

6-1974

## 1974 - 1976 Bulletin

Loma Linda University

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# arts & sciences



**LOMA LINDA UNIVERSITY**

**1974-76**

**LOMA LINDA UNIVERSITY College of Arts and Sciences 1974-76**

The information in this BULLETIN  
is made as accurate as is possible  
at the time of publication. The  
student is responsible for informing  
himself and satisfactorily meeting  
all requirements pertinent to his  
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  
9 to 12 Monday through Friday  
1 to 3 Monday through Thursday

CLOSED  
Saturday, Sunday  
legal holidays

BULLETIN OF  
LOMA LINDA UNIVERSITY  
Volume 65, Number 6, June 1974

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Loma Linda, California 92354



THE COLLEGE OF  
**arts &  
sciences**

ON THE LA SIERRA CAMPUS OF LOMA LINDA UNIVERSITY

RIVERSIDE, CALIFORNIA 92505

**LOMA LINDA UNIVERSITY**  
**1974-76**

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LOMA LINDA UNIVERSITY is a two-campus Seventh-day Adventist coeducational institution located in inland southern California.

On the Loma Linda campus, located in the San Bernardino-Redlands area, professional curriculums are offered by the Schools of Allied Health Professions, Dentistry, Health, Medicine, and Nursing.

On the La Sierra campus, located at the west edge of Riverside, curriculums in applied and liberal arts and sciences and programs in professional education in fulfillment of requirements for teaching credentials are offered by the College of Arts and Sciences and the School of Education. Graduate programs of the departments of the schools are offered from both campuses through the Graduate School.

The core of the combined faculties consists of approximately 550 full-time teachers. Part-time and voluntary teachers, especially clinicians in the professional curriculums, bring the total past 1,200. Men and women from as many as eighty nations are represented in the annual enrollment of 4,000 students.

Curriculums are offered for the Associate in Science, Associate in Arts, Bachelor of Music, Bachelor of Science, Bachelor of Arts, Master of Science in Public Health, Doctor of Dental Surgery, Doctor of Medicine, Master of Public Health, Doctor of Health Science, Master of Science, Master of Arts, and Doctor of Philosophy degrees.

Accredited by the Western Association of Schools and Colleges, the University is a member of the American Council on Education, the Association of American Colleges, and the Association of Seventh-day Adventist Colleges and Secondary Schools. The professional curriculums are approved by their respective professional organizations.

# 1974

# 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						

16 SUMMER SESSION 1974  
 Registration  
 17 Beginning of classes and laboratories  
 for six- and eight-week courses

## 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			

4-5 Independence Day recess  
 26 End of six-week courses

## 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

8 End of eight-week courses  
 Information concerning workshops, institutes,  
 and other special courses appears in the  
 Summer Session BULLETIN

## 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					

29-Oct. 1 AUTUMN QUARTER 1974  
 Testing, orientation, and registration of freshmen

## 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		

1 Registration of returning and transfer students  
 2 Beginning of classes and laboratories  
 15 Last day to enter a course  
 21-26 Autumn Week of Devotion

## November

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

7 Midterm: last day to withdraw from a course  
 27-Dec. 1 Thanksgiving recess

## 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				

16-19 Final examinations  
 19 End of autumn quarter



# 1975

# CALENDAR

## 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	

6  
7  
20

WINTER QUARTER 1975  
Registration  
Beginning of classes and laboratories  
Last day to enter a course

## 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	

4-8  
11  
21-23

Mission Emphasis Weekend  
Midterm: last day to withdraw from a course  
Alumni homecoming

## 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					

17-20  
20  
31

Final examinations  
End of winter quarter  
SPRING QUARTER 1975  
Registration

## April

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  
7-12  
14

Beginning of classes and laboratories  
Spring Week of Devotion  
Last day to enter a course

## 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	20	21	22	23	24
25	26	27	28	29	30	31

6  
26

Midterm: last day to withdraw from a course  
Memorial Day recess

## 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					

9-12  
12  
13-15  
23

Final examinations  
End of spring quarter  
*Commencement Events*  
SUMMER SESSION 1975  
Registration; beginning of classes and laboratories

# 1975

# CALENDAR

**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 Independence Day recess  
25 End of six-week courses

**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						

14 End of eight-week courses  
Information concerning workshops, institutes, and other special courses appears in the Summer Session BULLETIN

**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				

28-30 AUTUMN QUARTER 1975  
30 Testing, orientation, and registration of freshmen  
Registration of returning and transfer students

**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	

1 Beginning of classes and laboratories  
14 Last day to enter a course  
20-25 Autumn Week of Devotion

**November**

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

6 Midterm: last day to withdraw from a course  
26-30 Thanksgiving recess

**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			

15-18 Final examinations  
18 End of autumn quarter

# 1976

# CALENDAR

## 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

5  
6  
19

WINTER QUARTER 1976  
Registration  
Beginning of classes and laboratories  
Last day to enter a course

## 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						

10

Midterm: last day to withdraw from a course

## 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			

15-18  
18

Final examinations  
End of winter quarter

## SPRING QUARTER 1976

29  
30

Registration  
Beginning of classes and laboratories

## April

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

5-10  
13

Spring Week of Devotion  
Last day to enter a course

## 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	20	21	22
23	24	25	26	27	28	29
30	31					

4

Midterm: last day to withdraw from a course

31

Memorial Day recess

## 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		

7-10  
10  
11-13

Final examinations  
End of spring quarter  
*Commencement Events*

## SUMMER SESSION 1976

21

Registration; beginning of classes and laboratories

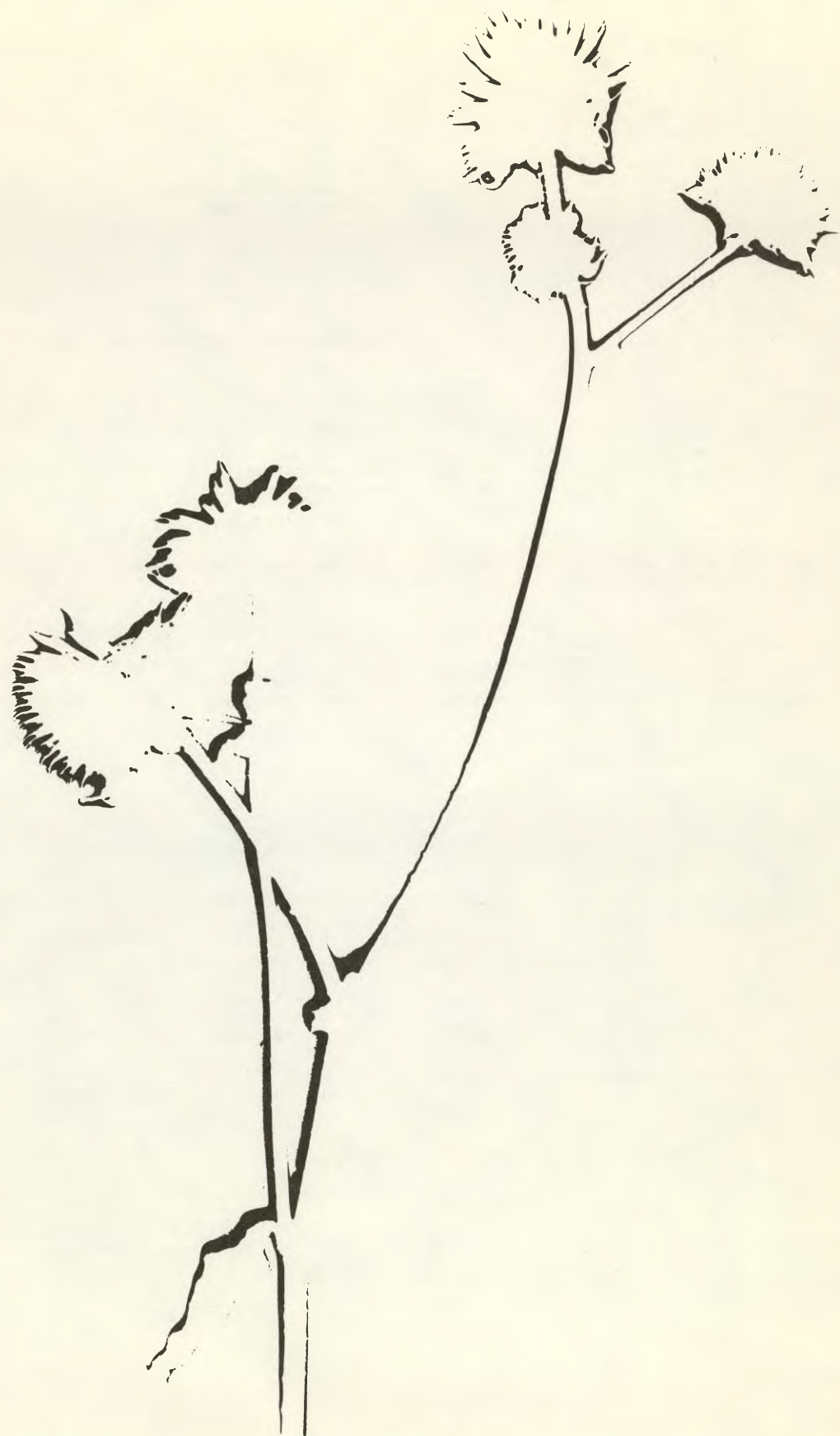
## July

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

5  
30

Independence Day recess  
End of six-week courses  
Eight-week courses end August 12

Information concerning workshops, institutes,  
and other special courses appears in the  
Summer Session BULLETIN





THE CHRISTIAN UNIVERSITY – if it is indeed a university and truly Christian – should be a community composed of members who aim to engage in free inquiry, to find zest and value in interchange of opinions and ideas, and to prize truth . . . who know that law begins with governance of the self . . . who hold respect for a neighbor paramount and promote good for others as attentively as for themselves.

The learner should find the university community an environment conducive to mastery of a chosen discipline, art, or profession, and to the joy of participating in the advancement of knowledge. In the Christian university he should find also circumstances that encourage affirmation of meanings that endure and discovery of perspectives that enhance the view that all truth stems from One Source, so that each branch of knowledge thus seen as part of a whole can be appreciated and respected.

But the learner is not a passive receiver. He himself is a contributor to the environment. His very presence – the unique blend of aptitudes, attributes, and aspirations that impel him – affects its quality. If his will springs from the intention to grow throughout his lifetime, to think autonomously yet work conjointly, to do justly and love mercy, to be whole – his presence enriches the environment.

If the universe speaks to him of the Omniscient God, Initiator of all – knowledge, order, reason, beauty, love, and whatever is of great worth – so that his experience, values, and knowledge are consonant, then the learner can be a witness whose healing, steadying, inspiriting influence may help alleviate the anguish of a bewildered and disenchanted world.







# I

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

THE COLLEGE OF ARTS AND SCIENCES of Loma Linda University is the most recent stage of development of a Seventh-day Adventist educational enterprise that began as La Sierra Academy in 1922. The next year, with the addition of coursework in preparation for teaching, it became La Sierra Academy and Normal School. In 1927 it became Southern California Junior College, which became La Sierra College in 1939 and was fully accredited as a four-year liberal arts college in 1946. In 1967 it 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 an increasing amount of coursework on the Loma Linda campus for students in the professional schools and for College 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 formally 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

An education that is both liberal and liberating includes, besides a concentrated study in the student's major area of interest and a basic competence in written and oral communication, 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, 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 coursework in many areas of applied studies: accounting and management, agriculture, studio art, consumer related sciences, data processing, industrial education, applied music, physical education, secretarial administration, and speech therapy.

## CURRICULUMS

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

Baccalaureate degree

The *Bachelor of Arts* curriculum is four years of coursework that places a major concentration within the context of a comprehensive liberal education. The *Bachelor of Science* or *Bachelor of Music* curriculum is four years of coursework 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* curriculum is two years of coursework divided approximately equally between general and vocational education.

Certificate

The certificate curriculum is one year (or more) of coursework devoted almost entirely to vocational education.



## MAJOR PROGRAMS

The table below lists by departments and curriculums the major programs that are now offered by the College:

	CURRICULUM	PROGRAMS	
Agriculture	Bachelor of Science	general agriculture livestock production	plant production intensive food production
	Associate in Science	agriculture	
Art	Bachelor of Arts	visual arts	
	Bachelor of Science	drawing / painting graphic design printmaking ceramics	sculpture furniture design photography
Biology	Bachelor of Arts	biology	
	Bachelor of Science	biology	
Business and Economics	Bachelor of Arts	accounting	management
	Bachelor of Science	same as Bachelor of Arts, plus:	food service management
Chemistry	Bachelor of Arts	chemistry	biochemistry
	Bachelor of Science	same as Bachelor of Arts	
Communication	Bachelor of Arts	speech communication and media journalism and public relations, speech pathology and audiology	
	Bachelor of Science	speech pathology and audiology	
Consumer Related Sciences	Bachelor of Science	child development clothing and textiles	home economics urban family studies
	Associate in Science	child and family science food service	nutrition care service
	Certificate	food service	nursery school care
English	Bachelor of Arts	English	
History	Bachelor of Arts	history history and political science	Western thought

Industrial Studies	Bachelor of Arts	industrial arts	
	Bachelor of Science	industrial arts	industrial studies
	Associate in Science	institutional plant engineering	
Mathematics	Bachelor of Arts	mathematics	
	Bachelor of Science	mathematics	computer science
Modern Languages	Bachelor of Arts	French German	Spanish
Music	Bachelor of Arts	music	
	Bachelor of Music	music applied music	church music
Physical Education, Health, and Recreation	Bachelor of Arts	physical education health and physical education	recreation and physical education
	Bachelor of Science	same as Bachelor of Arts, plus:	health science
	Associate in Science	recreation	
Physics	Bachelor of Arts	physics	
	Bachelor of Science	physics biophysics	engineering physics
	Associate in Science	engineering physics	
Psychology	Bachelor of Arts	psychology correctional science	behavioral science
	Bachelor of Science	same as Bachelor of Arts	
Religion	Bachelor of Arts	religion	ministerial studies
Secretarial and Business Education	Bachelor of Arts	secretarial administration	business education
	Bachelor of Science	same as Bachelor of Arts	
	Associate in Arts	stenography	medical office assisting
Sociology and Anthropology	Bachelor of Arts	sociology anthropology	behavioral science
	Bachelor of Science	same as Bachelor of Arts, plus:	social service

## PREPROFESSIONAL PROGRAMS

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

	PROGRAM	SCHOOL
Certificate	Nuclear medicine technology Radiation therapy technology	Allied Health Professions Allied Health Professions
Associate degree	Dental assisting	Dentistry
A.S.	Medical radiography	Allied Health Professions
	Nuclear medicine technology	Allied Health Professions
	Nursing	Nursing
	Respiratory therapy	Allied Health Professions
Baccalaureate degree	Dental hygiene	Dentistry
B.S.	Dietetics	Allied Health Professions
	Medical radiography	Allied Health Professions
	Medical record administration	Allied Health Professions
	Medical technology	Allied Health Professions
	Nursing	Nursing
	Occupational therapy	Allied Health Professions
	Physical therapy	Allied Health Professions
	Public health science	Allied Health Professions
	Respiratory therapy	Allied Health Professions
Master's degree	Biostatistics	Health [Graduate School M.S.]
M.P.H., M.S.P.H.	Environmental health	Health
	Epidemiology	Health
	Health administration (5 areas)	Health
	Health education (4 areas)	Health
	Nutrition (3 areas)	Health [Graduate School M.S.]
	Parasitology	Health
	Public health nutrition	Health
	Tropical health	Health
Doctoral degree	Dentistry	Dentistry
D.D.S., M.D., DR.H.SC.	Medicine	Medicine
	Health sciences	Health

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

## GRADUATE PROGRAMS

Graduate School Through the Graduate School, departments of the College offer master's degree programs in anthropology, biology, communication disorders, English, history, Middle Eastern studies, and sociology.

School of Education In cooperation with the School of Education, departments of the College participate in master's degree programs in the teaching of agriculture, art, biology, business, chemistry, English, French, German, history, home economics, industrial arts, mathematics, music, physical education, physics, psychology, religion, sociology, Spanish, and speech.



## ADVENTIST COLLEGES ABROAD

Adventist Colleges Abroad is a consortium of ten colleges and universities in the United States established to provide opportunities for qualified students to study the French, German, Spanish, and Chinese languages overseas at the following institutions:

Séminaire Adventiste du Salève, Collonges-sous-Salève, France  
Seminar Schloss Bogenhofen, Braunau, Austria  
Seminario Adventista Español, Sagunto, Spain  
South China Union College, Hong Kong

**Cost**           The cost of this overseas study, including transportation, is comparable to that at the American colleges. Further information may be obtained from:

Adventist Colleges Abroad  
Loma Linda University  
Riverside, California 92505

**Prerequisites**     The participant need not be a language major, but must have a minimum of 8 quarter units, and preferably 16 or more units, in the language. He must have a language grade point average of 3.0 (students going to Hong Kong are not expected to have a Chinese language background) and an overall grade point average of 2.5; and he must have a good citizenship record.

## 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 two associate deans. The dean and both of his associates also hold active teaching positions on the College faculty.

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

**Committees**     The administration of the College is guided by the work of seven faculty policy committees, which are elected by the faculty as a whole and report to it. The Executive Committee of the College consists of the dean, the associate deans, and the chairmen of the nineteen departments of instruction. Other administrative committees, such as those concerned with admissions and student recommendations, are appointed by the dean and report to him.

The membership of each committee is listed under *The College of Arts and Sciences* in Part III of this BULLETIN.



## ADMISSION INFORMATION

The admissions committees of the University put forth considerable effort to be assured that an applicant to any of the schools is qualified for his proposed curriculum and seems 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 :

Admissions Office  
Loma Linda University  
Riverside, California 92505

Procedure 1. In anticipation of applying for admission to the College, the prospective student should arrange for (a) transcripts of test results and grades at schools formerly attended to be sent directly to the University, (b) two wallet-size photographs, (c) names of those of whom the University may request personal information about the applicant.

2. 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.

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

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

5. As soon as possible, the accepted applicant should also complete the medical history questionnaire (which he receives with his acceptance) and send it with a check for \$5.50 to Medical Datamation, 208 Union Bank Building, Bellevue, Ohio 44811. The report submitted from Medical Datamation to the campus health service must be on file at the time of registration.

Before coming to the campus, the student should make certain that he has been accepted.

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 should have their applications in by May 1. The financial aid application deadline is June 1.

Physical examination In most cases the self-completed medical history mentioned above replaces the physical examination previously required under state law. If any further information is required, the campus health service notifies the student immediately.

#### ADMISSION OF FRESHMEN

Prerequisites Admission to regular freshman standing is ordinarily granted to an applicant who has (a) a diploma from an accredited secondary school, (b) a grade average of at least C (2.0), (c) the specified amount of credit in particular subject areas, and (d) satisfactory personal recommendations.

Required subjects The following pattern of secondary school credit is the *minimum* acceptable for admission to the College:

English, 30 semester periods.  
Mathematics, 10 semester periods.  
Natural sciences, 10 semester periods.  
Social sciences, 10 semester periods.  
Religion, 10 semester periods *per year of attendance at a church-related secondary school*.  
Additional coursework in mathematics, natural sciences, and social sciences: 10 semester periods in each of two of these three areas; *or* 10 semester periods in one of the three areas and 20 semester periods in a foreign language.  
Electives to complete 160 semester periods (not including physical education).

Recommended subjects In order to ensure adequate preparation for, and maximum flexibility in, his college curriculum, a student should complete the following pattern:

English, 30-40 semester periods.  
Foreign language, 20 semester periods.  
Mathematics, 20-30 semester periods.  
Natural sciences, 30 semester periods (including, if possible, biology, chemistry, and physics).  
Social sciences, 20-30 semester periods (including American and world history).

Entrance tests A prospective student should take the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board during his senior year of secondary school and have the results sent to the Admissions Office of the University. Ordinarily this test is taken at the student's school; but if it is not available there, an applicant may make his own arrangements by writing directly to the College Entrance Examination Board (from Colorado westward addressing correspondence to Box 1025, Berkeley, California 94701; and from Nebraska eastward, to Box 592, Princeton, New Jersey 08540).

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

Provisional standing Applicants who do not fully meet the requirements for admission to regular freshman standing may sometimes be granted provisional standing. In such cases the Admissions Committee determines the specific conditions of admission, including coursework required to remedy deficiencies, supplementary placement tests, etc.



**Advanced placement** Credit toward graduation may be granted to entering students who have satisfactorily completed Loma Linda University Extension coursework or proficiency examinations of the Advanced Placement Program (APP), the College Level Examination Program (CLEP), or one or more departments of the College. To obtain credit by examination, a student petitions the Dean; if consent is given, credit is recorded after the student has earned at least 12 units of credit with a grade average of C (2.0).

#### OTHER ADMISSION PRACTICES

**Reentrance** A former student who wishes to resume his studies at the University must meet the regular entrance requirements in force at the time of his reentrance.

**Transfer students** A student applying for admission by transfer from another college or university must file with the Registrar complete records of studies taken at the secondary and college levels. Acceptance of credit for college-level coursework 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 coursework 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.

4. Credit for coursework in a *professional school* is accepted only if (a) the school is recognized by its regional or national accrediting association, and (b) the coursework is essentially equivalent or substantially relevant to a curriculum at Loma Linda University.

5. The University reserves the right to require satisfactory performance on an examination to validate any transfer credit.

**International students** Admission of students from countries other than the United States or Canada is limited to those who (a) meet all regular requirements for admission, (b) furnish suitable recommendations from responsible persons, (c) pass the Test of English as a Foreign Language (TOEFL) or its equivalent, if English is not the student's native language, and (d) 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 TOEFL, or other evidence of English proficiency, is required to attend an intensive American language institute offered during the month preceding the beginning of the autumn quarter.

**Student visa** A person entering the United States on a student visa (F-1) must carry successfully 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 be prepared to 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 and assistantships 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 person entering the United States on an exchange visitor visa (J-1) is subject to the same regulations as to study load and work limitations as the F-1 student. Further information may be obtained from the foreign student adviser in the Student Affairs Office.

Visa forms For either the F-1 or the J-1 status, visa forms are provided by the foreign 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 A student eligible to receive veterans' benefits under the 1966 enactment should have his records transferred to the Veterans Administration Regional Office, 1250 Sixth Avenue, San Diego, California 92101, and have a certificate of eligibility sent to the Registrar.

Application for admission should be made well in advance. Further information may be requested of the Registrar.



# ACADEMIC POLICIES and PRACTICES

## 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 Registrar and clearing financial arrangements with the Office of Student Aid and Finance.
- Late registration is permissible only in case of a compelling reason; a charge is made if registration is not completed on the designated dates. The student may not attend class without being registered, and in no case may registration take place later than the second week of a term.
- Attendance** Attendance is required beginning with the first day of each session. Regular attendance at all appointments is expected. Absence in excess of twenty percent of the appointments in a course is sufficient cause for withholding credit.
- Program change, withdrawal** The student who wishes to add a course, or to withdraw from a course or a program, must complete appropriate forms supplied by the Registrar's Office. He should do this in consultation with his adviser and/or the Dean.
- A course dropped before midterm is not included on grade reports or transcripts. If a student withdraws after midterm, a notation of NC is recorded.
- A student who wishes to add a course 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 standard curriculum leading to a degree or certificate is a *regular* student. The regular student is subject to strict application of the academic standards and policies.
- Provisional** A student who is permitted to remove qualitative or quantitative deficiencies in order to qualify or requalify for regular standing is classified as a *provisional* student during the transition period.
- Special** A student who enrolls for selected courses (for personal or professional purposes without application toward a degree) is classified as a *special student*. Tuition is paid at the regular rate. Consent for enrollment as a special student is granted by the department, with the endorsement of the Dean, and is subject to classroom and laboratory space.

## STUDY LOAD

- Normal limit** A normal study load in the College is 16-17 units of coursework per quarter, including all coursework for which the student is registered in the schools of the Uni-

versity 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.

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

### SPECIAL COURSEWORK

The College allows, and in many cases encourages, nontraditional approaches to learning, including correspondence and extension coursework and independent study projects.

Correspondence      Credit from a recognized correspondence school (such as Home Study Institute, the Adventist correspondence school in Washington, D. C.) may be accepted as lower division credit toward the general requirements for a degree or certificate, up to a maximum of 16 units. With the consent of the department, correspondence coursework (within the maximum of 16 units) may be applicable toward the requirements of a major program.

Transcripts of correspondence credit to be applied toward degree requirements must be received by the Registrar by the beginning of the quarter prior to graduation.

Extension      A limited amount of coursework offered by Loma Linda University Extension, or by the extension services of other institutions, may be applicable toward general or major requirements, with the consent of the appropriate department and the Dean of the College.

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

### CLASS STANDING

Definitions      Students in the College are accorded class standing on the basis of the amount of coursework completed, as follows:

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

Eligibility for coursework      A freshman may take only lower division courses (numbered 001-299). A sophomore, junior, or senior may take any lower or upper division course for which he has the prerequisite qualifications.



## SCHOLASTIC STANDING

Grading system Grades and grade points per unit of credit are defined as follows:

A	4.0	Outstanding performance	C	2.0	Satisfactory performance
A-	3.7		C-	1.7	
B+	3.3		D+	1.3	
B	3.0	Very good performance	D	1.0	Minimum acceptable performance for credit
B-	2.7				
C+	2.3				

Coursework in which the grade is less than C (2.0) is not applicable toward the requirements of a major program.

A special grade is given in certain cases to indicate credit but does not have a grade point value and therefore does not affect the grade point average:

S Satisfactory performance (equivalent to C or better)

Other designations are used to make clear the student's status but not to indicate credit, and do not affect the grade point average:

AU	Audit (for attendance only)
IP	In progress (for coursework requiring more than one term)
I	Incomplete (where course requirements can be completed within the following quarter)
NC	No credit (because of deficiency in the quality or quantity of work, withdrawal after midterm, etc.)

Optional grades A student may elect a grade of S in any course taken as a free elective or to fulfill the general requirements in vocational/avocational skills or movement skills, by submitting a written request to the instructor at any time before the course grades are reported to the Registrar.

A student may elect a grade of NC in any course by submitting a written request to the instructor at any time before the course grades are reported to the Registrar.

When an optional grade has been elected by a student and reported to the Registrar, it is not subject to change.

Scholastic probation A student whose grade point average for any term falls below 2.0 is automatically on scholastic probation. He is thus subject to restricted registration, and may be counseled to withdraw from the College unless his grades improve during the following quarter.

A student who receives or elects a grade of NC in two or more courses, or in half of his attempted coursework, in any term will be referred to the Office of the Dean for counsel concerning his academic program. A student with an excessive number of NC grades on his record may be placed on scholastic probation or counseled to withdraw regardless of his grade point average.

Graduation with honors A student in the College is graduated with honors on the basis of his cumulative grade point average figured at the beginning of the last term before graduation, as follows:

With honors, 3.50
With high honors, 3.75
With highest honors, 3.90



## CREDIT BY EXAMINATION

A student may meet an academic requirement, within specified limits, by passing a waiver examination or a proficiency examination at least equal in scope and difficulty to a final examination in the course.

**Waiver** 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 petitions the Dean for consent to take the examination on the scheduled date. A senior seeking waiver of course requirements must take the waiver examination before the final quarter of registration. A fee is charged, as indicated in the Schedule of Charges.

**Proficiency** To seek credit by proficiency examination, the student first gains the consent of the appropriate department chairman and then petitions the Dean. If consent is given, the student should take the examination before enrolling for further study in the field of the examination. If the student is successful in passing the proficiency examination, S is recorded on his permanent record, and his grade point average is not affected. A fee is charged for the examination, as indicated in the Schedule of Charges.

Credit for proficiency 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).

## TRANSCRIPTS OF CREDIT

Transcripts of credit are ordinarily accepted by the University only when they are sent directly by another institution. Transcripts of credit earned at this University are sent by the Registrar to other institutions on the written request of the student and payment of the required fee (see the Schedule of Charges in the *Financial Information* section), provided financial obligations to the University have been met.

## 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 annual conferring of degrees and the presentation of diplomas. Permission for the conferral of a degree in absentia is granted on the recommendation 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.

## FINANCIAL INFORMATION

### GENERAL PRACTICES

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

**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 official business hours.

9:00-12:00 Monday through Friday  
1:00- 3:00 Monday through Thursday

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 Aid and Finance / 785-2251  
Student employment / 785-2147

**Advance payment** Payment must be made in advance as follows: (a) the *room deposit* (for residence hall students) in advance of arrival, as indicated elsewhere; (b) the *flat charge* for tuition (inclusive of major expenses common to all students) by or before registration; (c) the guarantee deposit for *foreign applicants* before acceptance. For further details, see the Schedule of Charges; Deposits; International Students; Payment Plans; and other subsections in this *Financial Information* section of the BULLETIN.

**Cash needs** The student should arrange to have cash available for all special charges, miscellaneous expenses, and penalties. It is advisable to deposit at least \$50-100 each quarter in the Student Bank for books, vehicle registration, supplies, personal expenses, and unforeseen needs.

**Student Bank** The University operates the Student Bank for the convenience of students. If the parent or sponsor wishes to write only one check to include money for both tuition and other expenses, he 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 and should have noted thereon the *student's name and Social Security number* so as to ensure that the correct account is readily credited and inadvertence prevented. A charge may be made by the University when a check is not honored by a bank.



- Health insurance      Health insurance coverage is automatically provided in the payment of charges to students registered for 7 units or more. A student enrolled for fewer than these units may *request and pay for* health service coverage. Health insurance covers the hospital and medical expenses outlined in the insurance information folder. Items not covered by the terms of the health insurance 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 and forms are available at the Student Aid and Finance Office.
- Veterans      An accepted student eligible to receive veteran's benefits under the 1966 enactment should (a) transfer records to the Veterans Administration Regional Office, 1250 Sixth Avenue, San Diego, California 92101; (b) have a certificate of eligibility sent to the Registrar at Loma Linda University.
- Room deposit      The accepted residence hall student is required to pay the indicated deposit before a room is assigned or occupied. Dates by which deposit must be made or notification of cancellation given are noted in the Schedule of Charges. These relate to the term (fall, winter, spring, summer) for which initial registration is effective. Further details are published in the *Student Handbook*. Loan contracts, scholarships, or other kinds of financial aid are *not accepted in lieu of* this deposit.
- Nursing students      The financial policies in this BULLETIN apply to School of Nursing students registered for the Associate in Science degree program and for the first-year students in the Bachelor of Science program.
- A nursing student receiving the IP designation for a nursing-major course not completed during the quarter is required to reregister and pay tuition again if the course is not completed by the end of the subsequent quarter. A student receiving the NC designation for a nursing-major course listed in the individual course load but not begun during the quarter is required to reregister and pay tuition again. (The student should refer to the School of Nursing BULLETIN for a full explanation of the respective nursing program as the basis for interpreting the foregoing financial practices.)
- International students      A foreign applicant (other than Canadian) on a student visa is required to make an advance deposit (as noted under Deposits) and furnish evidence of additional resources to finance the expenses of the education planned. Because foreign 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. Under the "bursary plan," foreign students may apply for financial aid through the treasurer of the Seventh-day Adventist church geographical division conference organization. Students accepted under this plan receive funds matching the church division funds up to 50 percent of the cost of tuition. Employment in the United States is subject to the regulations of the Immigration and Naturalization Service.
- Flat rate      A residence hall student pays the full flat rate regardless of study load (except that a tuition adjustment is permitted if fewer than 12 units are needed during the

final quarter before graduation). No reduction of the flat rate is made when a residence hall student reduces his study load during the quarter.

Financial clearance

The student is expected to make satisfactory arrangements with the Student Aid and Finance Office for meeting all financial obligations to the University and to keep his financial status clear at all times. He must obtain financial clearance (a) at the initial registration; (b) at the beginning of any new term; (c) before registering for the subsequent year; (d) before taking final examinations at the close of the term.

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.

Interest rate

A service fee of one percent per month is charged on a past due account. This is an annual interest rate of 12 percent.

SCHEDULE OF CHARGES for 1974-75 (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 charge per quarter (\*):

Tuition (for full-time study load, 12 units and over).  
Health insurance (routine care and medicine).  
Applied music instruction if required for a major or minor in music.  
Lyceum ticket.  
Diploma, certificate, academic costume.

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) 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 (\$5 per quarter).

**FLAT CHARGE (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.]

\$1060 Residence hall: per quarter, with 21 meals per week. \*  
1045 Residence hall: per quarter, with 17 meals per week. \*  
685 Offcampus: per quarter. \*

**UNIT CHARGE**

\$ 58 Per unit (or fraction), credit or audit: fewer than 12 units.

**DEPOSITS REQUIRED**

\$ 50 Residence hall room reservation for fall, winter, spring, summer terms: Due September 1, December 1, March 1, May 1.  
1000 Foreign student.



### 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.
- 10 Reapplication after nonresidence 3 quarters (nonrefundable).
- 10 Late registration (beginning first day after published registration date).
- 10 Late financial clearance (beginning second week after published registration date).
- 5 Payment plan change.
- 5 Business Office collection charge for unpaid departmental penalties or check returned for insufficient funds.
- 10 Waiver examination.
- 25 Proficiency examination.
- 1 Transcript of credit, after first one.
- Library fine or loss, parking fine, property and supplies breakage or loss.
- Special physical education activities.
- Vehicle registration: Temporary \$1; A or D sticker \$7; O sticker \$3.

### MISCELLANEOUS EXPENSES (payable in cash)

- Books, supplies, music, etc. (estimated \$50-75 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 interquarter recesses; snack shop or market.
- Transportation:
  - Fieldwork, practice teaching, intercampus travel, offcampus assignment.
- Laundry.
- Entertainment (other than lyceum).

### APPLIED MUSIC CHARGES (payable in advance)

- \$ 58 Per unit, credit or audit, unless required for major or minor in music.
- 65 Offcampus registration: 1 half-hour period weekly, 10 per quarter.
- 130 Offcampus registration: 2 half-hour periods weekly, 20 per quarter.
- 50 Secondary or elementary school student: 1 half-hour period weekly, 10 per quarter.

### REFUNDS

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

1. *Tuition.* A minimum charge of \$25 is made if the student withdraws during the first 5 days after the published registration date; thereafter \$20 per additional school day is charged. Tuition is not refunded after the seventh week of the quarter. For part-time students the refund is figured on the basis of tuition prorated over a seven-week period.
2. *Board.* The charge for board per day, inclusive of the published registration day, is \$3.25.
3. *Room.* The charge for room, on the basis of a week or fraction thereof, is \$22. Room charge is not refunded after the seventh week of the quarter.
4. *Illness.* Special consideration is given in the case of prolonged illness.
5. *Drop voucher.* The effective date for the calculation of a refund is the date the completed drop voucher is received in the Student Aid and Finance Office.
6. *Identification card.* The student must return his ID card to the Student Aid

and Finance Office to establish eligibility for refund. Refund of meal charges is figured from the date the ID card is received in the Student Aid and Finance Office.

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. *Refund.* Ordinarily the balance of the account is refunded approximately one month from the date the ID card is returned to the Student Aid and Finance Office. The refund is made to the person initially named as responsible for the account. If a student is receiving financial aid, under normal circumstances the surplus is returned to the aid fund account.

Change in study load

When a commuting student drops one or more courses during a quarter, the charge is prorated on the same basis as for withdrawal from all coursework. The student must present the *add-drop voucher during the quarter* in order to receive a refund.

Residence change

A student who chooses, under existing policy, to move out of the residence hall, is not eligible for a refund on room charge for the remainder of the quarter.

Meal plan change

Change of meal plan may be made only at registration time at the beginning of the quarter.

Overpayment

If the account is overpaid, the patron should allow time for all records (such as cashier receipts, registration records, etc.) to clear through the data processing facility.

## PAYMENT

Two methods of payment are open for the student and/or parents to select from:

- Direct to the University
- Contract with a loaning agency

The details of these methods are explained in the following sections. Once a payment plan is determined and programed for the quarter, the student may not change to another plan without an additional charge.

Direct payment

*Tuition* must be paid in full at the beginning of each quarter. *Board and room* charges for the full quarter are due and payable one month after the beginning of the quarter.

A 1 percent per month service fee is charged on an account past due thirty days or more. This is an annual percentage rate of 12 percent.

Contract payment

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 one academic year, with 8 to 12 monthly payments; or for periods up to four 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 *Parents' Confidential Statement* or a *Student Financial Statement* with College Scholarship Service. Forms are available from secondary school counselors or the Student Aid and Finance Office. Filing should be completed early (as noted in the Student Aid information).
- Campus work** Campus employment opportunities are offered primarily by such services as bakery, cafeteria, dairy, farm, grounds, housekeeping, maintenance, and market. Some additional opportunities are offered in the residence halls, the library, the general administrative offices, and the academic department offices.
- Local businesses** A few local businesses adjacent to the campus provide a limited number of employment opportunities at which the student may earn an average of approximately \$800 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, or otherwise as arranged by the student. Or the student may elect to have his check mailed to his parents by special arrangement (except the student on a federal work-study program) or deposited in the Student Bank.
- Tithe** Payroll deduction is available to facilitate the payment of tithe on earnings. Arrangements are made at the student's request.

## 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 a loan 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 a 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 *Parents' Confidential Statement* (PCS) to College Scholarship Service (CSS) by April 15.



In addition to filing the PCS form by April 15, the student (new or returning) seeking aid should file an *Aid Application* form (a University form) by June 1. Those who apply later than this date receive aid only if funds are available after the needs are met for those who file complete applications by June 1.

The PCS form, together with information about the CSS need-analysis system, may be obtained from the high school guidance counselor by the new applicant for admission to the University. A student currently enrolled at this University can obtain the PCS form from the Student Aid and Finance Office.

Code 4380

The student should use CSS code number 4380 to identify this University in line item two of the PCS form.

#### FEDERAL PROGRAMS

Eligibility Financial aid programs sponsored by the United States Department of Health, Education, and Welfare 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 tax-deductible *dependent* submits the *Parents' Confidential Statement* form that furnishes evidence of the income of parents. The *independent* student submits the *Student Financial Statement* form.

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

- Basic Educational Opportunity Grant
- Supplemental Educational Opportunity Grant
- National Direct Student Loan
- Federally Insured Student Loan
- College Work-Study Program

Determination of what aids are applicable in given cases is made in the Student Aid and Finance Office, except for the Basic Educational Opportunity Grant.

The *Aid Application* form of the University, together with the *Parents' Confidential Statement* or the *Student Financial Statement* must be submitted to prove need for financial aid.

Citizen

Also, 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.

National Direct  
Student Loan

Up to \$1,000 per year is available for needy students. After ceasing to be in at least half-time attendance, the recipient repays the loan with 3 percent interest. No payments are required for up to three years during service in the armed forces, Peace Corps, or VISTA.

Basic Educational  
Opportunity Grant

The Basic Educational Opportunity Grant (BEOG) program makes funds available to eligible students who entered postsecondary education for the first time after April 1, 1973, and are enrolling on a full-time basis. To apply for a BEOG a student must complete the *Application for Determination of Basic Grant Eligibility* available 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 is such that without the grant the student would be unable to continue his education. The minimum grant is \$200, and this must be matched with a loan, a scholarship, another grant, or labor earnings.
College Work-Study Program	A student from a low-income family is offered work during the school year to assist in meeting educational expenses. Certain offcampus jobs at recreation or camping centers are available during both the summer and the academic year.
Federally Insured Student Loan	Maximum loans of \$2,500 an academic year insured by the federal government may be available from participating lending institutions in many states. The government pays the interest while the student is in school, if there is a need after the family's contribution and financial aid granted has been considered. If the student does not qualify for federal interest benefits, he may still borrow; but he must pay his own interest from the time he takes out the loan until it is repaid. The loan repayment may extend up to ten years at 7 percent interest, with a minimum payment of \$360 per year on smaller loans. (Some participating banks require a family depositor relationship for at least six months before they consider accepting an application from a student.) The borrower must submit an affidavit that the loan will be used only for educational purposes; the affidavit must be signed before a notary public or other person authorized to administer oaths. Application forms may be obtained from the lender or from the Student Aid and Finance Office. A PCS form is required of an applicant for this kind of loan if the adjusted family income is more than \$15,000.
United Student Aid Fund	Certain banks handle United Student Aid Fund loans instead of FISL. The regulations and policies for USAF loans are the same as for the FISL program.
Law Enforcement Educational Program	The Law Enforcement Assistance Administration supports current or prospective law enforcement personnel who may obtain assistance as follows: (a) grants up to \$750 and loans up to \$2,200 a year to cover direct educational expenses of inservice personnel and loans up to \$2,200 a year for those who plan to enter law enforcement; (b) cancellation of 25 percent of total loans per year of employment in a federal, state, or local law enforcement 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. These range from \$50 to \$300 per year and depend on individual circumstances.
California State Scholarship	Scholarships are available to California residents who show satisfactory results on the Scholastic Aptitude Test of the College Entrance Examination Board and who have a satisfactory grade point average. Residents may apply for such scholar-



ships if they meet requirements and establish need. These scholarships provide tuition grants up to \$2,500 at the college of the student's choice. (Secondary school counselors can provide full information and application forms for senior students.)

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 with and payments 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:

- |                                     |                                  |
|-------------------------------------|----------------------------------|
| Erwin E. Cossentine Loan Fund       | Robert A. Hanson Loan Fund       |
| Dartley Revolving Student Loan Fund | Miracle Loan Fund                |
| William B. Greene Loan Fund         | F. Oliphant Memorial Fund        |
| Milton and Ethel Griese Loan Fund   | Fadelma Ragon Sargeant Loan Fund |
| Richard Guy Memorial Fund           | Ellen Rickard 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 on the La Sierra campus 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. Information about the following scholarships and awards is available from the Office of the Dean:

- |  |  |
|--|--|
| Alumni Federation Award                                    | Layne Foundation Scholarship                                 |
| K. F. Ambs Leadership Award                                | George H. Mayr Foundation Scholarship                        |
| California Congress of Parents and Teachers<br>Scholarship | Lavina A. Northrop Award (preseminary)                       |
| Farmers Insurance Group Scholarship                        | I. G. Ortner Scholarship                                     |
| James Irvine Foundation Award                              | Riverside Foundation Heseman Scholarship                     |
| Edmund C. Jaeger Award (biology)                           | Harry Schrillo (La Sierra Alumni<br>Association) Scholarship |
| Judson Memorial Award                                      | President's Award  |
| Eliza L. Landeen Scholarship<br>for Elementary Teachers    |  |



#### BUDGETING FOR FINANCIAL AID

Budgeting for financial aid necessitates consideration of more than flat rates. 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, \$3,900

Offcampus student, \$3,400

Application for financial aid for each academic year (with required supporting documents) should be received at the Student Aid and Finance Office by June 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. The prospective student has freedom to choose or reject these. But he must make that choice before he enrolls and then must abide by the decision while he is a student.

## FROM UNIVERSITY TO STUDENT

The University regards the student from a cosmopolitan and comprehensive point of view – (a) cosmopolitan in that historically the University 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 concern for the welfare of the student has been traditionally an integrated concern for assisting the student in balanced development of his intellectual, emotional, physical, religious, and societal potentialities.

## GENERAL INFORMATION

Identification number      The student's Social Security number becomes his permanent identification number on his University record. The applicant who does not already have a Social Security number should consult his local post office about securing one well in advance of enrollment. An identification card is issued at the initial enrollment and is renewed as necessary. The student should present his card when applying for library service, health service, or other service that requires identification. Also, the identification (Social Security) number should be noted (together with the student's name) on checks payable to the University to ensure crediting to the proper account readily. 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 re-

sources. 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 each student in some recreational and health-building activity that he may carry over to enhance his 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.

Insurance coverage      The student's health insurance policy covers hospitalization for illness or accidents, including those that occur offcampus. The student should keep and refer to the insurance information folder provided him at registration. This informs him about what benefits the insurance provides and what services must be paid for. (See also the *Financial Information* section.)

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 attend these appointments as part of the educational climate.

Transportation      The student is responsible for transportation arrangements and costs to off-campus assignments. The student who has a car must arrange for 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 the responsible adult has regard for the property of institutions and individuals, it goes without saying that the mature student does his part to protect and safeguard University property, facilities, equipment, and supplies. The student is 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 his 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  
Backpacking Club  
Bicycle Club  
Black Student Association  
Business Club  
Chinese Club  
Climbing Club  
Collegiate Christian League  
Consumer Related Sciences Club  
Deutscher Verein  
Equestrian Club  
Fencing Club  
Film Society  
Guild Student Group (American Guild of Organists)  
Hawaiian Club  
Heperec Club (health, physical education, recreation, youth services)  
Hiking Club  
Ice Skating Club  
Industrial Studies Club  
International Students Club  
Jurisprudence Club  
Le Cercle Francais  
Martial Arts Club  
Organizacion Latinoamericana Estudantil (O. L. E.)  
Professional Education Association  
Sailing Club  
Ski Club  
Society of Demonstrative Arts  
Student Missionary Club  
Student Nurses' Association of California  
Student Physics Society  
Water Skiing Club

## 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 College.







# II

## General Requirements Departments 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 average of C (2.0), received no grade less than C in any course counted in the major program, and have met their financial obligations to the University.

A student who is continuously enrolled in the College for successive years may choose to meet the requirements for graduation listed in the BULLETIN of the year of his entrance or any subsequent year. If a student discontinues his enrollment for one calendar year, he must meet the requirements listed in the BULLETIN of the year of his reenrance or any subsequent year.



## BACHELOR OF ARTS

A candidate for the Bachelor of Arts degree completes 190 units of coursework (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 studies:

**Skills** In basic intellectual and physical skills, 11 to 27 units of coursework, including:

*Communication skills*, 8-12 units (ENGL 101 and 102; or 121 with a grade of B or better; to be completed ordinarily within the first 48 units of coursework at the college level; otherwise one course per quarter until the requirement is fully met; CMSP 101);

*Computation skills*, 0-4 units (aptitude or waiver examination, or MATH 095);

*Movement skills*, 3 units (6 quarters of physical education activities); and

*Vocational / avocational skills*, 0-8 units (coursework, waiver examination, or other satisfactory demonstration of skill); 4 units, or the equivalent, outside the major.

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

*American history*, 4-8 units (HIST 151 and 152; or 155; or 251 and 252; 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 if a student has satisfactorily completed less than one full year of biology, chemistry, and physics at the secondary level in two of five areas: biology, chemistry, physics, mathematics, health; biology or health required if a student has not satisfactorily completed at least 1/2 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 best one introductory course in behavioral science).

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

*In the Department of Religion*, 16 units (including any RLGB or RLGT courses and/or RELB or RELT courses in the Division of Religion on the Loma-Linda campus; up to 4 units of RLGH or RELH courses; but *not* including RLGL, RLGP, or RELP courses);

*In the major department* (except religion), 4 units (course 496).

**Recommended courses** A list of courses recommended to meet the general requirements is available from the Office of the Dean of the College.

## BACHELOR OF SCIENCE, BACHELOR OF MUSIC

A candidate for the Bachelor of Science or Bachelor of Music degree completes 190 units of coursework (60 upper division), of which at least 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 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 coursework as defined for the Bachelor of Arts degree.
- Life in society    In the traditional academic disciplines, 24-32 units of coursework, including:

*American history*, 4-8 units (HIST 151 and 152; or 155; or 251 and 252; 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 coursework (8 upper division) as defined above for the Bachelor of Arts degree.

### SPECIAL PROGRAMS

- Interdisciplinary studies    Students who complete the 48-unit program in interdisciplinary studies (see Interdepartmental Courses) are regarded as having met the following portions of the general requirements for a baccalaureate degree:

*Communication skills*, 8-12 units (depending on the student's performance);

*Humanities*, 32 units (but not including foreign language);

*Natural sciences, mathematics, health*, 8 units;

*Personal / social relationships*, 8 units;

*Religion*, 12 units.

- Western thought        A student who completes the major program in Western thought (see Department of History and Political Science) is regarded as having met the general requirement in the humanities.

### ASSOCIATE IN ARTS

A candidate for the Associate in Arts degree completes 96 units of coursework, of which at least 24 of the last 32 units 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 coursework, including:

*Communication skills*, 8-12 units (ENGL 101 and 102; or 121 with a grade of B or better; to be completed ordinarily within the first 48 units of coursework at the college level; otherwise one course per quarter until the requirement is met; CMSP 101);

*Computation skills*, 0-4 units (aptitude or waiver examination, or MATH 095); and

*Movement skills*, 2 units (4 quarters of physical education activities).



Life in society        In the traditional academic disciplines, 16 units of coursework, including:

*American history*, 4 units;

*Humanities*, 4 units;

*Natural sciences, mathematics, health*, 4 units; and

*Personal / social relationships*, 4 units.

Life under God        In religious studies, 12 units selected from biblical studies, theological studies, and any one course in historical studies, all in the Department of Religion.

#### ASSOCIATE IN SCIENCE

A candidate for the Associate in Science degree completes 96 units of coursework, of which at least 24 of the last 32 units 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 coursework as defined for the Associate in Arts degree.

Life in society        In the traditional academic disciplines, 12 units of coursework, 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 coursework as defined above for the Associate in Arts degree.

#### CERTIFICATE

A student in a certificate program completes at least 48 units of coursework, of which at least 12 of the last 16 units are completed in residence at Loma Linda University.

The curriculum for a certificate consists of the specific requirements of the particular program; religion, 4 units; eligibility for ENGL 101 (remedial coursework, if indicated by placement examination).



## DEPARTMENTS OF INSTRUCTION

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

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 approximately 30 laboratory hours.

### CLASSIFICATION OF COURSES

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

	SUBJECT	DEPARTMENT
ACCT	Accounting	Business and Economics
AGRC	Agriculture	Agriculture
ANTH	Anthropology	Sociology and Anthropology
ARTS	Art	Art
BIOL	Biology	Biology
BSED	Business Education	Secretarial and Business Education
BSNS	Business	Business and Economics
CFSC	Child and Family Science	Consumer Related Sciences
CHEM	Chemistry	Chemistry
CMDS	Communicative Disorders	Communication
CMGN	Communication, General	Communication
CMME	Communication Media	Communication
CMSP	Communication, Speech	Communication
CNSC	Consumer Science	Consumer Related Sciences
CORR	Correctional Science	Psychology
DAPR	Data Processing	Business and Economics
ECON	Economics	Business and Economics
ENGL	English	English
ENSL	English as a Second Language	Modern Languages
FNSC	Food and Nutrition Science	Consumer Related Sciences
FREN	French	Modern Languages
GRMN	German	Modern Languages
HIST	History	History
INDS	Industrial Studies	Industrial Studies
INTD	Interdisciplinary Studies	Interdepartmental Courses
LANG	Language	Modern Languages
LIBR	Library Science	Interdepartmental Courses
LING	Linguistics	Modern Languages
MATH	Mathematics	Mathematics
MGNT	Management	Business and Economics
MUSC	Music	Music

PHIL	Philosophy	Interdepartmental Courses
PHYS	Physics	Physics
PLSC	Political Science	History and Political Science
PSCH	Psychology	Psychology
PSED	Physical Education	Physical Education
RLGB	Religion, Biblical Studies	Religion
RLGH	Religion, Historical Studies	Religion
RLGL	Religion, Biblical Language Studies	Religion
RLGP	Religion, Professional Studies	Religion
RLGT	Religion, Theological Studies	Religion
SCNC	Science	Interdepartmental Courses
SECY	Secretarial Administration	Secretarial and Business Education
SOCI	Sociology	Sociology and Anthropology
SOSR	Social Service	Sociology and Anthropology
SPAN	Spanish	Modern Languages

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

## DEPARTMENT OF AGRICULTURE

Chairman	JOHN E. CARR, Associate Professor of Agriculture M.S. Michigan State University
Faculty	C. ARNOLD BORAM, Associate Professor of Agriculture M.ED. University of Missouri
	W. FRED RILEY, Associate Professor of Agriculture PH.D. University of Arizona
	DALE L. ANDERSON, Assistant Professor of Agriculture M.S. Oklahoma State University
	MARLIN E. ELKINS, Instructor in Agriculture B.S. Pacific Union College
	HARRY M. GRUBBS, Instructor in Agriculture B.S. Andrews University
	RICHARD L. PETERSEN, Instructor in Agriculture B.S. Loma Linda University

**Objectives** The continuous operation of full-scale agricultural, poultry, and dairy businesses on the 350-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, a 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 his 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 in the teaching of agriculture is described in the BULLETIN of the School of Education. This program includes AGRC 504, 507, 513; an additional 33 units of postbaccalaureate study; and fulfillment of the requirements for a secondary teaching credential. A student who has included the appropriate coursework in professional education (including directed teaching) in his undergraduate curriculum may be able to complete the requirements for the master's degree in an additional year of study.

### BACCALAUREATE MAJOR PROGRAMS

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

**General agriculture** A student majoring in general agriculture follows the curriculum for the Bachelor of Science degree (see *General Requirements*) and 64 units of coursework in



- agriculture, including AGRC 101, 103, 111, 201, 202, 211, 213, 221, 231, 321, 331, 351, 435, 451, 493. Cognate requirements are ACCT 201; BIOL 101, 102, 103; CHEM 101, 102; INDS 231 or 331.
- Livestock production** A student majoring in livestock production follows the curriculum for the Bachelor of Science degree (see *General Requirements*) and 64 units of coursework in agriculture, including AGRC 103, 111, 201, 202, 231, 311, 331, 332, 333, 351, 433, 435, 451, 493. Cognate requirements in other departments are ACCT 201; BIOL 101, 102, 103; CHEM 101, 102; INDS 231 or 331.
- Plant production** A student majoring in plant production follows the curriculum for the Bachelor of Science degree (see *General Requirements*) and 64 units of coursework in agriculture, including AGRC 101, 103, 201, 202, 211, 212, 213, 221, 301, 321, 338, 345, 351, 435, 451, 493. Cognate requirements in other departments are ACCT 201; BIOL 101, 102, 103; CHEM 101, 102; INDS 231 or 331.
- Intensive food production** A student majoring in intensive food production follows the curriculum for the Bachelor of Science degree (see *General Requirements*) and 76 units of coursework in agriculture and biology, including AGRC 101, 103, 111, 201, 221, 331, 342, 343, 344, 351; BIOL 101, 102, 103, 285, 314, 387, 472, 482, 485. Cognate requirements are ACCT 201; CHEM 101, 102, 103; INDS 231, 331, or 171, 172; MATH 123. Recommended electives are AGRC 202, 301; BIOL 447; FNCS 423; PSCH 101 or 105, 302.

#### MINOR SEQUENCE

A minor in agriculture is 30 units of coursework (8 upper division) selected in consultation with the departmental adviser.

#### ASSOCIATE DEGREE PROGRAM

- Agriculture** A student in the associate degree program in agriculture follows the curriculum for the Associate in Science degree (see *General Requirements*) and 56 units of coursework in agriculture, including AGRC 101, 103, 111, 201, 221, 231, 299 (4 units in each of four areas), 321, 331, 351, 493. Cognate requirements are ACCT 201; INDS 231.

#### COURSES

- Lower division** AGRC 101 Vegetable Gardening 4 units  
 First quarter: cool season crops, propagation, culture methods, marketing. Third quarter: warm season crops, plant production, propagation, culture, producing, marketing. Three class hours, one laboratory. May be repeated once for additional credit.
- AGRC 103 Basic Soils Science 4 units  
 Genesis, physical and chemical properties, and classification of soils. Three class hours, one laboratory.

	<b>AGRC 108 Agriculture Skills for Country Living</b>	<b>4 units</b>
	Practical aspects of gardening, greenhouse culture, plant propagation, and gardening equipment; Seventh-day Adventist philosophy of agriculture. Fall and spring.	
	<b>AGRC 109 Agriculture Skills for Country Living</b>	<b>4 units</b>
	Animal science, poultry science, and landscape design and floriculture. Winter.	
	<b>AGRC 111 Poultry Husbandry</b>	<b>4 units</b>
	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. Offered alternate years.	
	<b>AGRC 201 Field Crops</b>	<b>4 units</b>
	Distribution, cultural methods, and economic importance of field crops. Field trips. Offered alternate years.	
	<b>AGRC 202 Forage Crops</b>	<b>4 units</b>
	Economical use of land for other than fields crops. Providing year-around pasture. Field trips as needed. Offered alternate years.	
	<b>AGRC 211 Horticulture I</b>	<b>4 units</b>
	The plant; plant requirements; culture, growth, and propagation. Three class hours, one laboratory.	
	<b>AGRC 212 Horticulture II</b>	<b>4 units</b>
	Small and large fruit culture; individual fruits.	
	<b>AGRC 213 Greenhouse Culture</b>	<b>4 units</b>
	Scheduling, planning, and propagation of horticulture plants. Experience in growing and management of plants under glass. Preparation and handling of potting and propagation mixes.	
	<b>AGRC 221 Farm Machinery</b>	<b>4 units</b>
	Selection, operation, and use of modern farm machinery and implements. Two class hours, two laboratories. Offered alternate years.	
	<b>AGRC 231 Animal Husbandry I</b>	<b>4 units</b>
	History, breeds, characteristics, adaptability, and products of farm animals.	
	<b>AGRC 299 Directed Study</b>	<b>1-4 units</b>
	Practical experience: farm, creamery, livestock, poultry. May be repeated in a different area for additional credit.	
Upper division	<b>AGRC 301 Soil Management and Fertility</b>	<b>4 units</b>
	Essential principles of maintaining and testing soil fertility. Management principles applied to physical improvement. Two class hours, two laboratories. Offered alternate years. Prerequisite: AGRC 103.	
	<b>AGRC 311 Poultry Production</b>	<b>4 units</b>
	Principles and practices: ranch layout, housing system, brooding, production programs, record keeping. Field trips. Offered alternate years Prerequisite: AGRC 111.	
	<b>AGRC 321 Irrigation</b>	<b>4 units</b>
	Methods of application; crop requirements and water supply in the Southwest and other arid regions. Three class hours, one laboratory. Offered alternate years.	
	<b>AGRC 331 Animal Husbandry II</b>	<b>4 units</b>
	Care and management of farm animals, including judging, marketing, sanitation, and diseases.	
	<b>AGRC 332 Dairy Cattle Management</b>	<b>4 units</b>
	Economic aspects, selection, breeding, feeding, sanitation, diseases, and management of dairy cattle. Offered alternate years.	

	<b>AGRC 333 Dairy Industry</b>	<b>4 units</b>
	Common practices of processing and testing milk products. Three class hours, one laboratory. Offered alternate years.	
	<b>AGRC 337 Floriculture</b>	<b>4 units</b>
	Identification, propagation, and use of potted and outdoor flowers in the household and in landscape design. Especially for flower lovers and homeowners. Laboratory.	
	<b>AGRC 338 Landscape Design and Practice</b>	<b>4 units</b>
	Recognition, selection, and adaptation of landscape materials to fit into the environment.	
	<b>AGRC 341 Introduction to World Crops</b>	<b>4 units</b>
	Relationship between man and plant; plants environment, crop production, plant industry, the marketplace. Offered alternate years.	
	<b>AGRC 342, 343, 344 Intensive Food Production</b>	<b>4, 4, 4 units</b>
	Efficient methods of food production; innovative and productive procedures utilized under various soil and climatic conditions. Three quarters required in sequence.	
	<b>AGRC 345 Plant Propagation</b>	<b>4 units</b>
	Methods of propagating useful and ornamental plants. Two class periods, two laboratory periods per week.	
	<b>ARGC 351 Farm Management I</b>	<b>4 units</b>
	The modern farm in relation to management concepts, cost analysis, government involvement, and general farm practices in ecology and environment. Offered alternate years.	
	<b>AGRC 433 Animal Nutrition</b>	<b>4 units</b>
	Principles of nutrition of farm animals; application to feeding practice. Offered alternate years.	
	<b>AGRC 434 Poultry Management</b>	<b>4 units</b>
	Experience with poultry and facilities. Laboratory only. Prerequisite: AGRC 111.	
	<b>AGRC 435 Agriculture Economics and Marketing</b>	<b>4 units</b>
	Current economic and marketing practices in relation to the economy. Field trips. Offered alternate years. Prerequisite: ACCT 201.	
	<b>AGRC 451 Farm Management II</b>	<b>4 units</b>
	Practical continuation of Farm Management I. Laboratory only. Prerequisite: Work experience in department; AGRC 351.	
	<b>AGRC 493 Seminar in Agriculture</b>	<b>2 units</b>
	Two years required for credit.	
	<b>AGRC 496 Adventist Philosophy of Agriculture</b>	<b>4 units</b>
	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, but can apply toward the general requirement in religion. Offered alternate years.	
	<b>AGRC 499 Directed Study</b>	<b>1-4 units</b>
Graduate	<b>AGRC 504 Soil Chemistry</b>	<b>4 units</b>
	Methods of soil analysis; diagnosis of soil problems. Prerequisite: CHEM 107, 108, 109.	
	<b>AGRC 505 Soil Microbiology</b>	<b>4 units</b>
	Culture of soil microorganisms and their effect on plant production. Prerequisite: BIOL 101, 102, 103.	



**AGRC 507 Crop Fertilization and Protection**

**4 units**

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

**AGRC 513 Nutrition of Horticultural Plants**

**4 units**

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

Prerequisite: AGRC 211.

DEPARTMENT OF  
**ART**

Chairman	ROGER A. CHURCHES, Associate Professor of Art M.F.A. Rochester Institute of Technology
Faculty	AGNES R. EROH, Professor of Elementary Education, School of Education ED.D. Boston University
	CLARENCE L. GRAY, Instructor in Art M.A. California State University, Long Beach
Lecturers	ROBERT J. BURMAN, Lecturer in Architecture and Design B.ARCH. University of Washington Member, American Institute of Architects
	LAWRENCE J. READ, Lecturer in Painting and Crafts M.A. University of Southern California
	GERALD L. YOUNG, Lecturer in Painting and Design M.A. California State University, Los Angeles

The study of art combines an academic comprehension of art as a historical expression of human ideas and ideals with the development of skills for contemporary visual communication and expression.

Objectives     The objectives of the department are to prepare artists for a wide variety of professions related to the visual arts and to introduce general students to the experience of visual art.

The department believes that the Christian artist should intuitively reflect the visual order of the created universe, not by a rote copying of nature, but by a close observation and analysis of natural forms.

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

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

**BACCALAUREATE MAJOR PROGRAMS**

Visual arts	A student broadly interested in art completes the general requirements for the Bachelor of Arts degree (see <i>General Requirements</i> ) and 50 units (20 upper division) of coursework in art, including ARTS 211, 212, 491, 492, 493; drawing, 6 units; painting, graphic design, and printmaking, 8 units; crafts, ceramics, and sculpture, 8 units.
Specialization	A student interested in specializing in a particular area completes the general requirements for the Bachelor of Science degree and one of the following three programs:

Program A offers an emphasis in drawing/painting, graphic design, printmaking, ceramics, or sculpture, with 60 units (24 upper division) of coursework in art, including ARTS 211, 212, 491, 492, 493, 497; drawing, 8 units; area of specialization, 12 units.

Program B offers an emphasis in furniture design, with 50 units (24 upper division) in art, including ARTS 211, 212, 213, 491, 492, 493; drawing, 4 units. Cognate requirements are INDS 141, 251 (8 units), 351 (12 units).

Program C offers an emphasis in photography, with 54 units (12 upper division) of coursework in art, including ARTS 211, 212, 491, 492, 493; drawing, 4 units. Cognate requirements are INDS 221, 321 (8 units), 322.

## MINOR SEQUENCE

A minor in art is 30 units (12 upper division) of coursework, selected in consultation with the department chairman.

## COURSES

Lower division	<b>ARTS 201 Introduction to Studio Art</b>	<b>2 units</b>
	Art materials, processes, and concepts. Does not apply toward a major in art.	
	<b>ARTS 211, 212 Design</b>	<b>4, 4 units</b>
	Elements and principles of design.	
	<b>ARTS 213 Three-Dimensional Design</b>	<b>4 units</b>
	Current trends; design problems; analysis and evaluation of student work.	
	<b>ARTS 221 Drawing</b>	<b>2 units</b>
	Object drawing, including the human figure, in various media. May be repeated for additional credit to a maximum of 6 units.	
	<b>ARTS 231 Painting</b>	<b>2 units</b>
	Aesthetic principles of painting. May be repeated for additional credit to a maximum of 6 units.	
	<b>ARTS 241 Graphic Design</b>	<b>2 units</b>
	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.	
	<b>ARTS 251, 252, 253 Printmaking</b>	<b>2, 2, 2 units</b>
	First quarter, serigraphy and relief; second quarter, intaglio; third quarter, lithography.	
	<b>ARTS 261 Crafts</b>	<b>2 units</b>
	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.	
	<b>ARTS 271 Ceramics</b>	<b>2 units</b>
	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.	
	<b>ARTS 281 Beginning Sculpture</b>	<b>2 units</b>
	Clay modeling.	



	<b>ARTS 282 Sculpture</b>	<b>2 units</b>
	Work in clay, stone, plaster, and various other materials. May be repeated for additional credit to a maximum of 6 units. Prerequisite: ARTS 281.	
	<b>ARTS 291 Introduction to Art</b>	<b>4 units</b>
	Appreciation of the arts and their role in society. Does not apply toward a major in art.	
	<b>ARTS 299 Directed Study</b>	<b>1-4 units</b>
	Independent project in studio or art history. May be repeated with the consent of the department chairman.	
Upper division	<b>ARTS 305 Development of Aesthetic Awareness</b>	<b>2 units</b>
	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. Prerequisite: ARTS 201 or equivalent.	
	<b>ARTS 313 Advanced Three-Dimensional Design</b>	<b>2 units</b>
	May be repeated for additional credit to a maximum of 6 units. Prerequisite: ARTS 213 or consent of the department chairman.	
	<b>ARTS 321 Advanced Drawing</b>	<b>2 units</b>
	May be repeated for additional credit to a maximum of 6 units. Prerequisite: ARTS 221 or consent of the department chairman.	
	<b>ARTS 331 Advanced Painting</b>	<b>2 units</b>
	May be repeated for additional credit to a maximum of 6 units. Prerequisite: ARTS 231 or consent of the department chairman.	
	<b>ARTS 341 Advanced Graphic Design</b>	<b>2 units</b>
	Conceptual problem solving in contemporary visual communication. May be repeated for credit to a maximum of 6 units. Prerequisite: ARTS 241 or consent of the department chairman.	
	<b>ARTS 351 Advanced Printmaking</b>	<b>2 units</b>
	May be repeated for additional credit to a maximum of 6 units. Prerequisite: ARTS 251 or consent of the department chairman.	
	<b>ARTS 371 Advanced Ceramics</b>	<b>2 units</b>
	May be repeated for additional credit to a maximum of 6 units. Prerequisite: ARTS 271 or consent of the department chairman.	
	<b>ARTS 381 Advanced Sculpture</b>	<b>2 units</b>
	May be repeated for additional credit to a maximum of 6 units. Prerequisite: ARTS 281 or consent of the department chairman.	
	<b>ARTS 491, 492, 493 History of Art</b>	<b>4, 4, 4 units</b>
	First quarter, ancient through Gothic art; second quarter, Renaissance through modern art; third quarter, contemporary art.	
	<b>ARTS 496 Philosophy of Art</b>	<b>4 units</b>
	Art and its relationship to Christian belief and experience. Does not apply toward a major or minor, but can apply toward the general requirement in religion.	
	<b>ARTS 497 Senior Thesis</b>	<b>4 units</b>
	Relating to the student's area of specialization. May be carried over two quarters for a maximum of 8 units. Written report required.	

ARTS 499 Directed Study

1-4 units

Independent project in studio or art history. May be repeated with the consent of the department chairman.

Graduate ARTS 501 Problem(s) in Studio Art

1-4 units

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

DEPARTMENT OF  
**BIOLOGY**

- Chairman LEONARD R. BRAND, Associate Professor of Biology  
PH.D. Cornell University
- Faculty ARIEL A. ROTH, Professor of Biology  
PH.D. University of Michigan
- EARL W. LATHROP, Associate Professor of Biology  
PH.D. University of Kansas
- HAROLD R. MILLIKEN, Associate Professor of Biology  
M.A. University of Virginia
- NORMAN L. MITCHELL, Associate Professor of Biology  
PH.D. University of Western Ontario
- GARY L. BRADLEY, Assistant Professor of Biology  
M.A. Loma Linda University
- ARTHUR V. CHADWICK, Assistant Professor of Biology  
PH.D. University of Miami
- CONRAD D. CLAUSEN, Assistant Professor of Biology  
PH.D. Loma Linda University
- BERNEY R. NEUFELD, Assistant Professor of Biology  
PH.D. Indiana University
- JOHN K. TESTERMAN, Assistant Professor of Biology  
PH.D. University of California, Irvine
- CAROLANN S. ROSARIO, Instructor in Biology  
B.A. Loma Linda University
- Collaborating faculty KENNETH A. ARENDT, Professor of Physiology and Biophysics, School of Medicine  
PH.D. Boston University
- IAN M. FRASER, Professor of Pharmacology, School of Medicine  
PH.D. University of Cambridge
- ROBERT L. NUTTER, Professor of Microbiology, School of Medicine  
PH.D. Iowa State University
- RAYMOND E. RYCKMAN, Professor of Microbiology, School of Medicine  
PH.D. University of California, Berkeley
- EDWARD D. WAGNER, Professor of Microbiology, School of Medicine  
PH.D. University of Southern California
- ELMER A. WIDMER, Professor of Environmental and Tropical Health, School of Health  
PH.D. Colorado State University
- CHARLES E. WINTER, Professor of Microbiology, School of Medicine  
PH.D. University of Maryland
- LEONARD R. BULLAS, Associate Professor of Microbiology, School of Medicine  
PH.D. Montana State University
- YUK LIN HO, Associate Professor of Microbiology, School of Medicine  
PH.D. Harvard University
- ROBERT L. SCHULTZ, Associate Professor of Anatomy, School of Medicine  
PH.D. University of California, Los Angeles
- NORMAN M. CASE, Assistant Professor of Anatomy, School of Medicine  
PH.D. Loma Linda University
- ARTHUR E. DALGLEISH, Assistant Professor of Anatomy, School of Medicine  
PH.D. Stanford University
- ELWOOD S. McCLUSKEY, Assistant Professor of Physiology, School of Medicine  
PH.D. Stanford University
- Staff DONNICE D. ROSS, Departmental Associate  
B.A. Loma Linda University



- Objectives The objectives of the Department of Biology are to help the student better understand himself and the living things around him, to develop a scholarly approach to the study of scientific information, and to prepare for careers in biology.
- Graduate programs Programs leading to the Master of Arts and Doctor of Philosophy degrees are described in the BULLETIN of the Graduate School.

### BACCALAUREATE MAJOR PROGRAMS

Biology A student majoring in biology completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 41 units of coursework in biology, including BIOL 101, 102, 103, 401, 404, 447, 463. Cognate requirements in other departments are CHEM 107, 108, 109, 345, 346; MATH 123 or 131. Recommended coursework includes PHYS 211, 212, 213, and one of the following patterns in biology (which will be identified on the official transcript):

Botany: BIOL 314, 381, 382, 387 or 483, 482, 485; two courses at a field station, with at least one course in botany.

Microbiology: BIOL 303, 379, 381, 387.

Natural history: BIOL 314, 469, 485; two courses selected from BIOL 321, 416, 461, 465; BIOL 379 or 406 or 472; one course at a field station.

Zoology: BIOL 364, 406, 469; two courses selected from BIOL 379, 461, 472; two courses at a field station.

Preparation for graduate study in biology: BIOL 303, 364 or 482, 381, 382 or 385 or 485, 395.

Research technology: BIOL 303, 364, 381, 395, 495; CHEM 321.

Program B consists of the general requirements for the Bachelor of Science degree and 56 units of coursework in biology, including BIOL 101, 102, 103, 401, 404, 447, 463. A student may also choose one of the patterns listed above in Program A. Cognate requirements are CHEM 107, 108, 109, 345, 346, 481; MATH 123 or 131; PHYS 211, 212, 213.

Preparation for teaching A student preparing to teach biology at the secondary level may complete, instead of one of the patterns listed above, BIOL 303, 364, 381, 406, 469, 485. In addition, he should plan to qualify for teaching credentials, and during his 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 in the teaching of biology is described in the BULLETIN of the School of Education.

Biophysics A program in biophysics is offered through the Department of Physics.

Health science A program in health science is offered through the Department of Physical Education.

Intensive food production A program in intensive food production is offered through the Department of Agriculture.

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

### MINOR SEQUENCE

A minor in biology is 29 units of coursework including BIOL 101, 102, 103, 496; additional courses selected from those applicable toward a major.

### HONORS PROGRAM

An honors program is open to qualified students who are interested in gaining experience in biological research. Inasmuch as graduation with honors 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.

Requirements include BIOL 101, 102, 103, 295, 296; CHEM 107, 108, 109; BIOL 205 (the first quarter the student is in the program); additional courses the student selects with the advice of a committee of three faculty members of the department; one or more oral examinations over the principal field of interest.

The student will conduct research under the guidance of his adviser, beginning as early as his second quarter in the honors program.

### COURSES

- Lower division** BIOL 101, 102, 103 **General Biology** 4, 4, 4 units  
Primarily for students majoring in science. Emphasis on current developments. Three class hours, one three-hour laboratory per week.  
Prerequisite: A course in chemistry at the secondary or college level.
- BIOL 203 **Physiology of Man** 4 units  
Man as an integrated organism; systems of the body; the basis of healthful living. Does not apply toward a major in biology. Four class hours per week.
- BIOL 205 **Honors Seminar** 1/2 unit per quarter  
Analysis of current research in biology. Registration at the beginning of the first quarter; credit granted on the completion of three quarters. May be repeated for additional credit.  
Prerequisite: Honors standing.
- BIOL 225 **Human Anatomy** 4 units  
Two class hours, two three-hour laboratories per week. Combines with BIOL 226 for students in preprofessional allied health programs. Does not apply toward a major in biology.
- BIOL 226 **Human Physiology** 5 units  
Combines with BIOL 225 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 227, 228 **Human Physiology and Anatomy** 4, 4 units  
Primarily for students in associate or baccalaureate degree programs in nursing. Three class hours, one three-hour laboratory per week. Does not apply toward a major in biology.

- BIOL 259 Mammalian Embryology** **4 units**  
 Comparison of species (including man); general principles of development. For preprofessional and general students. Three class hours, one three-hour laboratory per week. Does not apply toward a major in biology.
- BIOL 285 Introductory Microbiology** **4 units**  
 Applications to medical microbiology. Three class hours, one three-hour laboratory per week. For preprofessional students in nursing, dental hygiene, etc. Does not apply toward a major in biology.
- BIOL 295 Introduction to Research** **2 units**  
 Prerequisite: Honors standing or BIOL 101, 102; minimum grade point average of 2.5 overall and 3.0 in biology; consent of the instructor.
- BIOL 296 Undergraduate Research** **1-4 units**  
 Original investigation pursued under the direction of a staff member. May be repeated for additional credit.  
 Prerequisite: BIOL 295.
- Upper division **BIOL 303 Biological Techniques** **3 units**  
 Common research methods and instruments. One class hour, two three-hour laboratories per week.  
 Prerequisite: BIOL 101, 102, 103; CHEM 345; PHYS 213.
- BIOL 314 General Ecology** **4 units**  
 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 101, 102, 103.
- BIOL 321 Wilderness Ecology** **3 units**  
 Comparative study of life zones in California, especially in the Sierra Nevada mountains. Three-week field course.  
 Prerequisite: BIOL 101, 102, 103.
- BIOL 361 Histology** **4 units**  
 Descriptive analysis of normal vertebrate tissue and organs. Enrollment limited to 20 students.  
 Prerequisite: BIOL 101, 102.
- BIOL 364 Vertebrate Physiology** **4 units**  
 Mechanisms of animal function. Three class hours, one three-hour laboratory per week.  
 Prerequisite: BIOL 101, 102, 103; consent of the instructor.
- BIOL 379 Protozoology** **4 units**  
 Morphology, taxonomy, and life history of free-living and parasitic protozoa. Three class hours, one three-hour laboratory per week.  
 Prerequisite: BIOL 101, 102, 103.
- BIOL 381 Microbiology** **5 units**  
 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 101, 102, 103.
- BIOL 382 Plant Morphology** **4 units**  
 Thallophytes, bryophytes, and tracheophytes; classification, structure, and life cycles. Three class hours, one three-hour laboratory per week.  
 Prerequisite: BIOL 101, 102, 103.
- BIOL 385 Plant Anatomy** **4 units**  
 Microscopic anatomy of plant tissues, emphasizing origin and development. Three class hours, one three-hour laboratory per week.  
 Prerequisite: BIOL 101, 102, 103.



- BIOL 387 Plant Pathology** **4 units**  
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.  
Prerequisite: BIOL 101, 102, 103.
- BIOL 395 Introduction to Research** **2 units**  
Prerequisite: Honors standing or BIOL 101, 102; minimum grade point average of 2.5 overall and 3.0 in biology; consent of the instructor.
- BIOL 397 Biostatistics** **4 units**  
Statistical analysis of biological systems, including computer applications. Three class hours, one laboratory per week.  
Prerequisite: MATH 123 or consent of the instructor.
- BIOL 401 Undergraduate Seminar** **1/2 unit per quarter**  
Recent developments in selected areas of biology. Registration at the beginning of the first quarter; credit granted on the completion of three quarters. May be repeated once for additional credit.  
Prerequisite: Junior standing in biology.
- BIOL 404 Cellular and Molecular Biology** **4 units**  
The living cell, its organoids, and their functions. Three class hours, one three-hour laboratory per week.  
Prerequisite: BIOL 101, 102, 103; CHEM 345.
- BIOL 406 Introduction to Marine Biology** **4 units**  
Types of marine organisms, their natural history, and ecological relationships. Three class hours, one three-hour laboratory per week.  
Prerequisite: BIOL 101, 102, 103.
- BIOL 409 Invertebrate Biology** **4 units**  
Behavior, physiology, ecology, morphology, and systematics of invertebrates. Emphasis on morphology and systematics. Three class hours, one three-hour laboratory per week.  
Prerequisite: BIOL 101, 102, 103; or equivalent.
- BIOL 416 Tropical Plant Ecology** **4 units**  
Emphasis on environmental factors, structure, and life forms of plants in rain, monsoon, and savanna forests. Lectures, laboratory, fieldwork in a tropical area.  
Prerequisite: BIOL 382 or coursework in one or more plant taxa.
- BIOL 421 Human Ecology** **2 units**  
Human populations in relation to the environment.
- BIOL 441 Human Genetics** **3 units**  
Application of the principles of genetics to human biology. Loma Linda campus.
- BIOL 447 Genetics** **4 units**  
Heredity and variation as demonstrated by higher and lower organisms.  
Prerequisite: BIOL 404.
- BIOL 449 Population Biology** **4 units**  
Interactions within and between populations. Emphasis on factors producing spatial and temporal changes in populations. Four class hours per week.  
Prerequisite: BIOL 101, 102, 103; recommended BIOL 397, 447; MATH 131.
- BIOL 461 Vertebrate Biology** **4 units**  
Systematics, behavior, ecology. Three class hours, one three-hour laboratory per week.  
Prerequisite: BIOL 101, 102, 103.
- BIOL 463 Principles of Development** **4 units**  
Mechanism of differentiation, morphogenesis, regeneration; illustrated in plants and animals. Three class hours, one three-hour laboratory per week.  
Prerequisite: BIOL 447.

<b>BIOL 465 Ornithology</b>	<b>4 units</b>
Birds of North America: field identification, distribution, life histories, behavior, and ecology. Field study.	
Prerequisite: BIOL 101, 102, 103.	
<b>BIOL 469 Animal Behavior</b>	<b>4 units</b>
Behavioral mechanisms of animals and their role in survival. Lectures and projects.	
Prerequisite: BIOL 101, 102, 103.	
<b>BIOL 472 General Entomology</b>	<b>4 units</b>
Insect biology. Three class hours, one three-hour laboratory per week.	
<b>BIOL 482 Plant Physiology</b>	<b>4 units</b>
Water relations, mineral nutrition, metabolism, photosynthesis, growth and flowering, and hormonal control. Three class hours, one three-hour laboratory per week.	
Prerequisite: BIOL 101, 102, 103.	
<b>BIOL 483 Mycology</b>	<b>4 units</b>
Morphology and physiology of fungi. Three class hours, one three-hour laboratory per week.	
Prerequisite: BIOL 101, 102, 103.	
<b>BIOL 485 Systematic Botany</b>	<b>4 units</b>
Classification of flowering plants. Three class hours, one three-hour laboratory per week.	
Prerequisite: BIOL 101, 102, 103.	
<b>BIOL 495 Undergraduate Research</b>	<b>1-4 units</b>
Original investigation pursued under the direction of a staff member. May be repeated for additional credit.	
Prerequisite: BIOL 295 or 395.	
<b>BIOL 496 Philosophy of Science</b>	<b>4 units</b>
The nature of scientific research and philosophies; evidence regarding the origins of living things. Does not apply toward a major or minor, but can apply toward the general requirement in religion.	
Prerequisite: BIOL 101, 102, 103.	
<b>BIOL 499 Directed Study</b>	<b>1-4 units</b>
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 chairman.	

Graduate Consult Graduate School BULLETIN for details.

<b>ANAT 541 Human Embryology</b>	<b>2 units</b>
<b>ANAT 549 Molecular Cytology and Topographical Chemistry</b>	<b>3 units</b>
<b>BIOL 515 Biogeography</b>	<b>3 units</b>
<b>BIOL 516 Readings in Biogeography</b>	<b>2 units</b>
<b>BIOL 518 Readings in Ecology</b>	<b>2 units</b>
<b>BIOL 519 Advanced General Ecology</b>	<b>4 units</b>
<b>BIOL 521 Advanced Invertebrate Biology</b>	<b>3 units</b>
<b>BIOL 536 Seminar in Animal Behavior</b>	<b>2 units</b>
<b>BIOL 538 Mammalogy</b>	<b>4 units</b>
<b>BIOL 544 Biosystematics and Speciation</b>	<b>5 units</b>
<b>BIOL 545 Developmental Genetics</b>	<b>4 units</b>

BIOL 546	Advanced Studies in Genetics	2 units
BIOL 551	Philosophy of Creation	2 units
BIOL 552	History and Philosophy of Biology	3 units
BIOL 555	Problems in Paleontology	4 units
BIOL 556	Paleobotany	2 units
BIOL 582	Physiology and Development of Plants	4 units
BIOL 585	Advanced Studies in Plant Hormones	2 units
BIOL 601	Seminar in Biology	1 unit
BIOL 603	College Biology Teaching	3-4 units
BIOL 605	Special Problems	1-2 units
BIOL 611	Research Techniques in Biology	1 unit
BIOL 691	Research	arranged
BIOL 693	Thesis	arranged
BIOL 695	Dissertation	arranged
BIOM 581, 582, 583	Biophysical Systems Analysis	3, 3, 3 units
ENVH 501	Environmental Health Sciences	3 units
ENVH 565	Introduction to Air Hygiene and Resources	3 units
ENVH 568	Water and Waterborne Wastes	3 units
ENVH 569	Environmental Health Laboratory	4 units
MICR 531	Microbial Physiology	4 units
MICR 532	Molecular Biology of Microorganisms	4 units
MICR 551	Bacteriophage Genetics	3 units
MICR 552	Microbial Genetics	3 units
MICR 553	Microbial Genetics Laboratory	2 units
MICR 561	Bacterial Virology	3 units
MICR 562	Animal Virology	4 units
MICR 563	Cell Culture	3 units
MICR 571	Arthropod Vectors of Infectious Agents	5 units
MICR 572	Arthropod Vectors Laboratory	1-2 units
MICR 575	Field Medical Entomology	3 units
MICR 584	Helminthology	4 units
PHSL 531, 532	Cell and Molecular Biology	4, 4 units
PHSL 535	Comparative Physiology	5 units



PHSL 536	Readings in Comparative Physiology	2 units
PHSL 539	Readings in Circadian Rhythms	1-2 units
PRVC 536	Behavioral Physiology	3 units
STAT 501	Biostatistics I	4 units
STAT 502	Biostatistics II	4 units
STAT 568	Data Analysis	2 units

DEPARTMENT OF  
**BUSINESS AND ECONOMICS**

Chairman	WILFRED M. HILLOCK, Associate Professor of Business and Economics M.B.A. Indiana University
Faculty	E. LEE BECKER, Associate Professor of Business and Economics B. ACCT. Rider College Certified Public Accountant, California
	ROBERT M. FORD, JR., Assistant Professor of Business and Economics M.B.A. Andrews University
	DONALD J. BYRD, Instructor in Business and Economics M.A. University of Southern California
Collaborating faculty	FREDERICK J. H. LAMBERT, Instructor in Consumer Related Sciences B.S. Loma Linda University
Lecturers	LYNDA B. BISSEGER, Lecturer in Accounting B.S. Loma Linda University Certified Public Accountant, California
	W. DAVID GURNEY, Lecturer in Business Law J.D. Willamette University
	CALVIN J. HANSON, Lecturer in Insurance B.S. Loma Linda University Chartered Property and Casualty Underwriter

A major program in accounting, management, or food service management prepares a student for a career in church or government service, or in private business.

**BACCALAUREATE MAJOR PROGRAMS**

- Accounting** A student majoring in accounting completes either of the following programs:
- Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and coursework in business and economics, including ACCT 201, 202, 203, 301, 302; DAPR 111; MGNT 301, 342, 355, 381, 382, 405, 451; 12 upper division units in accounting or DAPR 306. Cognate requirements are ECON 251, 252, 311 or 411, 321 or 421; MATH 285.
- Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and coursework in business and economics, including ACCT 201, 202, 203, 301, 302, 401; DAPR 111; MGNT 301, 342, 343, 355, 381, 382, 405, 451; 20 upper division units in accounting or DAPR 306. Cognate requirements are ECON 251, 252, 311 or 411, 321 or 421; MATH 285; evidence of basic typewriting skills (high school or college coursework or waiver examination).
- Management** A student majoring in management completes either of the following programs:
- Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and coursework in business and economics, including ACCT 201, 202, 203, 311 or 301, 302; DAPR 111; MGNT 301, 342, 355, 356, 381, 382, 405, 411, 451; 8 upper division units chosen from ACCT 351; DAPR 304

or 305, 306; ECON 351; MGNT 343, 361, 363, 371, 453, 455, 461, 499; SECY 321. Cognate requirement are ECON 251, 252, 311 or 411, 321 or 421; MATH 285.

Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and coursework in business and economics, including ACCT 201, 202, 203, 311 or 301, 302; DAPR 111; MGNT 301, 342, 343, 355, 356, 361, 363, 381, 382, 405, 411, 451; PSCH 493; 12 upper division units chosen from ACCT 351; DAPR 304 or 305, 306; ECON 351; MGNT 371, 453, 455, 461, 499; SECY 321. Cognate requirements are ECON 251, 252, 311 or 411, 321 or 421; MATH 285; evidence of basic typewriting skills (high school or college coursework or waiver examination.)

Food service  
management

A student majoring in food service management completes the general requirements for the Bachelor of Science degree (see *General Requirements*); 40 units of coursework in accounting or management, including ACCT 201, 202, 203; ECON 251, 252; MGNT 355, 356, 381, 382, 405; and 51 units in food and nutrition science, including FNSC 212, 213, 214, 215, 219 (2 units), 223 or 225, 231, 232, 233, 239 (1 unit), 319 (2 units), 435, 489. Cognate requirements are DAPR 111 or MATH 271; PSCH 101, 203 or 471. Recommended courses are BIOL 225, 226, 285; CHEM 101, 102, 103.

Business education

A program in business education is offered through the Department of Secretarial and Business Education.

#### MINOR SEQUENCES

The following minors in business are available with the consent of the department chairman:

Accounting, 28 units, including ACCT 201, 202, 203.

Management, 28 units, including ACCT 201, 202, 203; MGNT 355.

Economics, 28 units, including ECON 251, 252, 311, 321, 411, 421; MGNT 342.

Data Processing, 28 units, including DAPR 111, 304, 305, 306.

#### ACCOUNTING

Lower division ACCT 201, 202, 203 **Principles of Accounting** 4, 4, 4 units  
Modern accounting and analysis. Accounting for proprietorships, partnerships, and corporations. Business transactions and accounting analysis.

Upper division ACCT 301, 302 **Intermediate Accounting** 4, 4 units  
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 201, 202, 203.

ACCT 311 **Managerial Accounting** 4 units  
Application of basic accounting knowledge to problems of financial administration. Statement analysis, cost control, cash and fund flows, long-range planning.  
Prerequisite: ACCT 201, 202, 203.



- ACCT 351 Federal Income Tax Accounting** **4 units**  
 Provisions of federal income tax laws and regulations affecting the determination of net taxable income, with emphasis on preparation of individual returns.  
 Prerequisite: ACCT 201, 202.
- ACCT 367 Cost Accounting** **4 units**  
 Process and job-order cost accounting; further emphasis on standard costs, distribution costs, and flexible budgets.  
 Prerequisite: ACCT 201, 202, 203.
- ACCT 401 Auditing Theory and Practice** **4 units**  
 Procedures of the public accountant in verification of accounts and financial statements; preparation of audit working papers and audit opinions; analysis of auditing principles as applied in practice.  
 Prerequisite: ACCT 301, 302.
- ACCT 411 Current Accounting Theory** **4 units**  
 Concepts and standards found in current accounting literature; implementation of theory in practical applications.  
 Prerequisite: ACCT 301.
- ACCT 461 Advanced Accounting** **4 units**  
 Partnerships, consignments; branch and agency accounting and consolidations. Offered alternate years.  
 Prerequisite: ACCT 301, 302.
- ACCT 462 Fund Accounting** **4 units**  
 Theory and practice of the fund accounting concept as applied to government and not-for-profit organizations, including hospitals, colleges, and universities. Special emphasis on fund accounting applications in denominational institutions and conference-related organizations. Offered alternate years.  
 Prerequisite: ACCT 301, 302.
- ACCT 471 CPA Review** **4 units**  
 Preparation for the CPA examinations.  
 Prerequisite: ACCT 301, 302, 401.
- ACCT 499 Directed Study** **1-4 units**  
 Self-directed research for varying credit. Limited to students majoring in the department.  
 Prerequisite: Consent of the department chairman.

## MANAGEMENT

- Upper division **MGNT 301 Business Seminar** **1 unit per year**  
 Enrichment program for students interested in business; lectures and symposiums related to business and its role in society. Registration first quarter, for credit on the completion of three quarters. May be repeated for additional credit.
- MGNT 342 Descriptive Business Statistics** **4 units**  
 Data collection, presentation, and analysis; measure of central tendency, dispersion, skewness and kurtosis, simple linear regression and correlation, analysis of time series; emphasis on the integration of results.  
 Prerequisite: MATH 285.
- MGNT 343 Quantitative Analysis for Business Decisions** **4 units**  
 Fundamentals of analytic geometry and calculus; differential calculus, integral calculus, and selected applications of calculus; functions and managerial planning, and their use in economics and business as applicable.  
 Prerequisite: MATH 285, MGNT 342.

- MGNT 355 Principles of Management** **4 units**  
 The process approach used to decide between alternatives. Analysis and evaluation of cases conducive to development of a personal philosophy of management, in preparation for effective performance as a manager or a subordinate.
- MGNT 356 Personnel Management** **4 units**  
 Theory and practice of the management of people at work; organizational behavior concepts and points of view. Preparation both for managing people and staffing a personnel office.
- MGNT 361 Production Management** **4 units**  
 Production management in manufacturing, service, and distributive firms. Operations: processes, analyses, and decisions. Coordination of inventories, operations, and quality control.  
 Prerequisite: MGNT 342.
- MGNT 363 Purchasing and Inventory Control** **4 units**  
 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.
- MGNT 371 Principles and Practices of Insurance** **4 units**  
 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.
- MGNT 381, 382 Business Law** **4, 4 units**  
 Meaning and administration of law; torts, contracts, and governmental regulation. Case studies in law of sales, negotiable instruments, and agency; based on the Uniform Commercial Code.
- MGNT 405 Principles of Marketing** **4 units**  
 Institutions, functions, policies, and economics of the distribution of goods from producers to consumers.
- MGNT 411 Human Relations in Business** **4 units**  
 Concepts of human behavior as they affect the individual on the job. Employer and supervisory relations pertaining to leadership, employee morale, motivation, and communications. Skills emphasized include expression, listening, participation, self-awareness, and group dynamics.  
 Prerequisite: MGNT 355.
- MGNT 422 Business Internship** **8 units**  
 A twelve-week structured and supervised work experience. Taken concurrently with MGNT 499 (4 units) or ACCT 499 (4 units). Limited to juniors and seniors majoring in management or accounting.
- MGNT 451 Financial Management** **4 units**  
 Financial problems of business organization; sources of capital; principles of borrowing; relationship of finance to the business cycle; distribution of earnings; reorganization.  
 Prerequisite: ACCT 201, 202, 203.
- MGNT 453 Investment Management** **4 units**  
 Stock and bond markets from the viewpoint of investor or investment manager. Emphasis on security analysis, selection, timing, and management of investment portfolios.
- MGNT 455 Real Estate Principles** **4 units**  
 Real estate fundamentals, including ownership, appraisal law, practices, financing, values, transfers, trends, regulations, and economic effects. Principles useful to consumer or investor.
- MGNT 461 Safety Management** **4 units**  
 Accident prevention and safety programs as they relate to the Occupational Safety and Health Association (OSHA) and insurance company recommendations. Emphasis on safety as it relates to the area of institutional and industrial environments. Special emphasis on the role of California OSHA. Offered alternate years.



**MGNT 496 Business Policy and Ethics** **4 units**  
Analysis of comprehensive case problems dealing with building and maintaining meaningful organizational policies in the context of religious, social, and ethical considerations. Does not apply toward a major or minor, but can apply toward the general requirement in religion.  
Prerequisite: MGNT 355 or consent of the instructor.

**MGNT 499 Directed Study** **1-4 units**  
Self-directed research for varying credit. Limited to students majoring in the department.  
Prerequisite: Consent of the department chairman.

## ECONOMICS

Lower division **ECON 251 Principles of Macroeconomics** **4 units**  
The economy; determinants of the general price level, national output, and employment.

**ECON 252 Principles of Microeconomics** **4 units**  
Interrelationships of individual business firms, industries, consumers, laborers, and other factors of production in modern economy.

Upper division **ECON 311 Intermediate Macroeconomic Analysis** **4 units**  
Problems of unemployment, economic instability, inflation, economic growth, and economic policies; national income determination, theories of interest and money, business cycles, and national economic growth. Emphasis on the impact of fiscal and monetary policies on income and employment, prices, investments, and economic growth. Offered alternate years.  
Prerequisite: ECON 251.

**ECON 321 Intermediate Microeconomic Analysis** **4 units**  
Theories of the firm, including production, pricing, and resource allocation. Development of demand theory through the theory of utility and modern theories of economic behaviors. Imperfections in the market mechanism and their effects on the market system. Offered alternate years.  
Prerequisite: ECON 252.

**ECON 351 American Economic History** **4 units**  
American economic growth emphasizing the changing geographical, technological, and institutional conditions that influenced human material progress. Offered alternate years.

**ECON 411 Money, Banking, and Credit** **4 units**  
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 251, 252.

**ECON 421 Government and Business** **4 units**  
Industrial organization: structure and behavior of industries; causes of concentration and its effect on competition and prices. Public policy in regard to structure and behavior, especially antitrust policy. Offered alternate years.  
Prerequisite: ECON 252.

## DATA PROCESSING

Lower division **DAPR 111 Computer Concepts and Applications** **4 units**  
Conceptual basis of computer operations; logic; applications to business problems; related and peripheral equipment.

Upper division **DAPR 304 PL/1 Programing** **4 units**  
Review of basic computer concepts; introduction to programing the IBM 370 computer using PL/1. Hands-on technique in laboratory sessions with an IBM 2741 terminal. Offered alternate years.  
Prerequisite: DAPR 111 or equivalent.

## ARTS AND SCIENCES



**DAPR 305 Introduction to Cobol** **4 units**  
Programing the IBM 370 computer using Cobol. Offered alternate years.  
Prerequisite: DAPR 111 or equivalent.

**DAPR 306 Systems Analysis and Design** **4 units**  
Approaches to the analysis and solution of business problems through the use and development of computer information systems.  
Prerequisite: MATH 285, DAPR 304 or 305.

## **BUSINESS**

Courses in this section do not apply toward a major in accounting or management.

Lower division **BSNS 201 Essentials of Management** **2 units**  
Principles for maximizing human endeavor. Emphasis on the process of planning, organizing, staffing, directing, and controlling.

**BSNS 235 Money Management for Young Moderns** **4 units**  
Comprehensive financial problems and opportunities in society today. Realistic case problems, with direct applicability to personal financial planning.

Graduate **BSNS 541 Survey of Administrative Accounting** **2 units**  
Accounting for the nonfinancial executive; concepts critical to interpreting and understanding accounting information; insight into the uses and limitations of accounting data in the managerial process.  
Prerequisite: ACCT 201.

DEPARTMENT OF  
CHEMISTRY

Chairman	WILLIAM M. ALLEN, Associate Professor of Chemistry PH.D. University of Maryland
Faculty	LAURENCE W. BOTIMER, Professor of Chemistry PH.D. University of Maryland IVAN G. HOLMES, Professor of Chemistry PH.D. Oregon State University H. RAYMOND SHELDEN, Professor of Chemistry M.S. University of Colorado LELAND Y. WILSON, Professor of Chemistry PH.D. University of Nebraska RENE EVARD, Associate Professor of Biochemistry, School of Medicine PH.D. Michigan State University H. RAYMOND SHELDEN II, Associate Professor of Chemistry PH.D. University of California, Irvine WAYNE E. ZAUGG, Associate Professor of Chemistry PH.D. University of Washington
Collaborating faculty	GEORGE M. LESSARD, Assistant Professor of Biochemistry, School of Medicine PH.D. University of California, Riverside

Objectives The Department of Chemistry helps the student distinguish and learn the basic principles of chemistry, in order that he may better understand himself and his surroundings, develop a scholarly approach to the study of scientific information, and prepare for careers in chemistry and biochemistry.

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 his freshman or sophomore year he should consult the credentials adviser in the School of Education for detailed information concerning requirements.

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

### BACCALAUREATE MAJOR PROGRAMS

Chemistry A student majoring in chemistry completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 59 units of coursework in chemistry, including CHEM 107, 108, 109, 321, 345, 346, 347, 361, 362, 363, 421, 422. Cognate requirements are MATH 131, 135; PHYS 211, 212, 213.

Program B, designed especially for students preparing for graduate studies, consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 67 units of coursework in chemistry, including CHEM 107, 108,

109, 321, 345, 346, 347, 361, 362, 363, 421, 422, 499. Cognate requirements are MATH 131; PHYS 211, 212, 213.

Biochemistry A student majoring in biochemistry completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 53 units of coursework in chemistry, including CHEM 107, 108, 109, 321, 345, 346, 361, 362, 481, 482, 483. Cognate requirements are PHYS 211, 212; BIOL 101, 102, 103; MATH 131.

Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 61 units of coursework in chemistry, including CHEM 107, 108, 109, 321, 345, 346, 347, 361, 362, 421, 481, 482, 483. Cognate requirements are PHYS 211, 212, 213; BIOL 101, 102, 103; MATH 131.

### MINOR SEQUENCES

The following minors are available:

Chemistry, 31 units, including CHEM 107, 108, 109, 345, 346.

Biochemistry, 33 units, including CHEM 107, 108, 109, 345, 346, 481, 482, 483.

### COURSES

CHEM 101, 102, and 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 (each).

Lower division	CHEM 101	Introductory Inorganic Chemistry	4 units
	CHEM 102	Introductory Organic Chemistry Prerequisite: CHEM 101 or equivalent.	4 units
	CHEM 103	Introductory Biochemistry Prerequisite: CHEM 102 or equivalent.	4 units
	CHEM 107, 108, 109	General Chemistry 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- to four-hour laboratory per week. Prerequisite: High school chemistry or physics or CHEM 101; general requirement in computation skills (see <i>General Requirements</i> ).	5, 5, 5 units
	CHEM 211	Laboratory Glassblowing Construction of laboratory apparatus. Advanced projects for students who, on the recommendation of the instructor, take a second quarter for additional credit. Does not apply toward a major in chemistry or biochemistry.	2 units



Upper division	<b>CHEM 321 Analytical Chemistry</b>	<b>4 units</b>
	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 107, 108, 109.	
	<b>CHEM 345, 346 Organic Chemistry</b>	<b>4, 4 units</b>
	Aliphatic and aromatic compounds integrated in a study of the chemical and physical properties of organic compounds. Three class periods, one three-hour laboratory per week. Prerequisite: CHEM 107, 108, 109.	
	<b>CHEM 347 Organic Chemistry</b>	<b>4 units</b>
	Survey of broad mechanistic concepts as a continuation of and complement to CHEM 345, 346. Laboratory combines qualitative and structural analysis and the use of both solution and instrumental methods. Two class periods, two three-hour laboratories per week. Prerequisite: CHEM 345, 346.	
	<b>CHEM 361, 362, 363 Physical Chemistry</b>	<b>4, 4, 4 units</b>
	Quantitative relationships involving the behavior and structure of matter. Three class periods, one three-hour laboratory per week. Prerequisite: CHEM 107, 108, 109; MATH 131; PHYS 211, 212, 213.	
	<b>CHEM 411, 412 Inorganic Chemistry</b>	<b>4, 4 units</b>
	Chemical families; modern bonding and reaction mechanism theory. Prerequisite: Consent of the instructor.	
	<b>CHEM 421 Instrumental Methods I</b>	<b>4 units</b>
	Basic theory, instrument design and applications in spectrophotometry, microscopy, and chromatography. Two class periods, two three-hour laboratories per week. Prerequisite: CHEM 321 or equivalent.	
	<b>CHEM 422 Instrumental Methods II</b>	<b>4 units</b>
	Electronics, electrochemical and radiochemical methods. Two class periods, two three-hour laboratories per week. Prerequisite: CHEM 421	
	<b>CHEM 441, 442 Advanced Organic Chemistry</b>	<b>4, 4 units</b>
	Topics may include molecular orbital theory, mechanisms, organic synthesis, stereochemistry, applied spectroscopy, or natural products. Prerequisite: CHEM 347 or consent of the instructor.	
	<b>CHEM 481 Biochemistry</b>	<b>4 units</b>
	Components of biological systems: proteins, enzymes, carbohydrates, nucleic acids. Prerequisite: CHEM 345, 346.	
	<b>CHEM 482 Biochemistry</b>	<b>4 units</b>
	Metabolism of carbohydrates, lipids, proteins, and nucleic acids. Prerequisite: CHEM 481.	
	<b>CHEM 483 Biochemistry</b>	<b>2 units</b>
	Research techniques. One open-ended laboratory per week. Prerequisite: CHEM 481.	
	<b>CHEM 496 Science and the Christian Faith</b>	<b>4 units</b>
	Does not apply toward a major or minor, but can apply toward the general requirement in religion.	
	<b>CHEM 498 Directed Study</b>	<b>1-4 units</b>
	<b>CHEM 499 Directed Research</b>	<b>1-4 units</b>
Graduate	<b>CHEM 511, 512 Advanced Inorganic Chemistry</b>	<b>3, 3 units</b>
	Prerequisite: CHEM 361, 362, 363.	
	<b>CHEM 541, 542 Advanced Topics in Organic Chemistry</b>	<b>3, 3 units</b>
	Prerequisite: CHEM 347 and consent of the instructor.	

DEPARTMENT OF  
COMMUNICATION

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

Faculty ROBERTA J. MOORE, Professor of Journalism and Public Relations  
PH.D. Syracuse University

W. FLETCHER TARR, Professor of Speech Pathology  
PH.D. University of Denver

E. EVELYN BRITT, Associate Professor of Speech Pathology and Audiology  
sc.d. Johns Hopkins University

RONALD W. GREENLAW, Associate Professor of Speech Pathology  
PH.D. University of Utah

KENNETH R. LUTZ, Associate Professor of Speech Pathology and Audiology  
PH.D. University of Pittsburgh

PAUL O. CAMPBELL, Assistant Professor of Speech  
M.A. Pepperdine University

JACK L. HARTLEY, Assistant Professor of Speech and Speech Pathology  
M.A. University of Southern California

JEAN B. LOWRY, Assistant Professor of Speech Pathology  
PH.D. Kent State University

STEPHEN M. BOTTROFF, Instructor in Speech and Drama  
B.A. Walla Walla College

Lecturers MARGARET J. BRAILSFORD, Lecturer in Speech  
Licentiate Trinity College (London)

ILA ZBARASCHUK, Lecturer in Journalism and Public Relations  
M.A. University of Missouri

Clinical staff LOGAN W. BARNARD  
PH.D. University of Utah

MELVIN S. COHEN  
PH.D. University of Utah

JANICE D. DUNN  
M.A. University of Houston

RODNEY R. ROWLEY  
PH.D. University of Oklahoma

Objectives The Department of Communication teachers recognize 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 own understanding of his world and his interaction with and molding of his environment.

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

Graduate programs Programs leading to the Master of Science with a major in speech pathology or audiology are described in the BULLETIN of the Graduate School.



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

### BACCALAUREATE MAJOR PROGRAMS

Speech communication and media      A student majoring in speech communication and media completes the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 52 units of coursework in communication selected in consultation with the department adviser, including CMME 226; CMSP 216, 321, 328, 424 or 498. Cognate requirements are 8 units selected from ARTS 211, 212, 241; INDS 221; PSCH 341, 437, 471; SOCI 321.

Journalism and public relations      A student majoring in journalism and public relations completes the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 52 units of coursework in communication selected in consultation with the department adviser, including CMME 226; CMSP 328. Cognate requirements include 12 units selected from the following courses: ARTS 211, 212, 241; INDS 221, 321; MATH 281, 282, or other courses approved by the department adviser. No later than the beginning of the junior year the student must demonstrate proficiency in typing.

Speech Pathology and audiology      A student majoring in speech pathology and audiology completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 52 units of coursework in communication, including CMDS 277, 281, 376, 381, 382, 391; CMSP 315; remaining units selected in consultation with the department adviser from CMSP 321; CMDS 481, 482, 483, 484, 485, 486, 487, 488, 491, 492, 497; CMGN 499. Cognate requirements are BIOL 225, PSCH 351, or EDCE 401 in the School of Education.

Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 52 units of coursework in communication, including CMDS 277, 281, 376, 381, 382, 391; CMSP 315; remaining units selected in consultation with the department adviser from CMSP 321; CMDS 481, 482, 483, 484, 485, 486, 487, 488, 491, 492, 497; CMGN 499. Cognate requirements are BIOL 225, MATH 281, PSCH 351 or EDCE 401 in the School of Education; 12 units selected in consultation with the department adviser from ANTH, BIOL, CFSC, MATH, PSCH; EDCI or EDFO in the School of Education.

A student preparing for a career in California schools should plan to qualify for the Clinician Credential for Speech, Language, and Hearing Services. Requirements for the Clinician Credential include the completion of a fifth year. The student should consult the department adviser regarding specific course and practicum requirements.



## MINOR SEQUENCES

The following minors in communication are available:

Speech communication, 28 units, including CMSP 101, 216, 328, 417; RLGP 362 or 363 may apply toward this sequence for students majoring in religion.

Journalism and public relations, 28 units, including CMME 226, 227; CMSP 101, 328.

Speech pathology and audiology, 28 units, including CMDS 277, 281, 376; CMSP 315; 12 units selected from CMDS 381, 382, 384, 387, 391, 481, 482, 485, 486. A cognate requirement is BIOL 225.

## SPEECH COMMUNICATION

Lower division	<b>CMSP 101 Fundamentals of Speech</b> <b>4 units</b> Oral communication of ideas to others; self-appraisal; evaluation of the speech of others. Does not apply toward any major in communication.
	<b>CMSP 201 Oral Interpretation</b> <b>4 units</b> Theory and practice of oral communication of poetry, prose, drama; contributing to an understanding and appreciation of literature.
	<b>CMSP 216 The Speaking Voice</b> <b>4 units</b> Study and development of vocal habits and skills which produce communicative speech, through voice analysis, appropriate exercises, and interpretative readings.
Upper division	<b>CMSP 301 Advanced Oral Interpretation</b> <b>4 units</b> Giving oral effectiveness to great ideas from memorized readings or through dramatic form. Secular and sacred literature. Prerequisite: Consent of the instructor.
	<b>CMSP 302 Projects in Interpretation</b> <b>1-4 units</b> Individual development in dramatic form and staging techniques. Prerequisite: Consent of the instructor.
	<b>CMSP 315 Transcription Phonetics</b> <b>2 units</b> Speech sounds as elements of language; application to understanding and speaking languages. Emphasis on the International Phonetic Alphabet and its application.
	<b>CMSP 321 Semantics</b> <b>4 units</b> Functions of language in a cultural context; ways in which meaning is derived from symbols, words, and actions.
	<b>CMSP 324 Seminar in Pulpit Eloquence</b> <b>3-4 units</b> Eloquence of great preachers through history, emphasizing British and American churchmen.
	<b>CMSP 325 Oral Reading of the Bible</b> <b>4 units</b> Primarily for the ministerial student wishing to develop ability in effective, meaningful oral communication of Scripture.
	<b>CMSP 328 Persuasion</b> <b>4 units</b> The psychology of persuasion. Non-Aristotelian concepts derived from communication theory research, psychology, and modern behavioral studies. Practice in oral and written forms.
<b>CMSP 401 Practicum in Play Direction</b> <b>1-4 units</b> Skits, readings, and dramatic productions. Prerequisite: Consent of the instructor.	

- CMSP 417 Group Dynamics and Leadership** 4 units  
Forces contributing to the productivity and cohesiveness of groups; nature of group leadership and organization.
- CMSP 424 Classical Rhetorical Theory** 4 units  
Rhetorical concepts in the classical world, with emphasis on Plato, Aristotle, Cicero, and Quintilian in relation to modern rhetorical theory.
- CMSP 498 Theory and Ethics of Communication** 4 units  
Verbal and nonverbal communication processes.

## COMMUNICATION MEDIA

- Lower division**
- CMME 226 Mass Media** 4 units  
Print and broadcast media and their relationship to today's world.
- CMME 227, 228 Newswriting** 3, 3 units  
Gathering news and writing news stories; assignments such as a beginning reporter encounters in his first newspaper job.
- CMME 233 Photojournalism** 2 units  
Pictures to give graphic impact to news and feature stories. Processing and editing of pictures taken by the student. May be repeated once for additional credit.
- CMME 241 Narrative Writing** 3 units  
Writing short stories; analyzing short narratives in current periodicals to see how successful writers handle their material.
- CMME 252 Principles of Broadcasting** 4 units  
Broadcast media. Function, structure, and physical operation of the radio station.
- CMME 255 Fundamentals of Cinematography** 2-4 units  
Personal cinematic expression. Practical experience in various phases of film making. Individual projects.
- Upper division**
- CMME 329 Advanced Reporting and News Editing** 3 units  
Reporting public affairs; selecting and preparing news stories for publication; writing headlines.  
Prerequisite: CMME 227, 228.
- CMME 332, 333 Magazine Article Writing** 3, 3 units  
Fact writing: gathering material, analyzing the magazine market, writing, preparing manuscripts for publication.
- CMME 335 Seminar in Religious Journalism** 2-4 units  
History of religious journalism in America; current practices and problems. Individual research projects in church news coverage and religious magazines.
- CMME 336 Religious Writing** 3 units  
Techniques useful in various types of religious articles. Analysis of markets for freelance writing.
- CMME 341 Public Relations** 4 units  
Use of mass media in public relations; planning and developing public relations programs involving both print and broadcast media.
- CMME 344 Workshop in School Publications** 4 units  
Writing and editing. Designed for persons involved in production of school newspapers, year-books, etc. Does not apply toward a major in journalism and public relations.
- CMME 345 Institutional Public Relations** 4 units  
Origin, objectives, and contemporary practice of institutional public relations as a social process, with emphasis on hospital public relations.



<b>CMME 351 Creative Film Making</b>	<b>4 units</b>
Cinematic elements; production techniques; equipment; audience evaluations; idea development from treatment to editing. Experience in communicating through film. Individual projects.	
Prerequisite: Consent of the instructor.	
<b>CMME 352 Station Management and Programing Techniques</b>	<b>4 units</b>
Radio station operation emphasizing the technical aspects of programing.	
<b>CMME 365 Script Writing</b>	<b>4 units</b>
Techniques involved in writing scripts and developing musical accompaniments to film and videotape recording. Principles of visual and sound synchronization.	
<b>CMME 427 Newspaper Makeup and Production</b>	<b>4 units</b>
Various styles of makeup; production procedures. Practical experience; field trips.	
Prerequisite: CMME 227, 228, 329.	
<b>CMME 431 Seminar in Magazine Journalism</b>	<b>2-4 units</b>
Development of magazines in America; current editorial practices. Individual research.	
<b>CMME 432, 433 Magazine Editing</b>	<b>3, 3 units</b>
Development of editorial formulas; selection of articles and illustrations; makeup. Term project: in CMME 432, an analysis and restyling of an existing magazine; in CMME 433, the planning of a news magazine.	
<b>CMME 445 Internship in Journalism and Public Relations</b>	<b>2-4 units</b>
On-the-job experience arranged and supervised for advanced students.	
<b>CMME 452 Practicum in Radio and Television</b>	<b>4 units</b>
Production of various types of broadcasting, with on-the-air experience.	
<b>CMME 465 Documentary Film Production Techniques</b>	<b>4 units</b>
Analysis of visual forms, composition, lighting, special effects. Growth, implication, and use of the nonfiction film in public service programing, education, industry, and church, with emphasis on creativity and aesthetic excellence. Individual projects. Laboratory.	
Prerequisite: CMME 351.	

## COMMUNICATIVE DISORDERS

Lower division	<b>CMDS 277 Development of Speech and Language</b>	<b>4 units</b>
	Normal speech and language; physiological and environmental factors; genetics of language.	
	<b>CMDS 281 Introduction to Speech Pathology and Audiology</b>	<b>4 units</b>
	Major types of disorders; etiology and treatment. A survey course for students majoring in communication disorders, prospective teachers, and others who may encounter speech disorders in their professions. Observation and participation.	
Upper division	<b>CMDS 376 Speech and Hearing Science</b>	<b>5 units</b>
	Acoustics, anatomy, physiology of auditory-vocal communicative processes.	
	Prerequisite: BIOL 225.	
	<b>CMDS 381 Articulation Disorders</b>	<b>4 units</b>
	Definition, classification, etiology, diagnosis, and treatment of articulation disorders. Introduction to clinical procedures. Observation and participation.	
	Prerequisite: CMSP 315.	
	<b>CMDS 382 Language Disorders of Children</b>	
	Impairments of language development in children. Assessment, program planning, and methods of intervention. Observation and participation.	
	Prerequisite: CMDS 277.	



- CMDS 387 Observation and Participation** **1 unit**  
Attendance at scheduled sessions of a client throughout the quarter to observe clinical management of the communicatively handicapped and to participate as an assistant to the clinician. Limited supervised clinical practice. May be repeated once for additional credit.
- CMDS 391 Hearing Problems and Basic Audiometry** **4 units**  
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.  
Prerequisite: CMDS 376.
- CMDS 475 Acoustic and Physiologic Phonetics** **3 units**  
Lecture, discussion, and demonstration of speech-sound pattern production and analysis.  
Prerequisite or concurrent registration: CMSP 315; CMDS 376.
- CMDS 477 Psycholinguistics** **4 units**  
Mental processes underlying the acquisition and use of language; structure and meaning of language; perception and cognition.  
Prerequisite: CMDS 277.
- CMDS 481 Organic Speech Disorders** **4 units**  
Classification, cause, and manifestations: cerebral palsied, cleft palate, and other oral-facial anomalies; dental malocclusion; speech of the hard-of-hearing. Observation and participation  
Prerequisite: CMDS 376.
- CMDS 482 Adult Language Pathology**  
Impairments of language and speech related to organic neuropathology. Observation and participation.  
Prerequisite: CMDS 376.
- CMDS 483 Rhythm and Fluency Disorders of Speech** **4 units**  
Stuttering and other disorders: characteristics, theories of etiology, and principles of management. Observation and participation.
- CMDS 484 Phonatory Disorders** **4 units**  
Definition, classification, etiology, diagnosis, and treatment of voice disorders. Pitch, intensity, quality and resonance, and laryngeal voicing. Observation and participation.  
Prerequisite: CMDS 376.
- CMDS 485 Procedures and Materials in Speech and Language Pathology** **3 units**  
Role of the specialist in education; techniques and procedures for speech and hearing programs in elementary and secondary schools; relation of speech and hearing services to the total educational program. Observation and participation.  
Prerequisite: CMDS 381.
- CMDS 486 Diagnostic Methods in Speech and Language Pathology** **3 units**  
Purpose for assessment; procedures employed in describing and diagnosing language and speech impairments.  
Prerequisite: PSCH 351 or EDCE 401 in the School of Education.
- CMDS 487 Clinical Practice in Speech Pathology** **1-4 units**  
Supervised practice in diagnosis and therapy. Thirty clock hours required for each unit of credit. Maximum of 5 units in CMDS 487, 488, 497 apply toward a major in speech pathology and audiology.  
Prerequisite: CMDS 384; consent of the supervisor.
- CMDS 488 Directed Teaching in Speech Pathology** **12 units**  
Supervised teaching on the elementary and/or secondary level. Twenty-two clock hours required for each unit of credit. Maximum of 5 units in CMDS 487, 488, 497 apply toward a major in speech pathology and audiology.  
Prerequisite: CMDS 381, 481, 482, 483, 484, 485, 486, 487; consent of the supervisor.
- CMDS 491 Audiometry** **4 units**  
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.  
Prerequisite: CMDS 391.

	CMDS 492	<b>Aural Rehabilitation</b>	<b>4 units</b>
		Approaches to achieving optimal functioning with hearing impairment; auditory training, speech reading, amplification, voice conservation, language development and improvement, and counseling.	
		Prerequisite: CMDS 391, 491.	
	CMDS 497	<b>Clinical Practice in Audiology</b>	<b>1-4 units</b>
		Supervised experience in diagnosis and management of hearing impairment. Thirty clock hours of clinical practice required for each quarter unit of credit. Maximum of 5 units in CMDS 487, 488, 497 apply toward a major in speech pathology and audiology.	
		Prerequisite: CMDS 391, 491 (may be concurrent); consent of the supervisor.	
Graduate	CMDS 521	<b>Emergent Language Pathologies</b>	<b>3 units</b>
	CMDS 525	<b>Language and Speech Pathologies of the Brain-Damaged Child</b>	<b>3 units</b>
	CMDS 526	<b>Language and Speech Pathologies of the Brain-Damaged Adult</b>	<b>3 units</b>
	CMDS 578	<b>Audition and Psychoacoustics</b>	<b>3 units</b>
	CMDS 581	<b>Cleft Palate</b>	<b>3 units</b>
	CMDS 586	<b>Advanced Diagnostics in Speech Pathology</b>	<b>3 units</b>
	CMDS 587	<b>Externship in Speech/Language Pathology</b>	<b>1-4 units</b>
	CMDS 589	<b>Programs Administration in Speech Pathology and Audiology</b>	<b>4 units</b>
	CMDS 591	<b>Pediatric Audiology</b>	<b>3 units</b>
	CMDS 592	<b>Advanced Audiological Assessment</b>	<b>4 units</b>
	CMDS 593	<b>Hearing Aids</b>	<b>3 units</b>
	CMDS 594	<b>Middle Ear Analysis</b>	<b>3 units</b>
	CMDS 595	<b>Cochlear-Vestibular Analysis</b>	<b>3 units</b>
	CMDS 596	<b>Central Auditory Analysis</b>	<b>3 units</b>
	CMDS 597	<b>Externship in Audiology</b>	<b>3 units</b>
	CMDS 681	<b>Seminar in Speech/Language Pathologies</b>	<b>3 units</b>
	CMDS 682	<b>Seminar in Language Pathology</b>	<b>3 units</b>
	CMDS 685	<b>Seminar in Audiology</b>	<b>3 units</b>
	CMDS 687	<b>Seminar in Habilitative Audiology</b>	<b>3 units</b>
	CMDS 691	<b>Research</b>	<b>2-6 units</b>
	CMDS 693	<b>Thesis</b>	<b>3-6 units</b>

## COMMUNICATION, GENERAL

Lower division	<b>CMGN 229 Individual Instruction</b>	<b>1-4 units</b>
	To improve proficiency. May be repeated for additional credit to a maximum of 4 units. Prerequisite: Consent of the instructor.	
Upper division	<b>CMGN 496 Christian Communication</b>	<b>4 units</b>
	Message of Christianity as the medium for closing the communications gap between man and God. Philosophies of communication. Does not apply toward a major or minor, but can apply toward the general requirement in religion.	
	<b>CMGN 499 Directed Study</b>	<b>2-4 units</b>
	Independent study in consultation with the adviser. For advanced students.	



DEPARTMENT OF  
**CONSUMER RELATED SCIENCES**

- Chairman MARY P. BYERS, Professor of Consumer Related Sciences  
 M.S. Columbia University
- Faculty SHIRLEY T. MOORE, Associate Professor of Consumer Related Sciences  
 PH.D. Michigan State University  
 YVONNE P. SONNELAND, Associate Professor of Consumer Related Sciences  
 M.H.E.C. Oregon State University
- DINAH S. BAKER, Assistant Professor of Consumer Related Sciences  
 M.S. Oregon State University
- GLORIA M. HICINBOTHOM, Assistant Professor of Consumer Related Sciences  
 M.ED. Walla Walla College
- JUDY E. OSBORNE, Assistant Professor of Consumer Related Sciences  
 M.A.T. Andrews University
- PAUL W. ROESEL, Assistant Professor of Consumer Related Sciences  
 M.S. California State University, San Jose
- KATHLEEN M. RUF, Assistant Professor of Consumer Related Sciences  
 M.S. Loma Linda University
- WILLIAM N. FIELDS, Clinical Instructor in Consumer Related Sciences  
 M.S. Loma Linda University
- FREDERICK J. H. LAMBERT, Instructor in Consumer Related Sciences  
 B.S. Loma Linda University
- MALCOLM R. OLMSTED, Clinical Instructor in Consumer Related Sciences  
 B.S. Loma Linda University
- Collaborating faculty KATHLEEN K. ZOIBER, Professor of Nutrition, School of Health  
 PH.D. University of Wisconsin
- RUBY S. HAYASAKA, Instructor in Nutrition, School of Health  
 M.S. Loma Linda University
- Lecturers PAUL S. DAMAZO, Lecturer in Food Service Administration  
 M.S. Florida State University
- BONNITA M. FARMER, Lecturer in Textiles  
 M.S. University of Illinois
- Staff JANE L. KASPEREEN, Assistant Instructor in Consumer Related Sciences

Objectives The objectives of the Department of Consumer Related Sciences are to provide specialized instruction as preparation 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 home economics at the secondary level should plan to qualify for teaching credentials and during his 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.

## BACCALAUREATE MAJOR PROGRAMS

- Child development** A student majoring in child development completes the general requirements for the Bachelor of Science degree (see *General Requirements*) and 47 units of coursework in consumer related sciences, including CNSC 191, 444, 494; FNSC 223 or 225; CFSC 243, 271, 272, 273, 274, 275, 475, 476, 477; 18 units of field-work, including CFSC 282 (4 units), 482 (12 units), 484 (2 units). Cognate requirements are BIOL 203; EDCE 405, 461 in the School of Education; ENGL 415; PSCH 101, 221, 222; SOCI 411.
- Clothing and textiles** A student majoring in clothing and textiles completes the general requirements for the Bachelor of Science degree (see *General Requirements*) and 67 units of coursework in consumer related sciences, including CNSC 191, 247, 251, 253, 255, 257, 361, 444, 448, 451, 453, 455, 457, 461, 494; FNSC 223 or 225; 8 units from CFSC 271, 275, 471, 475. Cognate requirements are CHEM 101, 102; 8 units in art.
- Home economics** A student majoring in home economics completes the general requirements for the Bachelor of Science degree (see *General Requirements*) and 53 units (21 upper division) of coursework in consumer related sciences, including CNSC 191, 251, 253, 361, 444, 451, 493, 494; FNSC 223 or 225; CFSC 271 or 471. This program includes at least 8 units from each of five areas: food and nutrition sciences; child and family science; consumer education and home management; housing, interior design, and equipment; clothing and textiles. Cognate requirements are BIOL 203; CHEM 101, 102, 103; EDCI 436 in the School of Education; PSCH 101, 221; SOCI 211 or ECON 251; 4 units in art.
- Urban family studies** A student majoring in urban family studies completes the general requirements for the Bachelor of Science degree (see *General Requirements*) and 53 units of coursework, including CNSC 191, 444, 479, 494; FNSC 223 or 225; CFSC 271, 471; SOCI 211; 20 units under advisement in anthropology, sociology, or social service. Those planning to enter careers in community development or related programs should consider a second major in social service (Department of Sociology and Anthropology) on consultation with the department adviser. Cognate requirements are BIOL 203; PSCH 101 or 105, 221, 222; 4 units in art.
- Food service management** A program in food service management, intended to prepare the student for a management position in an educational or industrial food service or in a commercial cafeteria or restaurant, is offered through the Department of Business and Economics.
- Dietetics** Students interested in clinical or administrative dietetics should consult the BULLETIN of the School of Allied Health Professions for information concerning professional programs offered on the Loma Linda campus and for an outline of predietetics requirements.

## MINOR SEQUENCES

The following minors in consumer related sciences are available:

Clothing, 28 units (16 upper division) selected in consultation with the department adviser.

Home economics, 28 units, including CNSC 251, 253, 444; FNCS 211, 223; CFSC 471.

Urban family studies, 28 units, including CNSC 444, 479; CFSC 271 or 471 or 475; SOCI 211; 4 additional units in sociology.

## ASSOCIATE DEGREE PROGRAMS

### Child and family science

A student in the associate degree program in child and family science completes the general requirements for the Associate in Science degree (see *General Requirements*) and 41 units of coursework in consumer related sciences, including CNSC 191; FNCS 223 or 225; CFSC 243, 271, 272, 273, 274, 275, 282 (8 units). Cognate requirements are BIOL 203; PSCH 101, 221. Suggested elective: ENGL 415.

### Food service

A student in the associate degree program in food service (with emphasis in management or production) completes the general requirements for the Associate in Science degree (see *General Requirements*) and 58-62 units of coursework in food and nutrition science, including FNCS 212, 213, 214, 215, 216 (may be waived at the discretion of the department), 219 (2 units), 223 or 225, 227, 229, 231, 232, 233, 239 (2 units), 285 (10 units) or 289 (10 units).

### Nutrition care service

A student in the associate degree program in nutrition care service completes the general requirements for the Associate in Science degree (see *General Requirements*) and 32 units of coursework in consumer related sciences, including FNCS 211, 225, 226, 227, 229, 231, 286, 287. Cognate requirements are: BIOL 203, 285; CHEM 101, 102, 103; PSCH 101 or 105, 221; PSED 211; SOCI 211.

## CERTIFICATE PROGRAMS

### Food service

A student in the certificate program in food service completes the general requirements for certificates (see *General Requirements*) and 44 units of coursework in food and nutrition science, including FNCS 212, 213, 214, 215, 223 or 225, 229, 231, 232, 233, 289 (8 units).

### Nursery school care

A student in the certificate program in nursery school care completes the general requirements for certificates (see *General Requirements*) and 28 units of coursework in consumer related sciences, including CFSC 271, 272, 273, 274, 282 (4 units); FNCS 223. A cognate requirement is PSCH 221.



## CONSUMER SCIENCE

Lower division	<p><b>CNSC 191 Careers in Home Economics</b> <span style="float: right;"><b>1 unit</b></span>            Analysis of established and emerging consumer related occupations, to help the student assess his interests within this major.</p> <p><b>CNSC 247 Color: Theory and Application</b> <span style="float: right;"><b>4 units</b></span>            In-depth study of color; its use in and influence on wardrobe, home, business; practical application of theory.</p> <p><b>CNSC 251 Clothing Construction</b> <span style="float: right;"><b>4 units</b></span>            Techniques of garment construction. Section A limited to students with a major or minor in clothing and home economics education; section B open to general students. Two class hours, six laboratory hours per week.</p> <p><b>CNSC 253 Clothing Construction for the Family</b> <span style="float: right;"><b>4 units</b></span>            Techniques of garment construction, including tailoring for family members of different ages and both sexes. Two class hours, six laboratory hours per week.</p> <p><b>CNSC 255 Flat Pattern Design</b> <span style="float: right;"><b>4 units</b></span>            World of the couturiere; use of the commercial basic pattern to develop designs for fashionable clothes for women.            Prerequisite: CNSC 251 or consent of the instructor.</p> <p><b>CNSC 257 Clothing and You</b> <span style="float: right;"><b>4 units</b></span>            Selection and purchase of clothing, with emphasis on line, art elements, fabric, and design.</p> <p><b>CNSC 291 Social and Professional Ethics</b> <span style="float: right;"><b>4 units</b></span>            Social and professional codes of ethics; habits, manners, and grooming.</p> <p><b>CNSC 299 Directed Study</b> <span style="float: right;"><b>1-4 units</b></span>            Individual guided study. Limited to students majoring in the department.</p>
Upper division	<p><b>CNSC 361 Introduction to Textiles</b> <span style="float: right;"><b>4 units</b></span>            Textile fibers, yarns, fabrics, and finishes, with emphasis on selection, use, and care by the consumer. Two class hours, six laboratory hours per week. (Transfer students who have had a corresponding course without laboratory may enroll for laboratory only.)</p> <p><b>CNSC 441 Management in Family Living</b> <span style="float: right;"><b>4 units</b></span>            Management principles in relation to family resources, goals, and values; principles of work simplification. Three class hours, three laboratory hours per week.            Prerequisite: Senior standing, or consent of the instructor.</p> <p><b>CNSC 442 The Physically Handicapped Family Member</b> <span style="float: right;"><b>4 units</b></span>            Physical aspects of the home environment; food preparation, clothing, and recreation; learning problems.</p> <p><b>CNSC 444 Consumer Education</b> <span style="float: right;"><b>4 units</b></span>            Personal and family money management, consumer decision making, credit, evaluation of consumer information and protection.            Prerequisite: Upper division standing.</p> <p><b>CNSC 445 Household Equipment</b> <span style="float: right;"><b>2 units</b></span>            Selection, use, and care of household appliances. Offered alternate years.</p> <p><b>CNSC 446 Housing</b> <span style="float: right;"><b>4 units</b></span>            Planning and financing; sociological and aesthetic aspects. Layman's approach to drawing floor plans and perspective sketches of room plans. Three class hours, two laboratory hours per week. Offered alternate years.</p> <p><b>CNSC 448 Decorating and Furnishing the Home</b> <span style="float: right;"><b>4 units</b></span>            Art principles applied to selection and use of furniture, fabrics, and accessories appropriate for various types of homes. Three class hours, three laboratory hours per week.</p>

	CNSC 451	<b>Techniques of Fitting</b>	<b>4 units</b>
		Application of pattern alteration and garment fitting. Prerequisite: Consent of the instructor.	
	CNSC 453	<b>Tailoring</b>	<b>4 units</b>
		Application of tailoring techniques to women's coats and suits. Prerequisite: CNSC 253 and consent of the instructor.	
	CNSC 455	<b>Advanced Flat Pattern Design</b>	<b>4 units</b>
		Prerequisite: CNSC 255 and consent of the instructor.	
	CNSC 457	<b>Cultural Aspects of Clothing</b>	<b>4 units</b>
		Personality factors, cultural influences, and social standards affecting selection of clothing; emphasis on analysis and determination of personal standards.	
	CNSC 461	<b>Advanced Textiles</b>	<b>4 units</b>
		Physical and chemical properties of textile fibers; yarn and fabric structure; current developments in the textiles field. Two class hours, six laboratory hours per week. Prerequisite: CNSC 361; CHEM 102.	
	CNSC 479	<b>Studies in Urban Family Problems</b>	<b>4 units</b>
		Problems of home and family: nutrition, consumer needs, family relationships, child care. Methods of helping the inner-city consumer. Offered alternate years.	
	CNSC 493	<b>Demonstration Techniques</b>	<b>4 units</b>
		Selection, organization, and presentation of material for professional home economics demonstrations. Prerequisite: Departmental major or consent of the instructor.	
	CNSC 494	<b>Seminars in Selected Topics</b>	<b>2-4 units</b>
	CNSC 496	<b>Christian Ministry in the Community</b>	<b>4 units</b>
		Community problems of concern to the professional home economist, with particular emphasis on communication and interaction between individual and community. Does not apply toward a major or minor, but can apply toward the general requirement in religion.	
	CNSC 499	<b>Directed Study</b>	<b>2-4 units</b>
Graduate	CNSC 501	<b>Workshops in Selected Topics</b>	<b>2-4 units</b>
	CNSC 505	<b>Home Economics in Contemporary Society</b>	<b>4 units</b>
		Required for all candidates for Master of Arts degree in secondary teaching in home economics.	
	CNSC 544	<b>Trends in Consumer Problems</b>	<b>4 units</b>
	CNSC 594	<b>Seminars in Selected Topics</b>	<b>2-4 units</b>
	CNSC 595	<b>Readings and Conferences</b>	<b>2-4 units</b>
	CNSC 597	<b>Selected Problems in Consumer Related Sciences</b>	<b>4 units</b>
	CNSC 598	<b>Project</b>	<b>3-4 units</b>
	CNSC 599	<b>Research and Thesis</b>	<b>4 units</b>

## CHILD AND FAMILY SCIENCE

Lower division	<p><b>CFSC 243 Family Health</b> <span style="float: right;"><b>4 units</b></span> Factors conducive to family and community health and safety.</p> <p><b>CFSC 271 Dynamics of Love and Marriage</b> <span style="float: right;"><b>4 units</b></span> Maturity, compatibility, conflict, religious factors; specific areas of adjustment in marriage; effective management of family resources.</p> <p><b>CFSC 272 Relationships in Child Development Centers</b> <span style="float: right;"><b>4 units</b></span> Characteristics of children; effective methods of working with children; impact of teacher behavior on behavior of children; teacher-parent and teacher-teacher relationships. Three class hours, two laboratory hours per week.</p> <p><b>CFSC 273 Developing Creativity in Young Children</b> <span style="float: right;"><b>4 units</b></span> Development of creativity and self-expression in preschool children through stories, music, rhythms, play activities, and creative media. Three class hours, two laboratory hours per week.</p> <p><b>CFSC 274 Learning Experiences for Young Children</b> <span style="float: right;"><b>4 units</b></span> Selection and use of play materials and equipment for group activities; function of these materials in the child's development. Three class hours, two laboratory hours per week.</p> <p><b>CFSC 275 Child Guidance</b> <span style="float: right;"><b>4 units</b></span> Ellen G. White's principles of child behavior and family interaction, applied to the guidance of young children.</p> <p><b>CFSC 282 Directed Teaching in Child Development Centers</b> <span style="float: right;"><b>2-4 units</b></span> Initial participation in a child-development center program. May be repeated for additional credit. Prerequisite: CFSC 272, 273, 274; or consent of the instructor.</p>
Upper division	<p><b>CFSC 471 Family Relationships</b> <span style="float: right;"><b>4 units</b></span> 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 271 or consent of the instructor.</p> <p><b>CFSC 475 Advanced Child Guidance</b> <span style="float: right;"><b>4 units</b></span> The child's interaction with his environment and his resulting progress. Observation based on home, child development center, school. Measuring and summarizing devices. Prerequisite: CFSC 275.</p> <p><b>CFSC 476 Seminar in Child Study</b> <span style="float: right;"><b>4 units</b></span> Organization and management of the preschool classroom. Principles of child development applied to group and individual work with parents; formulation and presentation of programs for parents. Taken concurrently with CFSC 482. Prerequisite: PSCH 221, CFSC 475.</p> <p><b>CFSC 477 Administration of Child Development Centers</b> <span style="float: right;"><b>4 units</b></span> Developing centers; essential planning procedures, including curriculum, guidance, health protection, housing, equipment, food service, budgeting; parent-staff involvement, social services, community relations. Prerequisite: CFSC 272, 273, 274; or equivalent; or consent of the instructor.</p> <p><b>CFSC 482 Directed Teaching in Child Development Centers</b> <span style="float: right;"><b>12 units</b></span> Taken concurrently with CFSC 476. Prerequisite: CFSC 272, 273, 274; or consent of the instructor.</p> <p><b>CFSC 484 Fieldwork in Family and Community Services</b> <span style="float: right;"><b>2-4 units</b></span> Supervised experience in providing help or instruction to family members in various contexts; systematic observation, codification, and reporting of behavior. May be repeated for additional credit. Prerequisite: Consent of the instructor.</p>
Graduate	<p><b>CFSC 575 Child Development Through Home and School</b> <span style="float: right;"><b>4 units</b></span></p>



## FOODS AND NUTRITION SCIENCE

Lower division	<b>FNSC 211 Fundamentals of Foods</b>	<b>4 units</b>
	Principles and techniques of food preparation; factors that contribute to quality food products. Three class hours, two laboratory hours per week.	
	<b>FNSC 212 Principles of Food Science</b>	<b>4 units</b>
	Principles of physical and chemical factors; sanitary handling and storage in food preparation and preservation. Three class hours, three laboratory hours per week.	
	<b>FNSC 213 Introduction to Quantity Food Preparation</b>	<b>4 units</b>
	Fundamentals of institutional food preparation; use and care of equipment; safety and sanitation. Two class hours, six laboratory hours per week.	
	<b>FNSC 214 Quantity Foods I</b>	<b>4 units</b>
	Quantity food production. Two class hours, six laboratory hours per week. Prerequisite: FNSC 213 or equivalent.	
	<b>FNSC 215 Quantity Foods II</b>	<b>4 units</b>
	Principles, standards, and techniques of quantity food production. Two class hours, six laboratory hours per week. Prerequisite: FNSC 214 or consent of the instructor.	
	<b>FNSC 216 Quantity Foods Laboratory</b>	<b>4 units</b>
	Extensive laboratory experience in quantity food production. May be repeated once for additional credit. Twelve laboratory hours per week. Prerequisite or concurrent registration: FNSC 214 or 215.	
	<b>FNSC 219 Catering I</b>	<b>2-4 units</b>
	Planning, costing, preparing, and serving banquets, buffets, gourmet and special occasion foods. May be repeated for credit to a maximum of 8 units. One class hour, three to nine laboratory hours per week. Prerequisite or concurrent registration: FNSC 214 or 215.	
	<b>FNSC 223 Nutrition and Man</b>	<b>4 units</b>
	Science of nutrition for individuals or groups; emphasis on nutrients, their functions and sources; food habits and food economy.	
	<b>FNSC 225 Human Nutrition</b>	<b>4 units</b>
	Nutrients, their digestion and metabolism; nutritional requirements at various age levels. For the medically oriented student.	
	<b>FNSC 226 Orientation to Nutrition Care Service</b>	<b>5 units</b>
	Dietetics technician in hospital and nutrition education fields. Loma Linda campus only. Fifteen laboratory hours per week. Prerequisite or concurrent registration: FNSC 225.	
	<b>FNSC 227 Nutrition in Disease</b>	<b>4 units</b>
	Application of nutrition principles to abnormal physical conditions and modified diet requirements. Prerequisite: FNSC 223 or 225, BIOL 203, or consent of the instructor.	
	<b>FNSC 229 Nutrition in Health-Care Delivery Systems</b>	<b>4 units</b>
	Community health needs and organizations; responsibility for nutrition care; the food service specialist; interpersonal and interdepartmental relationships.	
	<b>FNSC 231 Organization and Administration of the Food Service</b>	<b>4 units</b>
	Principles and practice.	
	<b>FNSC 232 Management of Quantity Food Production</b>	<b>4 units</b>
	Recipe standardization; other managerial skills and techniques in quantity food production. Two class hours, six laboratory hours per week. Prerequisite or concurrent registration: FNSC 215.	

	<b>FNSC 233 Institutional Purchasing and Cost Control</b>	<b>4 units</b>
	Food, supplies, and equipment; emphasis on market factors, quality, and labor.	
	<b>FNSC 239 Food Service Management Practices</b>	<b>1 unit</b>
	Reading and discussion. May be repeated for additional credit. Prerequisite or concurrent: FNSC 231.	
	<b>FNSC 285 Practicum in Quantity Food Preparation</b>	<b>2-10 units</b>
	Practical experience of directing preparation personnel. May be repeated once for additional credit. Twelve laboratory hours per week. Prerequisite: FNSC 215, 232; or consent of the instructor.	
	<b>FNSC 286 Fieldwork in Nutrition Care Service</b>	<b>4 units</b>
	Practical experience in the hospital dietary service and related areas. Loma Linda campus only. May be repeated once for additional credit. Twelve laboratory hours per week. Prerequisite: FNSC 225, 226.	
	<b>FNSC 287 Fieldwork in Nutrition in Disease</b>	<b>4 units</b>
	Practical experience in working with the hospital or nursing home patient on a modified diet. Loma Linda campus only. May be repeated once for additional credit. Twelve laboratory hours per week. Prerequisite: FNSC 225, 226.	
	<b>FNSC 289 Fieldwork in Food Service Management</b>	<b>2-10 units</b>
	Practical experience in carrying out the responsibilities of a food service manager. May be repeated once for additional credit. Twelve laboratory hours per week. Prerequisite: FNSC 223 or 225, 229, 231, 233, 239.	
Upper division	<b>FNSC 318 Meal Management</b>	<b>4 units</b>
	Family meals; food selection, preparation, and service in relation to management of time, energy, and money. Three class hours, three laboratory hours per week.	
	<b>FNSC 319 Catering II</b>	<b>2-4 units</b>
	Prerequisite: FNSC 219.	
	<b>FNSC 412 Vegetarian Cookery for the Family</b>	<b>2 units</b>
	Planning and preparation of balanced meatless meals. Four laboratory hours per week.	
	<b>FNSC 416 Experimental Foods</b>	<b>4 units</b>
	Relation of physical and chemical reactions in food preparation to product quality; application of experimental procedures. Three class hours, three laboratory hours per week. Prerequisite: CHEM 101, 102.	
	<b>FNSC 423 World Nutrition and Health Problems</b>	<b>4 units</b>
	National and international nutrition-related problems; effects of geographic, social, political, economic, and technological factors on health and nutritional status; current efforts to find solutions.	
	<b>FNSC 435 The Food Services Facility</b>	<b>2 units</b>
	Layout and design; materials selection and care.	
	<b>FNSC 439 Restaurant Management Practices</b>	<b>4 units</b>
	Administrative responsibilities of the commercial restaurant and cafeteria manager. Prerequisite: MGNT 355; FNSC 231, 233.	
	<b>FNSC 489 Fieldwork in Food Service Management</b>	<b>6-12 units</b>

DEPARTMENT OF  
ENGLISH

Chairman	DELMER I. DAVIS, Associate Professor of English P.H.D. University of Colorado
Faculty	VICTOR S. GRIFFITHS, Professor of English P.H.D. University of Nebraska RICHARD B. LEWIS, Professor of English P.H.D. Stanford University HELEN F. LITTLE, Professor of English M.A. University of Nebraska J. PAUL STAUFFER, Professor of English P.H.D. Harvard University ROBERT P. DUNN, Associate Professor of English P.H.D. University of Wisconsin MARILYN C. TEELE, Associate Professor of English M.ED. Boston University DAVID L. EVANS, Instructor in English M.A. Loma Linda University NANCY H. LECOURT, Instructor in English M.A. Loma Linda University KAREN J. REIBER, Instructor in English M.A. University of Washington

Objectives The Department of English aims (1) to assist the general college student to understand and appreciate literary art and history and to organize his thoughts and writing effectively, and (2) to help the English major attain scholarship in literature and composition adequate for graduate work, for teaching, or for other professions.

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

Preparation for teaching A student preparing to teach English at the secondary level should take the sequence of courses in the program approved by the state of California for a state teaching credential. Copies of the program can be obtained from the Department of English or from the School of Education.

In addition, during his freshman or sophomore year the student should consult the credentials adviser in the School of Education for detailed information concerning current requirements in professional education.

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

BACCALAUREATE MAJOR PROGRAMS

English A student majoring in English completes the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 52 units (36 upper division) of English coursework, including ENGL 401 and at least 3 units selected from ENGL



201, 403, or CMME 227; 4 units selected from ENGL 381, 481, LING 301; 32 units of literature, including ENGL 441 and ENGL 491; 4 units selected from ENGL 423-425, and 16 units selected from ENGL 431-437 and 4 units selected from ENGL 451-455. Cognate requirements are EDCI 435 in the School of Education; 8 units from HIST 207, 208, 209; HIST 307 or 308; a foreign language through level IV.

## MINOR SEQUENCE

A minor in English is 30 units of coursework above the 200 level.

## COURSES

- Lower division
- ENGL 091 Reading Improvement I** **4 units**  
For entering students with low scores on entrance or English Placement Test. Emphasizes study, comprehension skills, and vocabulary development. Individual laboratory practice. Does not apply toward a major in English or toward the general requirement in communication skills.
- ENGL 092 Reading Improvement II** **4 units**  
Critical thinking and reading skills, with emphasis on vocabulary level and reading speed. Laboratory reading machines, pacers, and individualized materials. Does not apply toward a major in English or toward the general requirement in communication skills.
- ENGL 095 Introduction to Composition** **4 units**  
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 requirements in communication skills.  
Prerequisite: Appropriate performance on a placement examination.
- ENGL 101, 102 Freshman English** **4, 4 units**  
Techniques and practice of expository and persuasive writing including an introduction to literary forms and types. Does not apply toward a major in English.  
Prerequisite: Satisfactory performance on a placement examination.
- ENGL 121 Freshman Seminar in Writing and Media Analysis** **4 units**  
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. Creative experimentation, student-initiated assignments, and student-directed class sessions. Students performing at grade level of B or better not required to take ENGL 102.  
Prerequisite: Satisfactory performance on a placement examination and on additional diagnostic exercises.
- Satisfactory completion of ENGL 102 or 121 or the equivalent is prerequisite to registration for courses numbered above 200.
- ENGL 201 Creative Writing** **4 units**
- ENGL 241 Literary Forms and Ideas** **4 units**  
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.

	<b>ENGL 245 The Film as Art</b>	<b>4 units</b>
	The film as a unique, imaginative medium the Christian can use to understand people and ideas. Emphasis on mature critical evaluation and on the connection between what a film says and how it says it. Viewing and discussing various types of film – experimental short subject, animation, documentary, traditional narrative, feature film.	
	<b>ENGL 251 Religious Literature</b>	<b>4 units</b>
Upper division	<b>ENGL 353 World Literature</b>	<b>4 units</b>
	<b>ENGL 381 Modern Grammar</b>	<b>4 units</b>
	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.	
	<b>ENGL 401 Advanced Composition</b>	<b>4 units</b>
	Required of students majoring in English.	
	<b>ENGL 403 Research Writing</b>	<b>1-4 units</b>
	<b>ENGL 415 Literature for Children</b>	<b>4 units</b>
	Analysis of an extensive number of books written by American, British, and European authors.	
	<b>ENGL 423 American Literature: Romanticism</b>	<b>4 units</b>
	Offered alternate years.	
	<b>ENGL 424 American Literature: Realism</b>	<b>4 units</b>
	Offered alternate years.	
	<b>ENGL 425 American Literature of the Twentieth Century</b>	<b>4 units</b>
	<b>ENGL 431-437 English Literature and Related European Literature</b>	<b>4 units</b>
	Primary focus on English literature; substantial attention to major works of continental literature that have significant relation to English literature and thought.	
	<b>ENGL 431 English Literature to 1500</b>	<b>4 units</b>
	Offered alternate years.	
	<b>ENGL 432 English Literature: The Sixteenth Century</b>	<b>4 units</b>
	Offered alternate years.	
	<b>ENGL 433 English Literature: The Seventeenth Century</b>	<b>4 units</b>
	Offered alternate years.	
	<b>ENGL 434 English Literature: The Eighteenth Century</b>	<b>4 units</b>
	Offered alternate years.	
	<b>ENGL 435 English Literature: The Nineteenth Century to 1832</b>	<b>4 units</b>
	Offered alternate years.	
	<b>ENGL 436 English Literature: The Nineteenth Century after 1832</b>	<b>4 units</b>
	Offered alternate years.	
	<b>ENGL 437 English Literature: The Twentieth Century</b>	<b>4 units</b>
	<b>ENGL 441 Biblical Literature</b>	<b>4 units</b>
	Required of students majoring in English.	
	<b>ENGL 451 Shakespeare</b>	<b>4 units</b>
	<b>ENGL 453 Milton</b>	<b>4 units</b>
	Offered alternate years.	
	<b>ENGL 455 Major Author</b>	<b>4 units</b>
	Intensive study of a major writer such as Chaucer, Wordsworth, or Faulkner. May be repeated with new content for additional credit.	

	ENGL 461	Literary Criticism: The Major Texts	4 units
	ENGL 481	History of the English Language Offered alternate years.	4 units
	ENGL 491	English Colloquium Required of seniors majoring in English.	4 units
	ENGL 496	Religion and Literature Contributions of selected literary works to religious thought and experience. Limited to students majoring in English. Does not apply toward a major or minor, but can apply toward the general requirement in religion. Offered alternate years.	4 units
	ENGL 499	Directed Study	1-4 units
Graduate	ENGL 501	Methods and Materials of Literary Study	3 units
	ENGL 503	Composition and Rhetorical Theory	4 units
	ENGL 505	Seminar for Graduate Teaching Assistants Required of teaching assistants. Applicable as a cognate course; not applicable to 36-unit requirement in English. May be repeated for additional credit.	1 unit
	ENGL 581	Problems in English Language and Linguistics	4 units
	ENGL 611	Seminar in a Literary Genre	4-5 units
	ENGL 621	Seminar in a Major Literary Period	4-5 units
	ENGL 631	Seminar in a Major Author	4-5 units
	ENGL 641	Seminar in Religion and Literature	4-5 units
	ENGL 651	Seminar in a Literary Theme	4-5 units
	ENGL 691	Research and Thesis in English	4-8 units



DEPARTMENT OF  
**HISTORY and POLITICAL SCIENCE**

Chairman	FREDERICK G. HOYT, Professor of History and Political Science PH.D. Claremont Graduate School
Faculty	WILFRED J. AIREY, Professor of History PH.D. University of Washington ALONZO L. BAKER, Professor of Political Science PH.D. University of Southern California WALTER C. MACKETT, Professor of History PH.D. University of Southern California V. NORSKOV OLSEN, Professor of Church History PH.D. University of London DR. THEOL. University of Basel  GARY M. ROSS, Associate Professor of History PH.D. Washington State University  PAUL J. LANDA, Assistant Professor of Church History M.A. Andrews University M.A. Vanderbilt University  DANIEL E. MITCHEL, Instructor in History B.A. Loma Linda University
Collaborating faculty	GODFREY T. ANDERSON, Research Professor of American History PH.D. University of Chicago

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 his 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.

**BACCALAUREATE MAJOR PROGRAMS**

History	A student majoring in history completes the general requirements for the Bachelor of Arts degree (see <i>General Requirements</i> ) and 52 units (28 upper division) of coursework in history, including HIST 207, 208, 209, 251, 252, 255, 391; 20 upper division units distributed over four of six areas: Europe to 1485, Europe since 1485,
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United States to 1865, United States since 1865, Far East, church history. A cognate requirement is a modern foreign language through level IV. Courses in political science, behavioral science, and economics are recommended.

History and political science

A student majoring in history and political science completes the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 60 units of coursework in history and political science, including HIST 207, 208, 209, 251, 252; PLSC 201, 202, 203, 211, 212, 213; and 16 units upper division. Recommended courses are HIST 255, 391; a modern foreign language through level IV; courses in behavioral science and economics.

Western thought

A student majoring in Western thought completes the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 72 units of coursework as follows: HIST 207, 208, 209, 391 or 503, 435, 436, 437, 493; PHIL 201, 202, 203; PLSC 481, 483; RLGH 471, 472; 12 units selected from the following courses: EDFO 505 in the School of Education; ENGL 353; FREN 483; HIST 475 or 479; PHIL 204, 431; PHYS 305; RELT 412 in the Division of Religion on the Loma Linda campus; RLGT 423, 432; SCNC 401. Completion of the program in interdisciplinary studies may be substituted for HIST 207, 208, 209. A cognate requirement is a modern foreign language through level IV.

This major program meets the entire general requirement in the humanities.

## MINOR SEQUENCES

The following minors in history are available:

History, 28 units (8 upper division), including HIST 207, 208, 209, 251, 252.

Political science, 32 units (8 upper division), including PLSC 201, 202, 203, 211, 212, 213.

## HISTORY

Lower division	<b>HIST 151, 152 Survey of American History and Institutions</b>	<b>4, 4 units</b>
	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.	
	<b>HIST 155 Issues in American History</b>	<b>4 units</b>
	Selected topics from the entire range of American history. Fulfills baccalaureate requirement in American history for students who qualify by a placement examination, but does not apply toward a major or minor in the department.	
	<b>HIST 207 History of Western Civilization to 1300</b>	<b>4 units</b>
	Development of civilization, with emphasis on political, economic, religious, social, and cultural institutions.	
	<b>HIST 208 History of Western Civilization 1300-1815</b>	<b>4 units</b>
	<b>HIST 209 History of Western Civilization Since 1815</b>	<b>4 units</b>

	<b>HIST 251, 252 American History and Institutions</b>	<b>4, 4 units</b>
	First quarter, to 1865; second quarter, since 1865. Fulfills baccalaureate requirement in American history, and also applies toward a major or minor in the department. Open to general students who qualify by a placement examination.	
	<b>HIST 255 Problems in American History</b>	<b>4 units</b>
	Detailed investigation of selected problems. For students majoring in the department, and open to others with departmental consent. Prerequisite: HIST 251, 252 or equivalent.	
Upper division	<b>HIST 307, 308 British Civilization</b>	<b>4, 4 units</b>
	First quarter, to 1815; second quarter, since 1815.	
	<b>HIST 391 Introduction to Historical Research</b>	<b>4 units</b>
	Philosophy of history, historiography, and the research materials and methods required for the production of a scholarly paper.	
	<b>HIST 403 History of Rome</b>	<b>4 units</b>
	Offered alternate years.	
	<b>HIST 411 Europe 1815-1914</b>	<b>4 units</b>
	Offered alternate years.	
	<b>HIST 412 Europe 1914-1938</b>	<b>4 units</b>
	Offered alternate years.	
	<b>HIST 413 Europe since 1938</b>	<b>4 units</b>
	Offered alternate years.	
	<b>HIST 417 The French Revolution</b>	<b>4 units</b>
	Offered alternate years.	
	<b>HIST 418 The Napoleonic Era</b>	<b>4 units</b>
	Offered alternate years.	
	<b>HIST 421, 422 History of Russia</b>	<b>4, 4 units</b>
	First quarter, Czarist Russia 862-1917; second quarter, Communist Russia since 1917. Offered alternate years.	
	<b>HIST 423, 424 English Constitutional History</b>	<b>4, 4 units</b>
	<b>HIST 433 Historical Studies in Science and Religion</b>	<b>4 units</b>
	Historical relations between scientific and Christian thought, with emphasis on the Christian response to the cosmological revolution of the sixteenth and seventeenth centuries and to evolutionary theories in the nineteenth century. Offered alternate years. Prerequisite: Consent of the instructor.	
	<b>HIST 435, 436, 437 History of Ideas</b>	<b>4, 4, 4 units</b>
	Themes in European philosophy viewed historically and contextually, with some attention to methodological problems. First quarter, Pre-Socratics to Augustine; second quarter, Anselm to Luther; third quarter, Copernicus to Sartre. Offered alternate years.	
	<b>HIST 441, 442, 443 United States Constitution</b>	<b>4, 4, 4 units</b>
	The federal constitution and its relation to American institutions. First quarter, to 1850; second quarter, 1850-1937; third quarter, since 1937. Offered alternate years.	
	<b>HIST 445, 446, 447 American Diplomatic Relations</b>	<b>4, 4, 4 units</b>
	First quarter, 1763-1865; second quarter, 1865-1939; third quarter, since 1939. Offered alternate years.	
	<b>HIST 451 American Colonial History</b>	<b>4 units</b>
	Offered alternate years.	
	<b>HIST 452 Religion in American Life</b>	<b>4 units</b>
	Offered alternate years.	



	<b>HIST 453 Civil War and Reconstruction</b>	<b>4 units</b>
	<b>HIST 458 Western America</b> Offered alternate years.	<b>4 units</b>
	<b>HIST 459 California History and Government</b> Offered alternate years.	<b>4 units</b>
	<b>HIST 471, 472 Asia in World Affairs</b> 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.	<b>4, 4 units</b>
	<b>HIST 475 The Early Christian Church</b> 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.	<b>3-4 units</b>
	<b>HIST 477 The Medieval Church</b> 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.	<b>3-4 units</b>
	<b>HIST 479 The Christian Humanists of the Renaissance</b> Life and thought of Christian humanists who challenged medieval scholasticism and prepared Western Europe for the Protestant Reformation. Offered alternate years.	<b>3-4 units</b>
	<b>HIST 481 History of the Papacy</b> Historical and theological development of the Papacy and Roman Catholicism during the patristic, medieval, and modern periods. Offered alternate years.	<b>3-4 units</b>
	<b>HIST 482 The Lutheran Reformation</b> Lutheran Reformation with subsequent theological, political, and sociological developments to 1648. Offered alternate years.	<b>3-4 units</b>
	<b>HIST 484 The Swiss Reformation and Calvinism</b> Leading men of the Swiss Reformation (Zwingli, Bullinger, Calvin, and Beza) and the theological and sociological influences of Calvinism. Offered alternate years.	<b>3-4 units</b>
	<b>HIST 486 The English Reformation</b> Main historical forces and religious movements within the English Reformation until the Westminster Assembly. Offered alternate years.	<b>3-4 units</b>
	<b>HIST 487 Twentieth Century Church History</b> Modern religious trends and their impact upon church and society. Offered alternate years.	<b>3-4 units</b>
	<b>HIST 491 History Colloquium</b> May be repeated with new content for additional credit.	<b>4 units</b>
	<b>HIST 493 Proseminar</b>	<b>4 units</b>
	<b>HIST 495 Readings in History</b> 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.	<b>1-6 units</b>
	<b>HIST 496 The Religious Aspects of History</b> 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, but can apply toward the general requirement in religion.	<b>4 units</b>
	<b>HIST 499 Directed Study</b> Prerequisite: Consent of the department chairman.	<b>1-6 units</b>
	<b>RLGH 471, 472, 473 The Christian Heritage</b>	<b>4, 4, 4 units</b>
<b>Graduate</b>	<b>HIST 501 Research Methods in History</b>	<b>4 units</b>

HIST 503	Historiography	4 units
HIST 505	American Historical Literature	4 units
HIST 543	The Emergence of the American Constitutional System	4 units
HIST 545	United States in the Far East Since 1900	4 units
HIST 561	Concepts of Diplomacy	4 units
HIST 631	Seminar in European History	4 units
HIST 635	Seminar in Church History	4 units
HIST 645	Seminar: The Coming of the Civil War	4 units
HIST 647	Seminar in American History	4 units
HIST 681	Special Problems in History	arranged
HIST 691	Research and Thesis in History	4-6 units

### POLITICAL SCIENCE

Lower division	PLSC 201, 202, 203	American Government: National, State, Local Structure and functions of the government of the United States. Offered alternate years.	4, 4, 4 units
	PLSC 211, 212, 213	Comparative Government Background, constitutional organization, and activities of the governments of England, France, Germany, Italy, Russia, and Japan. Offered alternate years.	4, 4, 4 units
	PLSC 255	Introduction to Law Orientation to the study of law. Taught by a practicing attorney, assisted by colleagues.	2 units
Upper division	PLSC 335, 336, 337	Problems in International Relations 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.	4, 4, 4 units
	PLSC 481	Introduction to Political Theory Main currents of political thought from Plato to the present. Offered alternate years.	4 units
	PLSC 483	American Political Thought American political ideas from the colonial period to the present. Offered alternate years.	4 units
	PLSC 487	Workshop in Politics Consideration of practical political problems during an election year. Offered alternate years.	4 units
	PLSC 495	Readings in Political Science 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.	1-6 units
	PLSC 499	Directed Study Prerequisite: Consent of the department chairman.	1-6 units
	HIST 441, 442, 443	United States Constitution	4, 4, 4 units
	HIST 471, 472	The Far East in World Affairs	4, 4 units



## DEPARTMENT OF INDUSTRIAL STUDIES

- Chairman DONALD G. BOWER, Associate Professor of Industrial Studies  
PH.D. University of California, Los Angeles
- Faculty MELVIN G. HOLM, Associate Professor of Industrial Studies  
ED.D. University of Missouri
- JAKE J. WALCKER, Associate Professor of Industrial Studies  
M.A. Walla Walla College
- JOHANNES HEDRICH, Instructor in Industrial Studies  
B.A. Loma Linda University
- ARTHUR M. WALLS, Instructor in Industrial Studies  
M.A. California State University, Long Beach
- Lecturer VERNON L. VON POHLE, Lecturer in Architectural Engineering  
B.A. Pacific Union College  
Member, American Institute of Architects

Objectives Programs of the Department of Industrial Studies are designed for students who desire (1) to enter careers in automotive mechanics, metal and wood construction, drafting, welding, photography, and maintenance; (2) to gain the knowledge of these operations and preparation essential for management and administrative purposes; and (3) to prepare for the teaching of industrial studies in comprehensive schools.

Preparation for teaching A student preparing to teach industrial studies includes in his major program INDS 394, 492; 24 units in at least one industrial content area in which he will demonstrate job-entry proficiency; 4 units in each of five additional content areas; EDCI 437 in the School of Education. In addition he should plan to qualify for industrial arts credentials and during his freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements.

### BACCALAUREATE MAJOR PROGRAMS

- Industrial studies A student majoring in industrial studies completes the general requirements for the Bachelor of Science degree (see *General Requirements*) and 60 units of coursework selected in consultation with the department adviser.
- Industrial arts A student majoring in industrial arts completes the general requirements for either the Bachelor of Arts degree or the Bachelor of Science degree (see *General Requirements*) and 60 units in trade-content areas as outlined in "preparation for teaching" above.
- Furniture design, photography Programs in furniture design and photography are also offered through the Department of Art.



## MINOR SEQUENCE

A minor in industrial studies is 32 units (14 upper division) of coursework selected in consultation with the department adviser.

## ASSOCIATE DEGREE PROGRAM

Institutional plant engineering A student in the associate degree program in institutional plant engineering completes the general requirements for the Associate in Science degree (see *General Requirements*) and 52 units of coursework selected in consultation with the department adviser.

## AUTOMOTIVE TECHNOLOGY

Lower division	<b>INDS 131 Automotive Care</b> <span style="float: right;"><b>2 or 4 units</b></span> Theory, detection, and minor repair procedures: in electrical, fuel, cooling, lubrication, and brake systems. Maintenance and body care. Does not apply toward a major in industrial studies. Limited to women.
	<b>INDS 231 Automotive Engine Rebuilding</b> <span style="float: right;"><b>4 units</b></span> Theory and function of automotive engines; rebuilding procedures.
Upper division	<b>INDS 331 Automotive Tune-up and Analysis</b> <span style="float: right;"><b>4 units</b></span> Theory, function, and service of automotive fuel, ignition, cooling, and emission systems. May be repeated for additional credit.
	<b>INDS 332 Automotive Electrical Systems</b> <span style="float: right;"><b>4 units</b></span> Theory, function, and service of automotive electrical components. May be repeated for additional credit.
	<b>INDS 333 Automobile Chassis</b> <span style="float: right;"><b>4 units</b></span> Design theory, unit function, and repair procedures of front-end alignment, suspension, and brake systems.

## CONSTRUCTION AND MAINTENANCE

Lower division	<b>INDS 111 Carpentry I</b> <span style="float: right;"><b>4 units</b></span> Details of construction through actual practice. Work on house or other building constructed to architectural plans.
	<b>INDS 112 Carpentry II</b> <span style="float: right;"><b>4 units</b></span> Continuation of Carpentry I. Types of exterior finish applications; interior finish including door installations, staircases, kitchen and other installed cabinets, interior trim, floors, etc. May be repeated for additional credit.
	<b>INDS 181 Mechanical Equipment of Buildings</b> <span style="float: right;"><b>4 units</b></span> Theory and practice of plumbing, electrical installation, heating and air conditioning in relation to building rules, regulations, and codes. May be repeated once for additional credit.
	<b>INDS 283 Plant Maintenance Management</b> <span style="float: right;"><b>4 units</b></span> Maintenance supervision; personnel organization; relationships with business, purchasing, and administrative personnel.



Upper division **INDS 361 Metal Machines II** **4 units**  
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.

**INDS 362 Dental Materials** **4 units**  
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.

### WELDING

Lower division **INDS 171 Electrical Welding** **4 units**  
Operation and technical data. May be repeated for additional credit.

**INDS 172 Oxyacetylene Welding** **4 units**  
Operation and technical data. May be repeated for additional credit.

Upper division **INDS 373 Advanced Welding** **4 units**  
Heliarc, arc, and oxyacetylene welding. May be repeated for additional credit.

### WOOD AND PLASTIC CONSTRUCTION

Lower division **INDS 251 Furniture Construction I** **4 units**  
Materials and processes. Emphasis on quality construction and buying. Student selected project. Open to both men and women. May be repeated for additional credit.

**INDS 252 Woodturning** **2 units**  
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.

**INDS 253 Basic Plastics** **4 units**  
Materials and processes in modern industrial plastics.

Upper division **INDS 351 Furniture Construction II** **4 units**  
Continuation of INDS 251, with emphasis on industrial practices. Fieldwork. Teacher-specified testing projects. May be repeated for additional credit.

**INDS 352, 353 Upholstery** **4, 4 units**  
Basic reupholstering techniques and selection of materials to complete commercial and household furniture. May be repeated for additional credit.

**INDS 453 Finishing Methods and Materials** **4 units**  
Industrial finishing methods; wood, metal, plastics, and fabrics.

**INDS 455 Materials Testing and Evaluation** **4 units**  
Lubricants, fasteners, glues, abrasives, finishes. Nondestructive and destructive tests. Specific student-selected projects. May be repeated for additional credit.



## PROFESSIONAL STUDIES

Upper division	<b>INDS 394 Shop Planning and Organization</b> <b>4 units</b>
	Principles of planning laboratories for industrial work. Equipment selection, acquisition, positioning, and maintenance.
	<b>INDS 397 Problems in Industrial Arts</b> <b>1-4 units</b>
	Problems selected in consultation with department chairman. Research problems, supervisory experience for prospective teachers or tradesmen.
	<b>INDS 492 History of Industry</b> <b>4 units</b>
	Origins and progress of trade and technical work in the United States. Organization, objectives, and scope of employment preparation today.
Graduate	<b>INDS 495 Occupational Orientation and Vocational Counselor Training</b> <b>4 units</b>
	Analysis of entry-level job requirements, job description, references, and employment data. Principles of personnel placement and employee classification.
	<b>INDS 496 Industrial Philosophy</b> <b>4 units</b>
	Foundations of vocational philosophy; the relation of Adventism to the contemporary world of work; the role of industrial educators. Does not apply toward a major or minor, but can apply toward the general requirement in religion.
	<b>INDS 498 Project in Industrial Production</b> <b>2-4 units</b>
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.	
	<b>INDS 499 Directed Study</b> <b>2-4 units</b>
	<b>INDS 591 Curriculum Construction in Industrial Studies</b> <b>4 units</b>
	<b>INDS 595 Industrial Studies Seminar</b> <b>2-4 units</b>
	May be repeated for additional credit.

## DEPARTMENT OF MATHEMATICS

Chairman	HILMER W. BESEL, Associate Professor of Mathematics M.A. University of Nebraska
Faculty	GEORGE G. O'BRIEN, Professor of Mathematics PH.D. University of Maryland
	GEOFFREY T. JONES, Associate Professor of Mathematics PH.D. University of California, Los Angeles
	CARLYLE D. FLEMMING, Assistant Professor of Mathematics M.A. Andrews University
	VERNON W. HOWE, Assistant Professor of Mathematics PH.D. Dartmouth College

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 his freshman or sophomore year he should consult the credentials adviser in the School of Education for detailed information concerning requirements.

### BACCALAUREATE MAJOR PROGRAMS

Mathematics A student majoring in mathematics completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 48 units of coursework in mathematics, including MATH 133, 134, 135, 231, 232, 233, 321, 341, 299 or 499; 16 units selected from MATH 271, 299, 325, 326, 331, 335, 371, 372, 373, 375, 431, 432, 471, 472, 481, 482, 498, 499. Cognate requirements are PHYS 211 or 212, or 213; 12 units of additional related coursework selected in consultation with the department adviser.

Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 56 units of coursework in mathematics, including MATH 133, 134, 135, 231, 232, 233, 271, 321, 325, 431, 432, 299 or 499; 12 units selected from MATH 299, 326, 331, 335, 341, 371, 372, 373, 375, 471, 472, 481, 482, 498, 499 (MATH 326, 335 recommended for those expecting to pursue graduate studies in mathematics; MATH 341 required if Program B will be presented to the Commission for Teacher Preparation and Licensing of the State of California). Cognate requirements are PHYS 211 or 212 or 213; 12 units of additional related coursework selected in consultation with the department adviser.

Computer science A student majoring in computer science completes the general requirements for

the Bachelor of Science degree (see *General Requirements*) and 56 units of coursework in mathematics, including MATH 133, 134, 135, 231, 232, 233, 271, 321, 372, 373, 375, 471, 299 or 499; 8 units selected from MATH 299, 325, 326, 331, 335, 341, 371, 431, 432, 472, 481, 482, 498, 499. Cognate requirements are PHYS 211 or 212 or 213, 322, 352; 8 units of additional related coursework selected in consultation with the department adviser.

## MINOR SEQUENCES

The following minors in mathematics are available:

Mathematics, 29 units including MATH 131 or 133 and 134, 135, 231, 232, 233; 8 units selected from MATH 271 and above.

Computer science, 33 units including MATH 131 or 133 and 134, 271, 372, 373, 471; 12 units selected from MATH 231 and above. (No more than 8 of these upper division units may also apply toward a mathematics major.)

## COURSES

Lower division	<p><b>MATH 095 Basic Mathematics</b> <span style="float: right;"><b>4 units</b></span>            Arithmetic through simple linear equations. Problem solving (logic). Does not apply toward a major in mathematics or computer science, or toward the general requirements in natural sciences, mathematics, and health.</p> <p><b>MATH 122 Basic Algebra</b> <span style="float: right;"><b>4 units</b></span>            Through formula rearrangement and systems of linear equations. Does not apply toward a major program in mathematics or computer science.</p> <p><b>MATH 123 Precalculus Mathematics</b> <span style="float: right;"><b>4 units</b></span>            Sets, fundamental laws of numbers, polynomials, factoring over polynomials, solution sets of polynomials, theory of equations, functions, graphs, exponential and logarithmic functions, trigonometric functions and their graphs, trigonometric identities, and trigonometric equations. Does not apply toward a major in mathematics.            Prerequisite: MATH 122 or secondary school equivalent.</p> <p><b>MATH 131 Calculus of Elementary Functions</b> <span style="float: right;"><b>5 units</b></span></p> <p><b>MATH 133, 134 Calculus of Elementary Functions</b> <span style="float: right;"><b>3, 3 units</b></span>            Riemann integral; derivatives; fundamental theorem and applications; introduction to differential equations; calculus of logarithmic, exponential, and trigonometric functions. Either MATH 131 or MATH 133, 134 satisfies the calculus requirement of the School of Medicine.            Prerequisite: MATH 123 or secondary school equivalent.</p> <p><b>MATH 135 Multivariable Calculus</b> <span style="float: right;"><b>4 units</b></span>            Three-dimensional vector space; addition, scalar, and cross products. Equations of lines and planes. Vector-valued functions of a real variable. Partial differentiation: partial derivative, directional derivative, chain rule, implicit differentiation, minimax problems. Multiple integration. Techniques of integration.            Prerequisite: MATH 133, 134, or consent of the instructor.</p> <p><b>MATH 222 Concepts in Mathematics</b> <span style="float: right;"><b>4 units</b></span>            Sets, number sets and their properties, number sentences, mathematical systems, logic, topics from number theory, topics from geometry, and probability. Does not apply toward a major in mathematics or computer science.            Prerequisite: MATH 122 or secondary school equivalent.</p>
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**MATH 231, 232, 233 Mathematical Methods for the Physical Sciences** 4, 4, 4 units  
Determinants, matrix algebra, infinite series, vector analysis, complex numbers, ordinary differential equations, integral transforms, series solution of differential equations, special functions, complex variable, Fourier series.

Prerequisite: MATH 135 or consent of the instructor.

**MATH 271 Introduction to Computer Programing** 4 units

Basic, PL/1; applications to mathematically oriented problems.

Prerequisite: MATH 122 or consent of the instructor.

**MATH 281 Introduction to Probability** 4 units

Review of algebraic concepts, descriptive statistics, probability, random variables and their distributions.

Prerequisite: MATH 122 or secondary school equivalent.

**MATH 282 Introduction to Statistical Inference** 4 units

Estimating, testing hypotheses; regression and correlation, contingency tables and goodness-of-fit, analysis of variance, nonparametric statistics.

Prerequisite: MATH 281.

**MATH 285 Finite Mathematics** 4 units

Introductory study, including logic, set theory, matrices, vectors, combining techniques, discrete probability distributions; applications to problems in finance, accounting, marketing, production, and personnel management.

Prerequisite: MATH 122 or secondary school equivalent.

**MATH 299 Directed Study** 2-5 units

May be repeated for additional credit with consent of the instructor.

Upper division

**MATH 321 Linear Algebra** 4 units

Vector spaces, linear transformations, matrices and determinates, eigenvalues and eigenvectors, applications.

Prerequisite: MATH 233 or consent of the instructor.

**MATH 325, 326 Algebraic Structures** 4, 4 units

Groups, quotient groups; rings, unique factorization domain, fields, elements of Galois theory.

Prerequisite: MATH 321 or consent of the instructor.

**MATH 331 Differential Equations** 4 units

Linear equations of the first order, linear equations with constant coefficients, linear equations with variable coefficients, series solutions, Laplace transforms, existence and uniqueness theorems, some applications.

Prerequisite: MATH 231 or consent of the instructor.

**MATH 335 Complex Variables** 4 units

Complex numbers, analytic functions, linear transformation, integration, series, contour integration, conformal mapping and application.

Prerequisite: MATH 135 or consent of the instructor.

**MATH 341 College Geometry** 4 units

A systematic development of plane and solid Euclidean geometry, using synthetic and analytic methods.

Prerequisite: MATH 135 or consent of the instructor.

**MATH 371 Advanced Computer Programing** 4 units

Techniques for computer solution of mathematical problems, assembler language.

Prerequisite: MATH 271 or consent of the instructor.

**MATH 372, 373 Computer and Programing Theory** 4, 4 units

Mathematical description of the logical organization of a digital computer and its components, number systems, Boolean algebra, information representation within and without the computer, compiler theory and practice, metalinguistics, operating systems theory, time-sharing theory.

Prerequisite: MATH 271 or consent of the instructor.

- MATH 375 Programing Languages Theory** **4 units**  
 Syntax and semantics, graph theory, table construction and use, memory allocation, pushdown techniques, machine-code generators, error detection and diagnostics.  
 Prerequisite: MATH 372 or consent of the instructor.
- MATH 431, 432 Analysis** **4, 4 units**  
 Topology of the real line, metric spaces, uniform continuity, properties of the derivative, theory of Riemann integral, Lebesgue measure and integral, convergence theorems.  
 Prerequisite: MATH 231 or consent of the instructor.
- MATH 471, 472 Numerical Analysis** **4, 4 units**  
 Interpolation and approximation, numerical differentiation and integration, solution of non-linear equations, error analysis, numerical solutions of differential equations, and systems of equations.  
 Prerequisite: MATH 231, 271, or consent of the instructor.
- MATH 481 Probability** **4 units**  
 With application to statistical problems. Probability, independence, random variables, functions of random variables, moment-generation functions, special distributions.  
 Prerequisite: MATH 135 or consent of the instructor.
- MATH 482 Statistics** **4 units**  
 Classical large-sample and modern small-sample methods. Nature of statistical methods, theoretical frequency distributions, sampling theory, correlation and regression, testing goodness-of-fit, principles of estimation, hypothesis testing, small sample distributions, nonparametric methods.  
 Prerequisite: MATH 481 or consent of the instructor.
- MATH 496 Christianity and the Rational Man** **4 units**  
 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 PHYS 496.
- MATH 498 Seminar in Mathematical Topics** **4 units**  
 Lecture course offered on demand, with content chosen from mathematics or computer science: applied mathematics, foundations, geometry, methods for physics, number theory, topology, etc. May be repeated with new content for additional credit.  
 Prerequisite: Consent of the instructor.
- MATH 499 Directed Study** **2-5 units**  
 May be repeated for credit with consent of the department.
- Graduate **MATH 521 Development of Number Systems** **4 units**  
 History of algebraic thought. Algebra of sets, functions, operations, equivalence relations. Construction of the number systems and development of their properties. Some algebras. Oriented to teacher training.  
 Prerequisite: Substantial undergraduate mathematics and consent of the instructor. Pertinent: such courses as MATH 231, 321, 325.
- MATH 541 Survey of Geometry** **4 units**  
 History of geometrical thought. Axiomatic development of geometries; their central theorems. Relation between modern algebras and geometries, "nonexistence" theorems. Oriented to teacher training.  
 Prerequisite: Substantial undergraduate mathematics and consent of the instructor. Pertinent: such courses as MATH 321.
- MATH 599 Directed Study** **2-5 units**



DEPARTMENT OF  
MODERN LANGUAGES

- Chairman MARGARETE A. HILTS, Professor of French  
PH.D. Case Western Reserve University
- Faculty KALJO S. MAGI, Professor of German and Linguistics  
PH.D. New York University
- EDWARD W. NEY, Professor of German  
PH.D. New York University
- JACQUES BENZAKEIN, Associate Professor of French  
M.A. University of Wisconsin
- LEON GAMBETTA, Associate Professor of Spanish  
PH.D. Stanford 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 advanced degrees 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 and South America without losing credits or lengthening the course of study. By carefully planning his program with the department and his major professor, the student 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 for the European schools, in March for the school in South America. 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 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 his 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 his freshman or sophomore year should consult the credentials adviser in the School of Education for detailed information concerning requirements. The student who wishes to receive the approval of the department for EDCI 447 in the School of Education must take EDCI 438.

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.

## BACCALAUREATE MAJOR PROGRAMS

**French** A student majoring in French spends at least one academic year in a French-speaking environment, and the department recommends an additional quarter in the summer (preferably following the year abroad) for sociological/cultural research. Two programs in French are currently available:

Program A, designed for students preparing for elementary or secondary teaching, consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 48 units of upper division coursework in French, including FREN 303 or 304, 306, 307, 423, 424. Cognate requirements are European history, 4 units; history of art or music, 4 units; and EDCI 438 in the School of Education. A second language through level IV and LING 301 are recommended.

Program B, designed for students preparing for graduate studies in French, consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 48 units of upper division coursework in French, including FREN 306, 307, 423, 424, and six additional courses in French literature. Cognate requirements are European history, 4 units; history of art or music, 4 units.

**German** A student majoring in German completes the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 44 units of upper division coursework in German and linguistics, including GRMN 401; LING 301. Cognate requirements are literature other than German, 4 units; CMSP 315. Additional courses in linguistics and a second foreign language are recommended. Students preparing for elementary or secondary teaching take EDCI 438 in the School of Education.

**Spanish** Students who are not proficient in Spanish should study for at least one quarter in a Spanish-speaking country. Two programs in Spanish are available:

Program A, designed for students preparing for elementary bilingual teaching, consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 44 units of upper division coursework in Spanish, including SPAN 301, 303, 311, 407, 409, 423, 427. Cognate requirements are LING 301; history of art and music, 4 units; EDCI 438 in the School of Education.

Program B, designed for students preparing for graduate studies, consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 44 units of upper division coursework in Spanish, including SPAN 301, 303, 311, 423, and five additional courses in Spanish literature. A second language through level IV and as much additional coursework in Spanish as possible are recommended.

### MINOR SEQUENCES

The following minors are available:

French, 28 units, including FREN 203, 204.

German, 28 units, including GRMN 203, 204.

Spanish, 28 units, including SPAN 203, 204, 301 or 303.

Linguistics, 28 units (presupposing a foreign language through level IV) including LING 301, 403; electives selected from the following courses: ANTH 312; CMDS 377; CMSP 315, 321; ENGL 381, 481; FREN 306; GRMN 401; PSCH 377; SPAN 301, 303.

### GENERAL

Upper division	LANG 341	Russian Culture and Literature	4 units
	LANG 429	Paris, Crossroad of the Western World	4 units
	LANG 435	The Divine Comedy	4 units
		A bridge between the Middle Ages and the Renaissance. Masterpiece depicting Dante's dramatic journey from the depth of evil and the recognition of the true nature of sin through his atonement and eventual entrance into the presence of God.	
	LANG 475	Romanticism and the Arts	4 units
		Interdepartmental approach to the Romantic Movement and its manifestation in literature and the arts.	
	LANG 485	The Avant-Garde	4 units
		Interdepartmental approach to the avant-garde in literature and the arts.	
	LANG 496	God and Western Literature	4 units
		Does not apply toward a major or minor, but can apply toward the general requirement in religion.	

### ENGLISH AS A SECOND LANGUAGE

	ENSL 101, 102, 103	English as a Second Language	4, 4, 4 units
		Structure of the language, with stress on vocabulary building, pronunciation, reading, and writing. Vocabulary slanted toward everyday activities. Practice sessions as needed.	



## FRENCH

Prerequisite for courses numbered above 300: FREN 204 or equivalent.

Introductory courses	FREN 101, 102 <b>French I, II</b>	4, 4 units
	Language, civilization, culture. Individualized instruction. Conversation and laboratory periods as needed.	
	FREN 203, 204 <b>French III, IV</b>	4, 4 units
	Conversation and composition. Conversation and laboratory periods as needed.	
Language and culture	FREN 303 <b>Conversation</b>	4 units
	FREN 304 <b>Advanced Conversation</b>	2 units
	May be repeated for additional credit.	
	FREN 306 <b>Grammar and Composition</b>	4 units
	FREN 307 <b>Analysis and Criticism</b>	4 units
	FREN 423 <b>Culture and Civilization</b>	4 units
	FREN 424 <b>The French Community</b>	4 units
	FREN 427 <b>Sociological/Cultural Research</b>	4 units
Literature	FREN 341 <b>Literary Currents I, II, III</b>	4, 4, 4 units
	First quarter: Middle Ages through the Renaissance. Second quarter: baroque and classical literature. Third quarter romanticism through contemporary literature.	
	FREN 452 <b>The Theater: Tragedy</b>	4 units
	FREN 457 <b>The Theater: Comedy</b>	4 units
	FREN 461 <b>Poetry</b>	4 units
	FREN 473 <b>The Novel</b>	4 units
	FREN 475 <b><i>Héros et Anti-héros</i></b>	4 units
	From Roland to Ubu.	
	FREN 478 <b><i>The Philosophes</i></b>	4 units
	Montaigne, Descartes, Pascal, Diderot, Montesquieu, Voltaire, Rousseau.	
FREN 483 <b>Existentialism</b>	4 units	
From Kierkegaard to Sartre, Camus, and Marcel.		
FREN 485 <b>Literature of French-Speaking Africa</b>	4 units	
FREN 499 <b>Directed Study</b>	1-4 units	
Graduate	FREN 501 <b>History of the French Language</b>	4 units
	FREN 511 <b>Structure and Style</b>	4 units
	May be repeated for additional credit.	
	FREN 599 <b>Special Studies</b>	2-4 units



## GERMAN

Prerequisite for courses numbered above 300: GRMN 204 or the equivalent.

Introductory courses	GRMN 101, 102 <b>German I, II</b>	4, 4 units
	Grammar and pronunciation; reading of simple prose; conversation and laboratory drill.	
	GRMN 203, 204 <b>German III, IV</b>	4, 4 units
	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 the equivalent.	
Language and culture	GRMN 301 <b>Practical German Conversation</b>	4 units
	Correct use of vernacular conversation based on everyday life and events. Brief review of grammar.	
	GRMN 305 <b>Readings in the Sciences and Humanities</b>	4 units
	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 401 <b>Advanced Grammar and Composition</b>	4 units
	GRMN 423 <b>German Culture and Civilization</b>	4 units
Literature	GRMN 341 <b>Outline History of German Literature</b>	4 units
	Main currents of German literature. Selections from works of representative authors.	
	GRMN 451 <b>Classicism</b>	4 units
	Works of Goethe, Schiller, and their contemporaries. Individual reports in German or in English.	
	GRMN 463 <b>Enlightenment and <i>Sturm und Drang</i></b>	4 units
	Lessing as representative of the Enlightenment; the early works of Goethe and Schiller.	
	GRMN 471 <b>Romanticism</b>	4 units
	German romanticism; its chief exponents.	
	GRMN 473 <b>Realism</b>	4 units
	German authors from 1830 to 1890.	
	GRMN 481 <b>Contemporary Literature</b>	4 units
	GRMN 493 <b>Religious Trends and Thought in German Literature</b>	4 units
	Authors representing the development of religious thought from the Old High German period to the present, including mysticism, the Reformation, pietism, and the Enlightenment.	
	GRMN 499 <b>Directed Study</b>	1-4 units
Graduate	GRMN 501 <b>History of the German Language</b>	4 units
	GRMN 598 <b>Proseminar in German Literature</b>	4 units
	GRMN 599 <b>Special Studies</b>	2-4 units

## SPANISH

Prerequisite for courses numbered above 300: SPAN 204 or equivalent.

Introductory courses	SPAN 101, 102	Spanish I, II	4, 4 units
	SPAN 203, 204	Spanish III, IV	4, 4 units
	SPAN 207, 208	Spanish for the Professional	4, 4 units
Language and culture	SPAN 301	Advanced Grammar I: Phonetics and Morphology	4 units
	SPAN 303	Advanced Grammar II: Syntax and Stylistics	4 units
	SPAN 407	Spanish for the Bilingual	4 units
	SPAN 409	Contrastive Analysis of Spanish and English	4 units
	SPAN 423	Hispanic Culture	4 units
	SPAN 427	Mexican-American Folklore and Culture	4 units
Literature	SPAN 311	Introduction to Literary Studies	4 units
	SPAN 341	Medieval and Renaissance Literature	4 units
	SPAN 361	Baroque and Eighteenth Century Literature	4 units
	SPAN 373	Survey of Nineteenth Century Literature	4 units
	SPAN 381	The Generation of '98	4 units
	SPAN 384	Modern Theater and Poetry	4 units
	SPAN 474	The Latin American Essay	4 units
	SPAN 477	The Contemporary Novel	4 units
	SPAN 486	Modernism and the Avant-Garde	4 units
SPAN 499	Directed Study	1-4 units	
Graduate	SPAN 501	History of the Spanish Language From Vulgar Latin to modern Spanish, with particular emphasis on the phonology and morphology of Spanish Romance.	4 units
	SPAN 525	Seminar in Spanish Literary Criticism Reading of scholarly works illustrating critical methods and techniques of literary analysis. Prerequisite: SPAN 311.	4 units
	SPAN 599	Special Studies	2-4 units

## LINGUISTICS

LING 301	Principles of Linguistics	4 units
	Linguistic science: terminology; history of linguistics; language families of Europe.	
LING 403	Comparative Linguistics	4 units
	Comparative historical and descriptive study of language families of the world.	
LING 495	Readings in Linguistics	2-4 units



DEPARTMENT OF  
MUSIC

- Chairman H. ALLEN CRAW, Professor of Music  
PH.D. University of Southern California
- Faculty PERRY W. BEACH, Professor of Music  
PH.D. Eastman School of Music  
HAROLD B. HANNUM, Professor of Music  
M.MUS. Northwestern University  
JOHN T. HAMILTON, Associate Professor of Music  
M.MUS. Northwestern University  
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 R. DUNCAN, Assistant Professor of Music (on leave)  
M.MUS. University of Nebraska  
J. DAVID HOLDER, Assistant Professor of Music  
M.A. Pacific Union College  
DONALD J. VAUGHN, Assistant Professor of Music  
M.MUS. University of Redlands

- 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, and church musicians.

COURSES IN APPLIED MUSIC

Regular registration is required of students for applied music studies whether for credit or for audit. Courses in applied music may be repeated for credit by reregistration for the same course number. Enrollment in courses may be limited.

- 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 ten 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, piano, violin, as necessary in lieu of individual instruction.
- Group music Group music courses must be attended all year if they are taken for credit; may be repeated to a maximum of 12 units; must be taken each quarter by a music major, except as indicated for the specific degree.
- Limitation of credit (a) Credit in excess of 6 units of individual instruction courses must be supplemented by an equal number of units in theoretical studies; (b) eligibility for upper

division credit is determined by the music faculty; (c) the consent of the instructor must be secured before the student performs in public.

For the general student, a maximum credit of 24 units in applied music (individual instruction 12, group instruction 12) is permissible; registration in only one field of individual instruction is permissible.

Applicability to major programs

For students majoring in music, applied music, or church 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. The student's program should be planned carefully so that he will be eligible for upper division credit in his junior and senior years.

4. The Bachelor of Music candidate must participate in a group music organization each quarter of residence; the Bachelor of Arts candidate must participate in a group music organization for nine quarters.

5. Admission to upper division individual instruction courses is granted pending the successful completion of an audition before the music faculty. Application should be made to the chairman of the department when the student feels he is prepared.

6. A transfer student must take a minimum of 6 units of individual instruction courses in his primary field at this University.

7. 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.

8. 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.

9. Attendance is required at a specified percentage of Department of Music programs as well as at certain concerts offcampus.

## BACCALAUREATE MAJOR PROGRAMS

Music A student majoring in music completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 61 units (36 upper division) of coursework in music, including MUSC 111, 112, 113, 201, 211, 212, 213, 311, 315, 331, 332, 333, 481 or 483; 6 units from MUSC 441-448; 9 units of organizations. Cognate requirements are PHIL 431; PHYS 204.

Program B consists of the general requirements for the Bachelor of Music degree (see *General Requirements*) and 88 units in music, including MUSC 111, 112, 113, 201, 211, 212, 213, 257 or 357, 305, 311 or 411, 315, 415; two courses from 331, 332, 333. Also included are 12 units of applied music, 10 of which are in one

field (6 upper division); 11 units of organizations; 10 units of piano, voice, and instrument classes, including MUSC 251-256, 258, 326. Students with primary emphasis in piano are advised to take MUSC 322. Cognate requirements are PHIL 431; PHYS 204. Additional music courses are recommended as electives.

#### Preparation for teaching

A student preparing to teach music at the elementary or secondary level should plan to qualify for teaching credentials, and during his freshman or sophomore year he should consult the credentials adviser in the School of Education for detailed information concerning requirements. A student planning to teach is advised to complete Program B.

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

#### Applied music

A student majoring in applied music completes the general requirements for the Bachelor of Music degree (see *General Requirements*) and 106 units in music, including MUSC 111, 112, 113, 201, 211, 212, 213, 257, 311, 315, 331, 332, 333, 398, 498 (a full senior recital plus one-half junior recital). Also included are 24 units (10 upper division) of performance in the primary field, 8 units in one secondary field. Cognate requirements are PHIL 431; PHYS 204. One of three patterns in applied music may be followed.

A student emphasizing piano takes MUSC 221, 321, 322, 411, 415; one unit from MUSC 272-276 or 372-376; 9 units of organizations.

A student emphasizing organ takes MUSC 323, 326 (2 units), 411, 415; 12 units of organizations.

A student emphasizing an instrument other than piano or organ takes MUSC 326 (2 units), 411, 415; 12 units of organizations.

A student emphasizing voice takes MUSC 325, 326 (4 units), 357, 485; 12 units of choral organizations. A cognate requirement is French or German through level IV.

#### Church music

A student majoring in church music completes the general requirements for the Bachelor of Music degree (see *General Requirements*) and 100 units in music, including MUSC 111, 112, 113, 201, 211, 212, 213, 311, 315, 323, 326, 331, 332, 333, 481, 483, 485, 498 (two public recitals: one in the primary emphasis; the other either in the primary emphasis, the secondary emphasis, or a combination of both). Also included are 16 units (6 upper division) of performance in the primary field (organ, voice, or conducting); 16 units (3 upper division in either organ or voice if the primary emphasis is conducting) divided between the two fields not chosen for primary emphasis; 12 units of choral organizations. Cognate requirements include PHIL 431 and PHYS 204. Recommended: RLGH 471 or 472.

### MINOR SEQUENCE

A minor in music is 30 units (12 upper division), including MUSC 111, 112, 113, 331, 332, 333.



## THEORETICAL AND GENERAL MUSIC STUDIES

Lower division	<p><b>MUSC 101 Music Fundamentals</b> <span style="float: right;">3 units</span>            Rudiments of music, dictation, sight-singing, and ear-training. Primarily for students without previous music education. Does not apply toward a major in music.</p> <p><b>MUSC 111, 112, 113 Theory I</b> <span style="float: right;">4, 4, 4 units</span>            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.            Prerequisite: MUSC 101 or equivalent.</p> <p><b>MUSC 201 Introduction to Music</b> <span style="float: right;">4 units</span>            Basic music literature, with some attention to other arts.</p> <p><b>MUSC 211, 212, 213 Theory II</b> <span style="float: right;">4, 4, 4 units</span>            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.            Prerequisite: MUSC 111, 112, 113.</p> <p><b>MUSC 221 Accompanying</b> <span style="float: right;">2 units</span>            Principles of and practice in accompanying both vocal and instrumental music. An additional unit may be earned by accompanying a senior recital.            Prerequisite: Consent of the instructor.</p> <p><b>MUSC 257 Conducting I</b> <span style="float: right;">4 units</span>            Conducting and rehearsal techniques; score reading; timbre, compass, and notation of voices and instruments.</p>
Upper division	<p><b>MUSC 305 Basic Music</b> <span style="float: right;">4 units</span>            Rote and note singing; music listening; concepts of melody, rhythm, harmony.</p> <p><b>MUSC 311 Counterpoint</b> <span style="float: right;">4 units</span>            Sixteenth century polyphony, with practice in the stylistic writing of two-part and three-part vocal music.</p> <p><b>MUSC 315 Music Form</b> <span style="float: right;">4 units</span>            Smaller forms, through the sonata, the rondo, and the contrapuntal forms.            Prerequisite: MUSC 111, 112, 113.</p> <p><b>MUSC 321 Performance Repertoire: Piano</b> <span style="float: right;">4 units</span>            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.</p> <p><b>MUSC 322 Performance Techniques: Piano</b> <span style="float: right;">4 units</span>            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.</p> <p><b>MUSC 323 The Organ and Service Playing</b> <span style="float: right;">2 units</span>            Organ and organ literature; problems and techniques of hymn playing, modulation, improvisation, accompaniment of choir and soloists; music selection.</p> <p><b>MUSC 325 Performance Repertoire: Voice</b> <span style="float: right;">4 units</span>            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.</p>

	<b>MUSC 326 Performance Techniques: Voice</b>	<b>2 or 4 units</b>
	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.	
	<b>MUSC 331, 332, 333 History of Music</b>	<b>4, 4, 4 units</b>
	First quarter: earliest times through 1600. Second quarter: 1600-1800. Third quarter: 1800 to present. Prerequisite: MUSC 101 or equivalent.	
	<b>MUSC 357 Conducting II</b>	<b>4 units</b>
	Advanced instruction in choral and instrumental conducting, with opportunities to conduct the University choirs and orchestra. May be repeated once for additional credit. Prerequisite: MUSC 111, 112, 113, 257 or equivalent; consent of the instructor.	
	<b>MUSC 411, 412 Composition</b>	<b>3, 3 units</b>
	Practice in writing original compositions in the smaller forms. Emphasis on twentieth century compositional techniques. May be repeated for additional credit. Prerequisite: MUSC 213 and consent of the instructor.	
	<b>MUSC 415 Orchestration</b>	<b>3 units</b>
	Instruments of the orchestra; arranging music for small ensembles and orchestra. Prerequisite: MUSC 213.	
	<b>MUSC 431 Advanced History of Music</b>	<b>4 units</b>
	A different period selected each year: Renaissance, baroque era, classical era, romantic era, and twentieth century. May be repeated for additional credit. Prerequisite: MUSC 331, 332, 333.	
	<b>MUSC 481 Church Music</b>	<b>4 units</b>
	Vocal and instrumental music of the Church from the sixteenth century to the present.	
	<b>MUSC 483 Hymnology</b>	<b>4 units</b>
	Christian hymnody from the Reformation to the present; examination of current hymnals, including modern trends.	
	<b>MUSC 485 Sacred Choral Literature</b>	<b>4 units</b>
	Development of choral singing within the Christian church; literature of all periods; building of repertoire; styles and performance techniques demonstrated in a collegium musicum setting.	
	<b>MUSC 496 Music and Worship</b>	<b>4 units</b>
	Nature of worship; music as an aid to worship; the role of 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, but can apply toward the general requirement in religion.	
	<b>MUSC 499 Directed Study</b>	<b>1-4 units</b>
Graduate	<b>MUSC 631 Seminar in the History of Music</b>	<b>4 units</b>
	<b>MUSC 681 Seminar in Church Music</b>	<b>4 units</b>

#### APPLIED MUSIC STUDIES

Individual instruction Attendance may be required at occasional class sessions. Credit at the 100 level does not apply toward a major or minor in music.

<b>MUSC 141</b>	<b>241 441</b>	<b>Brass</b>	<b>1-2 units per quarter</b>
<b>MUSC 142</b>	<b>242 442</b>	<b>Organ</b>	<b>1-2 units per quarter</b>

	MUSC 143 243 443	Percussion	1-2 units per quarter
	MUSC 144 244 444	Piano	1-2 units per quarter
	MUSC 145 245 445	Strings	1-2 units per quarter
	MUSC 146 246 446	Voice	1-2 units per quarter
	MUSC 147 247 447	Woodwind	1-2 units per quarter
	MUSC 148 248 448	Harpsichord	1-2 units per quarter
	MUSC 398, 498	Recital in Music	0 units
	MUSC 457	Conducting III Prerequisite: MUSC 357.	2 units per quarter
Class instruction	MUSC 251, 252	Stringed Instruments Basic techniques of the orchestral stringed instruments.	1, 1 units
	MUSC 253, 254	Woodwind Instruments Orchestral woodwind instruments.	1, 1 units
	MUSC 255, 256	Brass and Percussion Instruments Orchestral brass and percussion instruments.	1, 1 units
	MUSC 258	Basic Piano Functional piano for music students lacking in piano background. May be repeated for additional credit.	2 units
Group music	Membership in University music groups is open to qualified students with the consent of the instructor.		
	MUSC 261, 361	Concert Band Some college-owned instruments available each quarter.	1 unit per quarter
	MUSC 262, 362	Choral Union	1 unit per quarter
	MUSC 263, 363	Concert Orchestra	1 unit per quarter
	MUSC 272, 372	Choral Ensemble	1 unit per quarter
	MUSC 273, 373	String Ensemble	1 unit per quarter
	MUSC 274, 374	String Quartet Prerequisite: Consent of the department chairman.	1 unit per quarter
	MUSC 275, 375	Piano Ensemble Prerequisite: Consent of the department chairman.	1 unit per quarter
	MUSC 276, 376	Wind and Percussion Ensemble Prerequisite: Consent of the department chairman.	1 unit per quarter
	MUSC 277, 377	Vocal Ensemble Prerequisite: Consent of the department chairman.	1 unit per quarter
Seminar	MUSC 369, 669	Seminar in Applied Music	1-4, 1-4 units



DEPARTMENT OF  
PHYSICAL EDUCATION, HEALTH, and RECREATION

- Chairman WILLIAM J. NAPIER, Professor of Physical Education  
PH.D. University of Southern California
- Faculty WALTER S. HAMERSLOUGH, Associate Professor of Physical Education  
ED.D. University of Oregon  
EUGENE W. NASH, Associate Professor of Physical Education  
M.A. University of Southern California  
ROBERT K. SCHNEIDER, Associate Professor of Physical Education  
M.A. Loma Linda University  
JAMES L. PERRY, Assistant Professor of Physical Education  
M.A. University of Northern Colorado  
HELEN I. WEISMEYER, Assistant Professor of Physical Education  
M.S. University of Southern California  
L. JANENE TURNER, Instructor in Physical Education  
B.A. Loma Linda University
- Collaborating faculty WILLIAM T. JARVIS, Assistant Professor of Preventive and  
Community Dentistry, School of Dentistry  
PH.D. University of Oregon
- Lecturer ERVIN H. MATEER, Lecturer in Physical Education  
B.A. Loma Linda University

**Functions** The Department of Physical Education, Health, and Recreation has the following functions: instruction in a variety of physical activities; supervision of the recreation and intramural activities program; and the preparation of 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 his freshman or sophomore year he should consult the credentials adviser in the School of Education for detailed information concerning requirements.

BACCALAUREATE MAJOR PROGRAMS

- Physical education** A student majoring in physical education completes the general requirements for either the Bachelor of Arts or the Bachelor of Science degree (see *General Requirements*) and 63 units of coursework in physical education, including PSED 108, 109, 181, 201, 211, 213, 241-252, 261, 262, 263, 271-275, 355, 356, 357, 382, 408, 424, 426, 427, 429, 493. Cognate requirements are BIOL 225, 226 or 227, 228.
- Health and physical education** A student majoring in health and physical education completes the general requirements for either the Bachelor of Arts or the Bachelor of Science degree (see *General Requirements*) and 69 units of coursework in physical education, including PSED 108, 109, 181, 201, 211, 213, 241-252, 261, 262, 263, 355, 356, 357, 382, 408, 414, 415, 416, 424, 426, 427, 429, 493. Cognate requirements are BIOL 225, 226 or 227, 228; FNSC 225.

**Recreation and physical education**

A student majoring in recreation and physical education completes the general requirements for either the Bachelor of Arts or the Bachelor of Science degree (see *General Requirements*) and 66 units of coursework in physical education, including PSED 108, 109, 181, 201, 211, 213, 235, 237, 241-252, 261, 262, 263, 271-275, 331, 355, 356, 357, 382, 408, 427, 438, 439, 493. Cognate requirements are ARTS 201; MGNT 356; MUSC 305; PSCH 301, 415.

**Health science**

A student majoring in health science completes the general requirements for the Bachelor of Science degree (see *General Requirements*) and 75 units of coursework, including BIOL 101, 225, 226, 285, 421; CHEM 101, 102, 103; FNCS 225; PSCH 221, 222; PSED 211, 213, 313, 414, 415, 416, 417, 426, 429.

**Public health**

Students interested in a program emphasizing biostatistics, environmental health, health service administration, or health education in a medical and public health context should consult the BULLETIN of the School of Allied Health Professions for details of the undergraduate program in public health science offered on the Loma Linda campus.

**MINOR SEQUENCES**

Minors of 30 units (15 upper division) selected in consultation with the department adviser are available in the following areas:

- Physical education
- Health and physical education
- Recreation and physical education
- Youth services

**ASSOCIATE DEGREE PROGRAM**

**Recreation**

A student in the associate degree program in recreation completes the general requirements for the Associate in Science degree (see *General Requirements*) and 39 units of coursework, including PSED 123-126 (any 2 courses), 133, 177, 201, 211, 235, 237, 241-252, 261-263, 271-275, 331, 438. Cognate requirements are MUSC 101 or 305; ARTS 201, 261.

**COURSES**

**Lower division**

**PSED 101-199 Physical Education Activity** 1/2-1 unit per quarter  
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.

- |          |                          |          |                        |
|----------|--------------------------|----------|------------------------|
| PSED 101 | Swimming I               | PSED 109 | Water Safety           |
| PSED 102 | Swimming II              | PSED 110 | Independent Activities |
| PSED 103 | Swimming III             | PSED 111 | Body Mechanics         |
| PSED 104 | Synchronized Swimming I  | PSED 112 | Weight Training        |
| PSED 105 | Synchronized Swimming II | PSED 113 | Jogging                |
| PSED 106 | Scuba Diving I           | PSED 114 | Adaptive Activities    |
| PSED 107 | Scuba Diving II          | PSED 116 | Gymnastics I           |
| PSED 108 | Lifesaving               | PSED 117 | Gymnastics II          |

PSED 118	Gymnastics III	PSED 152	Women's Flagball
PSED 119	Gymkhana	PSED 153	Women's Soccer
PSED 120	Physical Fitness Appraisal	PSED 159	Water Polo
PSED 121	Archery	PSED 161	Badminton I
PSED 123	Horsemanship Western Style I	PSED 162	Badminton II
PSED 124	Horsemanship Western Style II	PSED 163	Diving I
PSED 125	Horsemanship Western Style III	PSED 164	Diving II
PSED 126	Horsemanship English Style I	PSED 165	Tennis I
PSED 127	Horsemanship English Style II	PSED 166	Tennis II
PSED 128	Horsemanship English Style III	PSED 167	Tennis III
PSED 130	Skiing I	PSED 171	Golf I
PSED 131	Skiing II	PSED 172	Golf II
PSED 133	Singing Games	PSED 173	Golf III
PSED 134	Skating	PSED 177	Backpacking
PSED 135	Sailing	PSED 178	Winter Backpacking
PSED 138	Cycling	PSED 179	Alpine Climbing
PSED 141	Men's Baseball	PSED 181	Movement Skills
PSED 142	Men's Basketball	PSED 182	Self-Test Tumbling
PSED 143	Women's Basketball	PSED 191	Judo I
PSED 144	Women's Field Hockey	PSED 192	Judo II
PSED 145	Men's Flagball	PSED 194	Self-Defense I
PSED 146	Men's Track and Field	PSED 195	Self-Defense II
PSED 148	Men's Softball	PSED 197	Karate I
PSED 150	Women's Softball	PSED 198	Karate II
PSED 151	Volleyball	PSED 199	Karate III
PSED 201	Introduction to Physical Education, Health, and Recreation		2 units
	Orients freshman majors and minors to the breadth, scope, and nature of the professional program in health, physical education, and recreation.		
PSED 211	Personal and Community Health		4 units
	Principles applied to daily living.		
PSED 213	Care and Prevention of Injuries		2 units
	Lecture and laboratory.		
PSED 235	Camp Counseling		2 units
	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.		
PSED 237	Playground Leadership		2 units
	Aspects of playground and community center operations; leadership; program techniques in private and semipublic agencies.		
PSED 241-252	Professional Team Activities		1 unit
PSED 241	Men's Baseball	PSED 247	Women's Track and Field
PSED 242	Men's Basketball	PSED 248	Men's Soccer
PSED 243	Women's Basketball	PSED 250	Women's Softball
PSED 244	Women's Field Hockey	PSED 251	Volleyball
PSED 245	Men's Flagball	PSED 252	Women's Flagball
PSED 246	Men's Track and Field		
PSED 261, 262, 263	Techniques of Officiating		2, 2, 2 units
PSED 271-275	Professional Individual Activities		1-2 units
PSED 271	Tennis	PSED 274	Golf
PSED 272	Archery	PSED 275	Badminton
PSED 273	Gymnastics		
	Prerequisite: PSED 116.		



Upper division	<b>PSED 313 Community Health</b>	<b>3 units</b>
	Problems, agencies, and programs of health in the local, state, national, and world community. Visits to public health facilities.	
	<b>PSED 331 Community and School Recreation</b>	<b>4 units</b>
	Principles and organization; public and private agencies; community resources; methods of converting leisure into useful, cultural, and creative activities. Lecture and laboratory.	
	<b>PSED 355 Analysis of Fall Team Activities</b>	<b>3 units</b>
	Materials, methods, and teaching progression. Men: flagball and soccer. Women: field hockey and flagball. Lecture and laboratory. Prerequisite: Men, PSED 245, 248; women, PSED 244, 252.	
	<b>PSED 356 Analysis of Winter Team Activities</b>	<b>3 units</b>
	Materials, methods, and teaching progression in basketball and volleyball. Lecture and laboratory. Prerequisite: Men, PSED 242, 251; women, PSED 243, 251.	
	<b>PSED 357 Analysis of Spring Team Activities</b>	<b>3 units</b>
	Materials, methods, and teaching progression in track and field. Men: baseball; Women: softball. Lecture and laboratory. Prerequisite: Men, PSED 241, 246; women, PSED 247, 250.	
	<b>PSED 381 Movement Education in the Elementary School</b>	<b>2 units</b>
	Methods and materials applied to all grade levels. For nonphysical education students. Prerequisite: PSED 181.	
	<b>PSED 382 Practicum in Elementary School Movement Education</b>	<b>2 units</b>
	Observation and field experience with various grade levels in movement activities. Lecture and laboratory. Prerequisite: PSED 181.	
	<b>PSED 408 Administration of Physical Education Programs</b>	<b>4 units</b>
	Principles and policies applied to programs, staff, facilities, and equipment; the budgetary process, legal liability, and public relations. Includes health, recreation, and intramurals.	
	<b>PSED 414 Health Education I</b>	<b>4 units</b>
	Mental health; abuse of drugs, alcohol, and tobacco. Teaching methods.	
	<b>PSED 415 Health Education II</b>	<b>4 units</b>
	Community health, consumer health, environmental health, and safety education. Teaching methods.	
	<b>PSED 416 Health Education III</b>	<b>4 units</b>
	Family living and sex education, personal health practices, and communicable diseases. Teaching methods and materials.	
	<b>PSED 417 Safety Education</b>	<b>3 units</b>
	Principles of industrial, farm, home, highway, and school safety; first aid; civil defense.	
	<b>PSED 418 School Health Programs</b>	<b>4 units</b>
	The total health program; services; environment.	
	<b>PSED 419 Drug Abuse Education</b>	<b>3 units</b>
	Problems and information relating to drug abuse.	
	<b>PSED 424 Mechanics of Movement</b>	<b>4 units</b>
	Related to sports, rhythmical activities, and correction of functional defects. Three class periods, one three-hour laboratory per week. Prerequisite: BIOL 225 or 227, 228.	

	<b>PSED 426 Physiology of Movement</b>	<b>4 units</b>
	Effects of movement upon the structure and function of body organs. Three class periods, one three-hour laboratory per week.	
	Prerequisite: BIOL 226 or 227, 228.	
	<b>PSED 427 Psychology of Movement</b>	<b>4 units</b>
	Principles involved in effective motor learning. Three class periods, one three-hour laboratory per week.	
	<b>PSED 429 Evaluation of Movement</b>	<b>4 units</b>
	Statistics and tests relating to measurement in physical education; emphasis on test administration and application of results. Three class periods, one three-hour laboratory per week.	
	<b>PSED 438 Social Recreational Leadership</b>	<b>4 units</b>
	Theory and practice in planning, conducting, and evaluating recreation programs in the community, school, and church. Lecture and laboratory.	
	<b>PSED 439 Fieldwork in Recreation</b>	<b>3-6 units</b>
	Directed experience in public and private recreation agencies.	
	<b>PSED 441 Principles of Physical Fitness</b>	<b>2 units</b>
	<b>PSED 493 Seminar in Physical Education, Health, and Recreation</b>	<b>4 units</b>
	Principles and history.	
	<b>PSED 496 God-Man-Sport</b>	<b>4 units</b>
	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.	
	<b>PSED 499 Directed Study</b>	<b>1-4 units</b>
	Emphasis on research.	
Graduate	<b>PSED 505 Seminar: History of Physical Education</b>	<b>4 units</b>
	<b>PSED 508 Seminar: Organization and Administration of Intramural Programs</b>	<b>4 units</b>
	<b>PSED 509 Seminar: Curriculum and Facilities</b>	<b>4 units</b>
	<b>PSED 521 Human Performance Laboratory</b>	<b>1-4 units</b>
	<b>PSED 527 Seminar: Motor Learning</b>	<b>4 units</b>
	<b>PSED 551 Laboratory Techniques</b>	<b>4 units</b>
	<b>PSED 581 Seminar: Movement Education</b>	<b>3 units</b>
	<b>PSED 591 Research Methods</b>	<b>4 units</b>
	<b>PSED 592 Seminar: Current Issues in Physical Education</b>	<b>4 units</b>
	<b>PSED 595 Seminar: Philosophy of Physical Education</b>	<b>4 units</b>
	<b>PSED 599 Directed Study</b>	<b>2-4 units</b>

## DEPARTMENT OF PHYSICS

Chairman	JAMES W. RIGGS, JR., Professor of Physics PH.D. Texas A and M University
Faculty	LESTER H. CUSHMAN, Professor of Physics M.S. University of Southern California ALBERT E. SMITH, Professor of Physics PH.D. Michigan State University LEWIS C. THOMPSON, Professor of Physics PH.D. Rice University RICHARD L. BOBST, Associate Professor of Physics M.A. University of South Dakota
Collaborating faculty	WILLIAM T. CHU, Assistant Professor of Radiology, School of Medicine PH.D. Carnegie Institute of Technology

**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 his freshman or sophomore year he 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.

### BACCALAUREATE MAJOR PROGRAMS

**Physics** A student majoring in physics completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 68 units of coursework, including 40 units in physics, 28 units in another area of study such as biology, chemistry, mathematics, behavioral science, or industrial arts. Courses are selected in consultation with the department adviser.

Program B, designed for students preparing for graduate studies, consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 60 units of coursework in physics and related fields selected in consultation with the department adviser. The cognate requirement is MATH 131.

**Biophysics** A student majoring in biophysics completes the general requirements for the Bachelor of Science degree (see *General Requirements*) and 56 units of coursework



in biology and physics including, BIOL 101, 102, 103, 364, 404; PHYS 211, 212, 213, 323, 355, 356; 8 units from PHYS 331, 332, 462, 471; and 4 additional units in either biology or physics. Cognate requirements are CHEM 107, 108, 109, 345; MATH 131, 135, 321, or equivalent.

Engineering physics

A student majoring in engineering physics, emphasizing digital computer logic and electronics, completes the general requirements for the Bachelor of Science degree (see *General Requirements*) and 60 units of coursework in physics and related fields selected in consultation with the department adviser. The cognate requirement is MATH 131.

### MINOR SEQUENCE

A minor in physics is 28 units selected in consultation with the department adviser.

### HONORS PROGRAM

An honors program is open to qualified students who are interested in gaining research experience in physics. Because graduation with honors requires the equivalent of two years in the program, interested students should apply early.

Coursework is selected in consultation with a faculty committee and includes PHYS 499 each quarter the student is in the program. One or more oral examinations are required during the program.

### ASSOCIATE DEGREE PROGRAM

Engineering physics

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 coursework selected in consultation with the department adviser.

### PHYSICS

Lower division

**PHYS 106 Electricity for Electronics** 4 units  
Self-paced, programed, laboratory-oriented course in elementary electricity, which lays the foundation for electronic circuit analysis. Does not apply toward a major in physics.

**PHYS 107 Introduction to Physics** 4-6 units  
Elementary mechanics, fluids, sound, electricity, and atomic structure based on a study of models. A preprofessional course for students entering nursing, radiological technology, and other health-oriented professions. Does not apply toward a major in physics.

**PHYS 201 Electronics** 4 units  
Self-paced, programed, laboratory-oriented course in electronics, with an introduction to operational amplifiers. Does not apply toward a major in physics.  
Prerequisite: PHYS 106 or 212.

**PHYS 202 Geology** 4 units  
Geological processes of the earth, including rock formation, wind and water erosion, mountain building, volcanic activity, and earthquakes. Field trips. Does not apply toward a major in physics.

	<b>PHYS 204 Physics of Music and Speech</b>	<b>4 units</b>
	Sound waves and their relation to music and speech. Does not apply toward a major in physics.	
	<b>PHYS 209 Elementary Computer-Based Physics</b>	<b>4 units</b>
	Exploration of physical ideas through elementary applied mathematical methods, with Basic Computer Language on a department minicomputer and terminals connected to the Supernova and IBM 360 computers.	
	<b>PHYS 210 Intermediate Physics</b>	<b>4 units</b>
	Topics in elementary physics and problem solving. For students not adequately prepared for PHYS 211. Does not apply toward a major in physics.	
	<b>PHYS 211 General Physics: Mechanics</b>	<b>4 units</b>
	Required of students majoring in physics or in premedical or pre dental programs. Three class periods, one three-hour laboratory per week.	
	<b>PHYS 212 General Physics: Electricity and Magnetism</b>	<b>4 units</b>
	Three class periods, one three-hour laboratory per week.	
	<b>PHYS 213 General Physics: Atomic and Nuclear Physics</b>	<b>4 units</b>
	Three class periods, one three-hour laboratory per week.	
	<b>PHYS 214 General Physics: Heat and Fluids</b>	<b>4 units</b>
	Three class periods, one three-hour laboratory per week.	
	<b>PHYS 215 General Physics: Light and Sound</b>	<b>4 units</b>
	Three class periods, one three-hour laboratory per week.	
	<b>PHYS 299 Directed Study</b>	<b>1-4 units</b>
	May be repeated for additional credit.	
Upper division	<b>PHYS 301 Astronomy</b>	<b>4 units</b>
	Star study; experiments; field trips. Use of a 16-inch Cassegrainian-Newton reflector telescope. Does not apply toward a major in physics.	
	<b>PHYS 305 Physics and Man</b>	<b>4 units</b>
	In different quarters: (a) natural philosophy, (b) ecological implications of modern technology, (c) implications to man of relativistic and quantum ideas, (d) physics of contemporary social problems, (e) physics of urban and environmental problems. May be repeated with new content for additional credit. Does not apply toward a major in physics.	
	<b>PHYS 321 Geometrical Optics</b>	<b>4 units</b>
	Lens design and use; aberrations, radiometry, optical instruments.	
	<b>PHYS 322 Basic Transistor Electronics</b>	<b>4 units</b>
	Self-paced, programmed, laboratory-oriented course.	
	<b>PHYS 323 Classical Mechanics</b>	<b>4 units</b>
	Intermediate mathematical treatment.	
	<b>PHYS 331 Introduction to Quantum Mechanics</b>	<b>4 units</b>
	Postulates, one- and two-dimensional box problems, numerical solution of Schrödinger's equation, and the simple harmonic oscillator.	
	<b>PHYS 332 Atomic and Molecular Physics</b>	<b>4 units</b>
	Perturbation solutions of Schrödinger's equation, atomic and molecular application of quantum mechanics.	
	<b>PHYS 333 Modern Optics</b>	<b>4 units</b>
	Diffraction and interference phenomena; Fourier integral transforms in optics, lasers, and holography.	
	<b>PHYS 341 Computer Methods in Physics</b>	<b>4 units</b>
	Application of vector algebra, vector calculus, matrices, and tensors to problems in mechanics.	

<b>PHYS 342, 343 Theoretical Mechanics</b>	<b>4, 4 units</b>
Newtonian mechanics, oscillatory motion, calculus of variation, Lagrangian and Hamiltonian dynamics, central force motion, two-particle collisions, dynamics of rigid bodies, and special theory of relativity.	
<b>PHYS 351 Analog and Digital Electronics</b>	<b>4 units</b>
Self-paced, programed, laboratory-oriented course, with introduction to computers.	
<b>PHYS 352 Digital Computer Logic</b>	<b>4 units</b>
Self-paced, programed, laboratory-oriented course.	
<b>PHYS 355 Biomedical Electronic Instrumentation</b>	<b>4 units</b>
Electronics as a tool for biological, chemical, physical, and medical instrumentation.	
<b>PHYS 356, 357 Biophysics</b>	<b>4, 4 units</b>
Physical phenomena associated with biological organisms.	
<b>PHYS 453 Digital Computer Electronics</b>	<b>4 units</b>
Self-paced, programed, laboratory-oriented course. Applied to computers and scientific instrumentation.	
<b>PHYS 454 Computer Interfacing</b>	<b>4 units</b>
Self-paced, programed, laboratory-oriented course in interfacing to experimental laboratory apparatus and manufacturing equipment.	
<b>PHYS 461 Methods of Theoretical Physics</b>	<b>4 units</b>
Matrices, determinants, diagonalization of matrices, operators, and tensor analysis as applied to radiation and matter.	
<b>PHYS 462 Nuclear Physics</b>	<b>4 units</b>
Radioactivity, radiation detectors, nuclear reactions, nuclear models, reactor physics, and fission.	
<b>PHYS 471 Thermal Physics</b>	<b>4 units</b>
Classical statistical mechanics, quantum statistics, and applications to thermodynamics.	
<b>PHYS 472 Solid State Physics</b>	<b>4 units</b>
Bonding of solids, crystal structure, specific heats, bond theory of solids.	
<b>PHYS 481, 482 Electromagnetism</b>	<b>4, 4 units</b>
Theory of electric and magnetic fields, including solution of Laplace's and Poisson's equations; motion of bodies and particles in magnetic and electric fields; electromagnetic waves and radiation.	
<b>PHYS 483 Advanced Modern Optics</b>	<b>4 units</b>
Polarized light, dispersion theory, crystal propagation.	
<b>PHYS 491 Advanced Physics Laboratory</b>	<b>2-4 units</b>
Optics; nuclear and spectroscopic physics.	
<b>PHYS 496 Christianity and the Rational Man</b>	<b>4 units</b>
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 496.	
<b>PHYS 498 Workshop</b>	<b>4 units</b>
Selected topics studied for application to the elementary or secondary school curriculum. Does not apply toward a major in physics.	
<b>PHYS 499 Directed Study</b>	<b>2-4 units</b>
May be repeated for credit.	



Graduate	PHYS 511	Classical Mechanics	4 units
	PHYS 521	Classical Electrodynamics	4 units
	PHYS 531	Quantum Mechanics	4 units
	PHYS 571	Topics in Theoretical Physics	4 units
	PHYS 691	Research and Thesis in Physics	1-4 units

## ENGINEERING

Lower division	ENGR 211, 212	Engineering Mechanics Statics of physical structures; dynamics of particles and structures.	4, 5 units
	ENGR 228	Electrical Circuit Analysis Kirchoff's laws, Thevenin's theorem, two-terminal networks and equations Laboratory. Prerequisite: MATH 131, PHYS 212.	4 units

## DEPARTMENT OF PSYCHOLOGY

- Chairman PETER G. STRUTZ, Associate Professor of Psychology  
PH.D. University of Alberta
- Faculty R. RICHARD BANKS, Associate Professor of Psychology  
PH.D. University of Notre Dame
- CLIFFORD D. ACHORD, Assistant Professor of Psychology  
PH.D. University of Northern Colorado
- LAVERN R. ANDRESS, Assistant Professor of Psychology  
M.A. California State University, San Diego
- H. DALE BAUMBACH, Assistant Professor of Psychology  
M.A. Loma Linda University  
M.A. University of California, Riverside
- HAROLD I. SHARPNACK, Instructor in Psychology  
M.A. Wyoming University
- ADENY S. WOODS, Instructor in Psychology  
M.A. Catholic University of America
- Lecturers DOUGLAS L. HACKLEMAN, Lecturer in Psychology  
M.A. Pepperdine University
- JAMES HAMILTON, Lecturer in Correctional Science  
B.A. Pasadena College
- CARROLL M. LAWSON III, Lecturer in Correctional Science  
J.D. California Western University
- ALBERTA S. MAZAT, Lecturer in Psychology  
M.S.W. University of Denver

Objectives The aim of psychology courses is personal development in effective Christian living. The student interested in psychology may prepare himself for a career in psychology, marriage and family counseling, teaching, special education, medicine, dentistry, social service, psychiatric social work, speech therapy, theology, or personnel administration (residence hall deanship).

A baccalaureate degree in psychology or behavioral science prepares the student for graduate study, or for immediate employment in some vocation such as corrections, probation, juvenile problems, social welfare, and related fields. However, many vocations now require at least one year of graduate work.

Correctional science The correctional science program is designed for students planning to go into the fields of corrections, probation, and parole; for persons already employed in these fields; and for students preparing for graduate study. Collaborating agencies include the California Institute for Women and the Riverside County probation program.

Financial aid may be available for those students who meet the requirements of the Law Enforcement Education Program (LEEP). Applications for such aid must be presented to the Student Aid and Finance Office at the beginning of the school year after the student has worked out his program of studies with the LEEP adviser.

Counseling and education A psychology major interested in credentials in elementary or secondary education, school psychometry, pupil personnel work, or counseling and guidance should consult his department adviser and the credentials adviser in the School of Educa-

tion (during the freshman or sophomore year) for detailed information concerning requirements.

## BACCALAUREATE MAJOR PROGRAMS

Psychology A student majoring in psychology completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 48 units (32 upper division) of coursework in psychology, including PSCH 101 or 105, 201, 221 and 222 or 321, 301, 341 and 485 or 435 and 441, 401, 455, 481, 491, 493. Cognate requirements are MATH 281, 282; SOCI 211.

Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 56 units (40 upper division) of coursework in psychology, including PSCH 101 or 105, 201, 221, 222, 301, 341, 401, 435, 441 or 485, 455, 481, 491, 493. Cognate requirements are MATH 281, 282; SOCI 211.

Correctional science A student majoring in correctional science completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 48 units of coursework, including CORR 305, 375, 377, 379, 381, 435 (three quarters), ANTH 211 or 411; PSCH 101 or 105, 341, 467; SOCI 211. Cognate requirements are MATH 281, 282; PSCH 301, 351 are recommended.

Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 80 units of coursework selected in consultation with the department adviser, including CORR 305, 375, 377, 379, 381, 435 (three quarters); ANTH 211 or 411; PSCH 101 or 105, 341, 467; SOCI 211.

Behavioral science A student majoring in behavioral science completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 56 units (32 upper division) of coursework, including ANTH 211, 425; PSCH 101 or 105, 221 or 321, 341; SOCI 211, 301, 303 or 411; electives in one of the three areas of the behavioral sciences selected in consultation with the department adviser. A cognate requirement is MATH 281, 282.

Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 64 units (40 upper division) of coursework, including ANTH 211, 425; PSCH 101 or 105, 221 or 321, 341; SOCI 211, 301, 303 or 411; electives in two of the three areas of the behavioral sciences selected in consultation with the department adviser.



## MINOR SEQUENCES

The following minors are available:

Psychology, 28 units (16 upper division), including PSCH 101 or 105, 203 or 221, 341.

Behavioral science, 28 units (16 upper division) selected in consultation with the adviser and including ANTH 211; PSCH 101; SOCI 211.

## COURSES

PSCH 101 or 105 is prerequisite to all other courses in psychology except PSCH 091.

Remedial	<b>PSCH 091 Personal Psychology</b>	<b>4 units</b>
	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	<b>PSCH 101 General Psychology I</b>	<b>4 units</b>
	Human behavior; its causes and consequences. Controls that can be exercised upon oneself and others. Not open to students who take PSCH 105.	
	<b>PSCH 105 Introduction to Psychology</b>	<b>4 units</b>
	Scientific study of human behavior; motivation, conflict, emotions, learning, intelligence, and personality. Recommended for psychology, sociology, and behavioral science majors for the Bachelor of Arts. Not open to students who take PSCH 101.	
	<b>PSCH 201 General Psychology II</b>	<b>4 units</b>
	Selected areas of psychology studied in depth. Special emphasis on the scientific methods of studying physiological factors, adaptive behavior, perception, cognition, and motivation.	
	<b>PSCH 203 Personal and Social Adjustment</b>	<b>4 units</b>
	Practical use of psychological principles in dealing with problems and circumstances related to personality development and social adjustment. Three lectures and a two and one-half hour participation in human dynamics laboratory per week.	
	<b>PSCH 221 Developmental Psychology I</b>	<b>3-4 units</b>
	Physical, mental, emotional, and social development of the individual from conception through the first twelve years of life. Observations and/or laboratory experience.	
	<b>PSCH 222 Developmental Psychology II</b>	<b>3-4 units</b>
	Individual physical, mental, and social development from adolescence through adulthood and old age. Particular emphasis on normal adaptation to change. Observations and/or laboratory experience.	
	Prerequisite: PSCH 221 or consent of the instructor.	
Upper division	<b>PSCH 301 Social Psychology</b>	<b>4 units</b>
	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 SOC 301.	
	<b>PSCH 302 Educational Psychology</b>	<b>4 units</b>
	Fundamental psychological problems encountered in education. Measurement and significance of individual differences; learning; motivation; transfer of learning; and educational implications of theories of intelligence. Does not apply toward a major in psychology.	
	<b>PSCH 321 Psychology of Human Growth and Development</b>	<b>2 or 4 units</b>
	Principles of growth related to all phases of development. Emphasis on interrelationships in human behavior. Laboratory.	

- PSCH 331 Field Observation** **1 unit**  
 In schools, dormitories, and other related social agencies, including case discussions. Approximately 30 clock hours. May be repeated for additional credit to a maximum of 3 units.
- PSCH 341 Introduction to Personality** **4 units**  
 Development, dynamics, and assessment of personality by the use of various theoretical points of view and latest research findings to give a broad conceptual basis.
- PSCH 351 Psychological Tests and Measurements** **4 units**  
 Purposes and use of psychological testing procedures in evaluation and diagnosis of human behavior.  
 Prerequisite: MATH 281 or consent of the instructor.
- PSCH 377 Psycholinguistics** **4 units**  
 General nature of speech and language and their role in human behavior; acquisition, breakdown, significant differences and effects of speech and language.
- PSCH 401 Experimental Psychology** **4 units**  
 Problems related to learning, growth, and development. Lecture and laboratory.  
 Prerequisite: PSCH 201; MATH 281, 282; senior standing.
- PSCH 403 Psychology of Human Relations** **4 units**  
 Human motivation and its constructive application to oneself and others, with emphasis on dealing with others in an employment situation. Human factor in business, psychological aspects of personal human relations, employee relations, customer relations, community relations, and public relations.
- PSCH 411 Interviewing and Counseling** **4 units**  
 Principles and practices studied against a background of behavioral sciences.  
 Prerequisite: PSCH 341 or consent of the instructor.
- PSCH 415 Group Therapy** **4 units**  
 Principles and techniques; role of the leader, problems of member selection, and evaluation of progress. Limited supervised experience as a group participant. Laboratory.  
 Prerequisite: Consent of the instructor.
- PSCH 417 Psychology of Small Groups** **4 units**  
 Aspects of small group behavior as interrelated processes of social interaction.
- PSCH 419 Group Counseling for Corrections** **4 units**  
 Dynamics of group formation and behavior and techniques of group counseling in correctional institution setting. Emphasis on the role of the leader within the framework of both directive and nondirective techniques. Limited supervised experience as a group participant.  
 Prerequisite: Consent of the instructor.
- PSCH 423 Thanatology** **4 units**  
 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. Identical to CORR 423.  
 Prerequisite: Consent of the instructor.
- PSCH 425 Psychology of Physical Disability** **3 units**  
 Psychological reactions to organic illness. Methods of dealing with these reactions considered with reference to clinical situations. Identical to AHCJ 421 (School of Allied Health Professions).
- PSCH 431 Field Instruction** **1 unit**  
 Supervised experience in specified areas of counseling; a modified practicum. May be repeated for additional credit to a maximum of 3 units.
- PSCH 435 Psychology of Learning** **4 units**  
 Review and analysis of major phenomena and theories of human and animal learning. Introduction to the fields of problem-solving, thinking, and reasoning behavior.  
 Prerequisite: PSCH 201.



<b>PSCH 437 Principles of Human Behavior</b>	<b>3 units</b>
Current theories and principles in psychology related to learning and teaching, personality development and change, and interpersonal process and dynamics.	
<b>PSCH 441 Theories of Personality</b>	<b>4 units</b>
Representative points of view and research relevant to major problems. Prerequisite: PSCH 341 or consent of the instructor.	
<b>PSCH 451 Advanced Counseling</b>	<b>4 units</b>
Theory and techniques. Prerequisite: PSCH 411, senior standing.	
<b>PSCH 455 Physiological Psychology I</b>	<b>4 units</b>
Physiological basis of behavior, with emphasis on functional neuroanatomy. Demonstration and/or laboratory. Prerequisite: BIOL 227 or consent of the instructor.	
<b>PSCH 456 Physiological Psychology II</b>	<b>4 units</b>
Neurophysiological mechanisms of motivation, emotion, consciousness, and attention. Prerequisite: PSCH 455.	
<b>PSCH 461 The Exceptional Child</b>	<b>3 units</b>
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.	
<b>PSCH 463 Mental Deficiency</b>	<b>3 units</b>
Etiology of mental retardation; diagnosis, characteristics, and classification of mental defectives. Degrees of impairment and resultant personality, school, family, and institutional problems.	
<b>PSCH 465 The Gifted Child</b>	<b>3 units</b>
Developmental study of the peculiar qualities that make up intellectual giftedness, special capacities, and special aptitudes. Psychological, philosophical, social, educational, and personal issues. Identical to EDCE 465 in the School of Education.	
<b>PSCH 467 Abnormal Psychology</b>	<b>4 units</b>
Psychology of behavioral disorders, with emphasis on etiology, symptoms, and treatment. Prerequisite: PSCH 341.	
<b>PSCH 471 Industrial Psychology</b>	<b>4 units</b>
Application of psychology to industrial and personnel problems, including human relations, selection, training, employee motivation, and morale.	
<b>PSCH 481 History and Systems of Psychology</b>	<b>4 units</b>
Philosophical and historical background; consideration of contemporary schools and systems of psychology.	
<b>PSCH 485 Theories of Learning</b>	<b>4 units</b>
Systematic survey, including Hull, Skinner, Tolman, and Spence, with emphasis on modern behavioral concepts. Prerequisite: PSCH 331, 435, or consent of the instructor.	
<b>PSCH 491 Methods of Research</b>	<b>4 units</b>
Techniques and principles. Prerequisite: MATH 281, 282; senior standing.	
<b>PSCH 493 Seminar in Psychology</b>	<b>1-4 units</b>
Variable content to meet special needs of student groups. Prerequisite: Consent of the instructor.	
<b>PSCH 496 Psychology and Religious Issues</b>	<b>4 units</b>
Psychological implications in some contemporary psychoreligious issues. Does not apply toward a major or minor, but can apply toward the general requirement in religion.	
<b>PSCH 499 Directed Study</b>	<b>1-4 units</b>
Limited to department majors with senior standing.	



Graduate	<p><b>PSCH 503 Psychology of Interpersonal Relationships</b> 3 units          Motivations of behavior, with applications to interactions between individuals and to functioning of groups.          Arranged.</p> <p><b>PSCH 551 Advanced Techniques in Psychological Assessment and Diagnosis</b> 2-4 units          The application of psychological testing methods in the diagnostic assessment of individual and group behavioral dynamics as encountered in marriage, family, and child counseling; social services; psychotherapy. Observations and/or laboratory experience.          Prerequisite: PSCH 351, 411, 451.</p> <p><b>PSCH 561 Counseling Theories and Techniques</b> 4 units          Interviewing; social casework; parent counseling; case study methods. Directive, nondirective, and other methods.          Prerequisite: PSCH 411, 451.</p> <p><b>PSCH 563 Group Process Theory and Procedures</b> 3-4 units          Group guidance; theories of group-individual interaction; communication processes; development and structure of organized groups.          Prerequisite: PSCH 411, 417.</p> <p><b>PSCH 564, 565 Understanding and Counseling the Adolescent</b> 3, 3 units          Physiological, emotional, and social development. Representative theoretical viewpoints and research. Principles and techniques of counseling.          Prerequisite: Consent of the instructor.</p>
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### CORRECTIONAL SCIENCE

Upper division	<p><b>CORR 305 Juvenile Delinquency</b> 4 units          Historical background; analysis of present forms of delinquency; evaluation of remedial measures now in common use. Identical to SOCI 305.</p> <p><b>CORR 345 Group Counseling in the Prison Setting</b> 4 units          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 nondirective techniques. Limited supervised experience as a group participant.</p> <p><b>CORR 375 Criminology</b> 4 units          Crime as a social phenomenon. Psychological and sociocultural factors in the development of the criminal. Identical to SOCI 375.</p> <p><b>CORR 377 Probation and Parole</b> 4 units          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.</p> <p><b>CORR 379 Correctional Institutions</b> 4 units          Theory of corrections; various types of correctional institutions.</p> <p><b>CORR 381 Crime and Law</b> 4 units          Legal aspects of delinquent and criminal behavior. Identical to SOCI 381.</p> <p><b>CORR 421 Social Disorganization</b> 4 units          Current theory and research in selected areas of disorganization such as crime, urban poverty, war, and deviant behavior. Identical to SOCI 421.</p> <p><b>CORR 423 Thanatology</b> 4 units          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. Identical to PSCH 423.          Prerequisite: Consent of the instructor.</p>
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**CORR 435 Field Instruction**

**1-4 units**

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: CORR 377 or 379; consent of both the instructor and the agency.

**CORR 493 Seminar in Correctional Science**

**1-4 units**

Selected topics. May be repeated with new content for additional credit.

Prerequisite: Consent of the instructor.

**CORR 499 Directed Study**

**1-4 units**

**DEPARTMENT OF  
RELIGION**

*theology - 9*

- Chairman** KENNETH L. VINE, Professor of Biblical Studies  
PH.D. University of Michigan
- Faculty** FRITZ GUY, Professor of Theology  
PH.D. University of Chicago
- J. CECIL HAUSSLER, Professor of Biblical Studies  
PH.D. University of Southern California
- NORVAL F. PEASE, Professor of Applied Theology  
PH.D. Michigan State University
- HAROLD E. FAGAL, Associate Professor of Biblical Studies  
M.TH. Fuller Theological Seminary
- THEADORE J. CHAMBERLAIN, Assistant Professor of Sociology and Religion  
D.MIN. School of Theology at Claremont
- V. BAILEY GILLESPIE, Assistant Professor of Biblical Studies  
PH.D. Claremont Graduate School and University Center
- MADLYNN J. HALDEMAN, Assistant Professor of Biblical Languages  
M.A. Andrews University
- PAUL J. LANDA, Assistant Professor of Church History  
M.A. Vanderbilt University
- F. LYNN MALLERY, Assistant Professor of Applied Theology  
D.MIN. San Francisco Theological Seminary
- ROBERT L. OSMUNSON, Assistant Professor of Biblical Studies  
ED.D. University of Southern California
- CHARLES W. TEEL, JR., Assistant Professor of Religion and Sociology  
PH.D. Boston University
- DAVID D. OSBORNE, Instructor in Biblical Studies  
M.DIV. Andrews University
- T. RICHARD RICE, Instructor in Theology  
PH.D. University of Chicago
- Lecturers** JOHN J. ROBERTSON, Lecturer in Theological Studies  
D.MIN. Andover-Newton Theological School
- LARRY E. VEVERKA, Lecturer in Theological Studies  
M.A. Andrews University
- Adjunct personnel** TIMOTHY D. BERRY  
BURTON J. BOUNDEY  
E. TED CALKINS  
EARL A. CANSON  
GARY L. CASE  
TERRY CASSINGHAM  
GARY D. GIFFORD  
HOWARD FLYNN, JR.  
LAWRENCE G. KAGELS
- GERALD B. KUNKEL  
WAI CHOW LEONG  
L. CALVIN OSBORN  
CLIFFORD J. RASMUSSEN  
G. SAMUEL REMICK  
RUSSELL ROSE  
ELWOOD E. STAFF  
RONALD W. TORRANO  
L. NORMAN VERSTEEG

- Objectives** The objectives of this department are:
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.

Preparation for teaching

A student preparing to teach religion at the secondary level should plan to complete a ministerial studies major and qualify for teaching credentials. During his freshman or sophomore year he should consult the credentials adviser in the School of Education for detailed information concerning requirements.

Combined majors

In preparation for certain kinds of specialized ministry and/or graduate study, a student may wish to combine a major in religion with a major in another department. Sample curriculums have been worked out for religion and history, and for religion and social service.

### BACCALAUREATE MAJOR PROGRAMS

Religion

A student majoring in religion completes the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 56 units of coursework in religion, including RLGB 103, 213, 214, 241, 303, 304, 305; RLGH 471, 472, 473; RLGT 253, 421, 422, 423.

Ministerial studies

The preseminary program is designed for those planning to enter the ministry. A student who intends to major in ministerial studies applies to the Department of Religion during the spring quarter of his sophomore year. In addition, he completes, during that quarter, a prescribed battery of diagnostic tests. These are planned, along with a two-hour counseling session, to help the student evaluate himself and his call to the ministry. Each application is considered by the faculty of the department, and a letter of response is sent to each applicant before the fall quarter of his junior year.

A student majoring in ministerial studies completes the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 79 units of coursework in religion, including RLGB 103, 213, 214, 241, 303, 304, 305; RLGH 471, 472, 473; RLGP 266, 267, 399 (3 units), 361, 362, 363, 365 (3 units); RLGT 253, 421, 422, 423. Cognate requirements are RLGL 381, 382, 383, 481, 482, 483; RELP 405 in the Division of Religion on the Loma Linda campus.

## MINOR SEQUENCES

The following minors are available:

Religion, 32 units (16 upper division) : including RLGB 103, 213 or 214, 241, 303 or 304; RLGT 253, 421, 422; electives, 4 units upper division.

## BIBLICAL STUDIES

Lower division	<b>RLGB 101 Mission and Message of Jesus</b>	<b>4 units</b>
	Life and ministry of Jesus; his teachings as they relate to current conditions and needs in the church and world. Not open to students who take RLGB 102 or 103. Does not apply toward a major in religion or ministerial studies.	
	<b>RLGB 102 Gospel of John</b>	<b>4 units</b>
	The Gospel of belief, written to establish faith in Jesus as the world's Redeemer. Johannine concepts of Christ, the Spirit, life, light, grace, and truth. Not open to students who take RLGB 101 or 103. Does not apply toward a major in religion or ministerial studies.	
	<b>RLGB 103 Jesus and the Gospels</b>	<b>4 units</b>
	Designed for religion majors. Gospels studied as sources for reconstructing the life and ministry of Jesus. Consideration given to preaching from the gospels and communicating their relevance in today's society. Not open to students who take RLGB 101 or 102.	
	<b>RLGB 201 Acts of the Apostles</b>	<b>4 units</b>
	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.	
	<b>RLGB 206 Message and Times of the Old Testament</b>	<b>4 units</b>
	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.	
	<b>RLGB 207 Message and Times of the New Testament</b>	<b>4 units</b>
	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.	
	<b>RLGB 213 History and Theology of the Old Testament I</b>	<b>4 units</b>
	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.	
	<b>RLGB 214 History and Theology of the Old Testament II</b>	<b>4 units</b>
	The time of Solomon to the postexilic era, with emphasis on the authority of the Old Testament for today's preaching.	
	<b>RLGB 241 Daniel and Revelation</b>	<b>4 units</b>
	Historical and prophetic study, with emphasis on gospel implications.	
	<b>RLGB 299 Directed Study</b>	<b>1-4 units</b>
	Prerequisite: Consent of the department chairman.	
Upper division	<b>RLGB 303 Life and Letters of Paul</b>	<b>4 units</b>
	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.	
	<b>RLGB 304 Theology of Paul</b>	<b>4 units</b>
	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.	



- RLGB 305 Teachings of the Early Church** **4 units**  
 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.
- RLGB 401 New Testament Letters** **2-4 units**  
 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.
- RLGB 411 Biblical Archaeology** **2-4 units**  
 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.
- RLGB 412 Fieldwork in Middle East Archaeology** **1-8 units**  
 Prerequisite: Consent of the instructor.
- RLGB 413 Old Testament Prophets** **4 units**  
 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.
- RLGB 499 Directed Study** **1-4 units**  
 Limited to students majoring in religion or ministerial studies.
- RLGB 501 Seminar in New Testament Studies** **2-4 units**  
 Prerequisite: Consent of the instructor.
- RLGB 511 Seminar in Old Testament Studies** **2-4 units**  
 Prerequisite: Consent of the instructor.

## THEOLOGICAL STUDIES

- Lower division **RLGT 221 Introduction to Seventh-day Adventist Beliefs** **4 units**  
 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.
- RLGT 222 Studies in Seventh-day Adventist Beliefs** **4 units**  
 Fundamental doctrines of Christianity as taught by the Seventh-day Adventist church. Does not apply toward a major in religion or ministerial studies.
- RLGT 223 Dynamics of Personal Religion** **4 units**  
 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.
- RLGT 253 Ellen G. White and the Church** **4 units**  
 The prophetic ministry of Ellen G. White in relation to the origin and development of Adventism, with emphasis on the present significance of her writings.
- Upper division **RLGT 344 Adventist Eschatology** **4 units**  
 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.
- RLGT 421 Dimensions of Salvation** **4 units**  
 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.



- RLGT 422 Christian Understanding of God and Man** 4 units  
Theological methodology; the nature and function of revelation; attributes of God; the nature of man.  
Prerequisite: Senior standing or consent of the instructor.
- RLGT 423 Religious Belief and the Modern World** 4 units  
Reality and relevance of God for contemporary man.  
Prerequisite: Senior standing or consent of the instructor.
- RLGT 424 Current Issues in Adventism** 4 units  
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.
- RLGT 432 Christian Ethics** 2-4 units  
Theological foundations of ethics; methods for making sound ethical judgments; implications of Christian belief for selected problems in personal and social ethics. Does not apply toward a major in religion or ministerial studies.
- RLGT 441 Seminar in Personal Religion** 2-4 units  
Advanced study of the dynamics of personal religion. Does not apply toward a major in religion or ministerial studies.
- RLGT 521 Colloquium in Seventh-day Adventist Beliefs** 2-4 units  
Limited to graduate students who are not Seventh-day Adventists.
- RLGT 522 Seminar in Theological Studies** 2-4 units  
Prerequisite: Consent of the instructor.

## PROFESSIONAL STUDIES

Courses in this section do not apply toward the general requirement in religion.

- Lower division **RLGP 266, 267 Evangelism I, II** 4, 4 units  
Theory and practice of communicating Adventist beliefs to individuals and groups.
- Upper division **RLGP 361 The Adventist Ministry** 3 units  
Personal and professional requirements for the Adventist ministry. Taken concurrently with RLGP 365.
- RLGP 362, 363 Homiletics I, II** 3, 3 units  
The art of preaching, with emphasis on homiletical literature and methodology, biblical interpretation, and practical experience. Taken concurrently with RLGP 365.
- RLGP 365 Externship** 1 unit  
Practical application of the principles of church leadership and preaching by assignment to local churches. Taken concurrently with RLGP 361, 362, or 363. Limited to juniors and seniors majoring in ministerial studies. May be repeated for additional credit to a maximum of 3 units.
- RLGP 366 Field Program in Pastoral Evangelism** 4 units  
Instruction and participation in visitation, Bible studies, church administration, special services, and public evangelism. Summer only; selected location.  
Prerequisite: Consent of the instructor.
- RLGP 376 World Missions** 4 units  
Special study of the methods, problems, and policies of world missions. Does not apply toward a major in religion or ministerial studies.

- RLGP 399 Seminar in Ministerial Studies 1/2 unit  
 Limited to students majoring or minoring in religion or ministerial studies. May be repeated for additional credit to a maximum of 3 units.
- RELP 405 Introduction to Clinical Pastoral Counseling 4 units  
 Offered through the Division of Religion on the Loma Linda campus.

## HISTORICAL STUDIES

One course in this section may be chosen to apply toward the general requirement in religion.

- Upper division RLGH 471 The Christian Heritage: The Making of Christendom 4 units  
 Growth and expansion of the Christian Church and the development of Christian thought from the Apostolic Age to A.D. 1350.
- RLGH 472 The Christian Heritage: The Reform of Christendom 4 units  
 Christianity in High Middle Ages and Reformation, with emphasis on sixteenth century developments and shaping of new movements and churches down to A.D. 1648.
- RLGH 473 The Christian Heritage: Christendom since A.D. 1648 4 units  
 Growth of modern religious traditions, their influence in Europe and North America, with particular emphasis on the American religious scene and development of Adventism.
- HIST 475 The Early Christian Church 3-4 units
- HIST 477 The Medieval Church 3-4 units
- HIST 479 The Christian Humanists of the Renaissance 3-4 units
- HIST 481 History of the Papacy 3-4 units
- HIST 482 The Lutheran Reformation 3-4 units
- HIST 484 The Swiss Reformation and Calvinism 3-4 units
- HIST 486 The English Reformation 3-4 units
- HIST 487 Twentieth Century Church History 3-4 units
- HIST 635 Seminar in Church History 4 units

## BIBLICAL LANGUAGE

- Upper division RLGL 381, 382, 383 Basic Greek I, II, III 4, 4, 4 units  
 Linguistic analysis of grammatical structure of both New Testament Greek sentences and English sentences, with emphasis on their differences. A small basic vocabulary is required.
- RLGL 481, 482, 483 Advanced Greek I, II, III 3, 3, 3 units  
 Emphasis on syntax as it occurs in Greek New Testament. Passages for translation and for exegesis selected from the Gospels and the Pauline Epistles.

DEPARTMENT OF  
**SECRETARIAL and BUSINESS EDUCATION**

- Chairman LOIS E. MCKEE, Professor of Secretarial and Business Education  
ED.D. University of Nebraska
- Faculty IRENE E. ORTNER, Professor of Secretarial and Business Education  
M.A. Boston University
- CHARLENE A. BAKER, Associate Professor of Secretarial and Business Education  
M.A. Columbia University  
Professional Diploma, Teacher of Business Subjects, Columbia University

Objectives This department provides specialized instruction for office careers and teaching positions in business education.

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 his freshman or sophomore year he should consult both his 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.

#### BACCALAUREATE MAJOR PROGRAMS

Secretarial administration A student majoring in secretarial administration completes the general requirements for either the Bachelor of Arts or Bachelor of Science degree (see *General Requirements*) and 56 units (24 upper division) of coursework, including SECY 105, 106, 107, 108, 211, 212, 461, 462; ACCT 201. Two courses from the Department of Business and Economics (at least one of which is upper division) may apply. Cognate requirements are ECON 251, 252; CNSC 291.

Business education A student majoring in business education completes the general requirements for the Bachelor of Science degree (see *General Requirements*) and 84 units of coursework in secretarial skills and procedures, business, and economics, including SECY 105, 106, 107, 108, 321, 371; ACCT 201, 202, 203; SECY 211, 212, or ACCT 301, 302; BSNS 235; DAPR 111; ECON 251, 252; MGNT 342, 381, 382, 405. Cognate requirements in the School of Education are: EDCI 201, 414, 432, 434, 447; EDFO 302.

#### MINOR SEQUENCE

A minor in secretarial administration is 28 units (12 upper division), including SECY 105, 106, 107, 108, 461, 462.



## ASSOCIATE DEGREE PROGRAMS

- Stenography** A student in the associate degree program in stenography completes the general requirements for the Associate in Arts degree (see *General Requirements*) and SECY 105, 106, 107, 108. Cognate requirements are ACCT 201; CNSC 291. Recommended courses are SECY 111, 112, 113, 211, 212.
- Medical office assisting** A student in the associate degree program in medical office assisting completes the general requirements for the Associate in Arts degree (see *General Requirements*) and SECY 105, 106, 107, 241, 243. Cognate requirements are ACCT 201; BIOL 203; CNSC 291. Recommended courses are SECY 111, 112, 113, 211, 212.

## SECRETARIAL SKILLS AND PROCEDURES

- Lower division**
- SECY 101 Beginning Typewriting** 4 units  
For students with no previous instruction.
- SECY 102 Intermediate Typewriting** 4 units  
For students with some previous instruction who wish to improve skills or to qualify for advanced typewriting.  
Prerequisite: SECY 101 or equivalent.
- SECY 103 Personal Typing Review** 2 units  
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 secretarial administration.
- SECY 105 Advanced Typewriting** 4 units  
Typical typewriting problems to be solved by the secretary.  
Prerequisite: SECY 102 or equivalent.
- SECY 106 Office Services I** 4 units  
Evaluation and refinement of basic skills in office work.
- SECY 107 Office Services II** 4 units  
Procedures involving the use of adding, calculating, transcribing, duplicating, and filing equipment.  
Prerequisite: SECY 102, 106, or equivalent.
- SECY 108 Office Services III** 4 units  
Duties encountered in most offices: processing mail, making appointments, receiving callers, etc. Personal traits of the successful employee.  
Prerequisite: SECY 102, 106, 107.
- SECY 110 Personal Shorthand** 2 units  
A new system of shorthand for use in personal notetaking. Programed instruction. Does not apply toward a major in secretarial administration.
- SECY 111, 112, 113 Theory of Gregg Shorthand** 4, 4, 4 units  
Speed goal for year: 80 words per minute on new material.
- SECY 211, 212 Shorthand Dictation and Transcription** 4, 4 units  
Development of shorthand speed; fast and accurate transcription at the typewriter. Speed goal: 120 words per minute on new material.  
Prerequisite: SECY 105 (may be taken concurrently), 113, or equivalent.

	<b>SECY 241 Secretary in a Medical Office</b>	<b>4 units</b>
	Organization of the medical office; procedures for making appointments, recording information, and other aspects; human relationships; introduction to medical terminology. Prerequisite: SECY 102, 106, 107.	
	<b>SECY 243 Medical Terminology and Transcription</b>	<b>4 units</b>
	Prerequisite: SECY 105 (may be taken concurrently).	
	<b>SECY 271 Medical Office Procedures</b>	<b>3 units</b>
	Supervised observation and experience in medical offices. Weekly conference with supervisor. May be repeated once for additional credit. Prerequisite: SECY 241; SECY 243 (may be taken concurrently); consent of the department.	
Upper division	<b>SECY 321 Business Communications</b>	<b>4 units</b>
	Effective written communication as a tool of management.	
	<b>SECY 341 Secretary in a Medical Office</b>	<b>4 units</b>
	Additional assignments in SECY 241 for upper division credit. Not open to sophomores. Prerequisite: SECY 102, 106, 107.	
	<b>SECY 371 Office Administration</b>	<b>4 units</b>
	Functions and activities. Interrelationships of personnel, equipment, and services.	
	<b>SECY 451 Secretary in a Law Office</b>	<b>4 units</b>
	Legal terminology and forms. Activities characteristic of secretarial work in the office of an attorney. Prerequisite: SECY 108.	
	<b>SECY 461, 462 The Administrative Secretary</b>	<b>4, 4 units</b>
	Attitudes, responsibilities, and personal qualities of the executive secretary. Class discussion, in-basket assignments, and work simulation. Offered alternate years. Prerequisite: SECY 108.	
	<b>SECY 471 Practicum in Secretarial Work</b>	<b>3 units</b>
	Supervised work experience. Professional reading and conferences. Two quarters of credit permitted. May be repeated once for additional credit. Prerequisite: Consent of the department.	
	<b>SECY 493 Seminar: Professional Concepts</b>	<b>4 units</b>
	Offered alternate years.	
	<b>SECY 496 Ethics for the Christian Office Employee</b>	<b>4 units</b>
	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.	
	<b>SECY 499 Directed Study</b>	<b>1-4 units</b>

## BUSINESS EDUCATION

Upper division	<b>BSED 499 Directed Study</b>	<b>1-4 units</b>
	<b>EDCI 434 Curriculum and Instruction in Business Education</b>	<b>4, 4 units</b>
	Literature, history, philosophy, and methods of business education. Both quarters (8 units) recommended but not required. Prerequisite: EDCI 432 (may be concurrent).	

Graduate	<b>BSED 511 Trends and Problems in Business Education</b>	<b>4 units</b>
	Analysis of problems, trends, and recent developments in business education, with particular attention to individual student needs or interests.	
	<b>BSED 514 Workshop in Business Education</b>	<b>2-3 units</b>
	Concentrated consideration of a major problem or area in terms of procedures, materials, research, and individual projects.	
	<b>BSED 517 Evaluation of Research in Business Education</b>	<b>4 units</b>
	Analysis of major research studies and the classroom relevance of their findings.	
	<b>BSED 611 Seminar in Office Administration</b>	<b>4 units</b>
	Contemporary problems in office administration. Emphasis on trends and developments and on individual student research.	
	<b>BSED 612 Curriculum Seminar in Business Education</b>	<b>4 units</b>
	History, philosophy, and processes of curriculum construction. Development of a curriculum and of individual business courses.	



DEPARTMENT OF  
**SOCIOLOGY and ANTHROPOLOGY**

- Chairman JOHN W. ELICK, Professor of Anthropology  
PH.D. University of California, Los Angeles
- Faculty JAMES H. STIRLING, Professor of Anthropology  
PH.D. University of California, Los Angeles
- ANEES A. HADDAD, Associate Professor of Sociology  
PH.D. University of Southern California
- MONTE R. ANDRESS, Assistant Professor of Anthropology  
B.A. California State University, Long Beach
- THEADORE J. CHAMBERLAIN, Assistant Professor of Sociology and Religion  
D.MIN. School of Theology at Claremont
- CHARLES W. TEEL, JR., Assistant Professor of Religion and Sociology  
PH.D. Boston University
- AMINE B. VARGA, Assistant Professor of Social Service  
M.S.S.W. University of Wisconsin, Milwaukee
- Collaborating faculty KALJO S. MAGI, Professor of German and Linguistics  
PH.D. New York University
- KENNETH L. VINE, Professor of Biblical Studies  
PH.D. University of Michigan
- BRUCE W. BAKER, Instructor in Family Practice, School of Medicine  
M.S.W. University of California, Los Angeles
- Lecturers WILLARD R. CENTERWALL, Lecturer in Physical Anthropology  
M.D. Yale Medical School
- MOLLEURUS COUPERUS, Lecturer in Physical Anthropology  
M.D. Loma Linda University
- JUDITH R. DIMMIG, Lecturer in Sociology  
M.A. University of the Pacific
- ROBERT E. FORD, Lecturer in Anthropology and Geography  
M.A. Loma Linda University  
M.P.H. Loma Linda University

**Objectives** The aim of the Department of Sociology and Anthropology is to broaden the student's understanding of the organization and function of society and to develop a perspective from the comparison of different cultures. An understanding of the factors that promote cultural stability and change, of the effects of contact between people of differing cultures, and of the social movements of the modern world scene against a background of social and cultural theory and practice is an essential part of a liberal education.

By majoring in anthropology, sociology, social service, or behavioral science, a student may prepare to pursue graduate study in these fields or to take employment in social work, corrections, probation, and related areas. Or he may find that these courses broaden his background for understanding the human factors involved in such professions as dentistry, medicine, occupational therapy, the ministry, education, public health, public affairs, and related areas.

In addition to the courses offered by the Department of Sociology and Anthro-

pology, certain courses offered by other departments in the University may be applied to the major in consultation with the department adviser.

Graduate programs

Programs leading to the Master of Arts degree in sociology, anthropology, and Middle Eastern studies are described in the BULLETIN of the Graduate School.

Social service

The program in social service, designed with the University motto in mind, *To make man whole*, is closely tied to the religious, medical, and educational disciplines of the University. The program is designed primarily to prepare students to fill church, medical, and school social service positions. But it gives sound preparation for other social work positions also.

Students have excellent opportunities for experience in a wide range of cooperating agencies dealing with many kinds of social problems. Collaborating agencies include La Sierra Academy, La Sierra Church, La Sierra Elementary School, La Sierra Spanish Church, University Church, University School of Medicine, Riverside General Hospital, Knollwood Community Hospital, Canyon Crest Convalescent Hospital, Day Treatment Program of the Riverside County Mental Health Services, Child Study Center, and Rosemary Kennedy School for Handicapped Children.

### BACCALAUREATE MAJOR PROGRAMS

Sociology

A student majoring in sociology completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 48 units of coursework in sociology, including SOCI 211, 301, 401, 411, 491. Cognate requirements are ANTH 211 or 411; PSCH 101 or 105; MATH 281, 282.

Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 64 units of coursework in sociology, including SOCI 211, 301, 401, 411, 461, 491. Cognate requirements are ANTH 211 or 411; PSCH 101 or 105.

Anthropology

A student majoring in anthropology completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 48 units of coursework in anthropology, including ANTH 211 or 411, 301, 312, 421, 491. Cognate requirements are SOCI 211, 401; PSCH 101 or 105; MATH 281, 282.

Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 64 units of coursework in anthropology, including ANTH 211 or 411, 301, 312, 421, 491. Cognate requirements are SOCI 211, 401; PSCH 101 or 105.

Behavioral science

A student majoring in behavioral science completes either of the following programs:

Program A consists of the general requirements for the Bachelor of Arts degree (see *General Requirements*) and 56 units (32 upper division) of coursework, including ANTH 211, 425; PSCH 101 or 105, 221 or 321, 341; SOCI 211, 301, 303



or 411; electives in one of the three areas of the behavioral sciences selected in consultation with the department adviser. A cognate requirement is MATH 281, 282.

Program B consists of the general requirements for the Bachelor of Science degree (see *General Requirements*) and 64 units (40 upper division) of coursework, including ANTH 211, 425; PSCH 101 or 105, 221 or 321, 341; SOCI 211, 301, 303 or 411; electives in two of the three areas of the behavioral sciences selected in consultation with the department adviser.

Correctional science      A program in correctional science is offered through the Department of Psychology.

Social service      A student majoring in social service completes the general requirements for the Bachelor of Science degree (see *General Requirements*) and 64 units (40 upper division) of coursework, including SOSR 118, 208 and 308 (24 units), 214, 217, 218, 317, 318, 319, 493. Cognate requirements are ANTH 211 or SOCI 211; PSCH 101 or 105, 321.

### MINOR SEQUENCES

The following minors are available:

Anthropology, 28 units of coursework (16 upper division) in anthropology selected in consultation with the department adviser.

Sociology, 28 units of coursework (16 upper division) in sociology selected in consultation with the department adviser.

Social service, 28 units of coursework (4 upper division) selected in consultation with the department adviser.

Behavioral science, 28 units of coursework (16 upper division) selected in consultation with the department adviser, including ANTH 211; PSCH 101; SOCI 211.

### SOCIOLOGY

Lower division      SOCI 211    Introduction to Sociology      4 units  
The science of society: social norms, social processes, social change, and social structure.

                                 SOCI 271    Sociology of Love and Marriage      4 units  
Love, maturity, compatibility, conflict, religious factors, and specific areas of adjustment in marriage.

Upper division      Unless it is otherwise indicated, SOCI 211 or consent of the instructor is prerequisite to all upper division courses.

                                 SOCI 301    Social Psychology      4 units  
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 PSCH 301.

                                 SOCI 303    Social Issues      4 units  
Current issues agitating society; underlying social factors. Resolution of issues evaluated in the light of social theory.



	<b>soci 305 Juvenile Delinquency</b>	<b>4 units</b>
	Historical background; analysis of present forms of delinquency; evaluation of remedial measures now in common use. Identical to CORR 305.	
	<b>soci 325 Ethnic Relations</b>	<b>4 units</b>
	Prejudice and discrimination in the interrelationships of society and its ethnic components.	
	<b>soci 375 Criminology</b>	<b>4 units</b>
	Crime as a social phenomenon. Psychological and sociocultural factors in the development of the criminal. Identical to CORR 375.	
	<b>soci 381 Crime and Law</b>	<b>4 units</b>
	Legal aspects of delinquent and criminal behavior. Identical to CORR 381.	
	<b>soci 401 Foundations of Social Thought</b>	<b>4 units</b>
	Historical background of behavioral sciences, particularly philosophy of the Enlightenment. Development of current social and anthropological theory.	
	<b>soci 411 The Family</b>	<b>4 units</b>
	Structure and function; changing patterns; future in urban society. Relationships between changes in society and widespread family problems.	
	<b>soci 421 Social Disorganization</b>	<b>4 units</b>
	Current theory and research in selected areas of disorganization such as crime, urban poverty, war, and deviant behavior. Identical to CORR 421.	
	<b>soci 431 Urban Sociology</b>	<b>4 units</b>
	The urban community: its history, social structure, and problems of interaction; processes of urbanization.	
	<b>soci 435 Collective Behavior</b>	<b>4 units</b>
	Crowds, the public, and the mass; social movements.	
	<b>soci 455 Socialization</b>	<b>4 units</b>
	Major theories of socialization throughout the life cycle, with emphasis on childhood and home. All life stages and pertinent agencies of socialization.	
	<b>soci 461 Sociology of Religion</b>	<b>4 units</b>
	Religion as a social institution; its relation to other social institutions; its organizational forms.	
	<b>soci 491 Methods of Research</b>	<b>4 units</b>
	Research design; sampling; application of research principles and writing. Prerequisite: MATH 281, 282.	
	<b>soci 493 Proseminar</b>	<b>2 units</b>
	<b>soci 496 Religion and the Behavioral Scientist</b>	<b>4 units</b>
	Does not apply toward a major or minor, but can apply toward the general requirement in religion. Identical to ANTH 496.	
	<b>soci 499 Directed Study</b>	<b>1-4 units</b>
	Limited to students with upper division standing and majoring in sociology.	
Graduate	<b>soci 501 Social Research Methods and Methodology</b>	<b>2-4 units</b>
	<b>soci 525 Population</b>	<b>4 units</b>
	<b>soci 601, 602 Seminar: Social Theory</b>	<b>4, 4 units</b>
	<b>soci 607 Seminar: Middle Eastern Cultural History</b>	<b>4 units</b>
	<b>soci 611 Seminar: The Family</b>	<b>4 units</b>
	<b>soci 615 Seminar: Population</b>	<b>4 units</b>

SOCI 617	Seminar: The Middle East in the Twentieth Century	4 units
SOCI 625	Seminar: Ethnic Relations	4 units
SOCI 631	Seminar: The Community	4 units
SOCI 635	Seminar: Collective Behavior	4 units
SOCI 641	Seminar: Social Psychology	4 units
SOCI 651	Seminar: Medical Sociology	4 units
SOCI 675	Directed Reading in Sociology	arranged
SOCI 691	Research and Thesis in Sociology	arranged

## ANTHROPOLOGY

Lower division	<p>ANTH 201 Missions Orientation <span style="float: right;">2 units</span>  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.</p> <p>ANTH 211 Introduction to Anthropology <span style="float: right;">4 units</span>  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.</p>
Upper division	<p>Unless it is otherwise indicated, ANTH 211 or consent of the instructor is prerequisite to all upper division courses.</p> <p>ANTH 301 Biological Anthropology <span style="float: right;">4 units</span>  Processes influencing human variation, past and present; distribution of human types; medical aspects of anthropology.</p> <p>ANTH 305 The Anthropology of Race <span style="float: right;">4 units</span>  Social and biological bases of race. Historical and biological role of race and racism as a catalyst for social change in modern and primitive societies.</p> <p>ANTH 307 Popular Culture <span style="float: right;">4 units</span>  Dynamics and structure of modern complex societies, with emphasis on the United States. Mass communication as a catalyst for culture change.</p> <p>ANTH 308 Geography of Man <span style="float: right;">5 units</span>  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. Identical to GEOG 405.</p> <p>ANTH 309 Cultural Ecology <span style="float: right;">4 units</span>  Relationship between culture and the natural environment. Comparative cultural values and the econiche of man.</p> <p>ANTH 312 Language and Culture <span style="float: right;">4 units</span>  Relation of linguistic phenomena to habitual thought and behavior.</p> <p>ANTH 314 Peoples of Latin America <span style="float: right;">4 units</span>  Historical and comparative study. Aboriginal and contemporary culture patterns; problems of culture change; current social movements.</p>

- ANTH 315 Indian Cultures of Mesoamerica** 4 units  
Prehistoric civilizations and modern Indian cultures in Mexico and Guatemala. Six weeks of study in Mexico and Central America. Summers only.
- ANTH 319 Peoples of Africa** 4 units  
Prehistory and early kingdoms; cultural diversity; European contact and the slave trade; modern social movements; emerging nationalism.
- ANTH 321 Peoples of the Middle East** 4 units  
Major societies and culture types of the eastern Mediterranean and North Africa.
- ANTH 323 Peoples of Asia** 4 units  
Principal societies and religions and peasant cultures of South and East Asia.
- ANTH 406 Man and Land in Mesoamerica** 2 units  
Human populations and their relation to environment, with special reference to Mexico. Six weeks of study in Mexico and Central America. Summers only.
- ANTH 411 Cultural Anthropology** 4 units  
Advanced course in ethnology and social organization.
- ANTH 412 Indians of North America** 4 units  
Historical and comparative study of the native populations of North America; aboriginal and contemporary culture patterns. Acculturation problems.
- ANTH 421 Archaeology** 4 units  
Survey of research in the reconstruction of early culture sequences and the rise of ancient civilizations; dating techniques in archaeology; principles of biblical chronology and genealogy; theories of long-term culture change; the role of invention and diffusion in the growth of early civilizations.
- ANTH 425 Sociocultural Change** 4 units  
Theories of cultural evolution, diffusion, acculturation, innovation.
- ANTH 433 Comparative Religion** 4 units  
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.
- ANTH 437 Folklore** 4 units  
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 441 Culture and Personality** 4 units  
Psychological approach: national character; societal influences on childrearing; modal personality; culture and mental illness.
- ANTH 447 Applied Anthropology** 4 units  
Analysis of directed culture-change programs, with case studies from missions, public health, education, inner city, and other contexts.
- ANTH 451 Medical Anthropology** 4 units  
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 465 Field Course: Archaeology, Ethnography** 4-8 units  
Participation in an archaeological or ethnographic project under the supervision of a faculty member. May be repeated for additional credit.
- ANTH 491 Methods of Field Research** 4 units  
Field research design; analysis of approaches used by field workers in gathering and evaluating data; writing the research paper.
- ANTH 493 Proseminar** 2 units



	ANTH 496 Religion and the Behavioral Scientist	4 units
	Does not apply toward a major or minor, but can apply toward the general requirement in religion. Identical to SOCI 496.	
	ANTH 498 Laboratory Projects	1-6 units
	ANTH 499 Directed Study	1-6 units
	Limited to students with senior standing and majoring in anthropology.	
Graduate	ANTH 601, 602 Seminar: Social Theory	4, 4 units
	ANTH 607 Seminar: Middle Eastern Cultural History	4 units
	ANTH 611 Seminar: Cultural Anthropology	4 units
	ANTH 617 Seminar: The Middle East in the Twentieth Century	4 units
	ANTH 621 Seminar: Prehistory	4 units
	ANTH 625 Seminar: Sociocultural Change	4 units
	ANTH 631 Seminar: Physical Anthropology	4 units
	ANTH 633 Seminar: Comparative Religion	4 units
	ANTH 635 Seminar: Anthropological Linguistics	4 units
	ANTH 665 Fieldwork in Ethnography	arranged
	ANTH 667 Fieldwork in Archaeology	arranged
	ANTH 675 Directed Reading in Anthropology	arranged
	ANTH 691 Research and Thesis in Anthropology	10 units

## SOCIAL SERVICE

Lower division	SOSR 108 Field Observation	1-4 units
	Rotation through various social service agencies. Observation of professional helping personnel, agency structure, and problems presented to the agency. Four hours per week required per unit of credit. May be repeated for additional credit to a maximum of 4 units.	
	SOSR 118 Introduction to Social Service	4 units
	Various programs and activities of social service and their key roles in modern society. For students interested in social work or other helping professions. Prerequisite to all other SOSR courses.	
	SOSR 208 Field Practicum in Social Service	1-4 units
	Four hours per week per unit in a social agency, with activities planned according to individual interest and competence. Direct provision of service in consultation with professional social workers in the agency. May be repeated for additional credit.	
	Prerequisite: Consent of the instructor and the agency.	
	SOSR 214 History of Social Service	4 units
	Changing public attitudes toward the care of people in distress; the development of organized methods for meeting basic human needs; people who have made significant contributions in this area; development of social work as a profession.	

- SOSR 217, 218 Introduction to Social Work Theory and Practice** 4, 4 units  
 Relationship and value base of the Christian social worker to current social service programs; beginning knowledge, skills, and ethical elements of the profession, including interviewing, recording, and problem identification.
- Upper division Admission to upper division classes in social service is dependent on successful completion of the lower division sequence, or its equivalent, and consent of the instructor.
- SOSR 308 Field Practicum in Social Service** 1-4 units
- SOSR 317, 318, 319 Advanced Social Work Theory and Practice** 4, 4, 4 units  
 Integrated approach to problem solving using casework, groupwork, and community organization knowledge and skills. Provides knowledge of current social work theories, with an emphasis on the development of a Christian theory of practice.
- SOSR 418 Child Welfare** 4 units  
 Problems and services in child welfare: drug abuse, adoption, foster and day care; the emotionally disturbed or mentally retarded child and his treatment, and the abused or neglected child. Laws regarding children.
- SOSR 422 Service for the Disturbed Child** 4 units  
 Effect of the environment; effect of the child on the home and school. Methods of dealing with the child and his family.  
 Prerequisite: SOSR 418 and consent of the instructor.
- SOSR 428 Medical Social Work** 4 units  
 Effect of illness on the patient, family, and others; professional methods of intervention. Medical terminology and discussion of major illnesses. Micro-level health-care delivery systems.
- SOSR 432 Medical Social Service Administration** 4 units  
 Laws regarding the provision of social services in hospitals; the structure of hospital decision-making; the role of the practitioner in administering a hospital social service. Macro-level.  
 Prerequisite: SOSR 428.
- SOSR 438 Mental Health Services** 4 units  
 Problems created by mental illness; the role of the social worker in alleviating them. Taking a psychiatric social history; proper referral procedures.
- SOSR 448 Rehabilitation Services** 4 units  
 Major causes of disability, both physical and mental, including alcoholism and drug abuse; resources available; the role of the social service practitioner in providing service.
- SOSR 493 Proseminar** 4 units  
 Role of the professional social service practitioner; responsibilities to the profession and client. Current research and its application to social work practice.
- SOSR 499 Directed Study** 1-4 units

## INTERDEPARTMENTAL COURSES

### INTERDISCIPLINARY STUDIES

Two concurrent, two-year series of wide-ranging courses totaling 48 units are offered for students admitted to the program in interdisciplinary studies. This program constitutes an alternative way of meeting most of the general requirements for the baccalaureate degrees conferred by the College.

Because of the integrated and sequential nature of the courses, students may enter the program only at the beginning of the fall quarter of their freshman year, and must register for both courses each quarter. A student may transfer out of the program at the end of any quarter, and the credit earned may be applied toward the various general requirements.

Further information about the program and its criteria for admission may be obtained from the Office of the Dean.

Lower division	INTD 101, 102, 103	Human Being and Behavior I	4, 4, 4 units
		Principal factors that contribute to personal identity and influence human behavior: social, psychological, economic, political, religious.	
	INTD 151, 152, 153	Development of Ideas I	4, 4, 4 units
		The place of scientific understanding and achievement in Western culture, including the history of science, its methods and limitations, its impact on life and the natural environment, and its relation to Christian faith.	
	INTD 201, 202, 203	Human Being and Behavior II	4, 4, 4 units
		Human existence in society: the structure, dynamics, and behavior of small and large groups, including the family, school, church, and economic and political institutions and systems.	
	INTD 251, 252, 253	Development of Ideas II	4, 4, 4 units
		Music, literature, and visual art in relation to the events and ideas that produced them.	
	INTD 499	Directed Study	1-4 units

### LIBRARY SCIENCE

	LIBR 203	Techniques of Library Research	2 units
		For the general student.	

### PHILOSOPHY

Lower division	PHIL 201	Knowledge	4 units
		Features of valid thinking; the possibility, types, and instruments of knowledge, with special attention to the rationalist and empiricist traditions.	
	PHIL 202	Being	4 units
		Analogy and inference as logical tools; concepts of nature, man, and God; synthesis and evaluation of a worldview that starts from Christian premises.	



**PHIL 203 Value** **4 units**  
Analysis of the nature, criteria, and application of value judgments in ethics and aesthetics.

**PHIL 204 Logic** **4 units**  
Analysis of principles of deductive and inductive reasoning, using methods of classical and modern logic.

Upper division **PHIL 431 Aesthetics** **4 units**  
Principles underlying the creation and appreciation of the fine arts, leading to a basis for evaluation of artistic expression.

## **SCIENCE**

Upper division **SCNC 401 History of Science** **4 units**  
Scientific thought and institutions from antiquity to the mid-twentieth century; the emergence of science as a cultural force. Topics: origins of modern science; contributions of astronomy to scientific practice; the chemical revolution of the eighteenth century; the idea of evolution in geology and biology; the development of modern physics.

# III

The Trustees  
University Administration  
The College of Arts and Sciences  
Alumni Federation  
Accreditation  
Instructional Resources  
For Information

## THE TRUSTEES

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## UNIVERSITY ADMINISTRATION

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Teacher Education Council	Viktor A. Christensen, <i>Chairman</i> Donald G. Bower Kendall D. Butler Mary P. Byers Roger A. Churches	Delmer I. Davis Agnes R. Eroh Mary W. Groome Margarete A. Hilts Frederick G. Hoyt	Geoffrey T. Jones Lois E. McKee Willard H. Meier Andrew Peters Peter G. Strutz



# THE COLLEGE OF ARTS AND SCIENCES

FRITZ GUY, PH.D., Dean

IVAN HOLMES, PH.D., Associate Dean

WALTER C. MACKETT, PH.D., Associate Dean

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Student Recommendations	Norman L. Mitchell, <i>Chairman</i> Richard L. Bobst Laurence W. Botimer	David R. Dickerson Carlyle D. Flemming Ivan G. Holmes	Marilyn R. Moon Tracy R. Teele L. Janene Turner

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. The code letters indicate the department where information about the teacher is found.

AGRC	Agriculture	INDS	Industrial Studies
ANTH	Anthropology (see Sociology)	LANG	Modern Languages
ARTS	Art	MATH	Mathematics
BIOL	Biology	MUSC	Music
BSNS	Business and Economics	PHYS	Physics
CHEM	Chemistry	PSCH	Psychology
CNSC	Consumer Related Sciences	PSED	Physical Education
COMN	Communication	RLGN	Religion
ENGL	English	SECY	Secretarial and Business Education
HIST	History and Political Science	SOCI	Sociology and Anthropology

Achord, Clifford D.	PSCH	Botimer, Laurence W.	CHEM
Airey, Wilfred J.	HIST	Bottroff, Stephen M.	COMN
Allen, William M.	CHEM	Bower, Donald G.	INDS
Anderson, Dale L.	AGRC	Bradley, Gary L.	BIOL
Anderson, Godfrey T.	HIST	Brailsford, Margaret J.	COMN
Andress, LaVern R.	PSCH	Brand, Leonard R.	BIOL
Andress, Monte R.	ANTH	Britt, E. Evelyn	COMN
Arendt, Kenneth A.	BIOL	Bullas, Leonard R.	BIOL
		Burman, Robert J.	ARTS
Baker, Alonzo L.	HIST	Byers, Mary P.	CNSC
Baker, Bruce W.	SOCI	Byrd, Donald J.	BSNS
Baker, Charlene A.	SECY		
Baker, Dinah S.	CNSC	Campbell, Paul O.	COMN
Banks, R. Richard	PSCH	Carr, John E.	AGRC
Barnard, Logan W.	COMN	Case, Norman M.	BIOL
Baumbach, H. Dale	PSCH	Chadwick, Arthur V.	BIOL
Beach, Perry W.	MUSC	Chamberlain, Theodore J.	SOCI, RLGN
Becker, E. Lee	BSNS	Chu, William T.	PHYS
Benzakein, Jacques	LANG	Churches, Roger A.	ARTS
Besel, Hilmer W.	MATH	Clausen, Conrad D.	BIOL
Bisseger, Lynda B.	BSNS	Cohen, Melvin S.	COMN
Bobst, Richard L.	PHYS	Couperus, Molleurus	SOCI
Boram, C. Arnold	AGRC	Craw, H. Allen	MUSC



Cushman, Lester H.	PHYS	Howe, Vernon W.	MATH
Dalgleish, Arthur E.	BIOL	Hoyt, Frederick G.	HIST
Damazo, Paul S.	CNSC	Jacques, Brian J.	COMN
Davis, Delmer I.	ENGL	Jarvis, William T.	PSED
Dimmig, Judith	SOCI	Jones, Geoffrey T.	MATH
Duncan, Donald R.	MUSC		
Dunn, Janice D	COMN	Kaspereen, Jane L.	CNSC
Dunn, Robert P.	ENGL		
		Lambert, Frederick J. H.	BSNS, CNSC
Elick, John W.	ANTH	Landa, Paul J.	HIST, RLGN
Elkins, Marlin E.	AGRC	Lathrop, Earl W.	BIOL
Eroh, Agnes R.	ARTS	Lawson, Carroll M. III	PSCH
Evans, David L.	ENGL	Lecourt, Nancy H.	ENGL
Evard, Rene	CHEM	Lessard, George M.	CHEM
		Lewis, Richard B.	ENGL
Fagal, Harold E.	RLGN	Little, Helen F.	ENGL
Farmer, Bonnita M.	CNSC	Lowry, Jean B.	COMN
Fields, William N.	CNSC	Lutz, Kenneth R.	COMN
Flemming, Carlyle D.	MATH		
Ford, Robert E.	SOCI	Mackett, Walter C.	HIST
Ford, Robert M., Jr.	BSNS	Magi, Kaljo S.	LANG, SOCI
Fraser, Ian M.	BIOL	Mallery, F. Lynn	RLGN
		Mateer, Ervin H.	PSED
Gambetta, Leon	LANG	Mazat, Alberta	PSCH
Gillespie, V. Bailey	RLGN	McCluskey, Elwood S.	BIOL
Gray, Clarence L.	ARTS	McKee, Lois E.	SECY
Greenlaw, Ronald W.	COMN	Milliken, Harold R.	BIOL
Griffiths, Victor S.	ENGL	Mitchel, Daniel E.	HIST
Grubbs, Harry M.	AGRC	Mitchell, Norman L.	BIOL
Gurney, W. David	BSNS	Moore, Roberta J.	COMN
Guy, Fritz	RLGN	Moore, Shirley T.	CNSC
Hackleman, Douglas L.	PSCH	Napier, William J.	PSED
Haddad, Anees A.	SOCI	Nash, Eugene W.	PSED
Haldeman, Madelynn J.	RLGN	Neufeld, Berney R.	BIOL
Hamerslough, Walter S.	PSED	Ney, Edward W.	LANG
Hamilton, James	PSCH	Nutter, Robert L.	BIOL
Hamilton, John T.	MUSC		
Hannum, Harold B.	MUSC	O'Brien, George G.	MATH
Hanson, Calvin J.	BSNS	Olmsted, Malcolm R.	CNSC
Hartley, Jack L.	COMN	Olsen, Anita N.	MUSC
Hausssler, J. Cecil	RLGN	Ortner, Irene E.	SECY
Hayasaka, Ruby S.	CNSC	Osborne, David D.	RLGN
Hedrich, Johannes	INDS	Osborne, Judy E.	CNSC
Hicinbothom, Gloria M.	CNSC	Osmunson, Robert L.	RLGN
Hillock, Wilfred M.	BSNS		
Hilts, Margarete A.	LANG	Pease, Norval F.	RLGN
Ho, Yuk Lin	BIOL	Perry, James L.	PSED
Holder, J. David	MUSC	Petersen, Richard L.	AGRC
Holm, Melvin G.	INDS		
Holmes, Ivan G.	CHEM	Read, Lawrence J.	ARTS

Reiber, Karen J.	ENGL	Teel, Charles W., Jr.	RLGN, SOCI
Rice, T. Richard	RLGN	Teele, Marilyn C.	ENGL
Riggs, James W., Jr.	PHYS	Testerman, John K.	BIOL
Riley, W. Fred	AGRC	Thompson, Lewis C.	PHYS
Robbins, Joann R.	MUSC	Turner, L. Janene	PSED
Robertson, John J.	RLGN		
Roesel, Paul W.	CNSC	Varga, Amine B.	SOCI
Rosario, Carolann S.	BIOL	Vaughn, Donald J.	MUSC
Ross, Donnice D.	BIOL	Veverka, Larry E.	RLGN
Ross, Gary M.	HIST	Vine, Kenneth L.	RLGN, SOCI
Roth, Ariel A.	BIOL	von Pohle, Vernon L.	INDS
Rowley, Rodney R.	COMN		
Ruf, Kathleen M.	CNSC	Wagner, Edward D.	BIOL
Ryckman, Raymond E.	BIOL	Walcker, Jake J.	INDS
		Walls, Arthur M.	INDS
Schneider, Robert K.	PSED	Weismeyer, Helen I.	PSED
Schultz, Robert L.	BIOL	Widmer, Elmer A.	BIOL
Sharpnack, Harold I.	PSCH	Wilson, Leland Y.	CHEM
Shelden, H. Raymond	CHEM	Winter, Charles E.	BIOL
Shelden, H. Raymond II	CHEM	Woods, Adeny S.	PSCH
Smith, Albert E.	PHYS		
Sonneland, Yvonne P.	CNSC	Young, Gerald L.	ARTS
Stauffer, J. Paul	ENGL		
Stirling, James H.	ANTH	Zaugg, Wayne E.	CHEM
Strutz, Peter G.	PSCH	Zbaraschuk, Ila	COMN
		Zolber, Kathleen K.	CNSC
Tarr, W. Fletcher	COMN		

Certain persons retain faculty status in the College even though they are not currently teaching and are therefore not listed in the departments. 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.

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

MAYBEL V. JENSEN, Emeritus Professor of Special Education  
 M.A. University of Southern California

WILLIAM M. LANDEEN, Emeritus Professor of History  
 PH.D. University of Michigan

WILLIAM D. LEECH, Emeritus Professor of Chemistry  
 PH.D. California Institute of Technology

THOMAS A. LITTLE, Emeritus Professor of English  
 PH.D. University of Nebraska

VIVIAN N. CUSHMAN, Instructor in English  
M.A. Pacific Union College

ROBERT H. HERVIG, Assistant Professor of Business and Economics  
M.B.A. Northwestern University

DONALD E. LEE, Associate Professor of Physics  
PH.D. New York University

MAURICE E. MATHISEN, Professor of Chemistry  
PH.D. Stanford University

V. NORSKOV OLSEN, Professor of Church History  
PH.D. University of London  
DR. THEOL. University of Basel





## ALUMNI FEDERATION

The Alumni Federation was organized in 1958. This organization provides an avenue by which the several alumni associations, distinctive of emphases 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 Alumni and the University seek to ensure a growing community of scholars, practitioners, and citizens dedicated to excellence. Vitaly 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** 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.

DIETETICS: Certificate program started in 1922; baccalaureate degree conferred 1932-54; graduate program offered since 1954. Internship program continuously approved by American Dietetic Association since October 1957; reestablishment of baccalaureate program authorized October 1971.

EDUCATION: School of Education organized in 1968 and approved by the California State Board of Education June 12, 1969.

HEALTH: Started in 1948; reorganized in 1964. Approved by the American Public Health Association June 23, 1967.

MEDICAL RECORD ADMINISTRATION: Started in 1963. Approved by the Council on Medical Education of the American Medical Association since December 1, 1963.

MEDICAL TECHNOLOGY: Started in 1937. Approved by the Council on Medical Education of the American Medical Association since August 28, 1937.

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.

NURSING: Hospital training 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 California State Board of Health extended until college program approved July 1, 1952, by the California State Board of Nursing Education and Nurse registration. Public Health Nursing certification recognized 1959.

OCCUPATIONAL THERAPY: Started in 1959. Initial approval by the American Occupational Therapy Association and the Council on Medical Education of the American Medical Association June 10, 1960. Full approval March 30, 1962.

PHYSICAL THERAPY: Started in 1941. Initial approval by the Council on Medical Education of the American Medical Association June 6, 1942. Reapproved by the Council and by the American Physical Therapy Association February 3, 1961.

RADIOLOGICAL TECHNOLOGY: Started in 1941. Approved by the Council on Medical Education of the American Medical Association since November 19, 1944.



## INSTRUCTIONAL RESOURCES

**LIBRARIES** The University has main libraries on the La Sierra and the Loma Linda campuses and in addition has access to libraries in the region. The joint holdings of the University are:

	LA SIERRA	LOMA LINDA	TOTAL
Books and bound periodicals	136,300	268,487	404,787
Current periodical subscriptions	1,000	2,500	3,500

Students and faculty members have full borrowing privileges at both libraries. Immediate information and lending arrangements can be accomplished by telephone. Mail service and personal delivery can be utilized also.

La Sierra campus

The Library of the La Sierra campus has a general liberal arts collection, with concentrations in history, religion, English, and education. The Heritage Room collection is of nineteenth-century Seventh-day Adventist books and pamphlets. In addition to the microfiche Library of American Civilization already purchased, augmentation of microform holdings is in process. The Media Services department of the Library is the control center for audiovisual services for the campus; also the Curriculum Laboratory, cosponsored with the School of Education, is located in the Library.

Loma Linda campus

The Library acquisitions at Loma Linda are in medicine, dentistry, allied health professions, graduate programs, and a liberal arts undergraduate collection in support of certain graduate and professional programs. About half the resources are in medical and related fields, among them some rare materials in the history of medicine. The Human Relations Area Files on microfiche make available at this Library primary source materials on most of the known cultures of the world. Since 1957 designated the official west coast depository for Seventh-day Adventist literature regularly provided by church publishing houses in North America, the Library maintains such publications in the Heritage Room 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.

Interlibrary loan

Materials not available in either Library or in the immediate community are obtainable through the Interlibrary Loan service. At Loma Linda the teletypewriter (TWX) can be used for interlibrary communication. Teachers and graduate students can also be provided computer-printed bibliographies on medical-related subjects through the Medline services in which the Library participates.

**COMPUTER SYSTEM**

The Scientific Computation Facility, a computer complex located in the Medical Center, serves the students and faculty of the University in instructional and research 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. Programing 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. Programing instruction and assistance are provided for this purpose.



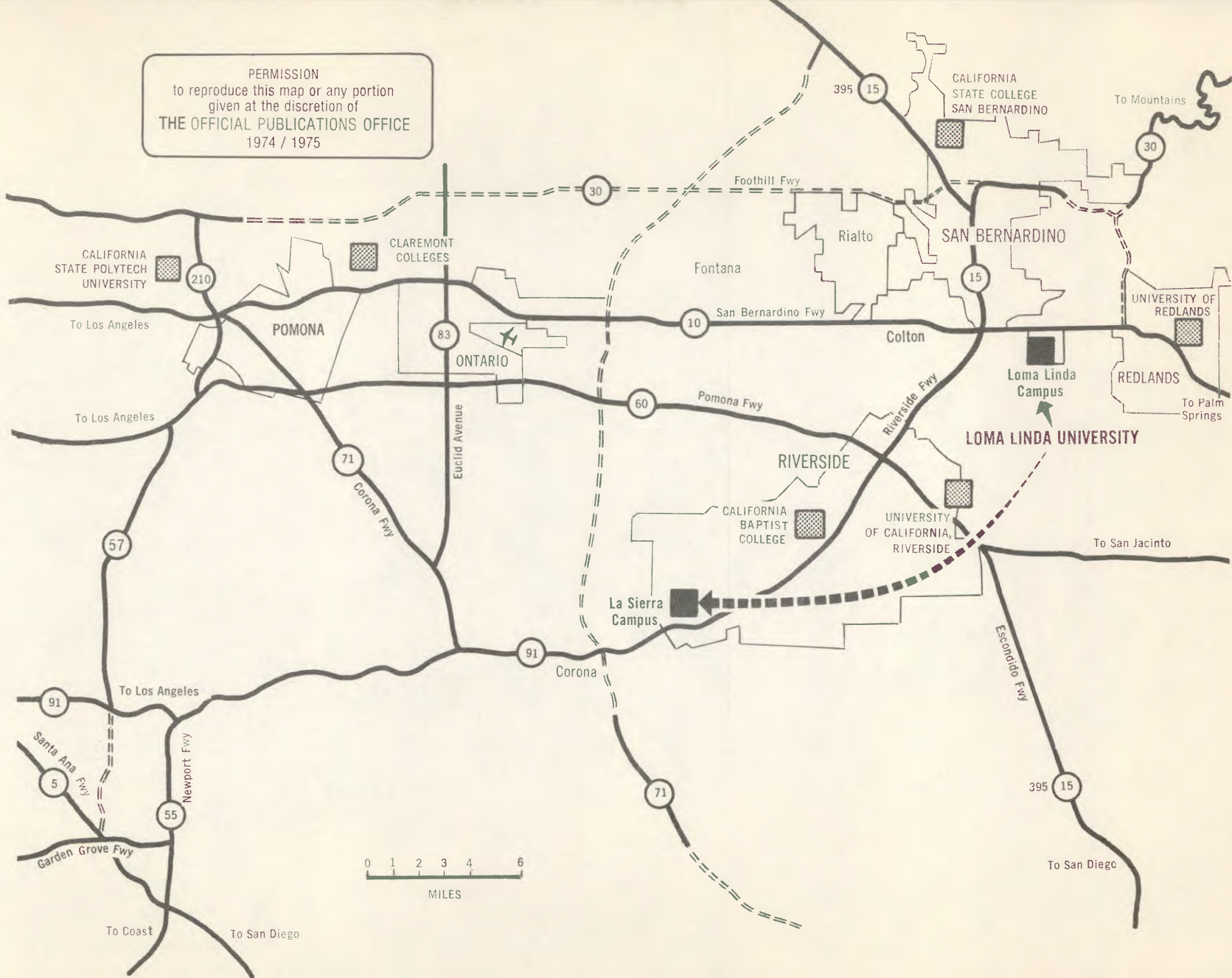


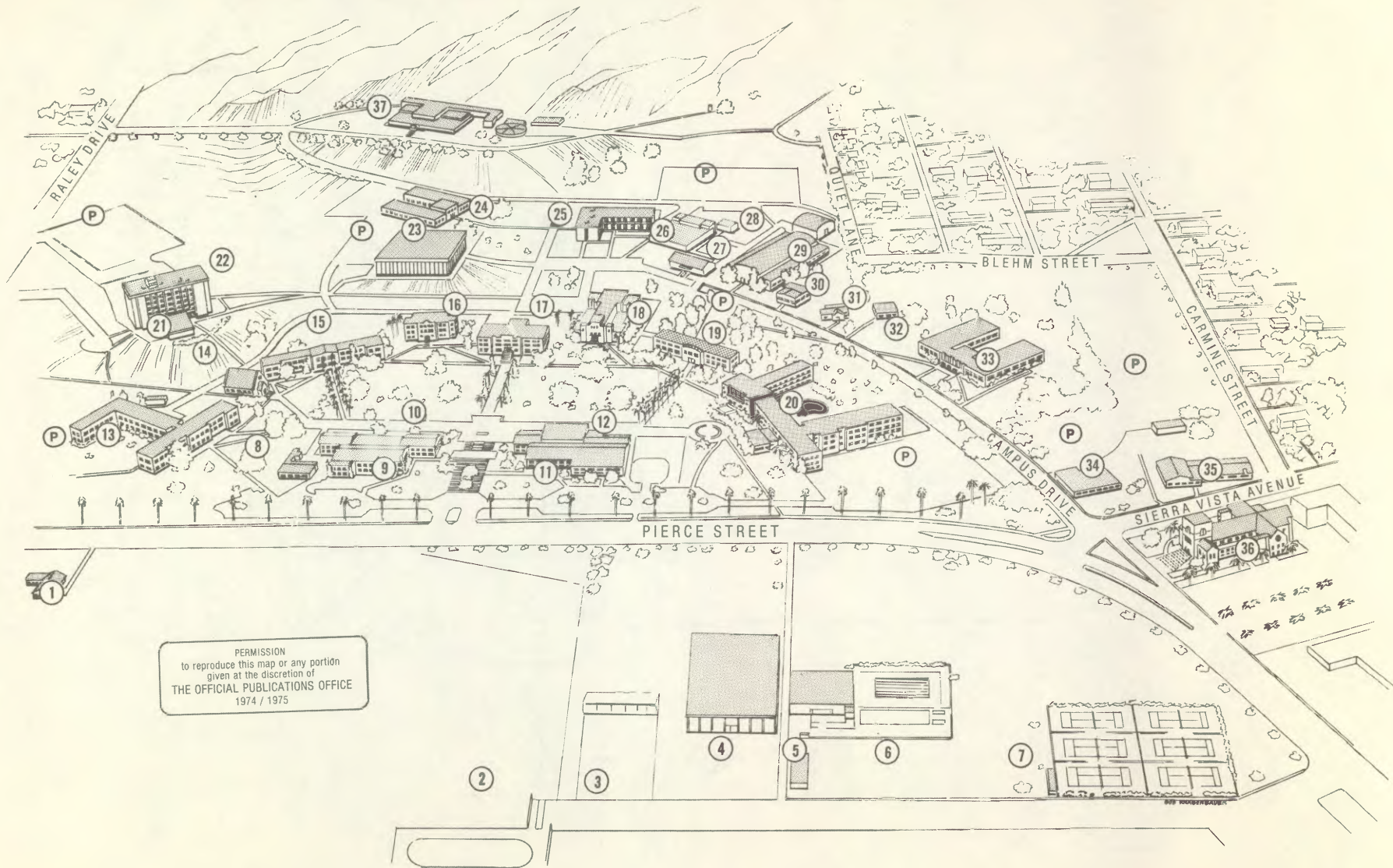
## UNIVERSITY INFORMATION

Both campuses	General University interests Admission Student welfare, housing, visas Student finance Records	The President Admissions Office each school Student Affairs Office Student Aid and Finance Office Registrar's Office
La Sierra Campus	MAIL: Riverside California 92505  College of Arts and Sciences School of Education Summer/Extension	TELEPHONE (area 714): Riverside  Dean 785-2210 Dean 785-2266 Dean 785-2214
Loma Linda Campus	MAIL: Loma Linda California 92354  School of Allied Health Professions ANESTHESIA DIETETICS MEDICAL RECORD ADMINISTRATION MEDICAL TECHNOLOGY OCCUPATIONAL THERAPY PHYSICAL THERAPY PUBLIC HEALTH SCIENCE RADIOLOGICAL TECHNOLOGY RESPIRATORY THERAPY  School of Dentistry DENTISTRY DENTAL HYGIENE DENTAL ASSISTING  School of Health  School of Medicine  School of Nursing  Division of Religion  The Graduate School	TELEPHONE (area 714): 796-7311 Redlands 824-0800 San Bernardino 824-0800 Riverside  Dean          Dean 796-0141, 824-0030       Dean  Director  Dean



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## LA SIERRA CAMPUS MAP

### NUMERICAL LEGEND

- 1 Agriculture
- 2 Equestrian facility
- 3 Archery range
- 4 Alumni Pavilion
- 5 Physical Education office
- 6 Swimming facility
- 7 Tennis courts
- 8 Security Patrol
- 9 Fulton Memorial Hall:  
Administrative services
- 10 Fulton Memorial Hall:  
Administrative officers
- 11 Student Center
- 12 The Commons / Food Service
- 13 Calkins Hall: men
- 14 Matheson Chapel
- 15 South Hall: women
- 16 San Fernando Hall: Physics
- 17 La Sierra Hall: Arts and  
Sciences / Education
- 18 Hole Memorial Hall:  
Auditorium / Music /  
Education / Testing
- 19 Gladwyn Hall: women
- 20 Angwin Hall: women
- 21 Meier Chapel
- 22 Sierra Towers: men
- 23 University Library
- 24 Ambs Hall: Industrial Studies
- 25 Consumer Related Sciences
- 26 Communication / KLLU
- 27 Art
- 28 Nursing
- 29 Industrial building
- 30 Mail Service

- 31 Health Service
- 32 Animal quarters
- 33 Palmer Hall:  
Biology / Chemistry
- 34 Behavioral Sciences
- 35 Sierra Vista Chapel /  
Welfare Center
- 36 La Sierra Church
- 37 Physical Plant / Receiving

### ALPHABETICAL LEGEND

- Academic Affairs VP, 10  
Accounting Service, 9  
Administrative officers, 10  
Administrative services, 9  
Agriculture, 1  
Alumni Pavilion, 4  
Ambs Hall, 24  
Angwin Hall: women, 20  
Animal quarters, 32  
Anthropology, 34  
Archery range, 3  
Art, 27  
Arts and Sciences, College of, 17  
Audiovisual Service, 23  
Behavioral Sciences, 34  
Biology, 33  
Business and Economics, 9

- Calkins Hall: men, 13  
Chemistry, 33  
Church, La Sierra, 36  
College of Arts and Sciences, 17  
Commons, The, 12  
Communication, 26  
Consumer Related Sciences, 25  
Counseling Service, 17

- Dean of Students, 10  
Education, 17, 18  
English, 17  
Equestrian facility, 2

- Financial Affairs VP, 10  
Food Service, 12  
Fulton Memorial Hall, 9, 10

- Gladwyn Hall: women, 19  
Gymnasium, 4  
Health Service, 31  
History and Political Science, 17  
Hole Memorial Hall, 18

- Industrial building, 29  
Industrial Studies, 24  
KLLU, 26

- La Sierra Church, 36  
La Sierra Hall, 17  
Library, University, 23

- Mail Service, 30  
Mathematics, 17  
Matheson Chapel, 14  
Meier Chapel, 21  
Men's residences, 13, 22  
Modern Languages, 17

- Music, 18  
Nursing, 28

- Palmer Hall, 33  
Personnel Office, 9  
Physical Education, 5  
Physical Plant, 37  
Physics, 16  
President University, 10  
Psychology, 34  
Purchasing Service, 9

- Receiving, 37  
Registrar's Office, 9  
Religion, 17

- San Fernando Hall, 16  
School of Education, 17  
Secretarial Studies, 9  
Security Patrol, 8  
Sierra Towers: men, 22  
Sierra Vista Chapel, 35  
Sociology, 34  
Student Affairs VP, 10  
Student Aid and Finance, 9  
Student Center, 11  
Student employment, 9  
Swimming facility, 6

- Tennis courts, 7  
The Commons, 12  
University Library, 23  
Welfare Center, 35  
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