 438 Recreational Leadership (4)

Theory and practice in planning, conducting, and evaluating recreation programs in the community, school, and church. Lecture and laboratory. Offered alternate years.

PETH 439 Fieldwork in Recreation (1-12)

Directed experience in public and private recreation agencies.

PETH 444 Principles of Physical Fitness (2)

The total physical fitness program. Theory and practice.

Prerequisite: PETH 426.

PETH 464 Principles of Epidemiology (3)

The study of disease occurrence in human populations.

PETH 473 Environmental Health (3)

The study of relationships between various environmental factors and the health of human populations.

PETH 483 Seminar in Physical Education, Health 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 505 History and Sociology of Physical Education (4)

PETH 506 Philosophy of Physical Education (4)

PETH 508 Literature and Issues of Physical Education Programs (4)

PETH 509 Curriculum and Facilities (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 589 Research Methods (4)

PETH 599 Directed Study (2-4)

PETH 698 Thesis (arranged)

DEPARTMENT OF PHYSICS

EDWIN A. KARLOW, Chairman; Professor of Physics
PH.D. Washington State University

ALBERT E. SMITH, Professor of Physics
PH.D. Michigan State University

RICHARD L. BOBST, Associate Professor of Physics
M.A. University of South Dakota

IVAN E. ROUSE, Associate Professor of Physics
PH.D. Washington State University

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 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 physics is described in the BULLETIN of the School of Education.

Core curriculum Required of all students taking majors in the physics department.

Required:	PHYS 211, 220, 320, 331, 8 units from PHYS 212-215 2 units PHYS 185 and/or 385
Required cognates:	CPTG 225 MATH 131, 132, 133, 231, 232, 233

MAJORS

BACHELOR OF ARTS

Physics

Required: 42 units in physics, including the core curriculum
PHYS 415 (2 quarters)
12 units of upper division PHYS electives

BACHELOR OF SCIENCE

Biophysics

Required: 66 units in biology and physics, including the core curriculum
BIOL 104, 105, 106, 315, 404, 466
PHYS 401
8 units of upper division PHYS electives
4 units of BIOL electives

Required cognates: CHEM 111, 112, 113, 371

Physics/computational emphasis

Required: 66 units in physics and computing, including the core curriculum
PHYS 415 (2 quarters)
24 units of upper division PHYS electives
CPTG 324
MATH 361, 362

Required cognates: CHEM 111, 112, 113
OR
BIOL 104, 105, 106

Physics/graduate research emphasis

Required: 66 units in physics, including the core curriculum
PHYS 415 (2 quarters), 499 (4 units)
32 units of upper division physics electives (up to 8 units may be substituted for physics electives from CHEM 351, 352, 353, 421, 422)

Required cognates: CHEM 111, 112, 113
OR
BIOL 104, 105, 106

Physical science

Offered with the Department of Chemistry (see requirements in that department).

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

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 and 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 will be given to developing problem-solving skills and laboratory techniques. Three lectures and one two-hour laboratory per week. Does not apply toward a major in physics.

Prerequisite: PHYS 117 and 50th percentile on MATH ACT or MATH 006, or equivalent.

PHYS 185 Seminar (½)

Freshman and sophomore students register for the seminar during the fall term, which is devoted to exploring careers in physics and engineering. Winter and spring terms are devoted to topics of current interest. May be repeated for credit with a maximum of two units applying toward the major.

PHYS 204 Physics of Music and Speech (4)

Sound waves and their relation to music and speech. Does not apply toward a major in physics.

PHYS 211 General Physics: Mechanics (4)

Required of students majoring in physics or in premedical or pre dental programs. Three class periods, one three-hour laboratory per week.

Prerequisite: Secondary school algebra and trigonometry, or MATH 122 or equivalent.

PHYS 212 General Physics: Electricity and Magnetism (4)

Three class periods, one three-hour laboratory per week.

Prerequisite: PHYS 211.

PHYS 213 General Physics: Atomic and Nuclear Physics (4)

Three class periods, one three-hour laboratory per week.

Prerequisite: PHYS 211.

PHYS 214 General Physics: Heat and Fluids (4)

Three class periods, one three-hour laboratory per week.

Prerequisite: PHYS 211.

PHYS 215 General Physics: Light and Sound (4)

Three class periods, one three-hour laboratory per week.

Prerequisite: PHYS 211.

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 320 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 320.

Prerequisite: MATH 133.

PHYS 325 Advanced Mechanics (4)

Central force motion, small oscillation theory, Lagrangian and Hamiltonian methods, continuum mechanics.

Prerequisite: PHYS 320.

PHYS 331 Optics and Optical Systems I (4)

Principles of geometrical, energy, and physical optics. Light sources and detectors, reflection, refraction, interference, diffraction, polarization.

Prerequisite: Three quarters of general physics.

PHYS 332 Optics and Optical Systems II (4)

Continuation of PHYS 331, including radiometry, coherence theory, quantum optics, and crystals, imaging systems, lasers.

Prerequisite: MATH 233; PHYS 331.

PHYS 344 Introductory Quantum Physics (4)

Experimental basis of quantum theory, Bohr theory, Schrödinger's equation, wave mechanics, quantum theory of the one-electron atom.

Prerequisite: MATH 233; PHYS 325.

PHYS 385 Seminar (½)

Juniors, seniors, and transfer students register for the seminar during the fall term, which is devoted to exploring careers in physics and engineering. Winter and spring terms are devoted to topics of current interest. May be repeated for credit with a maximum of two units applying toward the major.

PHYS 401 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 credit.

PHYS 437 Geophysics (4)

Application of classical physics to the study of the earth. The earth's gravitational, geomagnetic, geothermal and seismic characteristics will be studied as well as the dynamics of the earth's crust, plate tectonics, and radioactive dating. Identical to GEOL 437.

Prerequisite: Three quarters general physics; 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 and two three-hour laboratories per week.

Prerequisite: Three quarters of general physics.

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 220 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 and one laboratory per week. Identical to ENGR 220.

Prerequisite: MATH 231.

UPPER DIVISION

PHYS 350 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 212 or consent of the instructor.

PHYS 354 Digital Computer Electronics (4)

Microprocessor components, instructions, and programming; flip-flops, latches, decoders, counters, logic gates, and tri-state devices. Experiments cover the properties of common digital integrated circuits and microprocessors. Two lectures, two laboratories per week.

Prerequisite: Consent of the instructor.

PHYS 454 Computer Interfacing (4)

Use of microprocessors for data acquisition, digital/analog conversions, data logging and processing. I/O techniques, interrupts, multiplexing. Individual project. Two lectures, two laboratories per week.

Prerequisite: PHYS 354 or consent of the instructor.

GRADUATE

PHYS 527 Topics in Theoretical Physics (4)

PHYS 599 Research and Thesis (1-4)

ENGINEERING

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.

Core requirements:	DRFT 141 ENGR 220, 230, 320 PHYS 185 PHYS 211, 212, 215 (calculus based)
Math/science requirements:	CHEM 111, 112, 113 CPTG 225 MATH 131, 132, 133, 231, 232, 233
General education:	ENGL 101, 102 8 units biblical studies* 8 units humanities/history* 3 physical education activity courses

*See engineering adviser for applicable courses.

ENGR 220 AC/DC Circuits (4)

Identical to PHYS 220.

ENGR 230 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; PHYS 211.

Corequisite: MATH 132.

ENGR 320 Dynamics (4)

Identical to PHYS 320.

DEPARTMENT OF PSYCHOLOGY

JERRY W. LEE, Chairman; Associate Professor of Psychology
PH.D. University of North Carolina

VERN R. ANDRESS, Professor of Psychology
PH.D. United States International University

PETER G. STRUTZ, Professor of Psychology
PH.D. University of Alberta

ROLANDO R. HENRY, Associate Professor of Psychology (on leave)
PH.D. Vanderbilt University

CAROLYN R. HOWARD, Associate Professor of Psychology
PH.D. West Virginia University

ADENY P. SCHMIDT, Assistant Professor of Psychology
M.A. Catholic University of America

EDWARD B. PFLAUMER, Instructor in Psychology
M.A. Andrews University

STEVEN L. PACKWOOD, Lecturer in Psychology
M.A. Claremont Graduate School

COLLABORATING FACULTY

SHIROU KUNIHARA, Professor of Psychology, School of Dentistry
PH.D. Stanford University

JOHN M. REEVES, Associate Professor of Preventive and Community Dentistry,
School of Dentistry
PH.D. University of Southern California

Objectives The Department of Psychology functions to (1) teach psychology from a Christian perspective to help the individual's personal development in effective Christian living, and (2) prepare the student for graduate study by meeting the general admission requirements of major graduate programs. 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. Most of these career areas require advanced study at the graduate level.

Counseling and education A student majoring in psychology who is interested in credentials in elementary or secondary education, school psychometry, pupil personnel work, or counseling and guidance should consult the department chairman and the credentials adviser in the School of Education during the freshman or sophomore year for detailed information concerning requirements.

MAJORS

BACHELOR OF ARTS

Psychology

Required: 52 units (36 upper division) in psychology, as follows
PSYC 104, 206, 224, 225, 304, 349, 354,
404 or 452, 435 or 485, 444, 451, 478,
488

Required cognates: ANTH 104 or 315 MATH 251, 252
SOC 104

BACHELOR OF SCIENCE

Behavioral science

Required: 64 units (40 upper division), including
ANTH 104 or 315, 306
PSYC 104, 224 or 324, 344
SOC 104, 304, 306 or 414
Remaining units in at least two of the
areas of the behavioral sciences se-
lected in consultation with the pro-
gram adviser

Behavioral science and religion

Required: 110 units in the behavioral sciences and
religion, as follows
ANTH 104 or 315
PSYC 104, 205, 324 (4 units), 344, 414, 475,
RELB 104, 206, 207, 244, 404 (4 units), 424
RELP 264
RELT 205, 245, 254, 354
SOC 104, 304, 307, 314, 376, 414, 417, 488,
489 or PSYC 489
SOSR 104

Required cognates: BIOL 131, 132
EDFO 506 in the School of Education

Psychology

- Required: 56 units (40 upper division) in psychology, including
PSYC 104, 206, 304, 324, 344, 349, 435 or
485, 478, 488
Remaining units in psychology in consultation with the department adviser
- Required cognates: ANTH 104 or 315 MATH 251, 252
SOCI 104

Psychology with emphasis in psychobiology

- Required: 72 units (48 upper division), including
BIOL 104, 105, 106, 404 or CHEM 481, 482, 483
BIOL 447, 464
PSYC 104, 206, 349, 354, 451, 452
Remaining units selected from
BIOL 315 (specially recommended), 427, 434, 446, 459, 466, 469
CHEM 385 or CHEM 481, 482, 483
FDNT 225
PSYC 304, 324, 344 or 444, 435, 456, 458, 466, 475, 478, 486
- Required cognates: CHEM 111, 112, 113, 371, 372, 373
MATH 251, 252

MINORS

- Behavioral science 28 units (16 upper division), including
ANTH 104 or 315 PSYC 104 SOCI 104
Remaining units selected in consultation with the program adviser
- Psychology 28 units (16 upper division), including
PSYC 104, 205 or 224 or 324, 344

COURSES

PSYC 104 is prerequisite to all other courses in psychology except PSYC 105 and PSYC 205.

DEVELOPMENTAL

PSYC 005 Personal Study Skills (4)

Pregeneral studies course emphasizing the motivation to study and applied techniques of study skills. Does not apply toward a major or minor in psychology or behavioral science or toward the general requirement in personal/social relationships.

LOWER DIVISION

PSYC 104 General Psychology I (4)

A survey of the scientific study of human behavior, its causes and consequences. A general introduction to the nature and scope of psychology, including an analysis of the development, adjustment, and maladjustment of thinking, perception, motivation, learning, intelligence, and personality.

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 206 General Psychology II (4)

Selected areas of psychology studied in depth. Special emphasis on the scientific methods of studying physiological factors, adaptive behavior, perception, cognition, and motivation.

Prerequisite: MATH 251 or consent of the instructor.

PSYC 224 Developmental Psychology I (3-4)

The physical, mental, emotional, social, and religious/moral development occurring within the family context from conception through the first twelve years of life. Observations and/or laboratory experience. Not open to students who have taken PSYC 324.

PSYC 225 Developmental Psychology II (3-4)

The physical, mental, emotional, social, and religious/moral development occurring within the family and social context from adolescence through adulthood, old age, and death. Observations and/or laboratory experience. Not open to students who have taken PSYC 324.

Prerequisite: PSYC 224 or consent of the instructor.

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, 225.

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 344 Introduction to Personality (4)

The development and influence of the individual differences on thought, feelings, and behavior. Includes a survey of the major approaches to the study and measurement of the healthy human 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: PSYC 206; MATH 251, 252; junior standing.

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 206, 349; MATH 251, 252; junior standing.

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 Psychological Tests and Measurements (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 404 Experimental Social Psychology (4)

Theory and methods in the scientific study of human social behavior. Includes the design and execution of a research project.

Prerequisite: PSYC 206, 304, 349, 354; MATH 251, 252, or consent of the instructor.

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 will be given to clinical, educational, and crisis-intervention counseling applications.

Prerequisite: PSYC 344 or consent of the instructor.

PSYC 425 Psychology of Physical Disability (3)

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 206 or consent of the instructor.

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 444 Theories of Personality (4)

A survey of historic and current theories of personality, its normal and abnormal formation and rehabilitation. Fundamental principles of mental health in school, home, and society.

Prerequisite: PSYC 344 is recommended.

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 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 206, 349, 354; MATH 251, 252, or consent of the instructor.

PSYC 454 Advanced Counseling (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; considering 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 206.

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 ANTH 489, 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 clock 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.

DIVISION OF RELIGION

KENNETH L. VINE, Dean; Professor of Old Testament
PH.D. University of Michigan

NIELS-ERIK A. ANDREASEN, Associate Dean; Professor of Old Testament
PH.D. Vanderbilt University

LA SIERRA CAMPUS FACULTY

DALTON D. BALDWIN, Professor of Christian Theology
PH.D. Claremont Graduate School

HAROLD E. FAGAL, Professor of New Testament
PH.D. Fuller Theological Seminary

V. BAILEY GILLESPIE, Professor of Theology and Christian Personality
PH.D. Claremont Graduate School

PAUL J. LANDA, Professor of Church History
PH.D. Vanderbilt University

WALTER C. MACKETT, Professor of History
PH.D. University of Southern California

WALTER F. SPECHT, Emeritus Professor of New Testament
PH.D. University of Chicago

DANIEL CHAVEZ, Associate Professor of Biblical Studies
PH.D. School of Theology at Claremont

JONATHAN M. BUTLER, Associate Professor of Church History
PH.D. University of Chicago Divinity School

F. LYNN MALLERY, Associate Professor of Applied Theology
D.MIN., S.T.D. San Francisco Theological Seminary

T. RICHARD RICE, Associate Professor of Theology
PH.D. University of Chicago Divinity School

CHARLES W. TEEL, JR., Associate Professor of Religion and Sociology
PH.D. Boston University

MADELYNN J. HALDEMAN, Assistant Professor of New Testament
M.A. Andrews University

LEON I. MASHCHAK, Assistant Professor of Old Testament
M.A. Andrews University

GORDON R. MATTISON, Assistant Professor of Applied Theology
D.MIN. San Francisco Theological Seminary

STEVEN G. DAILY, Instructor in Religion
M.DIV. Andrews University

ERADIO ALONSO, Lecturer in Applied Theology
M.DIV. Princeton Theological Seminary

ARTHUR J. LESKO, Lecturer in Applied Theology
M.A. Loma Linda University

FIELD PERSONNEL

Philip Googe
Mitchell Henson
Ernesto Hernandez
Warren Jarrard
Edward Johnson

Varner Leggitt
Gerald Penick
Juan Rivera
Moses Wales

The Division 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 Division of Religion is part of every degree and certificate program in the College. In connection with these interrelationships, the objectives of the division 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 Division of Religion during the spring quarter of the sophomore year. In addition, they complete, during that quarter, a prescribed battery of diagnostic tests which cost \$10.00. 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 Division, 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.

BACCALAUREATE MAJOR PROGRAMS

BACHELOR OF ARTS

Ministerial studies, pastoral ministry

Required: RELB 104, 224, 225, 226, 244, 414, 415, 416
RELE 447
RELH 445, 446, 447
RELP 101, 102, 264, 361, 362, 374 (3 units),
397 (3 units), 436
RELT 254, 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 304, 305, 429, 486
One additional course in Spanish literature

Ministerial studies, educational ministry

Required: Completion of the ministerial studies requirement as listed for pastoral ministry
RELP 400, 414 (3 units), 415, 468
EDFO 404 in the School of Education
For teaching credentials (optional) EDCI 204, 414, 430, 457 in the School of Education
EDFO 305 in the School of Education

Religion

Required: 60 units in religion, including
RELB 104, 224, 225, 226, 244, 414, 415, 416
RELH 445, 446, 447
RELT 254, 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. Interdisciplinary curriculums have been developed in religion and history (with emphasis in church history), religion and social work, and religion and behavioral science. Information may be obtained from the Office of the Dean.

MINORS

Religion 32 units (16 upper division), as follows
RELB 104, 224 or 225, 244, 414 or 415
RELT 254, 434, 435
4 units upper division
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
RELB 104, 206, 207, 244, 404 (4 units), 424
RELP 264, 284 (6 units), 436
RELT 205, 245, 354

Required cognates: PSYC 104 SOCI 104 SOSR 104

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 204 Acts of the Apostles (4)

The New Testament narrative, with emphasis on problems the Church faced in its earliest periods as it prepared to carry the Christian gospel into the Gentile world. Does not apply toward a major in religion or ministerial studies.

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 299 Directed Study (1-4)

Prerequisite: Consent of the instructor.

UPPER DIVISION

RELB 304 Understanding and Sharing Your Bible (4)

A theology of and methodology for a successful witness of Christ and His Word. Not open to students majoring in ministerial studies.

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

Graduate For graduate courses in historical studies, see the BULLETINS of the Division of Religion and the Graduate School.

CHRISTIAN ETHICS

LOWER DIVISION

RELE 205 Biblical Ethics in the Modern World (4)

An introduction to the study of biblical ethics. A 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 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 454 Christian Social Ethics (2-4)

Theological foundations of ethics, methods for making sound ethical judgments, implications of Christian belief for selected problems in personal and social ethics.

HISTORICAL STUDIES

Only one course in this section may be chosen to apply toward the general education requirement in religion.

UPPER DIVISION

RELH 305 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 305.

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 455 Religion in American Life (3-4)

The place of religion in American intellectual, political, social, and cultural developments from the colonial period to the present. Identical to HIST 455.

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. Identical to HIST 466.

RELH 467 The Medieval Church (3-4)

Study from primary sources of the important men, developments, and ideas in the Christian Church from the sixth through the fifteenth centuries. Offered alternate years. Identical to HIST 467.

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. Identical to HIST 468.

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. Identical to HIST 474.

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. Identical to HIST 476.

RELH 478 The English Reformation (3-4)

Main historical forces and religious movements of the English Reformation until the Westminster Assembly. Offered alternate years. Identical to HIST 478.

RELH 484 Twentieth-Century Church History (3-4)

Modern religious trends and their impact on church and society. Offered alternate years. Identical to HIST 484.

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 1922. 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) and her major theological contributions. Offered alternate years. Identical to HIST 486.

RELH 487 Natural Theology: A Historical Survey (3-4)

A historical survey, beginning with the Middle Ages, of different approaches to the question of faith and reason, or what can be known of God by rational inquiry alone, within Christian thought. Identical to HIST 487.

Prerequisite: Consent of the instructor.

RELH 488 Protestant Thought in the Twentieth Century (3-4)

An examination of the major figures, issues, and resources of contemporary Protestant theology. Identical to HIST 488.

Prerequisite: Consent of the instructor.

RELH 497 Proseminar (4)

Identical to HIST 497.

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

Graduate For graduate courses in historical studies, see the BULLETINS of the Division of Religion and the Graduate School.

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 208 Field Literature Evangelism (5)

Summer program in field literature evangelism.

Prerequisite: Satisfactory prior arrangements with the Division of Religion and the respective conference publishing department.

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 (½)

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 (½)

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 (½)

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.

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 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 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.

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 404 Christian Foundations (2-4)

Basic assumptions of Christian belief: the validity of religious experience, the reality of God, the meaning of revelation, the uniqueness of Christianity among world religions. Not open to students who take RELT 436.

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 (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 484 Proseminar in Personal Religion (2-4)

Advanced study of the dynamics of personal religion. Does not apply toward a major in religion or ministerial studies.

RELT 487 Proseminar on Church (2-4)

The nature, mission, and function of church. Sources include biblical, denominational, and contemporary literature.

RELT 499 Directed Study (1-4)

Limited to students majoring in religion or ministerial studies.

Prerequisite: Consent of the instructor.

GRADUATE

Graduate For graduate courses in theological studies, see the BULLETINS of the Division of Religion and the Graduate School.



**DEPARTMENT OF
SOCIAL WORK**

JUNE L. HORSLEY, Chairman; Associate Professor of Social Work
M.S.W. University of Denver

MAMIE M. OZAKI, Associate Professor of Social Work
M.S.W. University of Southern California

LOTTIE A. HOLT, Lecturer in Social Work
M.S.W. San Diego State University

RONALD G. HUSTON, Lecturer in Social Work
PH.D. United States International University

FIELD PERSONNEL

SATOMI F. EDELHOFER
M.S.W. University of California, Berkeley
San Bernardino County Mental Health Department

MARGARET L. GREEN
M.S.W. University of California, Los Angeles
Child Protection and Placement Services, Department of Public Social Services, San Bernardino County

RIC HENRY
M.S.W. Atlanta University
Assistant Director, Department of Social Services
Loma Linda University Medical Center

CHARLES D. HURD
M.S.W. Fresno State University
Adoptions Services, Department of Public Social Services, San Bernardino County

REBECCA M. JORDAN
M.S.W. Rutgers University
Good Samaritan Boys Home

HI TAIK KIM
M.S.W. University of Minnesota
Loma Linda University Medical Center

JOHN L. MELLON
M.S.W. Fresno State University
Child Placement, Department of Public Social Services, San Bernardino County

WILLIAM NEWELL
M.S.W. University of California, Los Angeles
Black Outreach Program
San Bernardino County Mental Health Department

TOM SANSONE
M.S.W. California State University, Sacramento
Chief, County Adoption Services, 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

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.

A degree in social work prepares an individual for the professional social worker's role of advocate for the client — the individual, family, group, or community that may be faced with the great social issues of our time:

- crime and delinquency
- child neglect and abuse
- mental illness
- aging
- poverty
- racism
- family changes
- social injustice
- loss of individual freedoms

The value system of the social work profession embraces a belief in the worth and dignity of the human being. The challenge of social work is to educate professionals who will be designers and facilitators of services and programs that will speak to man's dignity, needs, and hopes in associations with others.

The primary purpose of the baccalaureate degree social work program at Loma Linda University is to provide a Christian framework in which to prepare students for entry in the beginning professional 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.

MAJORS

Social work A student who intends to major in social work applies to and completes the admissions procedures for the Department of Social Work 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 or 315 MATH 251, 252, (or
equivalent) PSYC 104, 324 SOCI 104,
494
- Recommended: ECON 254
PSYC 304 SOCI 307, 376, 414

BACHELOR OF SCIENCE

Social work and religion

- Required: 120 units in the behavioral sciences and
religion, as follows:
ANTH 104
PSYC 104, 324
RELB 104, 206, 207, 244, 404 (4 units), 424
RELP 264
RELT 205, 254, 354
SOCI 104
SOSR 104, 204 (2 units), 215, 217, 218, 311,
312, 317, 318, 319, 335, 415, 488 (6 units),
498 (12 units)
- Required cognates: BIOL 107 MATH 251, 252 (or equivalent)
SOCI 494
- Recommended: MATH 104 PSYC 304 SOCI 307, 414

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 observation laboratory at local agencies. Prerequisite to all other SOSR courses.

SOSR 204 Colloquium (½)

A seminar of selected topics on contemporary social work issues. Required of all students majoring in social work and social work and religion. May be taken for up to 2 units.

SOSR 215 History of Social Welfare (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 intervention with individuals, groups, families, and community organizations. Basic interviewing methods; 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 macro-social systems of society. Refinement of intervention and problem-solving methods. Emphasis on crisis and brief intervention approaches applicable to generic social work practice; implications for use with a variety of ethnic or cultural populations.

Prerequisite: SOSR 217.

SOSR 224 Social Work in the Health Field (4)

Survey and analysis of social work in the health field; professional methods of intervention in meeting nonmedical needs of clients and their families; discussion of psycho-social effects of major illnesses and accidents on individuals, their families, and community groups; micro and macro level health care delivery systems.

Prerequisite: SOSR 217 or consent of the instructor.

UPPER DIVISION

Admission to the social work program requires the successful completion of SOSR 104, 215, and 217; 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, 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, ethnic groups, and communities; theoretical framework from ego psychology and social systems approaches.

Prerequisite: PSYC 324; SOSR 311.

SOSR 317 Social Work Methods: Casework (4)

Analysis and comparison of several methods of social work intervention; social systems theories and problem-solving strategies applied from a generic approach in simulated practice sessions; case analyses and laboratory assignments.

Prerequisite: PSYC 324; SOSR 217.

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 217, 317.

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. Laboratory assignments.

Prerequisite: Consent of the instructor.

SOSR 324 Child Welfare (4)

Survey of the development of services for children as individuals, as family members, 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.

Prerequisite: SOSR 217 or consent of the instructor.

SOSR 335 Social Work with Families (4)

Exploration of historical background of social welfare services for families; 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 217 and 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.

Prerequisite: SOSR 217 and consent of the instructor.

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.

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, ANTH 489, and PSYC 489.

SOSR 498 Field Practicum (4, 4, 4)

Externship program involving the application of generic social work methods to social problems in local service agencies. 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
SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY**

CHARLOTTE A. BLANKENSHIP, Coordinator; Assistant Professor of Speech Pathology
M.A. Western Michigan University

E. EVELYN BRITT, Associate Professor of Speech Pathology and Audiology
D.S.C. Johns Hopkins University

KEIKO I. KHOO, Assistant Professor of Audiology
M.S. Loma Linda University

ANN E. RATCLIFF, Assistant Professor of Speech Pathology
M.S. University of Redlands

ROGER I. BURGRAFF, Lecturer in Speech-Language Pathology
PH.D. University of Denver

JEAN B. LOWRY, Lecturer in Speech-Language Pathology
PH.D. Kent State University

JOYCE A. O'NEILL, Lecturer in Speech-Language Pathology
PH.D. University of Missouri

LOUISE M. SCRIVEN, Lecturer in Speech-Language Pathology
M.S. Loma Linda University

Objectives The purpose of the speech-language pathology and audiology program are to offer preparation for careers in the professional practice of speech-language pathology and audiology, to provide a basis for graduate study and research at a more advanced level, and to encourage the development of capacity for independent growth. The courses are designed to (a) increase understanding in the basic sciences of communication; (b) develop competence in the practice of speech-language pathology and audiology; and (c) promote a sense of responsibility toward the speech, language, and hearing handicapped and toward the community.

Preparation for teaching The speech-language pathology program is approved by the Commission for Teacher Preparation and Licensing to prepare students for the California Clinical Rehabilitative Services Credential in Language, Speech, and Hearing. Requirements for this credential include the completion of a fifth year. A student preparing for a career in California schools should consult the department adviser regarding specific course and practicum requirements of this credential.

MAJORS

BACHELOR OF SCIENCE

Speech-language pathology and audiology

Required: 60 units in speech-language pathology/audiology, as follows

SPPA 277, 284, 324, 334, 354, 376, 424,
434, 435, 444, 454, 464, 467 (1 unit),
485, 486
SPCH 315

Required cognates: MATH 251 PHYS 204
PSYC 356 or EDCE 404 in the School of
Education
PSYC 479 or 451
EDCE 460 EDFO 305 in the School of
Education

MINORS

Speech-language pathology and audiology

28 units, including

SPPA 277, 284, 376
SPCH 315

12 units from SPPA 324, 334, 354, 387,
424, 444, 454, 464, 485, 486

COURSES

LOWER DIVISION

SPPA 277 Development of Speech and Language (4)

Normal speech and language development, including social dialects as well as standard English; influencing physiological and environmental factors.

SPPA 284 Introduction to Speech-Language Pathology and Audiology (3)

Major types of disorders; etiology and treatment. A survey course for students majoring in speech-language pathology and audiology, prospective teachers, and others who may encounter speech-language or hearing disorders in their professions. Observation and participation.

SPPA 324 Language Disorders of Children (4)

Impairments of language development in children. Formal and informal assessment of children, including social dialects. Program planning and remediation procedures; observation and participation.

Prerequisite: SPPA 277.

SPPA 334 Articulation Disorders (4)

Definition, classification, etiology, diagnosis, and treatment of articulation disorders. Introductions to clinical procedures. Observation and participation.

Prerequisite: SPPA 315.

SPPA 354 Hearing Problems and Basic Audiometry (4)

Anatomy and physiology of the auditory mechanism: the nature of the acoustic stimulus, disorders of the ear, problems of the hard-of-hearing. Pure-tone audiometry. Applicable toward California audiometric certification.

SPPA 376 Anatomy of Speech and Hearing Mechanism (5)

Acoustics, anatomy, and physiology of auditory-vocal communicative process.

SPPA 387 Observation of Clinical Management in Speech Pathology (1-4)

Attendance at scheduled sessions of clients throughout the quarter to observe clinical management of the communicatively handicapped. May be repeated once for additional credit.

SPPA 424 Adult Language Pathology (4)

Impairment of language and speech related to organic neuropathology. Observation and participation. Offered alternate years.

Prerequisite: SPPA 376.

SPPA 434 Disorders of Fluency (4)

Stuttering and other disorders: characteristics, theories of etiology, and principles of management. Observation and participation. Offered alternate years.

SPPA 435 Voice Disorders (4)

Definition, classification, etiology, diagnosis, and treatment of voice disorders. Pitch, intensity, quality and resonance, and laryngeal voicing. Observation and participation. Offered alternate years.

Prerequisite: SPPA 376.

SPPA 444 Organic Speech Disorders (4)

Classification, cause, and manifestations; cerebral palsied, cleft palate, and other oral-facial anomalies; dental malocclusion and speech of the hard of hearing. Observation and participation. Offered alternate years.

Prerequisite: SPPA 376.

SPPA 454 Audiometry (4)

Objectives and uses of hearing tests for diagnostic and rehabilitative purposes. Techniques for administering auditory tests and for interpreting their results, with emphasis on pure-tone audiometry. Applies toward California audiometric certification. Three hours of lecture and one three-hour laboratory per week.

Prerequisite: SPPA 354.

SPPA 464 Aural Rehabilitation (4)

Approaches to achieving optimal functioning with hearing impairment; Auditory training, speech reading, amplification, voice conservation, language development and improvement, and counseling.

Prerequisite: SPPA 354, 454.

SPPA 467 Clinical Practice in Speech-Language Pathology/Audiology (1-4)

Supervised practice in diagnosis and therapy. Minimum of thirty clock hours required for each unit of credit. Maximum of 5 units in SPPA 467 apply toward a major in speech-language pathology and audiology. Requirements for obtaining clinical practicum hours include grade of B- or better in course work dealing with specific disorders and consent of supervisor.

Prerequisite: SPPA 324, 334, 354, 485, 486; consent of the instructor.

SPPA 485 Procedures and Materials in Speech and Language Pathology (4)

Role of the specialist in education; techniques and procedures for speech-language and hearing programs in elementary and secondary schools; relation of speech-language and hearing services to the total educational program. Observation and direct participation in clinical management.

SPPA 486 Diagnostic Methods in Speech-Language Pathology (4)

Purpose for assessment; procedures employed in describing and diagnosing speech-language impairments. Direct participation in clinical diagnosis.

SPPA 499 Directed Study (2-4)

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

SPPA 499 Directed Study (2-4)

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

GRADUATE

Consult Graduate School BULLETIN for details.

SPPA 524 Language Disorders of Children, Advanced (3)

SPPA 525 Communication Training for the Developmentally Disabled (3)

SPPA 526 Advanced Procedures in Speech-Language Pathology (3)

SPPA 527 Curriculum Development in the Aphasia Classroom (3)

SPPA 544 Cleft Palate (3)

SPPA 554 Advanced Audiological Assessment (4)

SPPA 555 Middle Ear Analysis (3)

SPPA 557 Central Auditory Analysis (3)

SPPA 558 Pediatric Audiology (3)

SPPA 564 Auditory Habilitation and Hearing Aids (4)

SPPA 567 Externship in Speech-Language Pathology/Audiology (1-6)

SPPA 575 Acoustic and Physiological Phonetics (4)

SPPA 577 Applied Psycholinguistics (4)

SPPA 578 Psychoacoustics and Instrumentation (4)

SPPA 585 Professional Aspects of Speech-Language Pathology and Audiology (3)

SPPA 586 Diagnostics in Speech-Language Pathology, Advanced (3)

SPPA 588 Directed Teaching in Speech-Language Pathology (8-12)

SPPA 598 Research Methods in Speech-Language Pathology (3)

SPPA 654 Seminar in Audiology (3)
(Problems delineated by title, such as "noise exposure.")

SPPA 684 Seminar: Adult Language Disorders (3)

SPPA 685 Seminar: Stuttering (3)

- SPPA 686 Seminar: Phonatory Disorders (3)
- SPPA 687 Seminar: Open Seminar (3)
- SPPA 688 Seminar: Articulation (3)
- SPPA 697 Research (4)
- SPPA 698 Thesis (6)
- SPPA 699 Directed Study (1-3)

INTERDEPARTMENTAL COURSES

HONORS PROGRAM

HONORS COURSES

LOWER DIVISION

ENGL 124 Freshman Seminar in Writing (4)

HIST 165 Issues in American History: Honors Section (4)

HONORS SEMINARS

LOWER DIVISION

HNRS 121, 122 Seminar: Humanities (2, 2)

May be repeated for additional credit with different course content.

HNRS 131, 132 Seminar: Science (2, 2)

May be repeated for additional credit with different course content.

HNRS 141, 142 Seminar: Personal/Social Relationships (2, 2)

May be repeated for additional credit with different course content.

HNRS 151, 152 Seminar: Religion (2, 2)

May be repeated for additional credit with different course content.

HONORS COLLOQUIA

UPPER DIVISION

HNRS 321, 322, 323 Honors Colloquia (2, 2, 2)

HONORS PROJECT

UPPER DIVISION

HNRS 421, 422, 423 Honors Project (2-8)

INTERNATIONAL DIMENSIONS

LOWER DIVISION

INDM 111 The Human Being and Society (4)

A psycho-sociological approach to the Western ethic and culture to determine the meaning of individuality, the worth of the individual, and his/her relationship to the society in which he/she lives.

INDM 112 World Religions (4)

A study of the major religions of the world to serve as a background for understanding the culture and civilization of the different areas of the world.

INDM 113 Cultural Geography (4)

A survey of the physical and cultural elements of landscape, the distribution of cultural traits, and the problems facing this international community.

INDM 161 Europe (4)

European ideas and policies that have molded the social, economic, and political climate in different areas of the world; Europe's relationship with other areas; the Common Market and its impact on the world.

INDM 162 Latin America (4)

Historical backgrounds, anthropological, socio-political insights into Latin American society, the psychological make-up of the Latin American, population control, problems of agriculture, health, and nutrition.

INDM 163 The Middle East (4)

The religions, political, and social conditions which have shaped the thinking of the people of the Middle East; the present conflict; its impact on the West and the world.

INDM 261 Central African Regions (4)

The religions, political, and social background which explains the African dilemma caused by confrontation with the West; the psychological make-up of the people of Africa, with special concentration on the Central African regions.

INDM 262 Asia (4)

Historical encounters; the mysticism of the East versus the Christian ethic of the West; problems of disease and famine; the technical civilizations and their relations with the more primitive peoples; their relationship to the Western world.

INDM 263 The United States in the World (4)

The cultural, economic, and technical impact of the United States on other nations of the world and their importance to the United States.

INDM 275 Seminar in International Dimensions (4)

Individual research on campus or on location in Africa, Asia, Europe, Latin America, or the Middle East. The student may choose a topic of international import that interests him, such as illegal aliens, food production, energy supply, poverty, etc. Students are encouraged to study the language of the area in which they do research.

LINGUISTICS

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 Communication.

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.

LING 495 Readings in Linguistics (2-4)

LING 599 Special Studies (2-4)

PHILOSOPHY

A minor in philosophy is offered through the Department of History.

LOWER DIVISION

PHIL 204 Introduction to Philosophy (4)

An introduction to philosophy and its methods through a study of traditional and contemporary schools of thought and their approaches to such issues as the nature of knowledge, perception, arguments for the existence of God, the basis of morality, and human freedom.

PHIL 205 Knowledge and Being (4)

Features of valid thinking; the possibility, types, and instruments of knowledge, with special attention to the rationalist and empiricist traditions.

PHIL 207 Value (4)

Analysis of the nature, criteria, and application of value judgments in ethics and aesthetics.

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.



III

**The Trustees
University Administration
La Sierra Campus Administration
La Sierra Campus Committees
The College of Arts and Sciences
Alumni Federation
Accreditation
Instructional Resources
University Information**

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Chairman
Sandra R. Cavanaugh

Lanny H. Fisk
Patricia M. Foll
Keiko I. Khoo

Ann E. Ratcliff
Donald W. Thurber
Leland Y. Wilson

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 are listed in departments of the College as Collaborating Faculty.

Lecturers and Assistant Instructors 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 adjunct and field personnel. The code letters indicate the department where information about the teacher is found.

ADJS	Administration of Justice	MDLG	Modern Languages
AGRI	Agriculture	MEST	Middle Eastern Studies
ANTH	Anthropology	MFAM	Marriage and Family Therapy
ART	Art	MUSC	Music
BIOL	Biology	OMGT	Office Management and Business Education
BSNS	Business and Economics	PHYS	Physics
CHEM	Chemistry	PSED	Physical Education
CFSC	Consumer Related Sciences	PSYC	Psychology
COMM	Communication	RLGN	Division of Religion
ENGL	English	SOSR	Social Work
GEOL	Geological Sciences	SOCI	Sociology
HIST	History and Political Science	SPPA	Speech-Language Pathology and Audiology
INDS	Industrial Arts and Technology		
MATH	Mathematics and Computing		
Airey, Wilfred J.	HIST	Andreasen, Niels-Erik A.	RLGN
Allen, William M.	CHEM	Andress, Vern R.	ADJS, MFAM, PSYC
Alonso, Eradio	RLGN	Arany, Larry	COMM
Anderson, Dale L.	AGRI		
Anderson, Godfrey T.	HIST	Baker, Charlene A.	OMGT
Andersson, Joanne K.	MUSC	Baldwin, Dalton D.	RLGN
Andersson, Knut	GEOL	Beach, James W.	MATH

Beach, Marilyn M.	CFSC	Foll, Patricia M.	CFSC
Beach, Perry W.	MUSC	Ford, Robert E.	ANTH/SOCI
Benzakein, Jacques	MDLG	Ford, Robert M., Jr.	BSNS
Besel, Hilmer W.	MATH		
Blankenship, Charlotte A.	SPPA	Galaway, Ronald A.	CHEM
Blomstedt, Herbert	MUSC	Gallemore, Jeri	INDS
Bobst, Richard L.	PHYS	Garbutt-Parrales, Ernestina F.	MDLG
Boram, C. Arnold	AGRI	Gillespie, V. Bailey	RLGN
Bradley, Gary L.	BIOL	Graham, Barry G.	MATH
Brand, Leonard R.	BIOL, GEOL	Grant, G. Robert	MATH
Brandon, Antonius D.	MFAM	Grubbs, Harry M.	AGRI
Briggs, Cordell A.	ENGL		
Britt, E. Evelyn	SPPA	Haddad, Anees A.	ANTH/SOCI, MEST, MFAM
Buchheim, H. Paul	GEOL	Hagelgantz, Opal I.	ENGL
Burgraff, Roger I.	SPPA	Haldeman, Madelynn J.	RLGN
Burke, Ruth E.	MDLG	Hamerslough, Walter S.	PSED
Butler, Jonathan M.	HIST, RLGN	Hansen, Kent A.	ADJS, HIST
		Hanson, Calvin J.	BSNS
Carr, John E.	AGRI	Hanson, Virginia M.	BIOL
Cavanaugh, Sandra R.	PSED	Harris, Curtis	INDS
Chadwick, Arthur B.	BIOL, GEOL	Harris, Lester E., Jr.	BIOL
Chand, Ian P.	ADJS, ANTH/SOCI, MFAM	Harwood, Richard R.	AGRI
Chavez, Daniel	RLGN	Havens, Douglas F.	AGRI
Cheek, Carol L.	MUSC	Henry, Linvol G.	BSNS
Chilson, Robert A.	BIOL	Henry, Michelle G.	CFSC
Churches, Roger A.	ART	Henry, Rolando R.	PSYC
Clausen, Conrad D.	BIOL, GEOL	Herrmann, E. Clifford	CHEM
Collins, Alan R.	ART	Higgs, Leon L.	BSNS
Comm, Dorothy M.	ENGL	Hilts, Margarete A.	MDLG
Comstock, Daniel D.	MUSC	Hodgen, Rhona	MUSC
Crain, Vernon L., Jr.	CFSC	Holmes, Ivan G.	CHEM, GEOL
Croft, Samuel	BSNS	Holt, Lottie A.	SOSR
		Horsley, June L.	SOSR
Daily, Steven G.	RLGN	Howard, Carolyn R.	PSYC
Davis, M. Jerry	MFAM	Howe, Vernon W.	MATH
Dudley, David H.	MDLG	Hoyt, Frederick G.	HIST
Dunn, Robert P.	ENGL	Huston, Ronald G.	SOSR
Eddleman, C. Douglas	BIOL	Jacques, Brian J.	COMM
Elick, John W.	ANTH/SOCI, MEST		
Erne, Martie Parsley	COMM	Kappel, Robert G.	BSNS
Evans, Harrison S.	MFAM	Karlow, Edwin A.	GEOL, PHYS
Evard, Rene	CHEM	Kelln, Linda M.	BIOL
		Kelln, Wayne J.	BIOL
Fagal, Harold E.	RGLN	Key, William J.	BSNS, MATH
Fattic, Grosvenor R.	ENGL	Klein, Arthur E.	BSNS
Fisk, Lanny H.	GEOL	Khoo, Keiko I.	RLGN
Flemming, Carlyle D.	MATH	Kosier, Gail L.	BSNS
Foll, Llewellyn E.	ENGL	Kovitz, Benjamin	MFAM

Kunihira, Shirou SD	PSYC	Razzouk, Nabil Y.	BSNS
Kwon, Myung K.	ART	Reeves, John M SD	PSYC
Landa, Paul J.	HIST, RLGN	Reynolds, Lee H.	BSNS
Lathrop, Earl W.	BIOL	Rice, Gail T.	CFSC
Lee, Jerry W.	ADJS, ANTH/SOCI, PSYC	Rice, T. Richard	RLGN
Lesko, Arthur J.	RLGN	Richardson, David	CHEM
Lessard, George M.	CHEM	Rick, Carole J.	ENGL
Lowry, Jean B.	SPPA	Riggs, James W.	PHYS
Macaulay, C. Diane	ANTH/SOCI	Riley, W. Fred	AGRI
Mackett, Walter C.	HIST, RLGN	Rippon, W. Barton	CHEM
Macomber, Robert D.	ADJS	Robbins, Joann R.	MUSC
Mallery, F. Lynn	RLGN	Ross, Delmer G.	HIST
Mangrum, Claude T.	ADJS	Roth, Ariel A.	BIOL, GEOL
Marcus, Robert	MUSC	Rouse, Ivan E.	GEOL, PHYS
Mashchak, Leon I.	RLGN	Ruf, Kathleen M.	CFSC
Mateer, Ervin H.	PSED	Sajid, Maria T. F.	CHEM
Matthews, Kenneth E.	ENGL	Sakala, Elmer P. SM	MFAM
Mattison, Gordon R.	RLGN	Scheffel, Vernon L.	PSED
Maxwell, A. Graham	MEST	Schmidt, Adeny P.	PSYC
Mazat, S. Alberta	MFAM	Schneider, Robert K.	PSED
McCluskey, Elwood S.	BIOL	Schoepflin, Rennie B.	HIST
McFarland, Roger L.	PSED	Scriven, Louise M.	SPPA
McKee, Lois E.	OMGT	Seal, Linda K.	MDLG
Milliken, Harold R.	BIOL	Shelden, H. Raymond	CHEM
Mitchell, Norman L.	BIOL	Shobe, Toini	CFSC
Moline, Mary E.	MFAM	Silva, Lourdes E.	OMGT
Moline, S. Douglas	MFAM	Smith, Albert E.	PHYS
Morse, Merle D.	INDS	Smith, Beatrice J.	ENGL
Nash, Eugene W.	PSED	Smith, Kimo	MUSC
O'Brien, George	MATH	Specht, Walter F.	RLGN
Olsen, Anita N.	MUSC	Steger, Rodolfo A.	AGRI
O'Neill, Joyce A.	SPPA	Stevens, Neal G.	INDS
Osborn, L. Calvin	COMM	Stirling, James H.	ANTH/SOCI
Osbourn, Fred H.	MFAM	Strutz, Peter G.	BSNS, MFAM, PSYC
Ozaki, Mamie M.	SOSR	Tatum, G. Roger	CHEM
Packwood, Steven L.	PSYC	Teel, Charles W., Jr.	ANTH/SOCI, RLGN
Patt, Susan Davis	ART	Teele, Marilyn C.	ENGL
Pflaumer, Edward B.	PSYC	Thomas, Nelson	PSED
Phillips, Harold R.	BSNS	Thompson, Dana G.	BSNS
Pride, L. Frances SN	MFAM	Thurber, Donald W.	MUSC
Provonsha, Jack W.	MEST	Vaughn, Donald J.	MUSC
Ramos, Rene M.	MUSC	Velez, Juan R.	MDLG
Ratcliff, Ann E.	SPPA	Vine, Kenneth L.	ANTH/SOCI, RLGN
		Walls, Arthur M.	INDS
		Warner, Robert L.	INDS

Weighall, Janet L.	MDLG	Yacoub, Mary H.	OMGT
Weismeyer, Helen I	PSED	Yoon, Won K.	ADJS, ANTH/SOCI
Willcocks, David V.	MUSC		
Wilson, Leland Y.	CHEM	Zolber, Kathleen K.	CFSC
Yacoub, Ignatius I.	BSNS		

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
- ALONZO L. BAKER, Emeritus Professor of Political Science
 PH.D. University of Southern California
- STANLEY BULL, Emeritus Professor of Psychology
 PH.D. University of Michigan
- 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
- HAROLD B. HANNUM, Emeritus Professor of Music
 M.MUS. Northwestern University
- J. CECIL HAUSLER, Emeritus Professor of Religion
 PH.D. University of Southern California
- RICHARD B. LEWIS, Emeritus Professor of English
 PH.D. Stanford University
- HELEN F. LITTLE, Emeritus Professor of English
 M.A. University of Nebraska
- THOMAS A. LITTLE, Emeritus Professor of English
 PH.D. 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
- 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
- CHARLES W. TEEL, SR., Emeritus Professor of Pastoral Care
 PH.D. California Baptist College

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.

The Professions

ANESTHESIA: Started in 1972. Approved by the American Association of Nurse Anesthetists August 1, 1976. Currently accredited by the Council on Accreditation of Educational Programs for Nurse Anesthesia.

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 ASSISTING: Started in 1969. Approved by the Commission on Accreditation of Dental and Dental Auxiliary Programs since May 19, 1970.

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 for Teacher Preparation and Licensing.

HEALTH: Started in 1948; reorganized in 1964. Approved by the American Public Health Association June 23, 1967.

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.

MEDICAL RECORD ADMINISTRATION: Started 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 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 and the Committee on Allied Health Education and Accreditation.

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 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), and one branch library (located in the School of Dentistry, on the Loma Linda campus). The joint holdings are as follows:

Books, bound periodicals, audiovisual materials	515,596
Current periodical subscriptions	3,629

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. At Loma Linda the teletypewriter (TWX) is used for interlibrary communication and provides computer-printed bibliographies on medical-related subjects through the Medline and other services in which the Loma Linda library participates.

LA SIERRA CAMPUS	
Books, bound periodicals, audiovisual materials	241,802
Current periodical subscriptions	1,242

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	273,794
Current periodical subscriptions	2,387

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.

The Jorgensen Memorial Library, established in 1978, serves the Loma Linda University School of Dentistry through extensive holdings in the current literature of the profession, a circulating inventory of audiovisual equipment, the acquisition of instructional media and the hardware for its use, and the performance of on-line bibliographic searches.

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 College, Azusa
- California Baptist College, Riverside
- California State College, San Bernardino
- California State Polytechnic University, Pomona
- La Verne College, 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.

INSTRUCTIONAL COMPUTER

La Sierra campus The College of Arts and Sciences, in cooperation with the School of Education and the University Libraries, maintains an instructional computer system on the La Sierra campus. It is available without cost and easily accessible to Loma Linda University faculty, staff, and students for various educational activities. The system serves as a laboratory for the computer science major and for classes in computer programming. In addition the Departments of Business and Economics, Chemistry, Mathematics and Computing, Modern Languages, Physics, and Psychology use the computer to enhance their classes.

An example of this use is the computer-supervised vocabulary drills in German, English, French, and Spanish used by the Department of Modern Languages and the prelaboratory calculations of general chemistry and physics students. The user has access to the system through any one of 42 terminals.

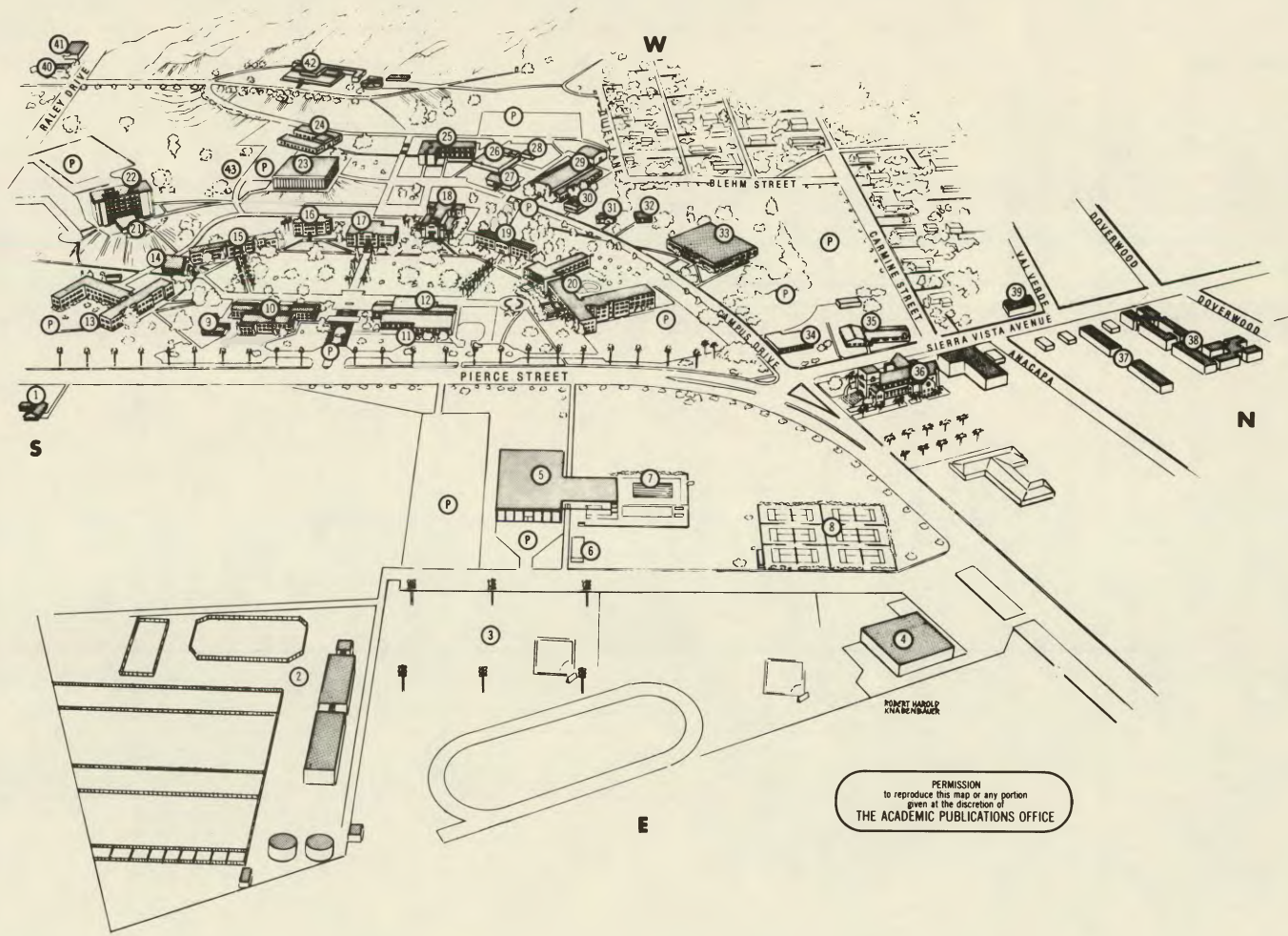
These terminals include 29 video terminals (5 of which are capable of color graphics), 13 hard-copy terminals, and 1 dial-up line. The terminals are as easy to use as a typewriter, with the user essentially carrying on a dialogue with the computer. The system's timesharing capability permits up to 64 simultaneous users and boasts a file-processing system that permits easy storage and retrieval of programs and data. An inexperienced user can easily do significant problem solving because the system software was designed with the novice in mind.

The primary programming language — BASIC-PLUS — has the simplicity of the original Dartmouth college BASIC but is enhanced with many specialized and powerful features. In addition to BASIC-PLUS, the more advanced user has available the languages of C, COBOL, FORTH, FORTRAN, PASCAL, PDP-11 Assembler, LISP, and the BMD statistical package. The computer is a PDP 11/44 manufactured by Digital Equipment Corporation, equipped with one and a half million bytes of memory, an industry-standard tape drive, a state-of-the-art 121 million byte Winchester disk drive, a plotter, and a document reader.

In addition to the main academic computer just described, the Departments of Biology, Chemistry, Mathematics and Computing, Modern Languages, Physics, and Psychology have microcomputers for specialized academic use.

COMPUTER

Loma Linda campus The University has an extensive computer complex serving students and faculty in both academic and scientific functions. Available facilities span the range from small-scale to large-scale systems. Particular emphasis has been given to providing real-time data acquisition and graphical output capabilities. An advanced and very powerful computing system facilitates the modeling and simulation of complex systems. Programming aids are available to expedite the man-machine dialogue and to assist in applying the computer to the solution of problems in a variety of disciplines. An extensive program library serves many routine needs, but researchers are encouraged to write their own specialized programs for their own particular needs. Programming instruction and assistance are provided for this purpose.



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LA SIERRA CAMPUS MAP

NUMERICAL LEGEND

- 1 Agriculture
- 2 Dopp Equestrian Center
- 3 Recreation fields
- 4 College Market / Bookstore
- 5 Alumni Pavilion / Gymnasium
- 6 Physical Education office
- 7 Swimming pool
- 8 Tennis courts
- 9 Safety and Security
- 10 Administration Building (academic, financial): The President / Vice Presidents of Academic Administration, Development and Public Relations, Financial Administration, Student Affairs / Accounting Service / Alumni Affairs / Dean of Students / Departments of Business and Economics, Secretarial and Business Education / Graduate School / Offices of Admissions and Records, Business, News and Public Information, Payroll, Personnel, Purchasing / Student Admissions, Affairs, Aid, Employment, Finance, Loans, Recruitment
- 11 Student Center
- 12 The Commons / Food Service (cafeteria)
- 13 Calkins Hall: men
- 14 Matheson Chapel
- 15 South Hall: women
- 16 San Fernando Hall: Physics
- 17 La Sierra Hall: Counseling Center / Division of Religion / English / History and Political Science / Mathematics / Modern Languages / School of Education
- 18 Hole Memorial Auditorium: Auditorium / Education / Music / Testing
- 19 Gladwyn Hall: women
- 20 Angwin Hall: women
- 21 Meier Chapel
- 22 Sierra Towers: men
- 23 University Library / Learning Advancement Program / Media Services
- 24 Ambs Hall: Industrial Studies
- 25 Consumer Related Sciences / Nursery School
- 26 Communication / KSGN / Nursing

- 27 Art
- 28 Nursing
- 29 Campus Industries (Fast Pak)
- 30 Mail Service / Custodial Service
- 31 Health Service
- 32 Animal quarters
- 33 Palmer Hall: Biology / Chemistry / Geological Sciences / World Museum of Natural History
- 34 Behavioral Sciences: Anthropology / Psychology / Social Work / Sociology
- 35 Sierra Vista Chapel / Welfare Center
- 36 La Sierra Collegiate Church
- 37 Walnut Grove Apartments
- 38 Sierra Vista Apartments
- 39 Sierra Vista House
- 40 Rhoads House
- 41 Raley House
- 42 Physical Plant Services (maintenance) / Receiving
- 43 John Clough Park

ALPHABETICAL LEGEND

- Academic Affairs VP, 10
- Accounting Service, 10
- Administration, 10
- Admissions and Records, 10
- Agriculture, 1
- Alumni Affairs, 10
- Alumni Pavilion, 5
- Ambs Hall, 24
- Angwin Hall: women, 20
- Animal quarters, 32
- Anthropology, 34
- Art, 27
- Arts and Sciences, College of, 10
- Audiovisual Service, 23
- Behavioral Sciences, 34
- Biology, 33
- Bookstore, 4
- Business and Economics, 10
- Business office, 10
- Cafeteria, 12
- Calkins Hall: men, 13
- Campus Industries (Fast Pak), 29
- Chemistry, 33

- Church, La Sierra Collegiate, 36
- College of Arts and Sciences, 10
- Commons, The, 12
- Communication, 26
- Consumer Related Sciences, 25
- Counseling Center, 17
- Custodial Service, 30

- Dean of Students, 10
- Development and Public Relations VP, 10
- Division of Religion, 17
- Dopp Equestrian Center, 2

- Education, School of, 17
- Employment, student, 10
- English, 17
- Equestrian Center, Dopp, 2

- Fast Pak (Campus Industries), 29
- Financial Affairs VP, 10
- Food Service, 12

- Geological Sciences, 33 Annex B
- Gladwyn Hall: women, 19
- Graduate School, 10
- Gymnasium, 5

- Health Service, 31
- History and Political Science, 17
- Hole Memorial Auditorium, 18

- Industrial Arts, 24
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- John Clough Park, 43

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- La Sierra Collegiate Church, 36
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- Modern Languages, 17
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- Music, 18

- News (*La Sierra Today*), Public Information, 10
- Nursery School, 25
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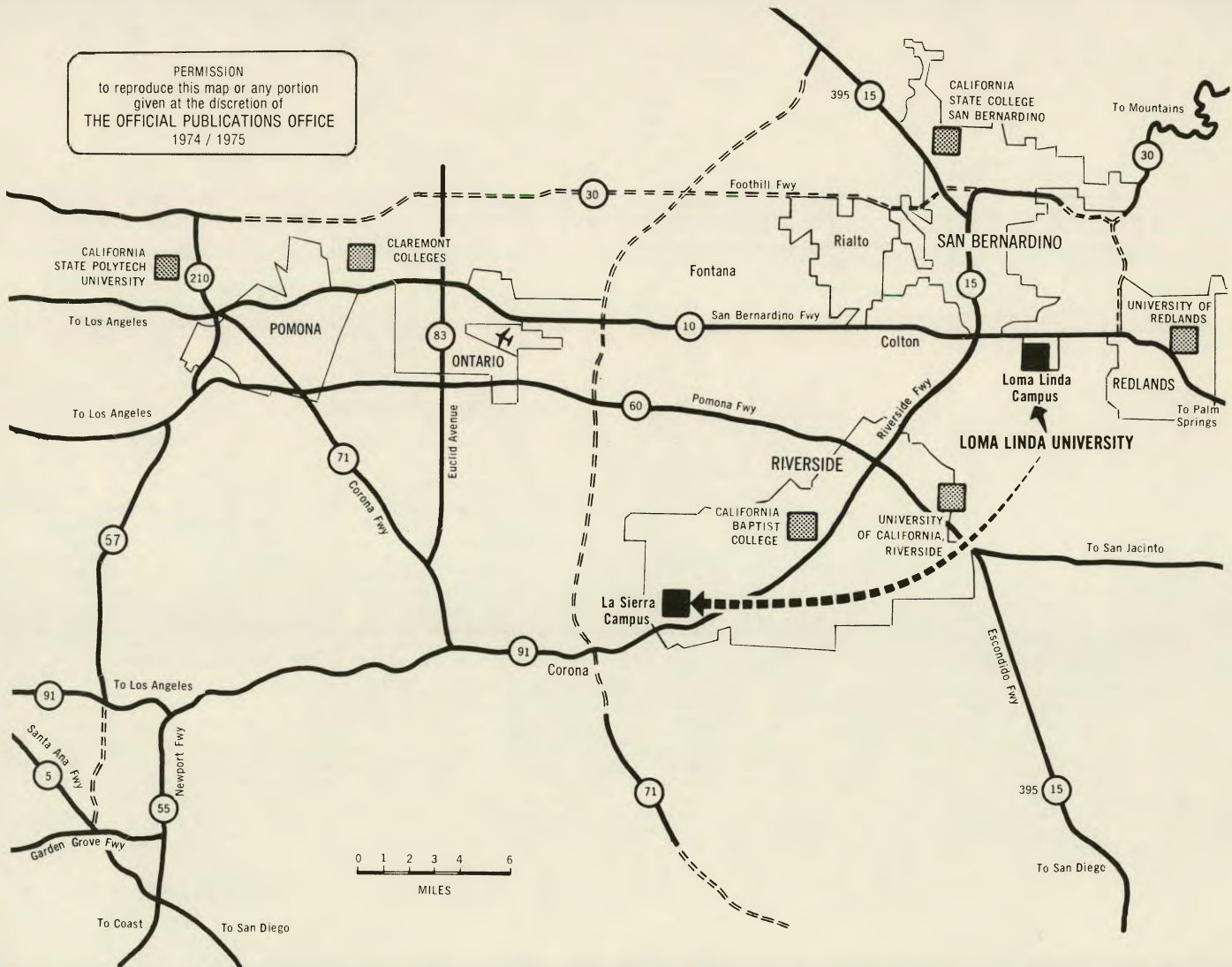
- Palmer Hall, 33
- Payroll, 10
- Personnel, 10
- Physical Education, 6
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- Political Science and History, 17
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- Security, 9
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- Sierra Vista Apartments, 38
- Sierra Vista Chapel, 35
- Sierra Vista House, 39
- Social Work, 34
- Sociology, 36
- South Hall: women, 15
- Student Affairs VP, 10
- Student Aid and Loans, 10
- Student Center, 11
- Student Employment, 10
- Student Finance, 10
- Swimming pool, 7
- Tennis courts, 8
- Testing, 18

- Walnut Grove Apartments, 37
- Welfare Center, 35
- Women's residences, 15, 19, 20, 38, 39
- World Museum of Natural History, 33

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La Sierra campus
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By telephone

ADMINISTRATION

Area 714

785-2019 Provost
785-2210 Dean of the College
785-2176 Admissions
785-2002 Campus Business Administrator
785-2100 Dean of Students
785-2006 Office of University Records
785-2266 School of Education

SERVICES

785-2492 Alumni Affairs
785-2025 Angwin Hall (women's residence)
785-2005 Associated Students
785-2182 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
785-2031 Gladwyn Hall (women's residence)
785-2100 Housing
785-2100 Immigration
785-2288 KSGN Radio
785-2044 Library
785-2237 Placement
785-2022 Public Relations
785-2229 Sierra Towers (men's residence)
785-2130 South Hall (women's residence)
785-2006 Veterans' Information

DEPARTMENTS AND PROGRAMS

785-2426 Administration of Justice
785-2204 Agriculture
785-2428 Anthropology
785-2170 Art
785-2105 Biology
785-2060 Business and Economics
785-2148 Chemistry
785-2159 Communication
785-2146 Consumer Related Science
785-2241 English
785-2502 Geological Sciences
785-2067 History and Political Science
785-2206 Industrial Arts and Technology
785-2055 International Dimensions
785-2211 Liberal Arts
785-2099 Marriage and Family Counseling
785-2197 Mathematics and Computing
785-2423 Middle Eastern Studies
785-2257 Modern Languages
785-2036 Music
785-2160 Nursing
785-2039 Office Management and Business Education
785-2084 Physical Education, Health and Recreation
785-2136 Physics
785-2426 Psychology
785-2041 Religion
785-2424 Social Work
785-2428 Sociology
785-2164 Speech-Language Pathology and Audiology

UNIVERSITY INFORMATION

BOTH CAMPUSES

General University interests	The President's Office
Admission	Admissions Office
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): Riverside
College of Arts and Sciences	Dean 785-2210
School of Education	Dean 785-2266
Division of Religion	Dean 785-2041

LOMA LINDA CAMPUS

MAIL: Loma Linda California 92350	TELEPHONE (area 714):
School of Dentistry	796-0141 Redlands 824-CJ30 Riverside, San Bernardino
All other Schools	796-3741 Redlands 824-4300 Riverside, San Bernardino
School of Allied Health	
Professions	Dean 824-4545
ANESTHESIA	824-4476
CYTOTECHNOLOGY	824-4300, extension 2066
MEDICAL RECORD ADMINISTRATION	824-4300, extension 2075
MEDICAL TECHNOLOGY	824-4300, extension 2066
NUTRITION AND DIETETICS	824-4593
OCCUPATIONAL THERAPY	824-4628
PHYSICAL THERAPY	824-4632
PUBLIC HEALTH SCIENCE	824-4630
RADIOLOGICAL TECHNOLOGY	824-4300, extension 3219
RESPIRATORY THERAPY	824-4300, extension 3217
School of Dentistry	Dean 824-4683
DENTISTRY	
DENTAL HYGIENE	
DENTAL ASSISTING	
School of Health	Dean 824-4578
School of Medicine	Dean 824-4462
School of Nursing	Dean 824-4360
Division of Religion	Dean 824-4536
The Graduate School	Dean 824-4528

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