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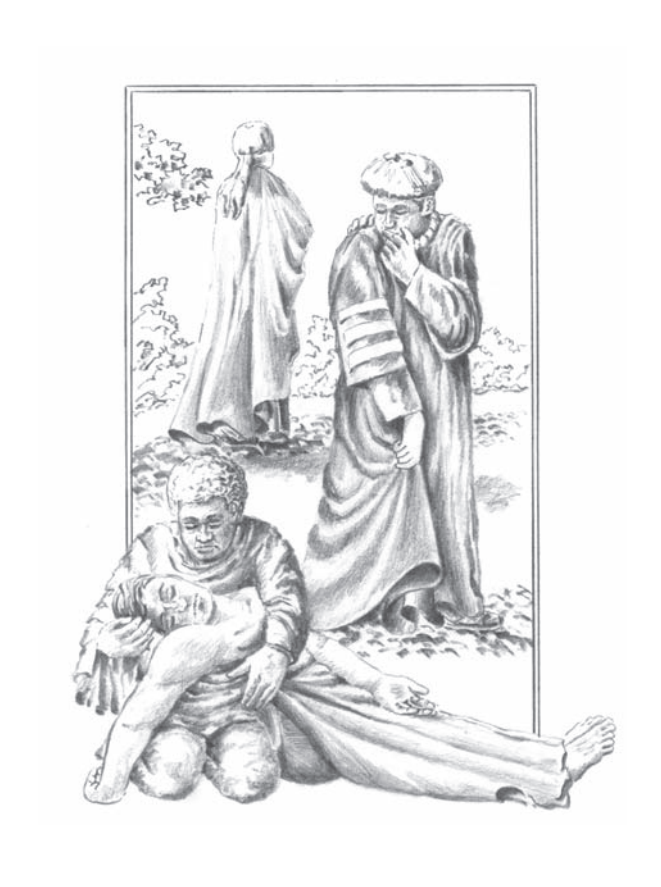
Loma Linda University



Graduate School

2000 ☯ 2004

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

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Graduate School

2000-2004

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Loma Linda University

Loma Linda, CA 92350

a Seventh-day Adventist health-sciences university

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CHAN SHUN PAVILION
CANCER INSTITUTE
COLEMAN PAVILION
SCHOOL OF MEDICINE

I

LOMA LINDA UNIVERSITY

University Foundations
Our Mission
Nondiscrimination Policy
Affirmative Action
The Calendar

University Foundations

HISTORY

Loma Linda University has grown out of the institution founded at Loma Linda, California, by the Seventh-day Adventist church in 1905. The original schools—Nursing and Medicine—have been joined by Allied Health Professions, Dentistry, Public Health, the Graduate School, and the Faculty of Religion.

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

Loma Linda University is a Seventh-day Adventist coeducational, health-sciences institution located in inland southern California. It is part of the Seventh-day Adventist system of higher education. Professional curricula are offered by the Schools of Allied Health Professions, Dentistry, Public Health, Medicine, and Nursing. Graduate programs in various biomedical sciences are offered by departments of the schools. The professional curricula of the University are approved by their respective professional organizations.

The most current campus census figures (2000-2001) indicate that the core of the combined faculties consists of 1,023 full-time teachers. Part-time and voluntary teachers, largely clinicians in the professional curricula, bring the total to 2,199. Men and women from 84 nations are represented in the 2000-2001 enrollment of 3,325.

PHILOSOPHY

As implied by its motto, "TO MAKE MAN WHOLE," the University affirms these tenets as central to its view of education:

God is the creator and sustainer of the universe.

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

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

Our Mission

Loma Linda University, a Seventh-day Adventist Christian health-sciences institution, seeks to further the healing and teaching ministry of Jesus Christ "to make man whole" by:

> Educating ethical and proficient Christian health professionals and scholars through instruction, example, and the pursuit of truth;
>
> Expanding knowledge through research in the biological, behavioral, physical, and environmental sciences and applying this knowledge to health and disease;
>
> Providing comprehensive, competent, and compassionate health care for the whole person through faculty, students, and alumni.

In harmony with our heritage and global mission:

> We encourage personal and professional growth through integrated development of the intellectual, physical, social, and spiritual dimensions of each member of the University community and those we serve.
>
> We promote an environment that reflects and builds respect for the diversity of humanity, as ordained by God.
>
> We seek to serve a worldwide community by promoting healthful living, caring for the sick, and sharing the good news of a loving God.

To achieve our mission we are committed to:

OUR STUDENTS

Our primary responsibility is the education of students, who come from diverse ethnic and cultural backgrounds, enabling them to acquire the foundation of knowledge, skills, values, attitudes, and behaviors appropriate for their chosen academic or health care ministry. We nurture their intellectual curiosity. We facilitate their development into active, independent learners. We provide continuing educational opportunities for our alumni and professional peers. We encourage a personal Christian faith that permeates the lives of those we educate.

OUR FACULTY, STAFF, AND ADMINISTRATION

We respect our faculty, staff, and administration who through education, research, and service create a stimulating learning environment for our students. They contribute to the development of new understandings in their chosen fields. They demonstrate both Christian values and competence in their scholarship and professions.

OUR PATIENTS AND OTHERS WE SERVE

We provide humanitarian service through people, programs, and facilities. We promote healthful living and respond to the therapeutic and rehabilitative needs of people. We seek to enhance the quality of life for individuals in local, regional, national, and world communities.

OUR GOD AND OUR CHURCH

We believe all persons are called to friendship with a loving God both now and throughout eternity. We support the global mission of the Seventh-day Adventist church by responding to the need for skilled Christian health professionals and scholars. We seek to honor God and to uphold the values of the Seventh-day Adventist church and its commitment to awakening inquiry. We are drawn by love to share the good news of God expressed through the life and gospel of Jesus Christ and to hasten His return.

Nondiscrimination Policy

The University was established by the Seventh-day Adventist church as an integral part of its teaching ministry. It is committed to equal education and employment opportunities for men and women of all races and does not discriminate on the basis of handicap, gender, race, color, or national origin in its educational or admissions policies, financial affairs, employment programs, student life and services, or any University-administered program.

To this end, the University is in compliance with Titles VI and VII of the Civil Rights Act of 1964 as amended, and in substantial compliance with Title IX of the Education Amendments of 1972 (34 CFR 106 et seq.), Sections 503 and 504 of the Rehabilitation Discrimination in Employment Act of 1967, and Section 402 of the Vietnam Era Veterans Adjustment Act of 1974; and does not discriminate against any employees or applicants for employment on the basis of age or because they are disabled veterans or veterans of the Vietnam era. In addition, the University administers student programs without discrimination on the basis of age, except in those programs where age is a bona fide academic qualification for admission in accordance with the provisions of the Age Discrimination Act of 1975.

The University reserves constitutional and statutory rights as a religious institution and employer to give preference to Seventh-day Adventists in admissions and employment, including but not limited to 42 USC Secs. 2000e-1, 2000e-2; Sec. 6-15 of Federal Executive Order 11246; 41 CFR Sec. 60-1.5(5); 20 USC Sec. 1681 (a)(3); 34 CFR Secs. 106.12 (a)(b), 106.21, 106.31, 106.39, 106.40, 106.51, and 106.57; California Government Code Sec. 12926(d)(1); Title II, Division 4, Chapter 2, Sec. 7286.5 of the California Code of Regulations; the First Amendment to the United States Constitution; and Article I, Sec. 4, of the California Constitution. The University believes that Title IX regulations are subject to constitutional guarantees against unreasonable entanglement with or infringements on the religious teachings and practices of the Seventh-day Adventist church. The University expects students and employees to uphold biblical principles of morality and deportment as interpreted by the Seventh-day Adventist church. The University claims exemptions from the provisions of Title IX set forth in 34 CFR Secs. 106.12 (a)(b), 106.21, 106.31, 106.39, 106.40, 106.51, and 106.57.

Affirmative Action

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

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

The Calendar

2000

MAY

S	M	T	W	T	F	S
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
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31-JUN 16	Registration

JUNE

S	M	T	W	T	F	S
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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	

5-9	Final examinations
11	Conferring of Degrees
	SUMMER QUARTER 2000
19	Instruction begins
19-JUL 25	First five-week summer session
19-SEP 1	Eleven-week summer session
26	Last day to submit Petition for Graduation (Form C) for Fall Quarter completion
One week after course begins	Last day to enter a course or change from audit to credit/credit to audit
One week after course begins	Last day to withdraw with no record of course registration on transcript
One week before end of course	Last day to withdraw with a W grade or to submit S/U petition

JULY

S	M	T	W	T	F	S
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23	24	25	26	27	28	29
30	31					

4	Independence Day recess
26	Last day to submit Petition for Candidacy (Form A) for Winter Quarter completion

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		

7	Certain basic medical science classes commence
25	Last day to submit final copy of thesis, publishable paper, or dissertation; signed approvals; and Certification of Completion of Requirements for Degree (Form D) to the Graduate School for Summer Quarter completion

The Calendar

2000

SEPTEMBER

S	M	T	W	T	F	S
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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	Summer Quarter ends
1	Registration for post-Summer session
4	Labor Day recess
5-22	**POST-SUMMER SESSIONS 2000**
5	Instruction begins
5-DEC 14	**AUTUMN QUARTER 2000**
5-22	Registration
25	Instruction begins

OCTOBER

S	M	T	W	T	F	S
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15	16	17	18	19	20	21
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29	30	31				

2	Last day to submit Petition for Graduation (Form C) for Fall Quarter and Winter Quarter completion
3	Last day to enter a course or change from audit to credit/credit to audit
9-13	Fall Week of Devotion
10	Last day to withdraw with no record of course registration on transcripts
25	University convocation
27-28	Annual HALL/ALAS student retreat

NOVEMBER

S	M	T	W	T	F	S
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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		

8	Last day to submit Petition for Candidacy (Form A) for Spring Quarter completion
17-19	Annual BALL/BHPSA student retreat
22-26	Thanksgiving recess
27	Instruction resumes
27	Last day to withdraw with a W grade or to submit S/U petition
27-DEC 22	Registration for Winter Quarter

DECEMBER

S	M	T	W	T	F	S
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31						

8	Last day to submit final copy of thesis, publishable paper, or dissertation; signed approvals; and Certification of Completion of Requirements for Degree (Form D) to the Graduate School for Fall Quarter completion
11-14	Final examinations
15-JAN 2	Christmas/New Year's recess

The Calendar

2001

JANUARY

S	M	T	W	T	F	S
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28	29	30	31			

3-MAR 16	**WINTER QUARTER 2001**
3	Instruction begins for all classes (including A.M. classes)
8	Last day to submit Petition for Graduation (Form C) for Spring Quarter completion
9	Last day to enter a course or change from audit to credit/credit to audit
15	Martin Luther King, Jr., Day recess
16	Last day to withdraw with no record of course registration on transcripts
16-19	Student Week of Spiritual Emphasis
20-27	Mission Emphasis Week

FEBRUARY

S	M	T	W	T	F	S
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18	19	20	21	22	23	24
25	26	27	28			

7	Last day to submit Petition for Candidacy (Form A) for Summer completion
18-25	African-American History Week
19	Presidents' Day recess
23	Job Fair (Graduate School and School of Nursing)
26	Last day to withdraw with a W grade or to submit S/U petition
26-MAR 23	Registration for Spring Quarter

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

9	Last day to submit final copy of thesis, publishable paper, or dissertation; signed approvals; and Certificate of Completion of Requirements for Degree (Form D) to the Graduate School for Winter Quarter completion
12-16	Final examinations
16-25	Spring recess
20	Grades due from faculty
26-JUN 8	**SPRING QUARTER 2001**
26	Instruction begins for all classes (including A.M. classes)

APRIL

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29	30					

2	Last day to submit Petition for Graduation (Form C) for Summer Quarter completion
3	Last day to enter a course or change from audit to credit/credit to audit
9-13	Spring Week of Devotion
10	Last day to withdraw with no record of course registration on transcripts

The Calendar

2001

MAY

S	M	T	W	T	F	S
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6	7	8	9	10	11	12
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2	Last day to submit Petition for Candidacy (Form A) for Fall Quarter completion
12	Diversity Consecration Service`
21	Last day to withdraw with a W grade or to submit S/U petition
28	Memorial Day recess
31-JUN 15	Registration for Summer sessions

JUNE

S	M	T	W	T	F	S
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17	18	19	20	21	22	23
24	25	26	27	28	29	30

1	Last day to submit final copy of thesis, publishable paper, or dissertation; signed approvals; and Certification of Completion of Requirements for Degree (Form D) to the Graduate School for Spring Quarter completion
4-8	Final examinations
8	Vesper Service— "Focus on Graduates"
9	Baccalaureate Service AH, GS, PH, SN
10	Conferring of Degrees AH, GS, PH, SN
12	Grades due from faculty
	SUMMER SESSIONS 2001
18-JUL 24	First five-week summer session
18-AUG 31	Eleven-week summer session
18	Instruction begins
25	Last day to submit Petition for Graduation (Form C) for Fall Quarter completion
One week after course begins	Last day to enter a course or change from audit to credit/credit to audit
One week after course begins	Last day to withdraw with no record of course registration on transcript
One week before end of course	Last day to withdraw with a W grade or to submit S/U petition

JULY

S	M	T	W	T	F	S
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29	30	31				

4	Independence Day recess
25	Last day to submit Petition for Candidacy (Form A) for Winter Quarter completion
25-AUG 30	Second five-week summer session

AUGUST

S	M	T	W	T	F	S
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

6	Certain basic medical science classes commence
24	Last day to submit final copy of thesis, publishable paper, or dissertation; signed approvals; and Certification of Completion of Requirements for Degree (Form D) to the Graduate School for Summer completion
31	Registration for post-Summer session
31	Summer Quarter ends

The Calendar

2001

SEPTEMBER

S	M	T	W	T	F	S
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4-21	**POST-SUMMER SESSIONS 2001**
3	Labor Day recess
4	Instruction begins for post-Summer session
4-21	Fourteen-day post-summer session
4-21	Registration for Autumn Quarter
24-DEC 14	**AUTUMN QUARTER 2001**
24	Last day to obtain financial clearance for standard term
24	Instruction begins for GS, SD, SN

OCTOBER

S	M	T	W	T	F	S
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28	29	30	31			

1	Last day to submit Petition for Graduation (Form C) for Fall Quarter and Winter Quarter completion
2	Last day to enter a course or change from audit to credit/credit to audit
3-31	Hispanic Heritage Month
8-12	Fall Week of Devotion
9	Diversity new-student orientation
9	Last day to withdraw with no record of course registration on transcript
17	ALAS chapel
24	University convocation

NOVEMBER

S	M	T	W	T	F	S
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7	Last day to submit Petition for Candidacy (Form A) for Spring Quarter completion
16-17	Annual BALL/BHPSA student retreat
21-25	Thanksgiving recess
26	Instruction resumes
26	Last day to withdraw with a W grade or to submit S/U petition
26-DEC 21	Registration for Winter Quarter

DECEMBER

S	M	T	W	T	F	S
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9	10	11	12	13	14	15
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23	24	25	26	27	28	29
30	31					

7	Last day to submit final copy of thesis, publishable paper, or dissertation; signed approvals; and Certification of Completion of Requirements for Degree (Form D) to the Graduate School for Fall Quarter completion
10-14	Final examinations
15-JAN 2	Christmas/New Year's recess 2001-02
18	Grades due from faculty

The Calendar

2002

JANUARY

S	M	T	W	T	F	S
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6	7	8	9	10	11	12
13	14	15	16	17	18	19
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27	28	29	30	31		

3-MAR 15	**WINTER QUARTER 2002**
3	Last day to obtain financial clearance
3	Instruction begins
8	Last day to submit Petition for Graduation (Form C) for Spring Quarter completion
9	Last day to enter a course or change from audit to credit/credit to audit
12-19	Mission Emphasis Week
16	Last day to withdraw with no record of course registration on transcript
21	Martin Luther King, Jr., Day recess
22-25	Student Week of Spiritual Emphasis
26-FEB 2	Mission Emphasis Week

FEBRUARY

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24	25	26	27	28		

6	Last day to submit Petition for Candidacy (Form A) for Summer completion
	BHPSA chapel
6-24	African-American History Month
18	Presidents' Day recess
25	Last day to withdraw with a W grade or to submit S/U petition
25-MAR 22	Registration

MARCH

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24	25	26	27	28	29	30
31						

8	Last day to submit final copy of thesis, publishable paper, or dissertation; signed approvals; and Certificate of Completion of Requirements for Degree (Form D) to the Graduate School for Winter Quarter completion
11-15	Final examinations
16-24	Spring recess
19	Grades due from faculty
25-JUN 7	**SPRING QUARTER 2002**
25	Last day to obtain financial clearance
25	Instruction begins

APRIL

S	M	T	W	T	F	S
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28	29	30				

1	Last day to submit Petition for Graduation (Form C) for Summer completion
2	Last day to enter a course or change from audit to credit/credit to audit
8-12	Spring Week of Devotion
9	Last day to withdraw with no record of course registration on transcript
12-13	HALL/ALAS student retreat

The Calendar

2002

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	

1	Last day to submit Petition for Candidacy (Form A) for Fall Quarter completion
11	Diversity Consecration Service
20	Last day to withdraw with a W grade or to submit S/U petition
27	Memorial Day recess
29-JUN 14	Registration for Summer Quarter
31	Last day to submit final copy of thesis, publishable paper, or dissertation; signed approvals; and Certification of Completion of Requirements for Degree (Form D) to the Graduate School for Spring Quarter completion

JUNE

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23	24	25	26	27	28	29
30						

3-7	Final examinations
7	*Focus on Graduates* Vespers: GS, SN, AH, PH
8	Baccalaureate: GS, SN, AH:, PH
9	Conferring of Degrees: GS, SN, AH, PH
11	Grades due from faculty
17-AUG 30	**SUMMER SESSIONS 2002**
17	Instruction begins

For 2002-03 Calendar, see supplement from Graduate School Office of Admissions and Records.

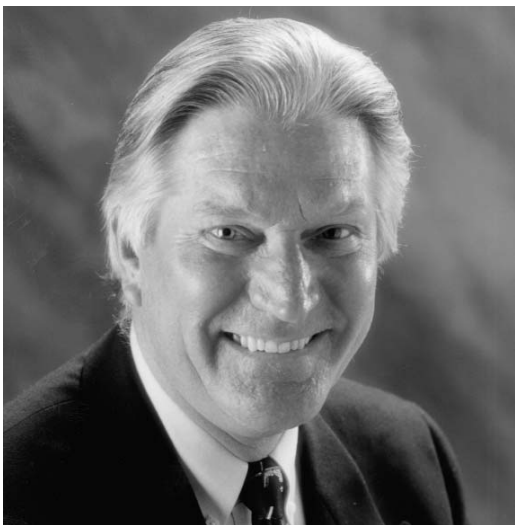
II

THE GRADUATE SCHOOL

Letter from the Dean
Philosophy and Objectives
Admissions Information
Programs and Degrees
Student Life
Policies and General Regulations
Financial Information

We're glad you have chosen to consider Loma Linda University Graduate School as you make plans to continue your educational goals. This bulletin describes who we are and what we have to offer. It will familiarize you with the philosophy and structure of our programs, along with a listing of the participating faculty and their educational backgrounds.

Loma Linda is a religious, nonprofit institution that welcomes students and staff from a broad spectrum of religious persuasions while reserving the right to give preference to qualified members of its sponsoring denomination. As stated in its nondiscrimination policy, the institution "affirms that all persons are of equal worth in the sight of God and they should so be regarded by all people." Since several of the professions— for which programs within the Graduate School prepare students—have a tradition of advocacy for oppressed peoples, it is important that the institution, faculty, and staff demonstrate their acceptance of, and willingness to help, those of our society who are less privileged. The University actively sponsors several programs that move the institutional health-care personnel resources and expertise into the local, national, and international communities to work with otherwise underserved populations. This component of service is an integral part of the Statement of Mission and a message intended to be captured in the Good Samaritan sculpture that occupies a central position on the campus.



The Graduate School, as part of the University, has expectations of students, faculty, and staff in the areas of conduct and behavior while they are on campus or involved in School or University activities. The School does not discriminate on the basis of race, color, gender, age, ethnic or national origin, or handicap. Enrollment of students in Graduate School programs is not conditioned on their political or sexual orientation; in these areas the School's policy is directed towards conduct or disruptive behavior, not orientation. Further we expect our programs through their faculty to develop competent, compassionate, ethical professionals who possess the knowledge, skills, and values to equip them for a life dedicated to service to all those in need regardless of their lifestyles.

You will find vigorous academic programs that will stretch your mind as you take time to make new discoveries, get to understand our world, and apply Christian principles to your life and profession.

Our administrators, faculty, and staff are here to work with you and help you prepare for your future as a caring, Christian professional in the world of service to mankind. If you would like to know more about us, you can call us toll free at 1-800-422-4LLU.

Barton Rippon, Ph.D.
Dean

Philosophy and Objectives

PHILOSOPHY

In the Graduate School of Loma Linda University, the essential concern of both faculty and students is the quest for meaning. Because this quest is served by knowledge, graduate students are obliged to achieve both broad and detailed mastery of their field of study. They also participate with the faculty in the process by which knowledge is augmented.

OBJECTIVES

The Graduate School attempts to create an environment favorable to the pursuit of knowledge and meaning by:

1. Making available to graduate students who wish to study in a Seventh-day Adventist Christian setting the education necessary for scholarly careers in the sciences and the health professions.
2. Encouraging development of independent judgment, mastery of research techniques, and contribution to scholarly communication.
3. Relating intellectual achievement to the service of mankind.

Admissions Information

The program admissions committees of the University intend that an applicant to any of the schools is qualified for the proposed curriculum and is capable of profiting from the educational experience offered by this University. The admissions committees of the Graduate School accomplish this by examining evidence of scholastic competence, moral and ethical standards, and significant qualities of character and personality. Applicants are considered for admission only on the recommendation of the program in which study is desired.

APPLICATION AND ACCEPTANCE

Where to write

Inquiries regarding application and admission should be addressed to:

Office of Admissions
Graduate School
Loma Linda University
Loma Linda, CA 92350

Application procedure

1. The graduate application should be filled out and mailed, together with the application fee, to the above address. Applications and all supporting information, transcripts, test results, and references should be submitted at least two months before the beginning of the term for which admission is sought. Some programs require applications to be completed by a much earlier date.
2. Two complete official transcripts of all academic records from all colleges, universities, and professional or technical schools should be provided. It is the applicant's responsibility to arrange to have the transcripts, including official English translations if applicable, sent directly by the registrar of each school attended to the Graduate School Office of Admissions. Transcripts that come via an intermediary are unacceptable.
3. A personal interview is often desirable and should be arranged with the coordinator of the program in which the student wishes to study.

ACCEPTANCE PROCEDURE

1. When the program that the student wishes to enter has evaluated the application and made its recommendation, the dean of the Graduate School takes official action and notifies the applicant. The formal notice of admission should be presented at registration as evidence of eligibility to enter the Graduate School.
2. As part of registration, accepted students will be asked to file with Student Health Service a medical history with evidence of certain immunizations.
3. Transcripts of records and all other application documents are retained by the University and may not be withdrawn and used by students for any purpose. Records of students who do not enroll, or who withdraw prior to completion, are retained for two years from the date of original acceptance to the Graduate School program.

ADMISSION REQUIREMENTS

A four-year baccalaureate degree (or its equivalent) from an accredited college or university is a prerequisite for admission to the Graduate School. Transcripts of the applicant's scholastic record should show appropriate preparation, in grades and content, for the curriculum chosen. Since there is some variation in the pattern of undergraduate courses prescribed by different programs, the student should note the specific requirements of the chosen program. Deficiencies may be fulfilled while enrolled; prerequisites must be completed prior to matriculation.

Scholarship

Applicants are expected to present an undergraduate record with a grade-point average of B (3.0) or better in the overall program and in the field of the major. Some students with an overall grade-point average between 2.5 and 3.0 may be admitted provisionally to graduate standing, provided the grades of the junior and senior years are superior or there is other evidence of capability.

Graduate Record Examinations

Scores on the general test of the Graduate Record Examination (GRE) are required with applications for admission to many degree programs. New test scores are needed if it has been over five years since the last test was taken. Applicants are advised to request information specific to their proposed program of study. Students may address inquiries about these examinations to Graduate School's Office of Admissions, which can provide application forms and information about special administration of the examination on days other than Saturday.

Application forms for the GRE and information regarding examination times and places are furnished by Educational Testing Service, 1947 Center Street, Berkeley, CA 94701 (for the West); and P.O. Box 6000, Princeton, NJ 08541 (for the East). For GRE publications (including study materials) call 800/537-3160. Also visit the GRE Web site at http://www.gre.org for more information on online registration, sample test questions, frequently asked questions, etc.

When pressure of time makes it impossible to secure the results of the GRE or its alternatives, students seeking admission who have otherwise above-average achievement may be admitted provisionally, subject to review when the required test results are received. In such cases, test results are to be submitted within the first quarter of attendance. Certain programs with limited admissions may require the GRE results prior to acceptance, while some programs require the subject test. Please check student guides from individual programs for further information.

Programs that do not require the GRE must submit one additional measure of a candidate's preparation for graduate study. This may be either an evaluation of critical essay writing skills, the Miller analogy test, or the results of a structured interview.

Re-entrance

A student who discontinues studies at the University must meet the entrance requirements effective at the time of reentrance, unless a leave of absence has been granted. Fees are required for reentrance applications, and supplementary documents may also be required.

Change of program or degree

Students who are currently enrolled in the Graduate School may request transfer to a different program, or a more advanced degree level, by completing an application form and submitting two letters of reference along with the appropriate fee. Transcripts on file with the University are acceptable.

International students

The admission of students from countries where English is not the first language is limited to those who meet all requirements for admission; submit official English translations of their transcripts; furnish suitable recommendations from responsible persons; pass the Test of English as a Foreign Language (TOEFL) or the Michigan Test of English Language Proficiency (MTELP); and give evidence of ability to meet all financial obligations to the University during the course of study.

Inquiry about the time and place of administration of the tests should be addressed to educational Testing Service at the addresses noted under the section "Graduate Record Examinations."

Scholarships and assistantships for first-year graduate students from abroad are extremely limited; consequently, applicants should assume that they will need to have financial resources sufficient for a full year's study. A deposit must be made to the International Student Affairs Office before a student-visa application form is furnished.

Exchange visitor

The University program for exchange visitors, through the United States Department of State, may be advantageous for international students. Persons entering the United States on an exchange visitor visa (J-1) are subject to the same regulations on study load and work as are those with a student visa (F-1). In addition, they are required to have health insurance for themselves and their families. Further information may be obtained from the University Student Affairs Office.

Visa forms

Forms for both the F-1 and the J-1 visas are issued by the director of the International Student Services to a student after acceptance and after financial arrangements have been made with that office.

Student visa

A graduate student entering the United States on a student visa (F-1) must successfully carry a study load of at least 8 units during each quarter of the academic year. The applicant must be prepared to provide such advance deposit as is required by Student Finance and must give assurance that additional funds will be forthcoming to meet school expenses. Fellowships and assistantships for international students are limited, and employment is limited by regulations of the Immigration and Naturalization Service to no more than twenty hours per week.

English competence

All international students are encouraged (particularly those who do not have an adequate score on TOEFL or MTELP or other evidence of English proficiency) to attend an intensive American Language Institute prior to entering their program. Further information about opportunities for such programs can be obtained from the Office of Admissions. Further study of English may be required to assure progress toward the degree.

ADMISSIONS CLASSIFICATIONS

Applicants are admitted to one of the following classifications. For regular or provisional status, applicants must be approved for acceptance by the program in which they propose to study. Others may be permitted to enroll, subject to availability of facilities, and will be classified as nondegree students.

Regular

Regular status is given to a student who meets the scholarship and examinations requirements for admission to the graduate program of choice, has met all prerequisites, and has no undergraduate deficiencies.

Provisional

Provisional status is given to a student (a) whose scholarship does not reach the level for regular graduate standing but who shows strong promise of success in graduate studies, (b) who has the prerequisites but whose undergraduate preparation is inadequate for the chosen graduate program, or (c) whose admissions documentation is incomplete at the time of notification of acceptance. To continue eligibility for graduate study, a student admitted on provisional status must achieve a grade-point average of 3.0 quarter by quarter, with no course grade less than C (2.0).

Nondegree

Nondegree status is given to a student who wishes to enroll in graduate courses for personal or professional benefit but who is not seeking a graduate degree. Such applicants complete a special application form.

Nondegree students in the Graduate School are permitted only 12 units of study for regular grades. Units beyond the 12 must be authorized by the dean of the Graduate School, or only audit (AU) will be available.

Certificate

Students seeking admission to one of the Graduate School's postbaccalaureate or post-master's certificate programs apply in the usual way for regular or provisional admission but are classified as certificate students.

Auditor

A student in any classification may register for a course as auditor, with the consent of the adviser and the instructor of the course. The student is required to pay half the normal tuition and agrees to attend at least 80 percent of course lectures.

College senior

A senior with a grade-point average of 3.0 or above may request to take a graduate course simultaneously with courses that complete the bachelor's degree requirements if the total does not constitute more than 12 academic units. Registration requires instructor, program director or coordinator, and Graduate School dean approval.

FROM MASTER'S TO PH.D. DEGREE

Bypassing master's degree

A graduate student at this University may proceed first to a master's degree. If at the time of application the student wishes to qualify for the Doctor of Philosophy degree, this intention should be declared even if the first objective is a master's degree.

If after admission to the master's degree program a student wishes to go on to the doctoral degree, an application form should be submitted, along with letters of reference, to the dean of the Graduate School. If the award of the master's degree is sought, the student will be expected to complete that degree before embarking on doctoral activity for credit. A student who bypasses the master's degree may be permitted, on the recommendation of the guidance committee and with the consent of the dean, to transfer courses and research that have been completed in the appropriate field and are of equivalent quality and scope to his/her doctoral program.

Second master's degree

A student who wishes to qualify for an additional master's degree in a different discipline may apply. The dean of the Graduate School and the faculty of the program the student wishes to enter will consider such a request on its individual merits.

Concurrent admission

Students may not be admitted to a Graduate School program while admitted to another program at this University or elsewhere. The exceptions to this are the combined-degrees programs, discussed in the following paragraph.

Combined degrees

The Graduate School provides for concurrent registration for two degrees only in its combined science/professional degrees programs—M.D./Ph.D., M.D./M.S., D.D.S./Ph.D., D.D.S./M.S., Psy.D./Dr.P.H., Psy.D./M.P.H., Ph.D./M.P.H., M.S./M.A. (marital and family therapy/clinical ministry and nursing/ethics), and M.S./M.P.H. Concurrent application is required in some but not all of these: See Programs and Degrees in section II of this bulletin. See combined-degrees programs in section III. See also "Becoming a Medical Scientist at Loma Linda University," a brochure that can be obtained from the coordinator of the Medical Scientist Program.

Programs and Degrees

The Graduate School offers programs leading to certificates and to the degrees Master of Science, Master of Arts, Master of Social Work, Doctor of Marital and Family Therapy, Doctor of Psychology, and Doctor of Philosophy.

BACHELOR OF SCIENCE
Geology

POSTBACCALAUREATE CERTIFICATES
Biomedical and Clinical Ethics
Biomedical Sciences
Case Management
Drug and Alcohol Counseling
Family Counseling
Family Life Education (family studies)
Nursing Management

CONCURRENT-WITH-MASTER'S OR POST-MASTER'S CERTIFICATES
Clinical Mediation
Group Counseling
Nursing
School Counseling

MASTER OF SOCIAL WORK

MASTER OF SCIENCE
Anatomy
Biochemistry
Biology
Geology
Marital and Family Therapy, LLU/CaUC*
Microbiology and Molecular Genetics
Nursing
Nutrition
- Clinical Nutrition
- Nutrition Care Management
- Nutrition Sciences

Physiology
Speech-Language Pathology
Dentistry
- Endodontics
- Implant Dentistry
- Oral and Maxillofacial Surgery
- Orthodontics and Dentofacial Orthopedics
- Pediatric Dentistry
- Periodontics
- Prosthodontics

MASTER OF ARTS
Family Studies
Biomedical and Clinical Ethics
Clinical Ministry
Psychology
Religion and the Sciences

DOCTOR OF MARITAL AND FAMILY THERAPY

DOCTOR OF PSYCHOLOGY

DOCTOR OF PHILOSOPHY
Anatomy
Biochemistry
Biology
Marital and Family Therapy
Medical Scientist
Microbiology
Nursing
Pharmacology
Physiology
Psychology
Rehabilitation Science
Social Policy and Social Research

*The campus on which registration is conducted is indicated by the designation LLU (Loma Linda University) or CaUC (Canadian Union College).

GENERAL INFORMATION

Other graduate degrees are offered in the University by the School of Allied Health Professions (Master of Occupational Therapy, Master of Physical Therapy, Doctor of Physical Therapy); and the School of Public Health (Master of Science in Public Health, Master of Public Health, Master of Health Administration, and Doctor of Public Health).

CERTIFICATE PROGRAMS

The Graduate School offers several post-baccalaureate certificate programs. Students accepted into such programs will be assigned to an adviser who will work with them as they fulfill the program requirements. Students will be required to maintain a B- (2.7) grade point average, with no course grade below C (2.0). All certificate students are required to take at least one 3-unit religion course (numbered between 500 and 600).

MASTER OF ARTS
MASTER OF SCIENCE
MASTER OF SOCIAL WORK

Adviser and guidance committee

Each student accepted into a degree program is assigned an adviser who helps to arrange the program of study to meet University requirements; subsequently (no later than when applying for candidacy), the student is put under the supervision of a guidance committee. This committee is responsible to and works with the coordinator of the student's program in arranging courses, screening thesis topics (where applicable), guiding research, administering final written and/or oral examinations, evaluating the thesis and other evidence of the candidate's fitness to receive the degree, and ultimately recommending the student for graduation.

Subject prerequisites and deficiencies

Gaps in an applicant's academic achievement will be identified by subject and classified either as prerequisites or as subject deficiencies. Applicants lacking certain subject or program prerequisites are not admitted to the master's degree program until the prerequisites are completed (at Loma Linda University or elsewhere) and acceptable grades are reported. However, subject deficiencies do not exclude an applicant from admission or enrollment; but they must be removed as specified by the adviser or dean, usually during the first full quarter of study at this University.

Study plan

The student's adviser should develop with the student a written outline of the complete graduate experience, with time and activity specified as fully as possible. This will serve as a guide to both the student and the adviser as well as to members of the guidance committee when it is selected.

The study plan is changed only after careful consultation. The student is ultimately responsible for ensuring both timely registration and completion of all required courses.

Time limit

The time allowed from admission to the Graduate School to conferring of the master's degree may not exceed five years. Some consideration may be given to a short extension of time if in the dean's opinion such is merited.

Course credit allowed toward the master's degree is nullified seven years from the date of course completion. Nullified courses may be revalidated, upon successful petition, through reading, conferences, written reports, or examination to assure currency in the content.

Residence

Students must meet the residence requirements indicated for their particular program (never less than one academic quarter). The master's degree candidate must complete one quarter of full-time study at the University or perform the thesis research at the University. Although students may register for up to 12 units each quarter, a student is considered in full-time residence if registered for at least 8 units.

Minimum required grade-point average

The required minimum grade average is B (3.0) with no course grade below C (2.0) on all work for the master's degree. This average must be maintained in formal courses and in research, computed separately. A student submitting transfer credits must earn a B grade average on all work accepted for transfer and on all work taken at this University, computed separately.

Research competence

Student skills required in languages, investigation, and computation are specified in each program description in this BULLETIN.

Comprehensive and final examinations

The student must take the written, oral, and final examinations prescribed by the program on or before the published dates. If a candidate fails to pass the final oral or written examination for a graduate degree, the examining committee files with the dean a written analysis of the candidate's status, with recommendations regarding the student's future relation to the School. The student receives a copy of the committee's recommendation.

Thesis

Students writing a thesis must register for at least one unit of thesis credit. The research and thesis preparation are under the direction of the student's guidance committee. The student is urged to secure the committee's approval of the topic and research design as early as possible. Such approval must be secured before petition is made for candidacy.

The student must register and pay tuition for thesis credit whether the work is done in residence or in absentia. If the student has been advanced to candidacy, has completed all course requirements, and has registered for but not completed the research and thesis, continuous registration is to be

maintained until the manuscript has been accepted. This involves a quarterly fee of $60 (2002-2003) paid at the beginning of each quarter. A similar continuing registration fee is assessed for each quarter the student fails to register for new units.

Candidacy

Admission to the Graduate School or designation of regular graduate standing does not constitute admission of the student to candidacy for a graduate degree. After achieving regular status, admission to candidacy is initiated by a written petition (Graduate School Form A) from the student to the dean, on recommendation of the student's adviser and the program coordinator or department chair.

Students petitioning the Graduate School for candidacy for the master's degree must present a satisfactory grade record, include a statement of the proposed thesis or dissertation topic (where applicable) that has been approved by the student's guidance committee, and note any other qualification prescribed by the program. Students are usually advanced to candidacy during the third quarter after entering their course of study toward a degree in the Graduate School.

Specific program requirements

In addition to the foregoing, the student is subject to the requirements stated in the section of the BULLETIN governing the specific program chosen.

COMBINED-MASTER'S DEGREES PROGRAMS

A number of combined-degrees programs are offered, each intended to provide more comprehensive preparation in clinical applications and the biomedical sciences. Both require concurrent admission to two programs in the Graduate School and/or a professional school in the University. These curricula are described in greater detail under the heading "Combined-Degrees Programs" in this section of the BULLETIN.

Religion requirement

All master's degree students are required to take at least one 3-unit religion course. Courses (numbered between 500 and 600) in social ethics, bioethics, psychology of religion, and philosophy of religion meet this requirement.

DOCTOR OF PHILOSOPHY

The Doctor of Philosophy degree is awarded for evidence of mature scholarship; productive promise; and active awareness of the history, resources, and demands of a specialized field.

Adviser and guidance committee

Each student, upon acceptance into a degree program, is assigned an adviser who helps arrange the study program. Subsequently (no later than when applying for candidacy), the student is put under the supervision of a guidance committee. The Graduate School requires advisers for Doctor of Philosophy degree candidates to have demonstrated consistent research productivity in their chosen disciplines. Each program maintains a list of qualified doctoral degree mentors. The guidance committee, usually chaired by the adviser, is responsible to and works with the coordinator of the student's program in arranging course sequences, screening dissertation topics, recommending candidacy, guiding research, administering written and oral examinations, evaluating the dissertation/project and other evidence of the candidate's fitness to receive the degree, and recommending the student for graduation.

Subject prerequisites and deficiencies

Gaps in an applicant's academic achievement will be identified by subjects and classified as either prerequisites or as subject deficiencies.

Applicants lacking subject or program prerequisites are not admitted to the Ph.D. degree program until the prerequisites are completed (at Loma Linda University or elsewhere) with acceptable grades.

Subject deficiencies do not exclude an applicant from admission or enrollment; but they must be removed as specified by the adviser or dean, usually at the beginning of the graduate experience at this University.

Study plan

The student's adviser should develop with the student a written outline of the complete graduate experience, with time and activity specified as fully as possible. This serves as a guide to both the student and the adviser as well as to members of the guidance committee when it is selected. The study plan is changed only after careful consultation. The student is ultimately responsible for ensuring both timely registration and completion of required courses.

Time limit

Completion of the graduate experience signals currency and competence in the discipline. The dynamic nature of the biological sciences makes dilatory or even leisurely pursuit of the degree unacceptable. Seven years are allowed for completion after admission to the Ph.D. degree program. Extension of time may be granted on petition if recommended by the guidance committee to the dean of the Graduate School.

Course credit allowed toward the doctorate is nullified eight years from the date of course completion. Nullified courses may be revalidated, upon successful petition, through reading, conference, written reports, or examination to assure currency in the content.

Residence

The Graduate School requires two years of residency for the doctoral degrees—D.M.F.T, Psy.D., Ph.D.—spent on the campus of the University after enrollment in a doctoral degree program. During residence, students devote full time to graduate activity in courses, research, or a combination of these. A full load of courses is 8 or more units each quarter; 36 or more clock hours per week is full time in research.

Students may be advised to pursue studies for limited periods at special facilities not available at

Loma Linda University. Such time may be considered residence if the arrangement is approved in advance by the dean of the Graduate School.

The spirit and demands of doctoral degree study require full-time devotion to courses, research, reading, and reflection. But neither the passage of time nor preoccupation with study assures success. Evidence of high scholarship and original contribution to the field or professional competence form the basis for determining the awarding of the degree.

Minimum required grade-point average

Students must maintain a grade-point average of at least a B (3.0) to continue in regular standing toward the doctorate. This average is to be computed separately for courses and research. Courses in which a student earns a grade between C (2.0) and B (3.0) may or may not apply toward the degree, at the discretion of the guidance committee. A student submitting transfer credits must earn a B average on all work accepted for transfer credit and on all work taken at this University, computed separately.

Research competence

Doctoral degree students demonstrate research competence by their investigative activities. Expectations and standards of achievement with the tools of investigation, natural and synthetic languages and computers, are specified later in this BULLETIN for each program.

Comprehensive examinations

The doctoral degree candidate is required to take comprehensive written and oral examinations over the principal areas of study to ascertain capacity for independent, productive, scientific work; and to determine whether further courses are required before the final year of preparation for the doctorate is undertaken. The program coordinator is responsible for arranging preparation and administration of the examination, as well as its evaluation and subsequent reports of results. Success in the comprehensive examination is a prerequisite to candidacy (see below).

Students cannot be admitted to the examination until the following requirements have been met:

- demonstrated reading knowledge of one foreign language, if applicable;
- completed the majority of units required beyond the master's degree or its equivalent.

The final oral examination

After completion of the dissertation and not later than a month before the date of graduation, the doctoral degree candidate is required to appear before an examining committee for the final oral examination.

If a candidate fails to pass this final examination for a graduate degree, the examining committee files with the dean a written analysis of the candidate's status, with recommendations about the student's future relation to the School. The student receives a copy of the committee's recommendation.

Project
(required for the Doctor of Psychology degree)

All Doctor of Psychology degree students must register for at least 1 unit of project credit. This should be done in the last quarter of registration prior to completion.

The research and project preparation are under the direction of the student's guidance committee. The student is urged to secure the committee's approval of the topic and research design as early as possible. Such approval must be secured before petition is made for advancement to candidacy.

If the student has been advanced to candidacy, has completed all course requirements, and has registered for but not completed the research and project, continuous registration is maintained until the manuscript is accepted. This involves a quarterly fee of $60 (2002-2003) paid during registration each quarter. A similar continuing registration fee is assessed for each quarter the student fails to register for new units.

Dissertation
(required for the Doctor of Philosophy degree)

All doctoral students must register for at least 1 unit of dissertation credit. This should be done in the last quarter of registration prior to completion.

The research and dissertation preparation are under the direction of the student's guidance committee. The student is urged to secure the committee's approval of the topic and research design as early as possible. Such approval must be secured before petition is made for advancement to candidacy.

Consultation with Graduate School Admissions and Records can prevent the student from committing formatting errors that would require retyping large sections of manuscript.

Students register and pay tuition for the dissertation whether the work is done in residence or in absentia. If the student has been advanced to candidacy, has completed all course requirements, and has registered for but not completed the research and dissertation, continuous registration is maintained until the manuscript is accepted. This involves a quarterly fee of $60 (2002-2003), paid during registration each quarter. A similar continuing registration fee is assessed for each quarter the student fails to register for new units.

Doctoral dissertations are reported to University Microfilms International and to the National Opinion Research Center. The Graduate School office provides appropriate information and forms.

Candidacy

Admission to the Graduate School does not constitute candidacy for a graduate degree. Admission to candidacy is initiated by a written petition (Graduate School Form A) from the student to the dean, with support from the student's adviser and the program chair.

The student's petition for candidacy for the Doctor of Philosophy degree will include, in addition, confirmation that comprehensive written and oral examinations have been passed.

Students expecting the award of the doctorate at a June graduation should have achieved candidacy no later than the previous November 15. One full quarter must be allowed between the achievement of candidacy and the quarter of completion.

Specific program requirements

Doctoral programs differ from each other. The unique program requirements appear in the program sections of this BULLETIN and in the program guides available from specific departments.

COMBINED-DEGREES PROGRAMS

A number of combined-degrees programs are offered, each intended to provide additional preparation in clinical, professional, or basic areas related to the student's field of interest. All require concurrent admission to the Graduate School and a professional school in the University. These curricula are described in greater detail below under the heading Combined-Degrees Program.

Religion requirement

All doctoral students take at least one 3-unit religion course. Courses (numbered between 500 and 600) in social ethics, bioethics, psychology of religion, and philosophy of religion meet this requirement.

Combined-Degrees Program (CDP)

The Combined-Degrees Program provides opportunity for especially well-qualified and motivated students to pursue professional and graduate education; and to prepare for careers in clinical specialization, teaching, or investigation of problems of health and disease in man.

For admission to the Combined-Degrees Program, students must have a baccalaureate degree; must qualify for admission to the Graduate School; and must already be admitted to the School of Medicine, the School of Dentistry, or the School of Public Health. Application may be made at any point in the student's progress in the professional school, though it is usually made during the sophomore year. Students in this curriculum study toward the M.A., M.S., M.S.W., Psy.D. or Ph.D. degree.

Students may be required to interrupt their professional study for two or more years (as needed) for courses and research for the graduate degree sought. Elective time in the professional school may be spent in meeting Graduate School requirements.

The student's concurrent status is regarded as continuous until the program is completed or until discontinuance is recommended by the Graduate School or the professional school. The usual degree requirements apply.

Medical Scientist Program (MSP)

The Medical Scientist Program has degree and career objectives similar to those of the Combined-Degrees Program but with some differences.

Applicants are admitted who achieve simultaneous regular acceptance into the Graduate School and the School of Medicine prior to enrollment in either school. Study begins in the Graduate School with a one-year sequence in cell and molecular biology, selected courses from the freshman School of Medicine sequence, and clinically related seminars.

During the first years, the MSP coordinator advises the student. Later, when the student's research interest and direction emerge, a program adviser and a thesis or dissertation guidance committee are chosen and recommend advancement to candidacy.

After the first MSP year, students pursue the first two somewhat modified years of their professional curriculum, returning to the Graduate School thereafter to complete and receive the graduate degree. Completion of the professional training follows. Elective time in the professional school may be spent in meeting graduate requirements.

Doctor of Public Health
with
Doctor of Psychology

The program enables a Dr.P.H. degree student to meet his/her elective and religion requirements with appropriate courses from the Psy.D. degree program, and allows work on the dissertation in an area that is acceptable for the Psy.D. project—thus obtaining the combined-degrees in less time than is required by the separate programs.

Master of Science in marital and family therapy
with
Master of Public Health

Master of Science in marital and family therapy
with
Master of Arts in clinical ministry

These two combined-degrees programs allow the M.P.H. or M.A. degree student in clinical ministry to dual-count units with the master's degree in marital and family therapy. This enables the student to be awarded the combined-degrees in less time than would be required by the separate programs.

Master of Arts in biomedical and clinical ethics
with
Doctor of Psychology

This combined-degrees program gives the psychology student the opportunity to be enriched through the study and understanding of ethical issues, as is recommended by the American Psychological Association. It also adds the psychological component often missing in the field of biomedical ethics.

ADDITIONAL COMBINED-DEGREES OPTIONS

M.D./M.A. in medicine and ethics

M.S.W./M.P.H. in social work and
in maternal child health or international health

M.S./M.P.H. in nursing and health education

M.S./M.A. in nursing and ethics

Student Life

The information on student life contained in this BULLETIN is brief. The *Student Handbook* more comprehensively addresses University and School expectations, regulations, and policies and is available to each registered student. Students need to familiarize themselves with the contents of the *Student Handbook*. Additional information regarding policies specific to a particular school or program within the University is available from the respective School.

FROM UNIVERSITY TO STUDENT

Loma Linda University was established to provide education in a distinctively Christian environment. Students are expected to respect the standards and ideals of the Seventh-day Adventist church. Prospective students have the freedom to choose or reject University or School standards, but the decision must be made before enrollment. Application to and enrollment in the University constitute the student's commitment to honor and abide by the academic and social practices and regulations stated in 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.

It is inevitable that the student will come under question if his/her academic performance is below standard; s/he neglects other student duties; his/her social conduct is unbecoming; or his/ her attitudes demonstrate deficiencies such as poor judgment, moral inadequacy, or other forms of immaturity.

Procedures for evaluation of academic and nonacademic performance—as well as for the student to exercise his/her right of appeal—are described in each School's section of the *Student Handbook*. Grievances regarding both academic and nonacademic matters must be processed according to the grievance procedures in the *Student Handbook*. After a student files an appeal or grievance, the faculty assesses the student's fitness for a career in the chosen profession and recommends to the dean appropriate action regarding the student's continuance or discontinuance.

Prospective students who have questions concerning the University's expectations should seek specific information prior to enrollment.

WHOLE-PERSON HEALTH

The University regards the student from a cosmopolitan and comprehensive point of view—

- cosmopolitan, in that historically the University's global mission has promoted bonds and opportunities in education and service without regard to sex, national or racial origin, or geographical origin; and
- comprehensive, in that the University's concern for the welfare of the student traditionally has been an integrated concern for assisting the student in balanced development.

The University offers opportunities for students to complement their formal learning through participation in a variety of recreational, cultural, and other activities that can enrich group interaction and leadership experiences, increase interests in fields outside one's profession, develop talents, and enhance wholesome and memorable association with others.

Students from all schools of Loma Linda University may congregate and participate in the multifaceted programs offered that involve the wholistic concept of spiritual, social, intellectual, emotional, and physical wellness. These programs support Loma Linda University's motto, "To make man whole."

SPIRITUAL HEALTH

Opportunities for personal development and spiritual enrichment are provided in scheduled religious exercises and activities and in informal association with others who cherish spiritual values.

SOCIAL HEALTH

Situated within easy access of the ocean, mountains, and desert, the University provides numerous opportunities for social and recreational activities. A variety of University-, School-, and group-sponsored events encourage students to relax and become better acquainted with one another.

TEACHING LEARNING CENTER

Academic life at this University is rigorous, and inefficient study skills can add to the stress and strain. The Teaching Learning Center works with students to develop the reading, writing, analytical, and study skills needed to succeed in professional education. The center offers three ABLE programs that will help students face academic challenges by:

A ssessing learning style and reading skills.
B reaking through in reading speed and comprehension.
L earning analytical and memory techniques and skills.
E nhancing ability to take tests and examinations.

If a student is having scholastic difficulties, the center will assess the student and tailor a program designed to increase and/or improve his/her reading speed and comprehension, writing clarity, analytical abilities, and other study skills—using the student's own course materials.

The center is located on campus in Evans Hall, Room 207. There is no charge to the student for assessment and evaluation. The regular student tuition package does not include the TLC tuition. However, TLC tuition is lower than regular tuition. For additional information, please call 909/558-8625.

UNIVERSITY STUDENT/FAMILY COUNSELING CENTER

The University Counseling Center offers a variety of confidential services to students and their families, including: individual, premarital, marital, family, and group counseling regarding issues of adjustment, anxiety, depression, etc.; skills in time management, studying, and test-taking; and 24-hour emergency crisis intervention. The center is located at 11374 Mountain View Avenue, Loma Linda. Full-time students may receive up to nine free visits. Call 909/558-4505 (or, on campus: 66028) to schedule an appointment or for more information.

STUDENT ASSISTANCE PROGRAM

The Loma Linda Student Assistance Program (LLSAP) provides professional and caring assessment and treatment for a variety of personal, family, work, and school-related issues. LLSAP clinicians will develop a treatment plan that may include free short-term counseling. If more extensive treatment is appropriate, clients are referred to a community therapist who specializes in the student's area of concern and who is covered by the student's health plan. All information is confidential. LLSAP clinicians will not release information without the written consent of the student, with the exception of matters that fall under mandatory reporting laws.

LLSAP, the only nationally accredited student assistance program in California, has provided state-of-the-art services to students since it was established in 1990.

Appointments may be scheduled during office hours (on-campus telephone—66050; off-campus —558-6050): Monday through Wednesday 8 a.m.-5 p.m.; Thursday 8 a.m.-8 p.m.; Friday 8 a.m.-1 p.m. Additional appointments times may be available upon request. All LLSAP services are free of charge.

PHYSICAL HEALTH

The University promotes physical fitness by encouraging recreational interests and by providing courses in field exercises, body building, and health instruction. An effort is made to interest each student in some recreational and health-building activity that may be carried over to enhance future life.

THE DRAYSON CENTER

The Drayson Center, the University's recreation and wellness center, is a state-of-the-art fitness facility.

The center includes a 21,000-square-foot multipurpose gymnasium, which may accommodate three full-size basketball courts or five volleyball courts or nine badminton courts. Circling the gymnasium's inside perimeter is a three-lane, elevated, rubberized running track. The facility also includes five racquetball courts with viewing areas, and fully equipped men's and women's locker rooms. Aerobics studios and cardiovascular and fitness areas are equipped for strength training, sports conditioning, body building, and power lifting. A large, ten-lane lap pool is designed to accommodate scuba diving classes. A 22-foot-high, 150-foot water slide ends in the nearby recreational pool. This shallow pool is wheelchair accessible. An outdoor jacuzzi is also available as well as indoor saunas in the men's and women's locker rooms. Included in the complex are a lighted, six-court tennis facility; a 400,000-square-foot multi-use recreational area with four softball fields; a half-mile-long track; and picnic and game areas.

The Drayson Center offers lifetime leisure classes (noncredit), such as low- and high-impact aerobics, scuba diving, tennis, weight training, karate, Tai-chi, and wilderness survival. Physical assessments are also available.

THE STUDENT HEALTH PLAN

Because the health, vitality, and welfare of its students and their dependents are of major concern to the University, Loma Linda University sponsors and funds the Student Health Plan, a health care plan that provides health service and medical coverage to all eligible students. It includes the following benefits: Student Health Service, 24-hour coverage, and generous coverage through preferred providers. The Student

Health Plan provides a broad range of medical coverage but does not provide dental or vision coverage.

Student Health Service

Professional services are rendered by the Student Health Service, which provides basic care to students. The Student Health Service is located in the Center for Health Promotion in Evans Hall, corner of Stewart and Anderson streets. The hours are 8 A.M.–5 P.M. Monday through Thursday and 8 A.M.–2 P.M. on Friday.

Supplementary medical-coverage policy

The Student Health Plan is an "excess" policy and only supplements other medical plans that provide benefits to the student. The student first obtains direct-provider payment, or reimbursement for out-of-pocket payments, from all other medical plans that provide benefits for the student; only then does the student submit bills to the Student Health Plan for any remaining balance not covered by the other plans. The student must, therefore, follow all rules of his/her primary insurance in obtaining medical treatment. The student should contact the primary carrier to determine what procedure to follow.

Eligibility

The Student Health Plan automatically covers all full-time students at Loma Linda University in any clinical or academic program. Students are covered when enrolled for 7 units or more per quarter (or clock-hour equivalent, as defined by each School) for which Loma Linda University is receiving tuition and applicable fees (excluding load validation, "in progress" [IP] units, "employee tuition benefit" units, and "audit" units). Students enrolled for field practicum are eligible for coverage if registered for at least 240 hours per quarter.

Coverage during clinicals/rotations

Students who are accidentally injured while performing their clinical rotation duties do not have to pay their co-payment. If a covered student is doing a school-sponsored clinical or rotation out of the area and becomes ill or injured, any health service and medical care received that is covered by the Student Health Plan will still be covered as if the student were in the Loma Linda area.

Effective coverage date

An eligible student's coverage becomes effective on the day of orientation or the first day of class. Any purchased benefits will become effective on the day the Department of Risk Management receives the health plan application and payment within the open enrollment period, which is only the first two weeks of each calendar quarter.

Buy-in provision only during open enrollment

Eligible students are themselves automatically covered by the plan; however, noneligible students—those on summer break and part-time students (e.g., in a clinical program but enrolled for fewer than 7 paid units)—may, if they wish, purchase coverage at the Department of Risk Management.

Those wishing to buy in may enroll in the Student Health Plan only during the first two weeks of each new calendar quarter, that is, during the first two weeks of January, April, July, and October.

An eligible student may buy Student Health Plan coverage benefits for his/her spouse and/or dependent child(ren). Eligible dependents are the spouse (residing with the insured student) and his/her never-married child(ren) under nineteen years of age, or never-married child(ren) under twenty-four years of age who are full-time student(s), or never-married children under twenty-seven years of age who are full-time graduate student(s).

If a new spouse or eligible dependent is added to the household of a covered student after the two-week enrollment period, then the student has a thirty-day grace period (after the wedding or after the birth, etc.) in which to buy coverage for the new spouse or new dependent; however, the coverage must be purchased for the entire quarter in which this new status occurred.

Buy-in rates per quarter are:

$250	Part-time student
$320	One dependent
$600	Two or more dependent

Neither Student Finance nor the Department of Risk Management bills the student's account or sends out reminders. Funds received for buy-in coverage must be in the form of a check or money order (payable to the Department of Risk Management).

Coverage exclusion for "pre-existing" condition

If a student or patient has not maintained a continuous "creditable coverage" under another health plan during the twelve months prior to the coverage effective date, the following pre-existing-condition exclusion will apply:

This plan will not cover any medical condition, illness, or injury for which medical advice, diagnosis, care, or treatment was recommended or received by the student or patient during the six months prior to the effective date of health plan coverage. This exclusion will apply for twelve months from the student's coverage effective date, unless such an individual remains treatment free during the six-month term beginning with the effective date of coverage. If the individual remains treatment free during the six-month term, the pre-existing-condition exclusion will apply only during that six-month period. This exclusion will not apply to pregnancy-related medical expenses or to medical treatment for a newborn or adopted child.

Preferred-provider plan, prescriptions, annual term, benefit limits

The Student Health Plan is a preferred-provider plan. A list of preferred physicians and preferred medical facilities is available from Risk Management.

For local students the Student Health Plan covers only those prescriptions purchased through the Loma Linda Campus Pharmacy and/or the Loma Linda University Medical Center Pharmacy. The student co-pays $10 for generic or $20 for brand-name prescriptions; the Student Health Plan covers the balance for up to a thirty-day supply per prescription.

The annual benefits apply per academic year, July 1 through June 30.

The Student Health Plan will pay medical expenses incurred subject to plan parameters to an annual limit of $100,000.

Benefits are limited by the terms and conditions set forth in the Student Health Plan booklet. The booklet is available from the Loma Linda University

Department of Risk Management. For additional health plan information, phone the Department of Risk Management at 909/558-4386.

MALPRACTICE INSURANCE

Students are covered by malpractice insurance while acting within the course and scope of any approved clinical assignment. All full-time students at Loma Linda University in any clinical educational program are covered by the Student Health Plan. This plan provides coverage twenty-four hours per day while the student is enrolled at the University. The Student Health Plan waives the deductible and co-payment for accidental injury for students in clinical rotation.

GOVERNING PRACTICES

Residence hall

The School is coeducational and accepts both single and married students. Any single student who prefers to live on campus may do so.

Students are expected to live on campus unless they are:

- married,
- twenty-one years of age or older,
- in a graduate program, or
- living with their parents.

Students who wish to live off campus but who do not meet one of the foregoing requirements may petition the dean of students for an exception. This should be done well in advance of registration to allow the student adequate time to plan. Additional information about campus housing can be obtained from the University's dean of students.

The student must keep the Office of the Dean of the School informed of his or her current address and telephone number and other contact numbers.

Marriage

If the student wants his or her name changed on the transcript and/or diploma, then the student who marries or changes marital status during the academic year must supply a copy of his or her marriage certificate to the Office of the Dean and must give written notice well in advance.

Professional apparel

Student uniforms are distinctive articles of dress specified by the department or School and are to be worn only in the manner prescribed and under the conditions specified. Students are to maintain their uniforms in clean, presentable condition. Information on the required professional apparel is furnished by the School.

Personal appearance

Students in the classroom or clinical environment must exhibit personal grooming consistent with expectations of the health care institution, the profession, the School, and the University. Specific guidelines are provided in the University *Student Handbook*.

Personal property

The School assumes no responsibility for the loss of the student's personal property, instruments, or other items by theft, fire, or unknown causes. The student is expected to assume responsibility for the safekeeping of personal belongings.

Cars and transportation

Students are responsible for transportation arrangements and costs for off-campus assignments and clinical affiliations. All vehicles used to transport fellow students for off-campus assignments must have adequate public liability insurance—a minimum of $100 bodily injury and property damage liability.

Student identification card

All students will be assigned University ID numbers and issued student ID cards. The University student ID card will be used for library, health, and other services.

In some cases, students are also required to have Medical Center ID badges. Information regarding this requirement can be obtained from the Office of the Dean of the School.

Substance abuse

Loma Linda University is committed to providing a learning environment conducive to the fullest possible human development. Because the University holds that a lifestyle that is drug, alcohol, and tobacco free is essential for achieving this goal, it maintains policies that seek a campus environment free of these substances. Students are expected to refrain from substance abuse while enrolled at the University. Substance abuse is considered to be any use of tobacco, alcohol, prescription or non-prescription drugs, or other mood-altering substance that impairs the appropriate functioning of the student. The School offers counseling and other redemptive programs to assist in the recovery from substance abuse. Continuation with the University will be dependent upon the abuser appropriately utilizing these programs. Failure to comply with these policies will result in discipline up to and including expulsion and, if appropriate, notification of law-enforcement agencies for prosecution.

Sexual harassment

Sexual harassment is reprehensible and will not be tolerated by the University. It subverts the mission of the University and threatens the careers, educational experience, and well-being of students, faculty, employees, and patients.

Because of the sensitive nature of situations involving sexual harassment and to assure speedy and confidential resolution of these issues, students should contact one of the School's designated, trained sexual harassment ombudspersons.

A more comprehensive statement of the policy regarding sexual harassment can be found in the University *Student Handbook*.

Dismissal, grievance

Students who are involved in dismissal proceedings or who wish to file a grievance are referred to the grievance procedure as outlined—

- in the Student Life section of this BULLETIN (see FROM UNIVERSITY TO STUDENT, par. 3);
- in the School section of the *Student Handbook*.

Employment

It is recommended that students refrain from assuming work obligations that divert time, attention, and strength from the arduous task of training in their chosen career. A student wishing to work during the school year may petition for permission from the Office of the Associate Dean for Academic Affairs. The decision of that office regarding such an employment request will be based on academic standing, class load, health, and School policy.

Policies and General Regulations

Students are responsible for informing themselves of the policies and regulations pertinent to registration, matriculation, and graduation; and for satisfactorily meeting these requirements.

GENERAL REGISTRATION

The student must register on the dates designated in the University calendar in this BULLETIN. Registration procedure includes recording information on forms furnished by the Office of University Records and clearing financial arrangements with Student Finance. The course list filed must have been approved by the graduate adviser.

Late registration is permissible only when there is a compelling reason; a charge is made if registration is not completed by 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 unless the course is offered as an intensive that requires registration before the end of the first day of class. A change in registration after the second week affects the grade record. In the Graduate School a change in registration requires the recommendation of the student's program coordinator/mentor and the approval of the dean.

CONDITIONS OF REGISTRATION, RESIDENCE, ATTENDANCE

Academic residence

A student must meet the residence requirements indicated for a particular degree, never less than one academic quarter. A year of residence is defined as three quarters of academic work. The master's degree candidate must complete one quarter of full-time study or perform the thesis research work at the University or an approved off-campus location. A student is in full-time residence if registered for at least 8 units. A maximum of 12 units may be taken without special petition unless the student is enrolled in an approved block-registration program.

Extramural study

When a student begins a degree program, it is understood that courses taken must be conducted on a campus of the University unless, upon petition for extramural study, the student obtains consent from the program coordinator and the dean. In such instances, the student must arrange with the program coordinator for evaluation of the study and, at its completion, recommendation as to credit and grade.

Leave of absence

A student who wishes to withdraw for a quarter or longer submits a written request for leave of absence, indicating the reason and the length of time needed to be out of the program. One year is the maximum leave time granted. This request requires the approval of the student's department and the dean. Stipulations for reentry are given the student in writing. During the period of leave, students maintain continuous registration by payment of a quarterly fee, currently $60 (2002-2003).

Administrative withdrawal

Students who fail to make arrangements for a leave of absence and continuing registration may be administratively withdrawn from the Graduate School after two quarters of inactivity.

Readmission

A student who has been administratively withdrawn from the Graduate School will be required to reapply for admission and is subject to the requirements in effect at the time of readmission.

Continuous registration

A student is required to maintain continuous registration from advancement to candidacy to the awarding of the degree. For quarters during which the student is not registered for new units or load validated as a full-time student, a fee of $60(2002-2003) is charged.

Withdrawal

Formal withdrawal must be arranged at the Graduate School's Office of Records and at the Office of University Records.

Transfer credits

A transfer student who has done acceptable graduate study in an approved institution may transfer credits up to one-fifth of the units required by the chosen program, to be applied to the degree at Loma Linda University. Such transfer credits will not be used to offset work at this University that is less than a B average. This transfer is limited to credits that have not already been applied to a degree and for which a grade of B (3.0) or better has been recorded. A maximum of nine quarter units that have been previously applied to another degree may be accepted as transfer credits upon petition.

A candidate for the doctorate who holds a master's degree, or presents its equivalent by transcript, may receive credit up to 54 quarter units, subject to the consent of the dean and the department chair involved. In such instances, the transfer student is not relieved of residence requirements at this University.

Chapel

Weekly devotional services are held as part of the regular program of the University; and full-time

students enrolled in classes that meet on Wednesday morning are expected to attend.

Academic probation

Degree students whose overall grade-point average falls below a 3.0 will be placed on academic probation. Students who are on academic probation and fail to make a 3.0 for the next quarter, or who fail to have a 3.0 G.P.A. overall after two quarters, may be dismissed from school.

Clinical probation

Programs with a clinical component may recommend that the student be placed on clinical probation. Details are contained in the program guides for the programs concerned.

Academic grievance

The student who believes that there has been an unjust evaluation or decision may appeal that evaluation or decision through the academic grievance process outlined below:

1. The student should first discuss the problem or grievance with the individual who allegedly made the unjust decision. If the student is not satisfied with the discussion and continues to believe that s/he has not been fairly dealt with, s/he should discuss the grievance with the chair of the department involved or with the coordinator of the program in which s/he is enrolled.
2. If the matter is not resolved at this level, the student should appeal to the dean of the Graduate School. The dean will review the case and either refer it back to the department for further consideration or refer it to the Graduate School Council. The student, with faculty adviser, may make a presentation (usually limited to one-half hour) to the Graduate School Council and explain his/her case. The program chair/coordinator may also make a presentation (usually limited to one-half hour) to the Graduate School Council. The Graduate School Council will then make a recommendation to the dean of the Graduate School.
3. Should there still fail to be a resolution, the dean of the Graduate School will appoint a faculty review committee of three members to evaluate the situation and make a recommendation to the dean. The student should present a written statement of his/her concerns and concisely include the pertinent information regarding the situation. The student, with faculty adviser, may request to meet with the faculty review committee for discussion of the case. The review committee, at its discretion, may call others to present their perceptions of the matter at hand. After receiving the recommendation of the review committee, the dean shall make the final decision in the matter.

Adviser and guidance committee

Each student is assigned an adviser and a guidance committee. These are described fully under each degree description elsewhere in this BULLETIN.

Time limits

Any credit transferred to the School or taken in residence and submitted toward a master's degree is nullified seven years from the date when the course was completed. Similarly, credit submitted toward a doctor's degree is nullified eight years from the date when the course was completed.

The time lapse from first enrollment in a graduate curriculum to the conferring of the master's degree may not exceed five years. For the doctor's degree, seven years are allowed after the date of admission; however, students enrolled in an approved combined-degrees program may be permitted nine years. A student desiring reinstatement must reapply to the dean. This procedure implies a re-evaluation of the student's total program.

Statistics and research consultation

Several programs in the Graduate School require statistics, either as a prerequisite to entry, as part of the program, or both. The course STAT 509 General Statistics, described in the School of Public Health BULLETIN., fulfills the prerequisite requirement; other requirements are specified by program. The course STAT 698 Research Consultation, described in the School of Public Health BULLETIN., provides professional guidance as the individual student initiates and progresses with the research project, thesis, or dissertation.

GRADUATION ATTENDANCE

The candidate for a graduate degree completed on the Loma Linda campus is expected to attend the graduation events and to receive the diploma in person. Consent for the degree to be conferred in absentia is contingent on the recommendation of the dean to the chancellor and can only be granted by the chancellor. A graduation fee will be placed on the student's account during the quarter following submission of Form C (Request to Graduate).

SCHOLASTIC STANDING

The following values are assigned for calculation of the grade point average per unit of enrollment:

A	4.0	B-	2.7	D+	1.3
A-	3.7	C+	2.3	D	1.0
B+	3.3	C	2.0	F	0.0
B	3.0	C-	1.7		

The following designations are used to make clear the student's status but not to indicate credit:

AU	Audit
I	Incomplete (given for circumstances beyond a student's control—an emergency situation only)
IP	In progress (for courses that cross term boundaries)
S	Satisfactory (used in pass-fail courses; does not affect G.P.A.)
U	Unsatisfactory (does not affect G.P.A.)
W	Withdraw (given from two weeks after registration until two weeks before final examinations begin)

The graduate student is expected to maintain a consistently high level of performance. The dean receives reports on the quality of work done in order to determine the eligibility of the student for advancement.

PROGRAM PRACTICES

Degree programs specify expectations in this BULLETIN as well as in their own publications. Students should become well acquainted with both sources of guidance.

THESIS AND DISSERTATION

The student's research and thesis or dissertation preparation are under the direction of the student's guidance committee. The student is urged to secure the committee's approval of the topic and research design as early as is feasible. Such approval must be secured before petition is made for advancement to candidacy.

Handbook

Instructions for the preparation and format of the publishable paper, thesis, or dissertation are in the "Thesis and Dissertation Format Guide," available at the Graduate School Admissions Office. Consultation with Graduate School Admissions and Records can help the student avoid formatting errors that would require him/her to retype large sections of manuscript. The last day for submitting copies to the Graduate School office in final approved form is published in the Events Calendar (available from the academic dean's office).

Binding

A fee will be assessed to cover the cost of binding copies of thesis or dissertation to be deposited in the University library and the appropriate department or school collection. This same fee will also apply to personal copies bound at the student's request.

BULLETIN

When this BULLETIN and any other Graduate School publication or the publication of any other school or any other Graduate School program conflict, this BULLETIN prevails. The Graduate School reserves the right to make changes in the course schedule and/or program curriculum as they become necessary.

Financial Information

The student is expected to arrange for financial resources to cover all expenses before the beginning of each school year. Accounts with other schools or this University must have been settled.

GENERAL PRACTICES

Advance payment and tuition refund

Tuition and fees are charged and payable in full in advance of each term. If the student withdraws from a course or all courses before 60 percent of the quarter has passed, tuition will be refunded on a pro-rata basis, with refunds of not less than the portion of tuition assessed equal to the remaining portion of the enrollment period as of the last day of attendance (rounded down to the nearest 10 percent of that period).

To withdraw from a course, the student must complete a Change of Program form (or a Total Withdrawal form to completely withdraw from School). These forms should be completed and submitted on the last day of class attended. The date the properly completed form is submitted to the Office of University Records, with appropriate signatures, will be the date of withdrawal used in calculating tuition refunds.

Monthly statement

The amount of the monthly statement is due and payable in full within thirty days after presentation. A student unable to meet this requirement must make proper arrangements with Student Finance. An account that is more than thirty days past due is subject to a service charge of .833 percent per month (10 percent per year). Failure to pay scheduled charges or to make proper arrangements, which is reported to the Office of University Records and the Graduate School dean, may be cause for the student to be considered absent, discontinued, or ineligible to take final examinations.

Financial clearance

The student is expected to keep a clear financial status at all times. Financial clearance must be obtained before registration each term; before receiving a certificate or diploma; or before requesting a transcript, statement of completion, or other certification to be issued to any person, organization, or professional board.

Checks

Checks should be made payable to Loma Linda University and should show the student's ID number to ensure that the correct account is credited.

Veterans

A student who is eligible to have veteran's benefits under the 1966 enactment should transfer records to the Veterans Administration Regional Office, 11000 Wilshire Boulevard, Los Angeles, CA 90024. Veterans must be admitted to a degree program to be eligible to receive benefits. Application should be made well in advance of enrollment. Further information may be requested from the Office of University Records. To receive advance payments, the student must contact the Office of University Records at least forty-five days in advance of enrollment.

SCHEDULE OF CHARGES (2002-2003)

TUITION—GRADUATE DENTISTRY PROGRAMS (package rates)

$2,700	Per quarter, effective Summer Quarter 2002 for oral and maxillofacial surgery program.
$6,400	Per quarter, effective Summer Quarter 2002 for all other programs.

TUITION—ALL OTHER GRADUATE SCHOOL PROGRAMS

$410	Per unit, credit.
$205	Per unit, audit.

SPECIAL CHARGES

$60	Application fee.
$75	Application fee for dual degrees within the Graduate School.
$60	Continuous-registration fee each quarter for which no tuition is paid.
$60	Fee for credit by examination.
$30	Fee to have credit earned by examination appear on transcript.
$30	Application to change program or degree.
$91	One-time graduation fee, charged during final year for master's degree candidates.
$110	One-time graduation fee, charged during the final year, for doctoral candidates.

Tuition and/or fees will change for subsequent years. Students should plan on an annual increase consistent with inflation in the education sector.

FINANCIAL AID

University fellowships

Some fellowships are awarded annually to students of outstanding promise and performance. In certain programs, fellowships may carry stipends and remission of tuition.

Assistantships

A limited number of teaching and research assistantships, with stipends, may be provided by individual programs.

Tuition waiver

Program chairs and coordinators may recommend partial- or full-tuition waivers for students of demonstrated achievement.

Application

An application for a fellowship or an assistantship from a student not already enrolled in a graduate degree program at the University must be accompanied by an application for admission. All applications for financial aid must have a completed financial aid form, which is available from Student Financial Aid.

Closing date

An application for financial aid of any kind should be made as early as possible but preferably no later than six weeks before the beginning of the effective quarter. Budgets are established in the spring for the following fall.

Loans

Financial assistance is available to the student from University loan funds, government loan funds, and other special trust funds. Inquiries concerning loans and other student financial matters should be made to the Office of Student Financial Aid.

SATISFACTORY PROGRESS

Each degree program has defined "satisfactory progress" as it relates to financial aid. Years in the program and requirements completed are specified. Students should consult their advisers to get copies of the policy.

III

THE PROGRAMS

Anatomy
Biochemistry
Biology
Biomedical and Clinical Ethics
Biomedical Sciences
Case Management
Clinical Mediation
Clinical Ministry
Dentistry
Drug and Alcohol Counseling
Family Counseling
Family Studies
Geology
Group Counseling
Marital and Family Therapy
Medical Scientist
Microbiology and Molecular Genetics
Nursing
Nutrition
Pharmacology
Physiology
Psychology
Rehabilitation Science
Religion and the Sciences
School Counseling
Social Work
Speech-Language Pathology

The Programs

At this point in the BULLETIN, the student should look in both directions before proceeding: look ahead to the specific area requirements of the chosen program, and look back to the general requirements applicable to all programs in the Graduate School.

COURSE LISTINGS

Numbering

Courses numbered from 301 to 499 are advanced undergraduate courses. Those from 501 to 689 are graduate courses; and from 690 to 699, graduate seminar, research, and thesis or dissertation courses. Courses numbered from 700 to 799 are clinical practicums.

Graduate credit

Certain courses at the advanced undergraduate level and basic science courses in the first and second professional years are acceptable for graduate credit, provided (a) the student qualifies for graduate study and has credit for the specific prerequisites of any desired course, and (b) the grade achievement is of graduate quality as required by the instructor or the Graduate School.

The advanced undergraduate courses listed in the following sections may be acceptable for graduate credit or in some cases may be offered to enable the student to make up undergraduate subject deficiencies.

Subject code letters

In the list that follows, the department or program name is identified by its four-letter code. General Education courses are indicated as General Studies Division.

ANAT	Anatomy
ANTH	Anthropology, General Studies Division
ARTA	Art, General Studies Division
BCHM	Biochemistry
BIOL	Biology
BMCE	Biomedical and Clinical Ethics
CMBL	Cell and Molecular Biology
DTCS	Nutrition
ENDN	Endodontics
ENGL	English, General Studies Division
FMST	Family Studies
GEOL	Geology
GRDN	Dentistry
HPRO	Health Promotion
IMPD	Implant Dentistry
MDCJ	Medicine Conjoint
MFAM	Marital and Family Therapy
MHIS	Health Information Management
MICR	Microbiology
MUHL	Music, General Studies Division
NRSG	Nursing
NUTR	Nutrition and Dietetics
ORBI	Oral Biology
ORDN	Orthodontics
ORMD	Oral Medicine
ORPA	Oral Pathology
ORSR	Oral Surgery
PATH	Pathology
PEAC	Physical Education Activity, General Studies Division
PEDN	Pediatric Dentistry
PERI	Periodontics
PHRM	Pharmacology
PHSL	Physiology
PHYS	Physiology
PROS	Prosthodontics
PSYC	Psychology
RDNG	Reading, General Studies Division
RELF	Religion, Foundational Studies (Biblical, Theological, Historical, Mission)
RELE	Religion, Ethical Studies
RELR	Religion, Relational Studies (Applied Theology, Clinical Ministry, Psychology of Religion)
RELG	Religion, General Studies
RESC	Rehabilitation Science
RLSC	Religion and the Sciences
SOCI	General Studies Division
SOWK	Social Work
SPAN	Spanish, General Studies Division
SPOL	Social Policy and Research
SPPA	Speech-Language Pathology
STAT	Biostatistics
WRIT	Writing, General Studies Division

School codes

FR	Faculty of Religion
AH	School of Allied Health Professions
GS	Graduate School
PH	School of Public Health
SD	School of Dentistry
SM	School of Medicine
SN	School of Nursing

ANATOMY

PEDRO B. NAVA, JR., Ph.D. Loma Linda University GS 1974
Division Director; Associate Professor of Anatomy
Gross anatomy, effects of age and diabetes on peripheral nervous system, taste receptors

KENNETH WRIGHT, Ph.D. Loma Linda University GS 1992
Program Coordinator; Assistant Professor of Anatomy
Gross anatomy, bone-cell biology, apoptosis, histomorphometry

The Division of Human Anatomy (Department of Pathology and Human Anatomy), in cooperation with other departments of the University, offers programs leading to the Master of Science and the Doctor of Philosophy degrees in the field of anatomy. The department is an active participant in the systems biology curricula, which consist of interdisciplinary courses and seminars coordinated by the faculties of the Departments of Anatomy and of Physiology and Pharmacology. The degree programs provide opportunities for qualified students to prepare for careers in teaching and research.

The student admitted to the anatomy graduate program will have an undergraduate degree with a strong component of biological sciences. This could include genetics, comparative vertebrate anatomy, and histotechnique—although these are not required for admission.

Other prerequisites include general physics, general chemistry, and organic chemistry. Computer literacy is expected. A foreign language and courses in statistics and computer science are encouraged. Applicants with diverse backgrounds are encouraged to apply, since each applicant is considered on an individual basis.

Graduate programs in anatomy provide opportunities for qualified students to study all aspects of human morphology from both didactic and investigative points of view. Study and research on other species and in other biomedical disciplines may be included in the student's curriculum. Students are introduced to research methods, both literature and laboratory, while working on a significant problem. Students acquire experience in scientific communication by participating in seminars, writing critical reviews, and reporting results of research experience either in thesis/dissertation form or as publishable/published papers. Details of these programs are available in the "Anatomy Program Guide."

The Department of Anatomy encourages the student to build a career in biomedicine on a solid foundation of basic medical sciences. Four specialty areas are then available for the M.S. degree thesis or Ph.D. degree dissertation research:

1. CELL BIOLOGY includes advanced study in cellular and molecular biology, electron microscopy, histochemistry, tissue culture, and quantitative image analysis. Research emphases are cell-cell communication, regulation and modeling of bone-cell activities, receptor biology in development, in vitro fertilization, and elucidation of the molecular and cellular bases of developmental anomalies.

2. **DEVELOPMENTAL BIOLOGY** approaches human anatomy from a developmental perspective, emphasizing the genetic basis of morphogenesis and final structure. Comparative developmental approaches are used to understand the mechanisms employed that regulate structure and function.

3. **NEUROBIOLOGY** is an integrated program with advanced courses in neuroanatomy and neurophysiology. Research emphases include neural systems in the regulation of biorhythms; neurocytology; and electron microscopy and sensory systems in development, aging, and diabetes.

4. **RADIATION BIOLOGY** builds on advanced courses in quantitative morphology and cell, molecular, and radiation biology. The proton accelerator at Loma Linda University Medical Center provides a unique opportunity to study functional responses of normal and cancerous tissue to proton and other radiations.

FACULTY

WILLIAM H. FLETCHER, Ph.D. University of California at Berkeley 1972
Professor of Pathology and Human Anatomy and of Surgery
Microanatomy, cellular/molecular

PAUL J. McMILLAN, Ph.D. Loma Linda University GS 1960
Professor of Pathology and Human Anatomy
Histology, bone-cell biology, quantitative morphology, image analysis

ROBERT L. SCHULTZ, Ph.D. University of California at Los Angeles 1957
Professor of Pathology and Human Anatomy
Electron microscopy, histology, nervous system

MICHAEL A. KIRBY, Ph.D. University of California at Riverside 1984
Associate Professor of Pathology and Human Anatomy and of Pediatrics
Neurophysiology, neuroanatomy, developmental neurobiology, radiation neurobiology

BERTHA C. ESCOBAR-PONI, M.D. Universidad Centro-Occidental, Venezuela 1989
Assistant Professor of Pathology and Human Anatomy
Gross anatomy, anatomy pedagogy, cell-cell communication

KERBY OBERG, M.D., Ph.D. Loma Linda University SM, GS 1991, 1989
Assistant Professor of Anatomy
Embryology, developmental biology, embryopathy

ASSOCIATE FACULTY

PAUL C. ENGEN, D.D.S. University of Southern California 1949
Emeritus Professor of Anatomy
Histology, histological techniques, comparative anatomy

DANIEL A. MITCHELL, JR., M.D. Loma Linda University SM 1947
Emeritus Professor of Anatomy
Gross anatomy, applied anatomy

WALTER H. B. ROBERTS, M.D. Loma Linda University SM 1939
Emeritus Professor of Anatomy
Gross anatomy, applied anatomy

JOHN O. ARCHAMBEAU, M.D. Stanford University 1955
Professor of Radiation Medicine, of Anatomy, and of Pediatrics
Radiation oncology, radiation biology

DAVID L. FELTEN, M.D., Ph.D. University of Pennsylvania 1973, 1974
Adjunct Professor of Pathology and Human Anatomy and of Neurology
Neuroscience, neuroimmunology

BOLESLAW H. LIWNICZ, M.D., Ph.D. Warsaw Academy of Medicine 1964; Loma Linda University GS 1967
Professor of Pathology and Human Anatomy and of Neurology
Neuropathology

STEVEN M. YELLON, Ph.D. University of Michigan 1984
Professor of Physiology and Pharmacology and of Pediatrics
Neuroendocrinology, reproductive physiology

DENISE L. BELLINGER, Ph.D. Indiana State University 1979
Associate Research Professor of Pathology and Human Anatomy
Histology, neuroimmunology

MARINO DE LEÓN, Ph.D. University of California at Davis 1987
Associate Professor of Physiology and Pharmacology and of Anatomy
Molecular regulation, nerve regeneration, neuronal injury

WILLIAM M. HOOKER, Ph.D. Loma Linda University GS 1969
Associate Professor of Anatomy
Neuroanatomy

BRAD A. COLE, M.D. Loma Linda University 1992
Assistant Professor of Neurology and of Anatomy
Neuroscience, neuromuscular disease

JOHANNAH CORSELLI, Ph.D. University of California at Riverside 1986
Assistant Professor of Obstetrics and Gynecology and of Anatomy
Embryology, developmental biology

SRINIVASAN THYAGARAJAN, Ph.D. Kansas State University 1993
Adjunct Assistant Research Professor of Pathology and Human Anatomy
Gross anatomy, neuroimmunology

WILLIAM WAGNER, M.D. Loma Linda University SM 1946
Assistant Professor of Pathology and Human Anatomy
Gross anatomy, applied anatomy

ANATOMY PROGRAM GUIDE

Further details of the programs in the Division of Human Anatomy are found in the "Anatomy Program Guide."

MASTER OF SCIENCE

Students must complete at least 48 units (including a required religion course) with an overall G.P.A. of at least 3.0. Required courses include: ANAT 537, 541, 542, and 544—for which no grade less than 3.0 is accepted. For each year in residence the student will complete 1 unit of ANAT 605 Integrative Biology Seminar. The remaining units for this degree must include at least 5 units in other basic science courses. When the student writes a thesis, up to 8 units in ANAT 697 Anatomy Research and 1 unit in ANAT 698 Thesis may be included in the 48 units. In lieu of a thesis, 9 units of additional courses (approved by the faculty and not to include more than 3 units of research) may be presented to meet the requirements for this degree. Students must also demonstrate satisfactory performance on a comprehensive examination over the required core courses.

DOCTOR OF PHILOSOPHY

The purpose of the program leading to the Doctor of Philosophy degree is to give individuals the preparation needed and the opportunity to pursue an in-depth, independent investigation under conditions favorable for the maturation of scholarly attitudes and habits. Admission to this program is based on a demonstration of superior qualifications, either in undergraduate or graduate studies.

Courses

Students earning this degree will have a B (3.0) grade or better in each of the core anatomy courses: ANAT 537, 541, 542, and 544. In addition, they will take 1 unit of ANAT 605 Integrative Biology Graduate Seminar for each year in residence; and 35 quarter units in advanced anatomy courses, cell biology, biochemistry, physiology, and other graduate courses appropriate to the student's goals—with an average G.P.A. of 3.0 or better. Students must also satisfy the Graduate School religion requirement as listed in the General Regulations section of the Graduate School BULLETIN. The specific course requirements will vary with the student's research emphasis. Final approval of the student's total program will be made by the student's committee in consultation with the anatomy faculty. Approximately 100 units beyond the bachelor's degree are usually completed by the time the Ph.D. degree is awarded. Teaching experience is required.

Language requirement

Although there is no specific language requirement, students with competencies in natural languages, in addition to English and/or computer languages, have a definite advantage. Depending on their research, some students may be expected to have one or more of these competencies.

Comprehensive examinations

The written and oral comprehensive examinations are designed to establish that the student has a broad understanding of structure and function. The student's ability to use that knowledge to identify and design experiments to resolve problems is also tested. Familiarity with the scientific literature and the ability to use that literature to defend the dissertation research proposal are important components of the oral examination.

Advancement to candidacy

The student may apply for admission to doctoral candidacy after:

- passing the comprehensive examinations;
- passing any other examinations, such as demonstrated proficiency in the use of computers and statistics required by the department; and
- securing the support of his/her advisory committee by presentation of a dissertation proposal that must be defended orally.

Dissertation

The candidate's capacity for independent investigation and scholarly achievement must be demonstrated by the completion and oral defense of an acceptable dissertation, usually resulting in one to three publications.

General requirements

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN.

COMBINED-DEGREES PROGRAM

Combined-degrees programs allow qualified students to work on combined M.D./Ph.D. or D.D.S./Ph.D. degrees. Details are provided in the Programs and Degrees section.

COURSES

ANAT 506 Neuroscience DN (5)
The basic anatomy and physiology of the human nervous system. Biophysical and structural concepts necessary for understanding all aspects of neurologic functioning. Fall: Four lectures and one laboratory per week.

ANAT 508 Human Anatomy for Dentists I (7)
Study of human body at macroscopic and microscopic levels, including developmental considerations. Clinical case-based conferences facilitate integration of anatomy into clinical situations. Winter: Four lectures and three laboratories per week.

ANAT 509 Head and Neck Anatomy for Dentists (8)
Study of human head and neck anatomy at macroscopic and microscopic levels. Special attention paid to development and oral histology. Spring: Five lectures and three laboratories per week.

ANAT 518 Basic Human Histology (4)
Study of tissues and organs of the human body as seen with routinely stained histological sections. Basic understanding of relationship of structure and function. Fall: Two lectures and two laboratories per week.

ANAT 519 Advanced and Comparative Histology (4)
Analysis of microstructure of the organ systems of various species, especially human, mouse, and rat. Study of prepared materials and evaluation of literature during conferences. Laboratories will focus on the preparation and quantitative analysis of tissue sections. Spring: two lectures, one laboratory (optional), and one conference per week.

Prerequisite: ANAT 518 or equivalent

ANAT 526 Head and Neck Anatomy (2)
Detailed dissection of the head and neck. Demonstration and lecture. Offered on demand.

Prerequisite: ANAT 541 or equivalent.

ANAT 534 Histological Techniques (3)
Theory and practice in the preparation of tissue sections for microscope study, using routine and specialized stains. Directed study.

ANAT 537 Neuroscience GS (8)
Integrated approach to the fundamentals of neuroanatomy and neurophysiology, with applications to clinical neurology. Winter: 4 units; Spring: 4 units.

Prerequisite: ANAT 541 strongly recommended.

ANAT 541 Gross Anatomy GS (6, 4)
Anatomy of the head, neck, locomotor system, thorax, abdomen, pelvis, and perineum. Correlated with radiology, applied features, and embryological development. Summer, Fall.

ANAT 542 Cell, Tissue, and Organ Biology (5)
The microscopic structure of cells, tissues, and organs of the human body. Fall.

ANAT 544 Human Embryology, Lecture (2)
The plan of development as it pertains to the human. Consideration of principles. Summer through Fall.

ANAT 544L Human Embryology; Laboratory (1)
Working with both human and comparative materials. Winter.

Prerequisite: A course in vertebrate embryology.

ANAT 545 Advanced Neuroanatomy (3)
Detailed study and dissection of the human nervous system. Spring, even years.

Prerequisite: ANAT 537.

ANAT 546 Electron Microscopy (3)
Trains the student to use the electron microscope. Basic theory, operational techniques, and tissue preparation. On demand, as needed.

Prerequisite: Histotechnique or equivalent.

ANAT 547 Histochemistry (3)
Theoretical and practical aspects of histochemical methods, as applied to tissue sections. One lecture and two 3-hour laboratories/conferences weekly. Summer, even years.

Prerequisite: A course in biochemistry; ANAT 542 or equivalent.

ANAT 548 Advanced and Molecular Cytology (3)
Study of the ultrastructural and cytochemical analysis of a variety of differentiated cells. Spring, odd years.

ANAT 549 Seminar: Topographical Chemistry (2)
Qualitative and quantitative distribution of enzymes and other chemically defined components of organs, as reported in current literature. Students responsible for one oral and one written report. On demand.

ANAT 554 Techniques in Experimental Morphology (2)
Introduction to selected methods used in the morphological analysis of organ and cellular function. Spring, odd years.

ANAT 555 Advanced Gross Anatomy—Articulation/Joints (3)
Detailed study of the anatomical design of joints, linking function through clinical correlations. Spring, odd years.

Prerequisite: ANAT 541.

ANAT 594 Special Topics in Anatomy (arranged)
Intensive study of a selected topic approved by the chair of the department. Individual guidance by a staff member.

ANAT 605 Integrative Biology, Graduate Seminar (1)
Seminar, coordinated by the Division of Human Anatomy and the Department of Physiology and Pharmacology. Reports from current literature and the presentation of student and faculty research on various aspects of regulatory and integrative biology—as applied to cells, tissues, organs, and systems. Students and faculty expected to participate in a discussion and critical evaluation of the presentation.

Faculties of the Departments of Anatomy and of Pharmacology and Physiology.

ANAT 697 Research (1-25)

ANAT 698 Thesis (2)

ANAT 699 Dissertation (3)

BIOCHEMISTRY

LAWRENCE C. SOWERS, Ph.D. Duke University 1983
Chair of Biochemistry and of Microbiology and Molecular Genetics; Professor of Biochemistry and of Microbiology
DNA damage and repair

E. CLIFFORD HERRMANN, Ph.D. Virginia Polytechnic Institute and State University 1970
Program Coordinator; Associate Professor of Biochemistry
Study and application of biomolecules, enzymes of proteolysis and casein phosphorylation, antibodies

The Department of Biochemistry offers courses of study leading to the Master of Science and the Doctor of Philosophy degrees. These provide a broad biochemical background yet allow the student to develop fully a special area of interest. The Master of Science degree provides content appropriate for persons preparing to teach at the secondary level or in related professional school areas, or for persons intending to pursue careers as research technicians. The Doctor of Philosophy degree program is designed to prepare the graduate for a career in teaching and in independent research. Combined-degrees options—Medical Scientist Program, M.D./M.S., D.D.S./M.S., M.D./Ph.D., and D.D.S./Ph.D.—are offered in conjunction with the School of Medicine and the School of Dentistry. The combination of an M.S. degree with a professional degree provides additional content or research experience as background for postgraduate medical or dental education. The combination of a Ph.D. degree with a professional degree prepares the student for a future in academic medicine or dentistry—combining research, teaching, and clinical practice.

FACULTY

RICHARD E. BELTZ, Ph.D. University of Southern California 1955
Emeritus Professor of Biochemistry
Preparation and biological testing of novel antimetabolites, studies on tumor markers

GEORGE T. JAVOR, Ph.D. Columbia University 1967
Professor of Biochemistry and of Microbiology and Molecular Genetics
Cellular responses to reductive stress, regulation of coenzyme Q and porphyrin syntheses

WILLIAM H. R. LANGRIDGE, Ph.D. University of Massachusetts 1973
Professor of Biochemistry
Recombinant vaccines for protection against infectious and autoimmune disease

GEORGE M. LESSARD, Ph.D. University of California at Riverside 1973
Professor of Biochemistry
Oral biochemistry

W. BARTON RIPPON, Ph.D. Newcastle University 1969
Dean; Professor of Biochemistry
Physical biochemistry of macromolecular structure and function

CHARLES W. SLATTERY, Ph.D. University of Nebraska 1965
Professor of Biochemistry and of Pediatrics
Physical chemistry of macromolecules, human caseins

ALADAR A. SZALAY, Ph.D. Martin Luther University, Halle/Saale, Germany 1972
Research Professor of Biochemistry
Mammalian artificial chromosome, cellular transplantation, human-gene therapy

R. BRUCE WILCOX, Ph.D. University of Utah 1962
Professor of Biochemistry
Biochemistry of the endocrine system

PENELOPE DUERKSEN-HUGHES, Ph.D. Emory University 1987
Associate Professor of Biochemistry and of Microbiology
Cellular responses to stress, genotoxin-triggered apoptotic pathways, papillomavirus modulation of host defense

ASSOCIATE FACULTY

DAVID J. BAYLINK, M.D. Loma Linda University 1957
Distinguished Professor of Medicine
Professor of Biochemistry, of Orthopedic Surgery, of Pediatrics, and of Oral Surgery
Basic and clinical aspects of musculoskeletal diseases, with emphasis on gene therapy and on molecular genetic approaches to identifying genes that regulate soft and hard tissue regeneration

JOHN R. FARLEY, Ph.D. University of California at Davis 1977
Research Professor of Medicine and of Biochemistry
Biochemical mechanisms of bone-volume regulation and enzyme kinetics of mineral metabolism

DAILA S. GRIDLEY, Ph.D. Loma Linda University GS 1978
Professor of Microbiology and Molecular Genetics, of Radiation Medicine, and of Biochemistry
Cancer immunology and radiation

DAVID A. HESSINGER, Ph.D. University of Miami 1970
Professor of Physiology and Pharmacology
Structure and function of cell membranes, marine toxicology

WOLFF M. KIRSCH, M.D. Washington University School of Medicine 1955
Director of Neurosurgery Center for Research, Training, and Education; Professor of Neurological Surgery and of Biochemistry
Posttranslational percarboxylations

KIN-HING WILLIAM LAU, Ph.D. Iowa State University 1982
Research Professor of Medicine and of Biochemistry
Phosphotyrosine phosphatases, signal transduction in bone cells

THOMAS A. LINKHART, Ph.D. University of California at Davis 1975
Research Professor of Pediatrics and of Biochemistry
Associate Research Professor of Pediatrics
Cellular and molecular mechanisms of bone growth, resorption, and repletion

SUBBURAMAN MOHAN, Ph.D. Bangalore University, India 1978
Research Professor of Biochemistry, of Medicine, and of Physiology
Growth factors and metabolic bone diseases

WILLIAM J. PEARCE, Ph.D. University of Michigan 1979
Professor of Physiology and Pharmacology
Cardiovascular physiology, control of cerebral circulation

JOHN J. ROSSI, Ph.D. University of Connecticut 1976
Adjunct Professor of Microbiology and Molecular Genetics
Professor of Molecular Biology, Beckman Research Institute of the City of Hope
RNA processing and catalytic RNAs

LAWRENCE B. SANDBERG, M.D., Ph.D. University of Illinois 1957, University of Oregon 1966
Clinical Research Professor of Pathology and Human Anatomy and of Medicine
Connective-tissue proteins, structure and function

BARRY L. TAYLOR, Ph.D. Case Western Reserve University 1973
Vice President for Research Affairs; Professor of Microbiology and Molecular Genetics
Mechanism of oxygen chemoreceptors, bacterial chemotaxis

ANTHONY ZUCCARELLI, Ph.D. California Institute of Technology 1974
Professor of Microbiology and Molecular Genetics
Genetic polymorphism in bacteria, molecular typing, molecular genetics of antibiotic resistance

SHIN-TAI CHEN, Ph.D. University of Texas at Dallas 1986
Associate Research Professor of Biochemistry
Molecular virology, vectors for gene therapy

RICHARD W. HUBBARD, Ph.D. Purdue University 1961
Associate Research Professor of Pathology and Human Anatomy, of Biochemistry, and of Nutrition
Nutritional biochemistry, essential fatty acid deficiency, oxidative state

DONNA D. STRONG, Ph.D. University of California at Los Angeles 1977
Associate Research Professor of Biochemistry, of Microbiology and Molecular Genetics, and of Medicine
Transcriptional and posttranscriptional regulation of bone-related growth factors and gene therapy for skeletal repair

JON E. WERGEDAL, Ph.D. University of Wisconsin 1963
Associate Research Professor of Medicine
Bone metabolism

CHIRANJIB DASGUPTA, Ph.D. University of Calcutta, India 1988
Assistant Research Professor of Biochemistry
Detection of genetic/epigenetic mutations associated with pediatric cardiovascular diseases

SATISH M. SOOD, Ph.D. Punjabi University, Patiala, India 1978
Assistant Research Professor of Biochemistry
Structure and functions of milk proteins, opioide peptides, and soy proteins

PREREQUISITE COURSES

In the listing below, the first four courses are prerequisites for acceptance. Lack of one or both of the two core-course prerequisites will be considered a deficiency; thus the time required for degree completion will be lengthened by the time necessary to make up the deficiency.

Prerequisites for acceptance

Differential and integral calculus	(8)
General physics	(12)
Organic chemistry	(12)
General biology	(12)

Core-course prerequisites

Upper division biology	(4)
Upper division biochemistry	(6-8)

Standardized American Chemical Society (ACS) examinations in organic chemistry and biochemistry are administered to students as placement examinations upon students' arrival. Evidence of adequate performance on these examinations during the course of undergraduate education is an acceptable alternative.

The department reserves the right to decide on the equivalence of courses presented by the applicant. Deficiencies must be completed before the student registers for advanced didactic biochemistry courses numbered above 540.

CORE REQUIREMENTS

A common core of courses constitutes partial fulfillment of requirements for all degrees offered by the biochemistry program:

BCHM 505	Seminar in Biochemistry	(2)
BCHM 506	Seminar Presentation in Biochemistry	(1)
*BCHM 508	Principles of Biochemistry	(6)
BCHM 523	Introduction to Physical Biochemistry	(3)
BCHM 525	Metabolic Interrelationships and Control	(5)
BCHM 527	Molecular Biology of the Cell	(8)
BCHM 534	Techniques of Biochemistry	(5)
REL_ ___	500- or 600-level religion	(3)

Additionally, the student is required to register for a seminar each quarter, but the units in excess of the core component seminar units are not counted toward fulfillment of the total unit requirement.

*To satisfy the requirement for BCHM 508, an upper division biochemistry course taken prior to entering the program may serve as the basis for waiver or transfer credit, subject to passing the ACS Standardized Examination in Biochemistry. If the units were used to satisfy requirements for another degree, the student is required to take an additional 6 units of course work or research.

MASTER OF SCIENCE

A minimum of 48 units is required for the M.S. degree, including core requirements, according to one of the two options described below.

Research-emphasis track

Under this plan, a student takes 2 units of cognate courses, in addition to the core requirement; and carries out research (10-16 units of BCHM 697) —which culminates in a thesis or a publishable paper (3 units of BCHM 698). The student will be given an oral examination by her/his graduate guidance committee after the thesis or publishable paper has been completed.

Course work-emphasis track

Under this plan a student fulfills the total unit requirement by substituting an equivalent number of course units for laboratory research and thesis, enumerated in the "Research emphasis track" section above. The student takes a comprehensive written examination over the graduate course work in lieu of preparing a thesis or publishable paper. Students may elect to do directed research, up to a maximum of 8 units of BCHM 697, in place of an equivalent number of course work units.

DOCTOR OF PHILOSOPHY

For the Ph.D. degree, a student must complete a minimum of 75 units, including those listed in the core requirements above, and within the framework of the description below. Students will take at least 6 units of advanced biochemistry course work, three courses of BCHM 544 Advanced Topics in Biochemistry. No grade below B (3.0) in the units of required biochemistry courses is acceptable. At least 10 additional units of cognate course work must also be completed with a minimum grade point average of 3.0. The student will complete 21-27 units of BCHM 697 Research, as the foundation for completing 5 units of BCHM 699 Dissertation.

Graduate biochemistry student guide

Details of the graduate program are given in the "Student Guide" published by the Department of Biochemistry.

COMBINED DEGREES

The student may pursue two degrees simultaneously. The academic/professional degrees of combined-degrees programs are described on page 31 of this BULLETIN.

GENERAL INFORMATION

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN.

COURSES

BCHM 504 Introduction to Biochemistry GS(5)
Quantitative concepts of pH and buffers. Structure, function, and metabolism of the four major classes of biological macromolecules (proteins, carbohydrates, lipids, nucleic acids) and their subunits. Holoenzyme composition (vitamins, minerals) and activity. Bioenergetics. Regulatory mechanisms that contribute to homeostasis in biological systems. Flow of genetic information: replication, transcription, translation, and regulation. Connective tissue and body-fluid components. Lecture and demonstration primarily for dental students.

BCHM 505 Seminar in Biochemistry (1)

BCHM 506 Seminar Presentation in Biochemistry (1)

BCHM 508 Principles of Biochemistry (6)
Identical to BCHM 504 plus supplemental content.

BCHM 523 Introduction to Physical Biochemistry (3)
Introduction to biochemical thermodynamics, proteins and protein physical chemistry, enzyme kinetics and mechanisms, and bioenergetics.
Prerequisite: BCHM 508 or equivalent.

BCHM 525 Metabolic Interrelationships and Control (5)
Regulation of carbohydrate and lipid metabolism, nuclear hormone receptors, amino acid metabolism, growth factors, intracellular regulation, nucleotide metabolism, DNA, RNA structure and function, transcription, translation.
Prerequisite: BCHM 508 or equivalent.

BCHM 527 Molecular Biology of the Cell (8)
Identical to CMBL 502, offered by the Department of Microbiology.
Cross-listings: CMBL 502, MICR 539.
Prerequisite: BCHM 508 or CMBL 501.

BCHM 534 Techniques of Biochemistry (5)
Intensive integrated laboratory experience in protein chemistry, and the physical characterization of macromolecules. Writing scientific papers.

BCHM 544 Advanced Topics in Biochemistry (2-4)
Recommended for the Ph.D. (2+2+2).
Recent examples include proteins: modern methods of study; selected cellular events in carcinogenesis; enzyme kinetics; transgenic plants for human health.
Cross-listings: CMBL 538; BIOL 546; MICR 538.

BCHM 551 Special Problems in Biochemistry (arranged)

BCHM 697 Research (arranged)

BCHM 698 Thesis (arranged)

BCHM 699 Dissertation (arranged)

BIOLOGY

RONALD L. CARTER, Ph.D. Loma Linda University GS 1977
Chair; Professor of Biology
Genetics, molecular systematics, molecular ecology

The Department of Natural Sciences offers the Biology Program, leading to the Master of Science and Doctor of Philosophy degrees. These curricula provide a broad and unified approach to the life sciences; and also specialization, as evidenced by the conduct of significant, original research and in the selection of courses related to the area of research interest. Study in various areas, from molecular biology to natural history, is available to the student seeking preparation for teaching or for research in modern biology. Some areas of specialization are: animal behavior, animal physiology, molecular biosystematics, ecological physiology, behavioral ecology, conservation biology, marine biology, and paleontology.

OBJECTIVES

The Biology Program strives to:

1. Instill in students the values of honesty, scientific integrity, careful research, and critical, independent thinking.
2. Provide the tools and intellectual environment in which biologists can attain their highest potential in scholarship, research, and teaching.
3. Challenge graduate students to consider the relationship between science, faith, and societal responsibility.

FACULTY

LEONARD R. BRAND, Ph.D. Cornell University 1970
Professor of Biology and Paleontology
Vertebrate paleontology, mammalogy, philosophy of science

H. PAUL BUCHHEIM, Ph.D. University of Wyoming 1978
Professor of Geology
Sedimentology, geolimnology, paleoenvironments

WILLIAM K. HAYES, Ph.D. University of Wyoming 1991
Associate Professor of Biology
Behavioral ecology, herpetology, ornithology

ROBERT A. CUSHMAN, Ph.D. Colorado School of Mines 1994
Associate Chair; Assistant Professor of Geology
Biostratigraphy, paleopalynology, invertebrate paleontology

ASSOCIATE FACULTY

DAVID A. HESSINGER, Ph.D. University of Miami 1970
Professor of Physiology and Pharmacology
Cell biology, sensory transduction, marine toxicology

BENJAMIN H. S. LAU, Ph.D. University of Kentucky 1966; M.D. Loma Linda University SM 1980
Professor of Microbiology and Molecular Genetics
Immunology, medical bacteriology, mycology, anticarcinogenic effects of phytochemicals

SANDRA L. NEHLSEN-CANNARELLA, Ph.D. National Institute for Medical Research, London 1971
Professor of Pathology and Human Anatomy and of Surgery
Transplantation immunology, reproductive immunology, autoimmunity

ARIEL A. ROTH, Ph.D. University of Michigan 1955
Professor of Biology
Invertebrate zoology

JOHN F. STOUT, Ph.D. University of Maryland 1963
Adjunct Professor of Biology
Behavioral physiology

JAMES R. WILSON, Ph.D. University of Cincinnati 1978
Adjunct Professor of Biology
Regulation of cell adhesion, cancer metastasis

ANTHONY J. ZUCCARELLI, Ph.D. California Institute of Technology 1974
Professor of Microbiology and Molecular Genetics
Molecular genetics, bacterial plasmids

GORDON J. ATKINS, Ph.D. McGill University 1987
Adjunct Associate Professor of Biology
Neurophysiology

H. THOMAS GOODWIN, Ph.D. University of Kansas 1990
Adjunct Associate Professor of Biology
Vertebrate paleontology, biogeography

MICHAEL A. KIRBY, Ph.D. University of California at Riverside 1984
Associate Professor of Pathology and Human Anatomy and of Pediatrics
Developmental neurobiology

JUNICHI RYU, Ph.D. Tokyo Metropolitan University 1978
Associate Professor of Microbiology and Molecular Genetics
Gene regulation, restriction-modification enzymes of enteric bacteria

HANSEL M. FLETCHER, Ph.D. Temple University 1990
Associate Professor of Microbiology and Molecular Genetics
Bacterial pathogenesis and antibiotic resistance

THE DEPARTMENTAL PROGRAMS

The Biology Program is administered by the Department of Natural Sciences. The department administers programs leading to the following degrees or combined-degrees:

- M.S. and Ph.D. in biology
- M.D./M.S. in biology, D.D.S./M.S. in biology; M.D./Ph.D. in biology, D.D.S./Ph.D in biology
- M. S. in geology (paleontology, sedimentary geology, or environmental geology)
- B.S. in geology

MASTER OF SCIENCE

Admission

Applicants must meet the general admission requirements of the Graduate School, as outlined in the current Graduate School BULLETIN. Expected undergraduate preparation includes a bachelor's degree from an accredited college or university, with a biology major or equivalent; statistics, two quarters of college mathematics (calculus recommended), and one year of general chemistry; at least 20 quarter units from two or more of the following: organic chemistry, biochemistry, general physics, and geology. The GRE biology section is required. Students pursuing the M.S. degree are urged to select a research project with a primary faculty member from the department.

Student aid

Research and teaching assistantships are available from the department on a competitive basis. Further information can be obtained from the chair of the department. Qualified students are also encouraged to seek fellowships from federal and private agencies such as the National Science Foundation and the National Institutes of Health.

General requirements

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN.

CURRICULUM

The following constitutes the curriculum for the Master of Science degree in biology.

A minimum of 48 quarter units of academic credit is required. Of the 48 units, 30 must be in biology and cognate science subjects (as approved by the guidance committee), with 20 at or above the 500 level (exclusive of research), including:

BIOL	545	Genetics and Speciation	(4)
BIOL	558	Philosophy of Science	(4)
BIOL	605	Seminar Presentation in Biology	(1)
BIOL	607	Seminar in Biology	(2)
BIOL	616	Research and Experimental Design	(2)
BIOL	617	Proposal Writing and Grantsmanship	(2)

During the graduate program, two of the following three:

Organismal biology or paleontology

Ecology or environmental science

Cell or molecular biology

The remaining 18+ units must include:

Additional courses as may be required by the student's guidance committee

Research, 4-12 units

Thesis, 2 units, including final oral examination and defense

Religion, 5 units

Special attendance requirements

Attendance at all departmental seminars is required of the student while in residence at Loma Linda University.

Recommended

A reading knowledge of one foreign language is recommended for students planning to enter a Doctor of Philosophy degree program.

Comprehensive examination

An oral comprehensive examination is given to measure the student's general knowledge of biology, especially as it relates to carrying out the proposed

research. This examination should be completed by the end of the third quarter of study.

Advancement to candidacy

The student may apply for advancement to candidacy after:

1. completing all deficiencies and prerequisites,
2. selecting a research committee and having an approved research proposal,
3. passing the oral comprehensive examination, and
4. being recommended by the department faculty. This should be completed by the end of the third quarter of study.

Thesis

The written thesis must demonstrate the completion of significant, original research.

Defense of thesis

An oral presentation and defense of the thesis is required.

DOCTOR OF PHILOSOPHY

Admission

The successful applicant must meet the general admission requirements of the Graduate School, as outlined in the current Graduate School BULLETIN. Undergraduate preparation should include general biology (or the equivalent) and at least one course each in animal physiology, cell and molecular biology (or one year of biochemistry), and genetics. Required cognate courses are two quarters of college mathematics (calculus recommended); one year each of general physics, general chemistry, organic chemistry. The GRE biology section is required.

CURRICULUM

The following constitutes the curriculum for the Doctor of Philosophy degree in biology.

A minimum of 72 quarter units of academic credit for courses, seminars, and research beyond the master's degree is required; that is, a minimum of 120 units beyond the baccalaureate degree, including the following required courses:

BIOL	545	Genetics and Speciation	(4)
BIOL	558	Philosophy of Science	(4)
BIOL	605	Seminar Presentation in Biology	(2)
BIOL	607	Seminar in Biology	(3)
BIOL	616	Research and Experimental Design	(2)
BIOL	617	Proposal Writing and Grantsmanship	(2)

A course in paleontology or biogeography at this University.

At least two additional courses in the Department of Natural Sciences.

Sometime during the undergraduate or graduate program:

Biology of at least one animal taxon (of at least the class level)

Botany

Developmental biology

Ecology or environmental science

Advanced genetics

Biochemistry

Statistics

The required 72+ units must also include:

Additional courses as may be required by the student's guidance committee

Research, 10-25 units

Dissertation, 2 units

Religion, 3-unit course beyond master's degree level

Special attendance requirements

Attendance at all departmental seminars is required of the student while in residence at Loma Linda University.

Recommended

Teaching is recommended during at least one quarter. This experience may be obtained in the laboratory or it may involve presenting part of the lectures for a course.

Comprehensive examinations

An oral and a written comprehensive examination are given near completion of the formal course work. The purpose of these examinations is to measure the student's knowledge of the various fields of biology, philosophy of biology, and preparation for research. These examinations should be completed by the beginning of the third year of study.

Advancement to candidacy

The student may apply for advancement to doctoral candidacy after:

1. completing all deficiencies and prerequisites,
2. passing the oral and written comprehensive examinations,
3. selecting a research committee and having an approved research proposal, and
4. being recommended by the department faculty.

Dissertation

The written dissertation must demonstrate the completion of significant, original research.

Defense of dissertation

An oral presentation and defense of the dissertation is required.

DOCTOR OF PHILOSOPHY PALEONTOLOGY EMPHASIS

The Department of Natural Sciences offers graduate study in paleontology through both the program in geology and the program in biology. The Master of Science degree in geology emphasizes the study of fossils and the sedimentary rocks in which they occur (see description in the Geology section of this BULLETIN). The Ph.D. degree in biology with a formal emphasis in paleontology focuses on the paleoecology and paleoenvironmental context of ancient organisms and biogeography.

Admission

Expected undergraduate preparation in biology includes general biology (or the equivalent), genetics, botany, physiology, cell and molecular biology (or the equivalent), and general ecology. Expected undergraduate preparation in cognate subjects and geology includes physical geology, two quarters of college mathematics (calculus recommended), and one year each of general physics and general chemistry. At least one quarter of organic chemistry is recommended. The GRE biology section is required.

CURRICULUM

The following constitutes the curriculum for the Doctor of Philosophy degree in biology with an emphasis in paleontology.

A minimum of 72 quarter units of academic credit for courses, seminars, and research beyond the master's degree is required; that is, a minimum of 120 units beyond the baccalaureate degree, including the following required courses:

BIOL	515	Biogeography	(3)
BIOL	545	Genetics and Speciation	(4)
BIOL	558	(or GEOL 558) Philosophy of Science	(4)
BIOL	605	(or GEOL 605) Seminar Presentation in Biology	(2)
BIOL	607	(or GEOL 607) Seminar in Biology	(3)
BIOL	616	(or GEOL 616) Research and Experimental Design	(2)
BIOL	617	(or GEOL 617) Proposal Writing and Grantsmanship	(2)
GEOL	547	Advanced Historical Geology	(4)
GEOL	556	Paleoenvironments	(4)
GEOL	566	Advanced Sedimentology	(4)
GEOL	567	Stratigraphy and Basin Analysis	(4)

Sometime during the undergraduate or graduate program:

Biology of at least one taxon (of at least the class level)

Field Methods of Geologic Mapping (GEOL 425)

Three advanced paleontology courses (at least two at this University)

Cell physiology or cell and molecular biology or one year of biochemistry

Statistics

The required 72+ units must also include:

Additional courses as required by the student's guidance committee

Research, 10-25 units

Dissertation, 2 units

Religion, 3-unit course beyond master's degree level

Special attendance requirements

Attendance at all departmental seminars is required of the student while in residence at Loma Linda University.

Recommended

Teaching is recommended during at least one quarter. This experience may be obtained in the laboratory or it may involve presenting part of the lectures for a course.

Comprehensive examinations

An oral and a written comprehensive examination are given near completion of the formal course work. The purpose of these examinations is to measure the student's knowledge of the various fields of biology, philosophy of science, paleobiology, and preparation for research. These examinations should be completed by the beginning of the third year of study.

Advancement to candidacy

The student may apply for advancement to doctoral candidacy after

1. completing all deficiencies and prerequisites,
2. selecting a research committee and having an approved research proposal,
3. passing the comprehensive examinations, and
4. being recommended by the department faculty.

Dissertation

The written dissertation must demonstrate the completion of significant, original research.

Defense of dissertation

An oral presentation and defense of the dissertation is required.

COMBINED-DEGREES
M.D./M.S., D.D.S./M.S.

For students selecting a combined-degrees program with the Master of Science degree earned in biology or geology, up to 12 units of credit for basic science courses and up to 6 units of research and/or graduate courses done as part of the electives of the professional curriculum may be applied to the master's degree program.

COMBINED-DEGREES
M.D./PH.D., D.D.S./PH.D.

For students selecting a combined-degrees program leading to the Doctor of Medicine and Doctor of Philosophy degrees or to the Doctor of Dental Surgery and Doctor of Philosophy degrees, with the Ph.D. degree earned in biology, the following modifications of requirements may apply: as many as 30 units of credit for basic science courses and up to 30 units of research and/or graduate courses, but not more than 36 units done as part of the electives of the professional curriculum, may be applied to the Ph.D. degree program.

The animal physiology and the statistics requirements would be met by the professional curriculum.

Varied course offerings

In addition to the primary offerings of the department, the student may take courses in other departments as part of the graduate work, according to special interests and needs. Some of these courses of special interest to biology students are listed below. See the Departments of Microbiology, Physiology, Anatomy, and Biochemistry for additional courses.

COURSES

UNDERGRADUATE

BIOL 315 Ecology (4)
Principles of terrestrial, aquatic, and marine ecology, with a focus on individual, population, community, and ecosystem levels of organization. Laboratory work includes field studies designed to examine ecological principles. Three class hours and one three-hour laboratory per week.

BIOL 409 Mammalogy (4)
Study of the mammals of the world, with emphasis on North America. Includes classroom and field study of systematics, distribution, behavior, and ecology. Three class hours, one three-hour laboratory per week.

BIOL 495 Undergraduate Research (1-4)
Original investigation and/or literature study pursued under the direction of a faculty member. May be repeated for additional credit.

Prerequisite: Consent of the instructor.

GRADUATE

BIOL 504 Biology of Marine Invertebrates (4)
Behavior, physiology, ecology, morphology, and systematics of marine invertebrates, with emphasis on morphology and systematics. Three class hours per week, one-day field trip alternate weeks, or the equivalent.

BIOL 505 Marine Biology (4)
Survey of the marine species of the world, and of the oceanographic processes and ecological interactions that affect them. Greatest emphasis placed on species from the North American Pacific coast. Includes an independent project. Three class hours per week, plus all-day field trips (usually on alternate Sundays).

BIOL 515 Biogeography (3)
Present and past distribution and migrations of the natural populations of organisms. Offered alternate years. Prerequisite: Biology or systematics of at least two plant or animal taxa desirable.

BIOL 517 Ecological Physiology (4)
Study of the interface between the individual and the environment, with emphasis on unusual environments, to explore the limits of physiological systems. Three class hours and one three-hour laboratory per week. Offered alternate years.

BIOL 518 Readings in Ecology (2)
Study, analysis, and discussion of current and classic papers.

Prerequisite: A course in ecology or consent of the instructor.

BIOL 524 Paleobotany (4)
Fossil plants; their morphology, paleoecology, taphonomy, classification, and stratigraphic distribution. Analysis of floral trends in the fossil record. Three class hours plus one three-hour laboratory or field trip per week.

Cross-listing: GEOL 524.

Prerequisite: Consent of the instructor.

BIOL 525 Paleopalynology (4)
Morphology, paleoecology, classification, and stratigraphic distribution of plant microfossils. Includes introduction to biostratigraphic and paleoecologic analytical methods. Three class hours and one three-hour laboratory or field trip per week.

Cross-listing: GEOL 525.

Prerequisite: GEOL 405 or consent of the instructor.

BIOL 526 Principles and Methods of Systematics (3)
Study of the principles and methods of modern systematic biology, with focus on the assumptions, concepts, and computerized methods of phylogeny reconstruction.

BIOL 534 Invertebrate Paleontology (4)
Structure, classification, ecology, and distribution of selected fossil invertebrate groups. Principles and methods involved in the study and analysis of invertebrate fossils considered. Three class hours and one three-hour laboratory per week.

Cross-listing: GEOL 534.

Prerequisite: Consent of the instructor.

BIOL 535 Animal Behavior (4)
Behavioral mechanisms of animals and their role in survival. Lectures and projects.

BIOL 536 Readings in Animal Behavior (2)
Critical analysis of the research literature on selected topics in animal behavior.

Prerequisite: A course in animal behavior or consent of the instructor.

BIOL 536 Readings in Animal Behavior (2)
Critical analysis of the research literature on selected topics in animal behavior.

Prerequisite: A course in animal behavior or consent of the instructor.

BIOL 537 Advances in Sociobiology (3)
Study of current concepts and ideas relating to the origin and structure of social behavior of animals. Special attention focused on the adaptive significance of species-specific behavior in a wide variety of environments.

BIOL 538 Behavior Genetics (4)
Study of the interaction of genotype and phenotype as it relates to animal behavior. Primary focus at the molecular and physiological levels of behavior. Modern understanding of the nature/nurture debate extended to topics that include biological determinism and ethics.

BIOL 544 Vertebrate Paleontology (4)
Fossil vertebrates, with emphasis on the origins of major groups. Systematics, biology, and biogeography of ancient vertebrates. Three class hours, one three-hour laboratory per week.

Cross-listing: GEOL 544.

Prerequisite: GEOL 405 or consent of the instructor.

BIOL 545 Genetics and Speciation (4)
Comparative analysis of species concepts, mechanisms of speciation, and analysis of micro- and macroevolution. Offered alternate years.

Prerequisite: A course in genetics and philosophy of science.

BIOL 547 Molecular Biosystematics (4)
Analysis at the molecular level of genetic events that underlie speciation. Laboratory work integrated with lecture, demonstrating basic molecular genetic research tools applicable to molecular biosystematics studies.

Prerequisite: Genetics and speciation or molecular genetics, and philosophy of science.

BIOL 548 Molecular Ecology (4)
Application of molecular markers to the study of ecology and natural history of populations. Special emphasis placed on molecular techniques that uniquely contribute to resolving major problems in phylobiogeography and measures of adaptiveness.

Prerequisite: Genetics and speciation plus a course in either ecology or biogeography.

BIOL 558 Philosophy of Science (4)
Study of selected topics in the history and philosophy of science, and the application of these principles in analyzing contemporary scientific trends. Offered alternate years.

BIOL 588 Current Topics in Biology (1-5)
Reviews of current interest in specific areas of biological science, offered at the discretion of the department. Different sections of the course may be repeated for additional credit.

Prerequisite: Consent of the instructor.

BIOL 589 Readings in Biology (1-4)

BIOL 605 Seminar Presentation in Biology (1)
Selected topics dealing with recent developments, particularly reports of current research. Student presents one seminar during the quarter.

BIOL 607 Seminar in Biology (0.5)
Selected topics dealing with recent developments. Student attends seminar; no presentation required.

BIOL 616 Research and Experimental Design (2)
Concepts, methods and tools of research, including experimental design and data analysis.

BIOL 617 Proposal Writing and Grantsmanship (2)
Skills and practice of effective proposal writing and strategies for locating and obtaining research grants.

BIOL 695 Special Projects in Biology (1-4)
Responsibility for a special research project in the field, laboratory, museum, or library. May be repeated for additional credit.

BIOL 697 Research (1-8)
See department checklist for recommended number of units.

BIOL 698 Thesis (2)
Credit for writing the master's thesis.

BIOL 699 Dissertation (2)
Credit for writing the doctoral dissertation.

ROSARIO BEACH SUMMER COURSES

In cooperation with the Walla Walla College Marine Station in Anacortes, Washington, facilities are available for marine courses and research by graduate students of this department. Some of the available courses are listed below.

BIOL 455 Comparative Physiology (5)
Comparative study of the physiology and life process of animals, with emphasis on invertebrates.

Prerequisite: Cell biology.

BIOL 458 Marine Biology (5)
Study of marine life and its ecology, and of oceanography as it affects marine life.

BIOL 459 Marine Invertebrates (5)
Study of the biology of selected groups of marine invertebrates.

BIOL 460 Marine Ecology (5)
Study of interspecific, intraspecific, and community relationships demonstrated by marine organisms.

BIOL 462 Ichthyology (5)
Systematic study of fishes found in Puget Sound, with a survey of fishes of other waters.

BIOL 463 Marine Botany (5)
Systematic study of plants found in Puget Sound, with a survey of marine plants from other areas.

BIOL 508 Physiology of Algae (5)
Comparative study of the physiology of representative members of the major algal groups. Collection and growth of cultures of single-celled forms; related metabolic processes, nutritional factors, light requirements, synchronization, and growth emphasized. Offered every three-to-five years.

BIOL 516 Behavior of Marine Organisms (5)
Study of inter- and intraspecific behaviors of marine animals and their behavioral responses to the physical environment. Laboratory experiences, field observations, and a research project.

Prerequisite: A background in organismal biology and permission of the instructor. Offered every three-to-five years.

GEOLOGY COURSES

Course descriptions can be found in the Geology section of the Graduate School BULLETIN.

OTHER COURSES

Numerous courses offered by the basic medical science and other departments are available to graduate students. Some are listed here, and their course descriptions may be found elsewhere in this BULLETIN.

ANAT 546 Electron Microscopy (3)

ANAT 548 Advanced and Molecular Cytology (3)

ANAT 554 Techniques in Experimental Morphology (2)

BCHM 508 Principles of Biochemistry (6)

BCHM 523 Introduction to Physical Biochemistry (3)

BCHM 525 Metabolic Interrelationships and Control (5)

BCHM 534 Techniques of Biochemistry (5)

ENVH 557 Geographical techniques for Health and Environmental Analysis (3)

ENVH 566 Outdoor Air Quality and Human Health (3)

ENVH 568 Water-Quality Assurance (3)

ENVH 569 Environmental Sampling and Analysis (4)

MICR 520 Basic Immunology (2.5)

MICR 521 Medical Microbiology (8)

MICR 536 Laboratory in Gene Transfer and Gene Expression (4)

MICR 539 Molecular Biology of Prokaryotes and Eukaryotes (8)

MICR 545 Molecular Biology Techniques, Laboratory (4)

MICR 546 Advanced Immunology (4)

MICR 565 Virology (3)

MICR 566 Cell Culture (3)

PHSL 501 Neurophysiology, DN (3)

PHSL 511 Medical Physiology I (1, 5)

PHSL 512 Medical Physiology II (3)

PHSL 535 Comparative Physiology (5)

PHSL 541 Cell and Molecular Biology (4)

STAT 521 Biostatistics I (4)

STAT 522 Biostatistics II (4)

STAT 523 Biostatistics III (4)

STAT 525 Applied Multivariate Analysis (2)

STAT 535 Introduction to Nonparametric Statistics (3)

STAT 549 Analytical Application of SPSS (2)

STAT 568 Data Analysis (3)

BIOMEDICAL AND CLINICAL ETHICS

MARK CARR, Ph.D. University of Virginia 1998
Program Coordinator; Assistant Professor of Religion
Christian ethics

The purpose of this interdisciplinary course of graduate study leading to a Master of Arts degree in biomedical and clinical ethics is to prepare qualified persons to engage in education, research, and service pertinent to the ethical issues in health care and human biology.

This degree is designed primarily for two types of students: those who are planning to pursue a career in biomedical ethics and who desire the Master of Arts degree as a step toward graduate work at the doctoral level, and those who wish to acquire the degree in order to complement their careers in health care or other professions.

The Biomedical and Clinical Ethics Program is administered by the Faculty of Religion through the Graduate School. It draws upon resources from many sectors of the campus, including clinical faculty in four of the University's schools, Loma Linda University Medical Center's Department of Clinical Ethics, the Center for Christian Bioethics, and the Center for Spiritual Life and Wholeness. The M.A. degree program cooperates with the Center for Christian Bioethics in a variety of ways. The Center's Thompson Library—a constantly growing collection with approximately 2,500 volumes—aims to become one of the most comprehensive libraries of materials in biomedical and clinical ethics on the Pacific Slope. These materials, which are an especially valuable resource for graduate students, supplement the related holdings in the primary libraries of Loma Linda University and nearby institutions.

The primary objectives of the Biomedical and Clinical Ethics Program are to:

1. Promote interdisciplinary study of ethical issues in health care and human biology.
2. Provide practical experience through observation and participation in clinical ethics.
3. Offer course work in the theological, biblical, and philosophical resources for ethics.
4. Prepare students for subsequent doctoral work in ethics.
5. Enhance understanding of biomedical ethics for members of the health care and other professions.

FACULTY

IVAN BLAZEN, Ph.D. Princeton Theological Seminary 1979
Professor of Religion
Biblical interpretation and theology

DAVID R. LARSON, Ph.D. Claremont Graduate School 1982
Co-Director, Center for Christian Bioethics; Professor of Religion;
Theological and philosophical ethics, biomedical ethics

JACK W. PROVONSHA, M.D. Loma Linda University SM 1953; Ph.D. Claremont Graduate School 1967
Emeritus Professor of Philosophy of Religion and Christian Ethics
Philosophy of religion, theology, biomedical ethics, clinical ethics

RICHARD RICE, Ph.D. University of Chicago Divinity School 1974
Professor of Religion
Theology and philosophy of religion

JAMES W. WALTERS, Ph.D. Claremont Graduate School 1979
Professor of Religion
Christian ethics, theological and philosophical ethics, biomedical ethics

GERALD R. WINSLOW, Ph.D. Graduate Theological Union, University of California at Berkeley 1979
Dean, Faculty of Religion; Professor of Religion
Christian ethics

ASSOCIATE FACULTY

ROY BRANSON, Ph.D. Harvard University 1968
Adjunct Professor of Christian Ethics
Theological and philosophical ethics, biomedical ethics, religion and society

ROBERT D. ORR, M.D. McGill University 1966
Director of Ethics, University of Vermont College of Medicine
Clinical ethics

CHARLES W. TEEL, Jr., Ph.D. Boston University 1972
Adjunct Professor of Christian Ethics
Christian social ethics, sociology of religion

LOIS VAN CLEVE, Ph.D. Claremont Graduate School 1985
Professor of Nursing
Ethics in nursing

CLINICAL FACULTY

ROBERT KIGER, D.D.S., M.A. Loma Linda University SD, GS 1970, 1985
Professor of Periodontics and Dental Educational Services
Clinical ethics

DEBRA CRAIG, M.D., M.A. Loma Linda University SM, GS 1982, 1995
Assistant Professor of Medicine and of Family Medicine
Clinical ethics

DENNIS deLEON, M.D. University of Tennessee at Memphis 1989
Assistant Clinical Professor of Family Medicine
Clinical ethics

STEVEN B. HARDIN, M.D. Loma Linda University SM 1985
Assistant Professor of Medicine
Clinical ethics

MASTER OF ARTS

Admission

In addition to meeting admission requirements for the Graduate School, the applicant to the Biomedical and Clinical Ethics Program must:

1. Propose clear personal and professional goals and ways in which the Biomedical and Clinical Ethics Program may facilitate their realization.
2. Persuade the admissions committee by previous accomplishments that he/she is able and willing to reach these goals and to make a distinguished contribution to the field.

Course requirements

In order to receive the Master of Arts degree in biomedical and clinical ethics from Loma Linda University, each student will complete a minimum of 48 units of course work as herein specified, with an overall grade point average of B or better, with no grade lower than a C and with no grade in a required course lower than a B-. At least 36 units must be in approved courses numbered 500-699 or their equivalent.

Curriculum

RELG	504	Research Methods	(4)
RELE	524	Christian Bioethics	(4)
RELE	548	Christian Social Ethics	(4)
RELE	554	Clinical Intensive in Biomedical Ethics I	(4)
RELE	555	Clinical Intensive in Biomedical Ethics II	(4)
RELE	577	Theological Ethics	(4)
RELE	588	Philosophical Ethics	(4)
RELE	589	Biblical Ethics	(4)
____	___	Approved electives	(16)
TOTAL UNITS REQUIRED			48

Transfer credit

Students are permitted to transfer up to 8 units of approved graduate level courses from other accredited institutions into the Biomedical and Clinical Ethics Program. In addition, prior or current students in Loma Linda University's other postbaccalaureate degree programs are permitted to petition to receive credit for a maximum of 12 units for courses completed in their professional studies that are directly related to biomedical and clinical ethics.

Comprehensive examinations

Each student must pass five comprehensive examinations within a period of two weeks. These written examinations will test the student's ability to integrate and apply knowledge from the following areas: (1) philosophical and social ethics, (2) theological and biblical ethics, (3) biomedical and clinical ethics. The student must register for RELE 697 Independent Research while preparing this paper. An oral examination must be successfully completed before the student defends a thesis or its approved substitutes. Review questions and bibliography for each area will be supplied to the student.

Research requirements

In addition to passing the comprehensive examinations, each student must complete significant and original research in the field. Two options are available:

1. **Publishable paper:** Most students pursue the publishable paper track and write one research paper of publishable quality aimed at a journal of stature in the field of biomedical and clinical ethics. The student must register for RELE 697 Independent Research (1-8 units) while preparing for this paper. An oral defense of this article is required.
2. **Thesis:** The student who chooses to write a thesis must obtain permission from his or her adviser

after having completed 24 units in the program. The student must register for both RELE 697 Independent Research (1-8 units) and RELE 698 Thesis (1-4 units) while preparing the thesis. An oral defense of the thesis is required.

Certificate program option

The Biomedical and Clinical Ethics Certificate Program option is available for those students who are not interested in completing the full M.A. degree program at this time. Students must complete 24 units of course work. There are no additional requirements.

	Required courses, certificate option:		
RELE	524	Christian Bioethics	(4)
RELE	554	Clinical Intensive in Biomedical Ethics I	(4)
RELE	555	Clinical Intensive in Biomedical Ethics II	(4)
	Any three of the following four:		
RELE	548	Christian Social Ethics	(4)
RELE	577	Theological Ethics	(4)
RELE	588	Philosophical Ethics	(4)
RELE	589	Biblical Ethics	(4)
TOTAL UNITS REQUIRED			24

COURSES

RELG 504 Research Methods (3-4)
Examination of the presuppositions and procedures for graduate research in religious studies. Use of libraries and research centers. Ways and means of preparing and presenting term papers, theses, and scholarly articles.
Additional project required for fourth unit.

RELE 524 Christian Bioethics (3-4)
Christian perspectives on ethical issues in health care.
Additional project required for fourth unit.

RELE 525 Ethics for Scientists (3-4)
Ethical aspects of scientific research, with emphasis on Christian contributions.
Additional project required for fourth unit.

RELE 534 Ethical Issues in Public Health (3-4)
Ethical issues encountered by public health administrators, educators, and investigators.
Additional project required for fourth unit.

RELE 548 Christian Social Ethics (3-4)
Relationships between Christian beliefs and social theory and practice.
Additional project required for fourth unit.

RELE 554 Clinical Ethics Practicum I (4)
Theories and applications of ethics in the clinical setting.

RELE 555 Clinical Ethics Practicum II (4)
Theories and applications of ethics in the clinical setting.
Prerequisite: RELE 554.

RELE 577 Theological Ethics (3-4)
Ethical implications of the primary theological legacies of Western culture.
Additional project required for fourth unit.

RELE 588 Philosophical Ethics (3-4)
Ethical themes and significant theorists in Western philosophy.
Additional project required for fourth unit.

RELE 589 Seminar in Christian Ethics (3-4)
Advanced study of selected topics in Christian ethics.
Prerequisite: Consent of instructor.
Additional project required for fourth unit.

RELG 674 Reading Tutorial (3-4)
Reading course for graduate students in religious studies. Topics vary depending on student and instructor interests.
Prerequisite: Consent of the instructor.
Additional project required for fourth unit.

RELG 697 Independent Research (1-8)
Prerequisite: Consent of the instructor and of the student's adviser.

RELG 698 Thesis (1-4)
Prerequisite: Consent of the instructor and of the student's adviser.

BIOMEDICAL SCIENCES

RAMON R. GONZALEZ, JR., Ph.D. Wake Forest University 1973
Program Coordinator; Associate Professor of Physiology and Pharmacology
Cardiovascular physiology, control of circulation

The Biomedical Sciences Certificate Program provides an opportunity for qualified students to register for selected graduate level courses in the biomedical sciences. These courses are identical to those taken by students in our master's and doctoral degree programs; however, the certificate program enables students to complete their studies with one academic year of full-time commitment. The program is intended to provide postbaccalaureate experience in the rapidly changing area of biomedical sciences. As such, it will either augment other career choices such as high school teaching, patent law, and biotechnology management; or improve the preparation for professional training in medicine or dentistry.

FACULTY

Faculty for the program are drawn from the graduate faculty associated with the basic science departments of the School of Medicine and with the Department of Natural Sciences in the Graduate School.

POSTBACCALAUREATE CERTIFICATE

Admission

Students entering the program will have completed a baccalaureate degree (or its equivalent) meeting the criteria outlined under the Admission Information section of this BULLETIN. Students who have not taken the Graduate Record Examination may be considered if they have a Medical College Acceptance Test with no score less than 6 and an aggregate score greater than 20. A Dental Aptitude Test score greater than 15 would also be acceptable.

Course of study

Students will be required to complete 28 units selected from courses offered through the Graduate School. These courses will include 3 units of religion, with the remaining 25 units selected, in consultation with the program coordinator, from offerings in the biological sciences.

The program may include 1 unit of appropriate seminar and up to 6 units of research. Since many of the courses offered in the basic medical sciences are sequenced or anticipate specific undergraduate experiences, students will be required to meet all course prerequisites.

Students may choose to select course sequences that could be applied to one of the Master of Science degree programs that the Graduate School offers in the biological sciences. Course work at the level of B (3.0) or above would be transferred to such a Master of Science degree program upon presentation of a petition for academic variance to the dean of the Graduate School.

Although several of the courses may share lecture experience and tests with the School of Medicine doctoral degree program, such courses will not be transferred to the School of Medicine; and a student subsequently admitted to the M.D. degree program should expect to take, and pay for, the normal medical school curriculum.

CASE MANAGEMENT

BEVERLY J. BUCKLES, M.S.W. Eastern Washington University, D.S.W. Adelphi University 1989
Chair, Department of Social Work; CSWE Liaison; Certificate Program Coordinator;
Professor of Social Work
Policy/Administration and community organizing

The 29-unit curriculum of the Case Management Certificate Program provides a unique opportunity for individuals working in health, mental health, and social services settings to acquire the specific knowledge and skills needed for working with populations for whom case management is a part of the service-delivery system.

FACULTY

See Department of Social Work.

THE PROGRAM

The postbaccalaureate Case Management Certificate Program is administered by the Department of Social Work. The department administers programs leading to the following certificate and degrees or combined degrees:

- Certificate in case management
- Master of Social Work (M.S.W.)
- Ph.D. in social policy and social research
- Master of Social Work/Master of Public Health in maternal and child health
- Master of Social Work/Ph.D. in social policy and social research
- Master of Arts in biomedical and clinical ethics/ Ph.D in social policy and social research

Admissions requirements

To be accepted into the Case Management Certificate Program:

1. Students must have a bachelor's degree from an accredited university or college. (Official transcripts are evidence of degrees and courses completed.)
2. Students must have a cumulative grade point average of 2.7 or above (on a 4.0 scale). (Special consideration can be given to students with grade point averages as low as 2.5 if the last part of their college work shows significant improvement. The additional admissions criteria of documented work experience will be required of applicants with less than the minimum G.P.A. of 2.7).
3. Students must also show evidence of personal qualifications and motivation to complete the Case Management Certificate program through:
   - Submission of a completed application—including a personal statement, application fee (application fee waived for applicants from county-partnership program), submission of all college and/or university transcripts, and submission of three letters of recommendation (including one from an academic source and one from a work supervisor).
   - Completion of an admissions interview with the department's admissions committee. Evaluation criteria for the interview includes:
     – verbal communication skills;
     – critical thinking ability;
     – values congruent with the social work profession;
     – appreciation of human diversity;
     – evidence of reflective learning; and
     – comportment.

These admissions criteria areas are designed to capture the Graduate School's and the program's determination of the initial attributes important in completion of the Case Management Certificate Program as well as professional and program compatibility. Final decisions are based on a composite score of all of the above items.

Because courses taken in the Case Management Certificate Program are eligible for transfer into the M.S.W. degree program, related prerequisite requirements expected of M.S.W. degree candidates also apply (see M.S.W. degree prerequisite preparation). Each prerequisite area represents the foundation knowledge necessary to assure that students from diverse academic backgrounds begin the Case Management Certificate Program on a more homogeneous footing.

NOTE: Prerequisite content can be met through specific courses or a combination of courses. However, only courses completed with a grade of C or better can be applied in meeting the prerequisite requirements. Faculty reviewing this requirement work closely with applicants to assure that the uniqueness of each applicant's undergraduate degree program is understood. Applicants are notified in the acceptance letter from the dean of the Graduate School if any of the prerequisite content requirements have not been met.

PROGRAM OF STUDY

SOWK	511	Human Behavior in a Cross-cultural Environment I	(3)
SOWK	512	Human Behavior in a Cross-cultural Environment II	(3)
SOWK	517	Foundation Practice I: Individuals	(3)
SOWK	518	Foundation Practice II: Groups	(3)
SOWK	520	Foundation Practice IV: Families	(3)
SOWK	660	Advanced Practice with Ethnically Diverse Populations	(3)
or			
SOWK	661	Time-Limited Services and Interventions	(3)
SOWK	682	Legal and Ethical Aspects of Health and Mental Health	(3)
RELE	522	Bioethical Issues in Social Work	(4)
_____	___	Electives	(4)
TOTAL UNITS			28

COURSES

See Department of Social Work for course descriptions.

CLINICAL MEDIATION

MARY E. MOLINE, Dr.P.H., M.P.H. Loma Linda University PH 1975; Ph.D. Brigham Young University 1979
Chair, Department of Counseling and Family Sciences; Professor of Counseling and Family Sciences; AAMFT-Approved Supervisor; Licensed Marital and Family Therapist
Marital and family therapy, family studies, family theory, treatment of couples, group process, group therapy, and legal and ethical issues

IAN P. CHAND, Ph.D. Pennsylvania State University 1980
Program Coordinator; Director of Clinical Training; Professor of Counseling and Family Sciences; General Member, Academy of Family Mediators; AAMFT-Approved Supervisor
Marital and family therapy, Christian family therapy, family mediation, cross-cultural family counseling, parenting, family law and ethics, and sociology of the family

The Clinical Mediation Certificate Program is designed to provide professionals specialized training in the mediation process involving courts, families, and work environments. This training leads toward becoming a practitioner member in the Academy of Family Mediators. This program is especially designed for marital and family therapists, psychologists, social workers, attorneys, human resource administrators, pastors, and others whose professional responsibilities include the mediation process. Family systems theory is central to the training in clinical mediation. The academic and clinical requirements for the certificate include 18 quarter units and 150 clock hours of supervised clinical experience.

FACULTY

See Marital and Family Therapy Program.

THE PROGRAM

The Clinical Mediation Certificate Program is administered by the Department of Counseling and Family Sciences through the Marital and Family Therapy Program. The department administers programs leading to the following degrees and certificates:

- Ph.D., D.M.F.T, and M.S. degrees in marital and family therapy
- M.A. degree in family studies
- Certificate in clinical mediation
- Certificate in drug and alcohol counseling
- Certificate in family counseling
- Certificate in family-life education (see M.A. degree program in family studies)
- Certificate in group counseling
- Certificate in school counseling

Admission

Applicants must meet the Graduate School admission requirements outlined in this BULLETIN and give evidence of academic ability, emotional stability, and maturity. The clinical mediation certificate can be a track in the M.S., D.M.F.T., and Ph.D. degree programs or an independent certificate. For admission, two faculty interviews are required. Students with a B.A. degree from an accredited university who also have a 3.0 G.P.A., with good recommendations can be accepted for the certificate program. In the degree programs, the applicant must meet the requirements for admission for their respective degrees in order to pursue the track in clinical mediation.

Certificate requirements

To earn the certificate, participants must successfully complete 18 quarter units. It is possible to complete the academic and clinical requirements for the certificate program in one year.

Course requirements

MFAM	538	Theories of Conflict Management and Resolution	(2)
MFAM	644	Child Abuse and Family Violence	(2)
MFAM	614	Law and Ethics	(3)
or			
MFTH	527	Advanced Legal and Ethical Issues (doctoral-level ethics)	(3)
MFAM	544	Family and Divorce Mediation	(4)
MFAM	585	Internship in Family Mediation	(3)
RELR	564	Religion, Marriage and the Family	(3)
or			
___	___	Religion course, doctoral level (for certificate only)	(3)
TOTAL UNITS			17

COURSES

See Marital and Family Therapy Program for other course descriptions.

MFAM 538 Theory and Practice of Conflict Resolution (3)
Overview of the field of conflict management and resolution. Basic theories and methodologies in the field, with opportunity to develop basic clinical mediation skills.

MFAM 544 Family and Divorce Mediation (4)
Comprehensive coverage of concepts, methods, and skills in family and divorce mediation. Relational and legal aspects of property division and child custody. Substantial role-play experience.

MFAM 585 Internship in Family Mediation (3)
Fifty hours of observation in the court room, 100 client-contact hours of mediation experience, 20 cases of mediation experience, and six mediation case-studies.

CLINICAL MINISTRY

GERALD R. WINSLOW, Ph.D. Graduate Theological Union, University of California at Berkeley 1979
Dean, Faculty of Religion; Professor of Religion
Christian ethics

SIROJ SORAJJAKOOL, Ph.D. Claremont School of Theology 1999
Program Coordinator; Associate Professor of Religion
Pastoral psychology

The Master of Arts degree in clinical ministry encourages students to explore the theological, biblical, and historical roots of ministry within the institutional setting; and to prepare for the practice of such ministry. It is especially valuable as preparation for careers in chaplaincy and other fields of ministry. It is specifically designed for three types of students:

- those at the beginning of their professional lives;
- those pursuing this degree in order to enhance or shift their existing careers; and
- those pursuing this degree as a steppingstone to further study.

This degree furthers education in caring for the whole person. The student will develop clinical skills applicable to contemporary ministry.

The program in clinical ministry includes education in two areas: academic and clinical. Academic preparation is provided by the Faculty of Religion and other cooperating departments within the University.

Settings providing clinical opportunities for training in institutional ministry include: Loma Linda University Medical Center (LLUMC), Loma Linda University Behavioral Medicine Center, Loma Linda University Community Medical Center, the SAC-Norton Clinic, the Jerry L. Pettis Memorial Veterans Medical Center, the Loma Linda University Faculty of Religion's Center for Spiritual Life and Wholeness, and others.

Loma Linda University Medical Center, under the auspices of the Department of Chaplain Services, is an accredited Clinical Pastoral Education (CPE) Center. Students admitted to the M.A. degree program in clinical ministry may apply for this clinical placement. (Separate application procedures are required.)

The faculty represents a balance between academic expertise and clinical experience, as well as a variety of disciplines, including: biblical studies, theology, theology and ministry, marriage and family therapy, cultural psychology, American church history, health education, nursing, and ethics.

The objectives of the program are to:

1. Develop persons skilled in the practice of ministry in both routine and critical settings.
2. Expose students to a wide range of biblical, theological, and practical material pertinent to the field.
3. Provide a broadly based education in ministry, with specific focus on the practice of ministry.
4. Prepare students for membership in various professional organizations, such as the American Association of Pastoral Counselors (AAPC), the Association for Clinical Pastoral Education (ACPE), the Association of Professional Chaplains (APC), etc.
5. Contribute positively to the student's pastoral formation.

FACULTY

IVAN BLAZEN, Ph.D. Princeton Theological Seminary 1979
Theological Co-Director, Center for Christian Bioethics; Professor of Religion
Theological and philosophical ethics, biomedical ethics

DAVID R. LARSON, D.Min. Claremont School of Theology 1973; Ph.D. Claremont Graduate University 1982
Professor of Religion
Christian ethics

JOHNNY RAMIREZ, Ed.D. Harvard University 1993
Professor of Religion
Theology, psychology, and culture

RICHARD RICE, Ph.D. University of Chicago Divinity School 1974
Professor of Religion
Theology and philosophy of religion

DAVID L. TAYLOR, D.Min. Vanderbilt University 1977
Professor of Religion
American religious history and theology

LOUIS VENDEN, Ph.D. Princeton Theological Seminary 1979
Professor of Religion
Theology and ministry

JAMES W. WALTERS, Ph.D. Claremont Graduate University 1979
Professor of Religion
Christian ethics, theological and philosophical ethics, biomedical ethics

CARLA G. GOBER, M.P.H., M.S. Loma Linda University PH, GS 1985, 1994
Assistant Professor of Religion; Associate Director, Center for Spiritual Life and Wholeness
Clinical ministry

ASSOCIATE FACULTY

WILLIAM LOVELESS, Ed.D. University of Maryland 1964
Adjunct Professor of Religion

BERNARD TAYLOR, Ph.D. Hebrew Union College 1989
Adjunct Professor of Religion

HENRY H. LAMBERTON, Psy.D. Fuller Theological Seminary 1992
Associate Professor

RANDALL L. ROBERTS, D.Min. Fuller Theological Seminary 1996
Associate Professor of Religion

FRED KASISCHKE, D.Min. Fuller Theological Seminary 1988
Assistant Professor of Dental Curriculum
Adjunct Assistant Professor of Religion

HYVETH WILLIAMS, D.Min. Boston University 1998
Adjunct Assistant Professor of Religion

CLINICAL FACULTY

WIL ALEXANDER, Ph.D. Michigan State 1962; M.Th. Edinburgh University 1966
Founding Director, Center for Spiritual Life and Wholeness;
Professor of Religion
Theological and clinical ministry

M. JERRY DAVIS, Rel.D. Claremont School of Theology 1967
Adjunct Professor of Religion
Clinical ministry

D. LEIGH AVELING, D.Min. Claremont School of Theology 1996
Adjunct Assistant Professor of Religion
Clinical ministry

ART EARLL, M.Div. Andrews University 1971
Adjunct Assistant Professor of Religion
Clinical ministry

JAMES GREEK, D.Min. Fuller Theological Seminary 1985
Adjunct Assistant Professor of Religion
Clinical ministry

DONNA SMITH-HERRICK, M.Div. Stanford University 1994
Adjunct Assistant Professor of Religion
Clinical ministry

MASTER OF ARTS

Admission

In addition to meeting admission requirements for the Graduate School, the applicant to the Clinical Ministry Program must:

1. Propose clear personal and professional goals and ways in which the program in clinical ministry may facilitate their realization;
2. Persuade the admissions committee by previous accomplishments that he or she is able and willing to reach these goals and to make a distinguished contribution to the field.

Course requirements

In order to receive the Master of Arts degree in clinical ministry from Loma Linda University, each student will complete a minimum of 48 units of course work as herein specified, with an overall grade point average of B or better, with no grade lower than C and with no grade in a core course lower than a B-. The required curriculum is as follows:

Core course work (36-48 units)

RELG	504	Research Methods	(3-4)
RELR	565	Introduction to Pastoral Theology	(3-4)
RELR	567	Introduction to Pastoral Counseling	(3-4)
RELR	568	Care of the Dying and Bereaved	(3-4)
RELR	574	Introduction to Preaching	(3-4)
RELR	584	Culture, Psychology, and Religion	(3-4)
RELR	694	Seminar in Clinical Ministry	(3-4)
RELF	557	Theology of Human Suffering	(3-4)
RELF	558	Old Testament Thought	(3-4)
RELF	559	New Testament Thought	(3-4)
RELE	524	Christian Bioethics	(3-4)
GSCJ	515	Researching and Writing Graduate Level Papers	(2-4)
MFAM	515	Crisis-Intervention Counseling	(3)

As individually required:

RELG	697	Independent Research	(1-8)
RELG	696	Project	(1-4)
RELG	698	Thesis	(1-4)
_____	___	Approved electives	(0-12)
RELR	695	Clinical Internship	(0)
TOTAL UNITS REQUIRED			48

Transfer credits

Students are able to transfer up to 8 units of approved graduate level courses from other institutions into the University's program in clinical ministry.

Clinical internship

Students must also satisfactorily complete an approved one-quarter (i.e., 400 hours) clinical internship. The program recommends that this requirement be met by the satisfactory completion of one quarter of clinical pastoral education (CPE) at an accredited CPE center. (NOTE: Acceptance into a quarter of CPE is at the discretion of the CPE supervisor and must be arranged individually and in advance.) The expectation of the program is that all students will complete all course work before entering the clinical internship. In certain cases, however, a student may petition the director of the program to take the clinical internship out of sequence. Even in such cases, the recommendation is that certain classes—namely RELR 565, RELR 568, and RELR 694—be completed before entering the clinical internship.

RELR 524 Clinical Pastoral Education, if taken as a selective, may account for a maximum of 6 academic units; and, if taken for academic credit, must be taken in addition to the 1,600-hour clinical internship.

After every 400-hour segment, a clinical evaluation form must be submitted to the program director.

Comprehensive examination

Each student must pass a comprehensive examination. This examination will test the student's ability to integrate and apply knowledge from the overall program. This examination must be successfully completed before the student defends a thesis, project, or papers.

Thesis, project, or publishable papers

Each student must either prepare a thesis while registered for RELR 698 *or* prepare a project while registered for RELR 696 *or* prepare two major papers of publishable quality. Independent research for either the thesis or the project is done while registered for RELR 697. The project option must be designed and implemented within the confines of the program and under the auspices and direction of the program director. The student must provide an oral defense of the thesis, a project, or two major papers. By the time they complete 12 quarter units in the program, students must declare whether they intend to complete a thesis, a project, or two major papers.

COURSES

RELG 504 Research Methods (3-4)
Examination of the presuppositions and procedures for graduate research in religious studies. Use of libraries and research centers. Ways and means of preparing and presenting term papers, theses, and scholarly articles.
Additional project required for fourth unit.

RELR 565 Introduction to Pastoral Theology (3-4)
Study of the biblical, theological, and historical foundations for the practice of ministry.
Additional project required for fourth unit.

RELR 567 Introduction to Pastoral Counseling (3-4)
Overview of theology, history, theory, and practice of pastoral counseling.
Additional project required for fourth unit.

RELR 568 Care of the Dying and Bereaved (3-4)
Study of the biblical, theological, cultural, religious, relational, and psychological aspects of dying and death.
Additional project required for fourth unit.

RELR 574 Introduction to Preaching (3-4)
Exploration of the why, what, where, and how of Christian proclamation, with emphasis on the development of basic skills for the preparation and delivery of Biblical messages in a variety of settings.
Additional project required for fourth unit.

RELR 584 Psychology of Religion (3-4)
Introduction to the major contours of Western culture as they relate to various schools of psychological thought and the influence of religious beliefs.
Additional project required for fourth unit.

RELR 694 Seminar in Clinical Ministry (3-4)
Principles and practice of effective interaction with patients, parishioners, inmates, and other populations.
Additional project required for fourth unit.

RELF 557 Theology of Human Suffering (3-4)
Suffering and evil in relation to the creative and redemptive purposes of God for this world. Focus on formation of the student's theology of human suffering.
Additional project required for fourth unit.

RELF 558 Old Testament Thought (3-4)
Introduction to the literature and key theological themes of the Old Testament.
Additional project required for fourth unit.

RELF 559 New Testament Thought (3-4)
Introduction to the literature and key theological themes of the New Testament.
Additional project required for fourth unit.

RELE 524 Christian Bioethics (3-4)
Christian perspectives on ethical issues in health care.
Additional project required for fourth unit.

GSCJ 515 Researching and Writing Graduate Level Papers (2-4)
Theory and practice of secondary research and writing, with emphasis on conceptual organization and original development. Introduction to library research—including gathering, organizing, narrowing, filtering, quoting, referencing, and writing up the research data.

MFAM 515 Crisis-Intervention Counseling (3)
Experiential course in which theory, techniques, and practices of crisis intervention are presented, with special attention to the development of the basic communication skills of counseling. Areas included that are intended to contribute to the development of a professional attitude and identity are: confidentiality, interprofessional cooperation, professional socialization, and organization. Therapeutic tapes covering topics such as death and dying, incest, spousal abuse, and rape. Laboratory required.

RELG 696 Project (1-4)
Prerequisite: Consent of the instructor and of the student's adviser.

RELG 697 Independent Research (1-8)
Prerequisite: Consent of the instructor and of the student's adviser.

RELG 698 Thesis (1-4)
Prerequisite: Consent of the instructor and of the student's adviser.

RELG 695 Clinical Internship (0)
Supervised clinical internship. At least one hour of individual supervision per week and a final evaluation by the supervisor at the completion of 400 hours of clinical internship.

DENTISTRY

CHARLES J. GOODACRE, D.D.S. Loma Linda University SD 1971; M.S.D. Indiana University 1974
Dean; Professor of Restorative Dentistry
Prosthodontics

LEIF K. BAKLAND, D.D.S. Loma Linda University SD 1963
Associate Dean for Advanced Education; Coordinator, Graduate Programs in Dentistry; Professor of Endodontics
Endodontics

Graduate study leading to the Master of Science degree or a specialty certificate in dentistry is offered in the following areas: endodontics, implant dentistry, oral and maxillofacial surgery, orthodontics and dentofacial orthopedics, pediatric dentistry, periodontics, and prosthodontics. The basic science approach to research and clinical practice is emphasized. The programs are organized in line with the standards of the Council on Dental Education of the American Dental Association; and in objectives and content, where applicable, meet the requirements of the respective specialty boards.

FACULTY

DAVID ANDERSON, D.D.S. Loma Linda University SD 1970
Professor of Dental Anesthesiology
Dental anesthesiology

PHILIP J. BOYNE, D.M.D. Tufts University 1947; M.S. Georgetown University 1961
Professor of Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

WAYNE V. CAMPAGNI, D.M.D. University of Pittsburgh 1959; Certificate in Prosthodontics, Veterans Administration Hospital–Wadsworth, Los Angeles 1979
Professor of Restorative Dentistry
Prosthodontics

MAX CRIGGER, D.D.S. Ohio State University 1965, M.S. Eastman Dental Center New York, 1972
Professor of Periodontics
Periodontics

JAIME L. LOZADA, D.D.S. University of Puebla (Mexico) 1983
Professor of Restorative Dentistry
Implant dentistry, periodontics

JOHN E. PETERSON, JR., D.D.S. Loma Linda University SD 1970, M.S. GS 1978
Professor of Pediatric Dentistry and of Orthodontics
Pediatric dentistry, Orthodontics and dentofacial orthopedics

JAMES H. SIMON, D.D.S. Temple University 1961
Professor of Endodontics
Endodontics

SUZANNE U. STUCKI-MCCORMICK, D.D.S. West Virginia University 1986; M.S. West Virginia University 1982; Certificate in Oral and Maxillofacial Surgery 1989
Professor of Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

DIMITRIS N. TATAKIS, D.D.S. University of Athens (Greece) 1982; Certificate in Periodontics, State University of New York at Buffalo 1988; Ph.D. State University of New York at Buffalo 1990
Professor of Periodontics
Periodontics

MAHMOUD TORABINEJAD, D.M.D. University of Tehran (Iran) 1971; M.S.D. University of Washington 1976; Ph.D. University of London, 1995
Professor of Endodontics
Endodontics

JOHN WHITTAKER, D.D.S. Otago University (New Zealand) 1967
Professor of Restorative Dentistry
Implant dentistry

GARY C. BOGLE, D.D.S. Loma Linda University SD 1969, M.S. GS 1973
Associate Professor of Periodontics
Periodontics

JOSEPH M. CARUSO, D.D.S. Loma Linda University SD 1973, M.S. GS 1975, M.P.H. PH 1976
Associate Professor of Orthodontics
Orthodontics and dentofacial orthopedics

TONY DAHER, D.D.S. University of St. Joseph, (Lebanon) 1977; Certificate in Prosthodontics, University of Paris (France) 1980; M.S. Ed. University of Southern California 1984; Certificate in Prosthodontics, University of California at Los Angeles 1988; Board Certified Diplomate 1998
Associate Professor of Restorative Dentistry
Prosthodontics

ROBERT J. FRANK, D.D.S. Ohio State University 1972
Associate Professor of Endodontics
Endodontics

BERNARD G. GANTES, D.D.S. University Rene Descartes (France) 1978; M.S. Loma Linda University GS 1985
Associate Professor of Periodontics
Periodontics

KEITH D. HOFFMANN, D.D.S. Loma Linda University SD 1983; Ph.D. Louisiana State University 1990
Associate Professor of Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

STEVEN G. MORROW, D.D.S. Loma Linda University SD 1960, M.S. GS 1987
Associate Professor of Endodontics
Endodontics

GORDON M. RICK, D.D.S. Loma Linda University SD 1968, M.S. GS 1972
Adjunct Associate Professor of Oral Diagnosis, Radiology, and Pathology
Oral pathology

WILLIS L. SCHLENKER, D.D.S. Loma Linda University SD 1957, M.S. GS 1980
Associate Professor of Orthodontics
Orthodontics and dentofacial orthopedics

THORARINN J. SIGURDSSON, D.D.S. University of Iceland (Iceland) 1974; Certificate in Periodontics, Lund University (Sweden) 1979; Certificate in Periodontics, Loma Linda University SD 1994
Professor of Periodontics
Periodontics

SHAHNAZ BONYANPOOR, D.M.D. Shiraz University School of Dental Medicine (Iran) 1978; Certificate in Pediatric Dentistry, Boston University 1980
Assistant Professor of Pediatric Dentistry
Pediatric dentistry

IVAN DUS, M.D. University of Padua (Italy) 1980
Assistant Professor of Orthodontics
Orthodontics and dentofacial orthopedics

ALAN S. HERFORD, D.D.S. Loma Linda University 1994; M.D. Southwestern Medical School 1997; Certificate Oral and Maxillofacial Surgery, Southwestern Medical Center 1998
Assistant Professor Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

R. DAVID RYNEARSON, D.D.S. Loma Linda University SD 1971, M.S. GS 1987
Assistant Professor of Orthodontics
Orthodontics and dentofacial orthopedics

MELVA S. WYATT, D.D.S. University of San Carlos of Guatemala School of Dentistry (Guatemala) 1985; Certificate in Pediatric Dentistry, Louisiana State University 1989
Assistant Professor of Pediatric Dentistry
Pediatric dentistry

ASSOCIATE FACULTY

ROBERT M. RICKETTS, D.D.S. Indiana University 1945; M.S. University of Illinois 1950
Professor of Orthodontics
Orthodontics and dentofacial orthopedics

KNUT A. SELVIG, D.D.S. University of Oslo (Norway) 1955; Certificate in Periodontics, Eastman Dental Center 1961; M.S. University of Rochester 1962; Ph.D. University of Bergen (Norway) 1967
Adjunct Professor of Periodontics
Periodontics

W. HOWARD DAVIS, D.D.S. University of Southern California 1948
Associate Professor of Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

JAMES R. WISE, D.D.S. Loma Linda University SD 1967, M.S. GS 1971
Associate Professor of Orthodontics
Orthodontics and dentofacial orthopedics

RONALD M. KAMINISHI, D.D.S. Northwestern University 1968
Assistant Professor of Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

THOMAS L. ROBERTSON, D.D.S. Marquette University 1959; M.S. Loma Linda University GS 1968
Assistant Professor of Orthodontics
Orthodontics and dentofacial orthopedics

JEFFREY I. ROSENBERG, D.D.S. Baltimore College of Dental Surgery 1978; Certificate in Prosthodontics, Veterans Administration Hospital, Los Angeles 1982
Assistant Professor of Restorative Dentistry
Implant dentistry

RAYMOND M. SUGIYAMA, D.D.S. Western Reserve University 1964; M.S. Loma Linda University GS 1968
Assistant Professor of Orthodontics
Orthodontics and dentofacial orthopedics

PETER S. WOHRLE, D.M.D. Harvard School of Dental Medicine 1988; M.Med.Sc. Harvard University 1991; Certificate in Prosthodontics, Harvard School of Dental Medicine 1989; Certificate in Implant Dentistry, Harvard School of Dental Medicine 1991
Assistant Professor of Restorative Dentistry
Implant dentistry

CLINICAL FACULTY

W. EUGENE RATHBUN, D.D.S. Loma Linda University SD 1965; M.S. GS 1971; Ph.D. University of California, Los Angeles 1970
Professor of Periodontics
Periodontics

MICHAEL J. FILLMAN, D.D.S. Loma Linda University SD 1974; M.S. GS 1984.
Associate Professor of Orthodontics
Orthodontics and dentofacial orthopedics

V. LEROY LEGGITT, D.D.S. Loma Linda University SD 1984; M.S. GS 1992; M.S. GS 1996
Associate Professor of Orthodontics
Orthodontics and dentofacial orthopedics

WAYNE K. TANAKA, D.D.S. University of Washington, 1976; Certificate in Oral and Maxillofacial Surgery, Wilford Hall USAF Medical Center, Lackland AFB 1983.
Associate Professor of Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

ROBERT L. BASS, D.D.S. University of Nebraska 1982
Assistant Professor of Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

GUNTHER BLASEIO, D.D.S. Erlangen University 1977; M.S. Loma Linda University GS 1986
Assistant Professor of Orthodontics and Dentofacial Orthopedics
Orthodontics and dentofacial orthopedics

MILOS BOSKOVIC, D.D.S. University of Southern California 1984
Assistant Professor of Restorative Dentistry
Implant dentistry

DONALD S. CLEM III, D.D.S. Loyola University 1980; Certificate in Periodontics, University of Texas Health Science Center 1984
Assistant Professor of Periodontics
Periodontics

MICHAEL E. FOX, D.D.S., Loma Linda University SD 1983
Assistant Professor of Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

J. PAUL FUENTES, D.D.S. University of California at Los Angeles 1981; Certificate in Periodontics, Loma Linda University SD 1988
Assistant Professor of Periodontics
Periodontics

DANIEL KUNIHIRA, D.D.S., Loma Linda University SD 1974; Certificate in Periodontics, Virginia Commonwealth University 1982
Assistant Professor of Periodontics
Periodontics

MICHAEL B. LEE, D.D.S. Loma Linda University SD 1983, M.S. GS 1995
Assistant Professor of Periodontics
Periodontics

ANTHONY B. LIER, D.D.S. Loma Linda University SD 1975, M.S. GS 1981
Assistant Professor of Orthodontics
Orthodontics and dentofacial orthopedics

WILLIAM L. MIHRAM, D.D.S. Baylor College of Dentistry 1970; Certificate in Periodontics, Baylor University 1972, M.S.D. 1972
Adjunct Assistant Professor of Periodontics
Periodontics

ROBERT D. MITCHELL, D.D.S. Loma Linda University SD 1978, M.S. GS 1985
Assistant Professor of Orthodontics
Orthodontics and dentofacial orthopedics

ROLAND D. NEUFELD, D.D.S. Loma Linda University SD 1974, M.S. GS 1976
Assistant Professor of Orthodontics
Orthodontics and dentofacial orthopedics

W. PETER NORDLAND, D.M.D. Temple University School of Dentistry 1979; Certificate in Periodontics, Loma Linda University GS 1982
Adjunct Assistant Professor of Periodontics
Periodontics

ISABELLA PIEDRA-MUNOZ, D.D.S. Universidad del Valle, Colombia
Assistant Professor of Pediatric Dentistry
Pediatric dentistry

MARIA SHEU, D.D.S. Loma Linda University SD 1994
Assistant Professor of Pediatric Dentistry
Pediatric dentistry

GUY D. TAYLOR, D.D.S. West Virginia University 1967, M.S. 1971
Assistant Professor of Orthodontics
Orthodontics and dentofacial orthopedics

HARVEY ZALSMAN, JR., D.D.S. Loma Linda University SD 1983, M.D. SM 1990
Assistant Professor of Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

WILSON B. BAUGH, JR., D.D.S. University of Southern California 1981
Assistant Professor of Oral and Maxillofacial Surgery
Oral and maxillofacial surgery

ADMISSION

An appropriate degree from an accredited college or university is required for admission into the advanced education programs and postdoctoral program. A doctoral degree in dentistry (Doctor of Dental Surgery or Doctor of Dental Medicine), or the equivalent, is required for admission to all programs.

Applicants accepted into the advanced education programs in endodontics, oral and maxillofacial surgery, pediatric dentistry, periodontics, and prosthodontics and the postdoctoral program in implant dentistry may apply for admission to the Graduate School for the purpose of earning an M.S. degree in addition to the discipline certificate, after entering their program of study. Applicants accepted into the program of orthodontics and dentofacial orthopedics are accepted into both the certificate and M.S. degree tracks of that program.

Applicants must also take the Graduate Record Examinations; and those for whom English is a second language must show satisfactory results must be shown on the test of English as a Foreign Language (TOEFL).

Application deadlines

Applications for admission should be made before or by September 15 for the programs in endodontics, orthodontics and dentofacial orthopedics, and periodontics; October 15 for the program in prosthodontics; November 15 for the programs in implant dentistry and pediatric dentistry; and before or by December 15 for oral and maxillofacial surgery.

Residence

The required time in residence varies with the program. For length of program, refer to information under program description.

Grades

The student must achieve a general grade-point average of not less than 3.0, with no subject below 2.0. In addition to earning acceptable scholastic marks, evidence of personal and professional fitness for growth in the science and art of the specialty must be submitted.

Advancement to candidacy

The student desiring to qualify for a master's degree should petition the Graduate Council for advancement to candidacy not later than the close of the first academic year. At the same time, the proposed thesis topic, an outline, and a comprehensive bibliography—as approved by the program director—must be submitted. If all credentials and proposals are acceptable, the student is advanced to candidacy; and a guidance and examining committee of not fewer than three members is named.

Thesis

The student is required to pursue a problem in basic or clinical research, the results of which are presented in thesis form according to standards set by the Graduate Council. Oral defense of the thesis will be required.

General requirements

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN. In addition, students should consult the booklet "Advanced Dental Education Programs," published by the School of Dentistry, along with syllabi that are published by the various programs.

ENDODONTICS

Program description

The goal of the advanced educational program is to train endodontists who are proficient in treating (art) teeth which require root canal therapy, possess an in-depth biological knowledge (science) related to endodontics, and have participated in endodontic research and teaching.

A minimum of two years of general practice experience is required prior to entering the program.

The program begins in July and requires two years in residence for the specialty certificate.

Following enrollment into the program, students may apply for acceptance to the Graduate School for a master's degree in addition to the specialty certificate. The application must be submitted before the end of the first year and supported by a letter of recommendation from the program director. Acceptance into the master's degree program may extend the length of study approximately one additional year; the additional time must be in residence.

Graduates are educationally qualified for certification by the American Board of Endodontics.

Departmental required courses

ENDN	499	Directed Study	(1)
ENDN	534	Endodontic Treatment Conference	(12)
ENDN	601	Principles of Endodontics	(12)
ENDN	604	Literature Seminar in Endodontics	(12)
ENDN	625	Clinical Practice in Endodontics	(1000-1300 clock hrs)
ENDN	654	Practice Teaching in Endodontics	(2)
ENDN	697	Research	(arranged)
ENDN	698	Thesis (M.S. track only)	(2)

Nondepartmental required courses

GRDN	509	Research and Statistics I	(3)
GRDN	531	Applied Surgical Anatomy	(2)
GRDN	601	Practice Management	(2)
GRDN	604	Topics in Medicine and Hospital Protocol	(2)
GRDN	607	Research and Statistics II	(3)
GRDN	609	Professional Ethics	(2)
GRDN	623	Biomedical Science II	(4)
GRDN	632	Basic Microsurgery Technique	(2)
GRDN	651	Scientific Writing	(2)
ORPA	531	Clinical Oral Pathology	(2)
ORPA	533	Radiology	(2)
REL_	___	A course in religion	(3)

IMPLANT DENTISTRY

Program description

The graduate program in implant dentistry leads to a certificate in implant dentistry; additionally a Master of Science degree may also be obtained. The program is designed to prepare the student for the practice of implant dentistry and to provide the foundation for continued acquisition of knowledge and clinical skills in this demanding area.

Implant dentistry interfaces with the dental specialties of oral and maxillofacial surgery, prosthodontics, and periodontics. The implant dentistry student will be expected to achieve advanced knowledge and skills in certain aspects of all of these dental specialties and be proficient in implant prosthodontics and implant surgery. The content of the program is designed to prepare the student for certification by the American Board of Implant Dentistry and, upon application, may be qualified as an associate fellow of the American Academy of Implant Dentistry.

The required time in residence for the certificate is three years. The Master of Science degree additionally requires the student to successfully complete a research project and thesis. The beginning date is April, and the first quarter will be spent in dental anesthesiology rotation.

Departmental required courses

IMPD	505	Patient Presentation Seminar	(8)
IMPD	533	Applied Radiology for Implant Dentistry	(1)
IMPD	561	Dental Bioengineering	(2)
IMPD	585	Implant Prosthodontics	(2)
IMPD	601	Literature Review in Implant Dentistry	(22)
IMPD	604	Current Literature Review in Implant Dentistry	(20)
IMPD	611	Introduction to Implant Dentistry	(2)
IMPD	612	Advanced Implant Dentistry	(2)
IMPD	625	Clinical Practice in Implant Dentistry	(1056 clock hours)
IMPD	631	Oral Implant Surgery	(10)
IMPD	634	Diagnosis and Treatment Planning in Implant Dentistry	(10)
IMPD	637	Peri-Implant Histopathology	(1)
IMPD	654	Practice Teaching in Implant Dentistry	(3)
IMPD	697	Research	(8)
IMPD	698	Thesis (M.S. track only)	(1)

Nondepartmental required courses

ANES	521	Principles of Medicine, Physical Diagnosis, and Hospital Protocol (section II)	(2)
ANES	546	General Anesthesia (section II)	(9)
ANES	547	Anesthesia Grand Rounds (section II)	(1)
ANES	604	Anesthesia Literature Review (section II)	(1)
GRDN	509	Research and Statistics I	(3)
GRDN	607	Research and Statistics II (M.S. degree only)	(3)
GRDN	609	Professional Ethics	(2)
GRDN	622	Biomedical Science I	(4)
GRDN	623	Biomedical Science II	(4)
GRDN	632	Basic Microsurgery Technique	(2)
GRDN	651	Scientific Writing	(2)
ORSR	512	Clinical Experience in Oral Surgery	(132 clock hrs)
ORSR	604	Literature Review in Oral and Maxillofacial Surgery	(3)
PERI	604	Current Periodontal Literature	(8)
PROS	500	Prosthodontic Literature Review	(8)
PROS	510	Clinical Practice of Prosthodontics	(440 clock hrs)
PROS	546	Occlusion and Morphology	(2)
PROS	547	Occlusion: Principles and Instrumentation	(2)
PROS	555	Removable Partial Prosthodontics	(2)
PROS	565	Complete Denture Prosthodontics	(2)
PROS	575	Fixed Partial Prosthodontics	(2)
PROS	576	Advanced Fixed Partial Prosthodontics I (MC Esthetics)	(2)
PROS	595	Maxillofacial Prosthodontics	(2)
PROS	637	Geriatric Dentistry	(1)
REL_	___	A course in religion	(3)

ORAL AND MAXILLOFACIAL SURGERY

The advanced educational program in oral and maxillofacial surgery is designed to prepare the dentist for the practice of the specialty and provide the foundation for the continued acquisition of knowledge and skills. Clinical surgical health care delivery is emphasized. The student is introduced to research methodology and teaching to develop an increased awareness of their importance in assessing clinical procedures and patient management. The content of the program conforms to the standards of the Commission on Accreditation and is designed to prepare the surgeon for certification by the American Board of Oral and Maxillofacial Surgery.

A minimum of four calendar years in residence is required, with the beginning date of July 1. A license to practice in California is required.

Following enrollment into the program, students may apply for acceptance to Graduate School for a master's degree in addition to the specialty certificate awarded by the School of Dentistry. The application must be supported by a letter of recommendation from the program director. Acceptance into the master's degree program will probably extend the length of study.

Departmental required courses

ORSR	524	Applied Cephalometrics for Oral Surgeons	(2)
ORSR	531	Oral and Maxillofacial Surgery I First Year Residency	(12)

ORSR	532	Oral and Maxillofacial Surgery II Second Year Residency	(32)
ORSR	533	Oral and Maxillofacial Surgery III Third Year Residency	(32)
ORSR	534	Oral and Maxillofacial Surgery IV Fourth Year Residency	(32)
ORSR	535	Principles of Medical History, Physical Examination and Pathophysiology	(6)
ORSR	601	Surgical Oral Pathology Conference	(3)
ORSR	604	Literature Review in Oral and Maxillofacial Surgery	(12)
ORSR	641	The Application of Surgical Principles to Orthognathic Surgery	(7)
ORSR	654	Practice Teaching in Oral and Maxillofacial Surgery	(8)
ORSR	697	Research	(8)
ORSR	698	Thesis (M.S. degree only)	(2)

Nondepartmental required courses

GRDN	531	Applied Surgical Anatomy	(2)
GRDN	601	Practice Management	(2)
GRDN	622	Biomedical Science I	(4)
GRDN	623	Biomedical Science II	(4)
REL_	___	A course in religion	(3)

ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS

The graduate program in orthodontics and dentofacial orthopedics is organized to do the following:

- Develop technical competence in the skills of orthodontics,
- deepen understanding of the basic natural sciences and their correlation with orthodontic practice,
- develop analytical thinking,
- develop skills in clinical research,
- increase the sense of responsibility toward the patient and the community, and
- develop increased awareness of the obligation to make contributions to the growth and stature of the profession and to coordinate with those of allied professional disciplines.

All of the foregoing are designed to prepare the student for a specialty practice in orthodontics or for pursuing a teaching career. The content of the program conforms to the standards developed by the specialty board, and graduates are educationally qualified for certification by the American Board of Orthodontics.

The master's degree program requires a minimum of twenty-seven months in residence beginning in June. Additional time may be required, depending on the research selected.

Departmental required courses

ORDN	524	Introduction to Graduate Orthodontics	(12)
ORDN	524L	Introduction to Graduate Orthodontics Laboratory	(6)
ORDN	525	Materials Science and Mechanics	(2)
ORDN	526	Applied Anatomy	(2)
ORDN	527	Clinical Photography	(1)
ORDN	535	Advanced Cephalometrics	(2)
ORDN	536	Concepts of Physical Anthropology	(2)
ORDN	545	Growth and Development	(3)
ORDN	546	Fundamentals of Occlusion	(2)
ORDN	571	Diagnosis and Treatment Planning I	(2)
ORDN	574	Diagnosis and Treatment Planning II	(2)
ORDN	584	Current Orthodontic Literature I	(2)
ORDN	591	Current Orthodontic Literature II	(2)
ORDN	597	Orthognathic Surgery Theory and Literature Review	(2)
ORDN	604	Seminar in Orthodontics	(1)
ORDN	605	Advanced Seminar in Orthodontics	(2)
ORDN	606	Craniofacial Genetics	(2)
ORDN	608	Physiology and Pathology of Speech	(1)
ORDN	625	Clinical Practice in Orthodontics	(1400 clock hrs)
ORDN	634	Orthodontic Clinical Conference	(2)
ORDN	635	Finishing Mechanics I	(2)
ORDN	636	Finishing Mechanics II	(1)
ORDN	654	Practice Teaching in Orthodontics	(4)
ORDN	655	Temporomandibular Function and Dysfunction	(2)
ORDN	657	Orthodontic Board Preparation	(5)
ORDN	697	Research	(12)
ORDN	698	Thesis (M.S. track only)	(3)

Nondepartmental courses

GRDN	509	Research and Statistics I	(3)
GRDN	601	Practice Management	(2)
GRDN	607	Research and Statistics II	(3)
GRDN	609	Professional Ethics	(2)
GRDN	623	Biomedical Science II	(5)
GRDN	651	Scientific Writing	(2)
ORPA	531	Clinical Oral Pathology	(2)
ORSR	641	The Application of Surgical Principles to Orthognathic Surgery	(2)
REL_	___	A course in religion	(3)

PEDIATRIC DENTISTRY

Program description

The advanced education program in pediatric dentistry is designed to prepare the student as a specialist in this area of dentistry. The curriculum leads to a certificate in pediatric dentistry. Clinical pediatric dentistry is emphasized. However, this clinical experience is balanced with a didactic curriculum of core courses and seminars. There is also a research component designed to expose the student to problem solving using the scientific method.

The program requires a minimum of twenty-four months in residence beginning July 1 and fulfills the requirements for beginning the process of certification by the American Board of Pediatric Dentistry.

Following enrollment into the program, students may apply for acceptance to the Graduate School for a master's degree in addition to the specialty certificate. The application must be supported by a letter of recommendation from the program director. Acceptance into the master's degree program may extend the length of study.

Departmental required courses

PEDN	503	Pediatric Dental Seminar I	(2)
PEDN	504	Pediatric Dental Seminar II	(2)
PEDN	505	Pediatric Dental Seminar III	(2)
PEDN	506	Pediatric Dental Seminar IV	(2)
PEDN	508	Pediatric Hospital Dentistry Seminar	(2)
PEDN	524	Introduction to Orthodontics	(2)
PEDN	524L	Introduction to Orthodontics (Laboratory)	(1)
PEDN	546	General Anesthesia Clinic	(160 clock hrs)
PEDN	601	Pediatric Dental Practice Management	(2)
PEDN	604	Pediatric Dental Literature	(12)
PEDN	625	Pediatric Dental Clinic	(1500-2000 clock hrs)
PEDN	654	Pediatric Dental Teaching	(5)
PEDN	680	Elective Study—for Advanced-Education Students of Pediatric Dentistry	(10)
PEDN	697	Research in Pediatric Dentistry	(8)
PEDN	698	Thesis (M.S. track only)	(arranged)

Nondepartmental courses

GRDN	509	Research and Statistics I	(3)
GRDN	531	Applied Surgical Anatomy	(2)
GRDN	604	Topics in Medicine and Hospital Protocol	(2)
GRDN	607	Research and Statistics II	(3)
GRDN	609	Professional Ethics	(2)
GRDN	622	Biomedical Sciences I	(4)
GRDN	623	Biomedical Sciences II	(4)
GRDN	651	Scientific Writing	(2)
ORPA	531	Clinical Oral Pathology	(2)
ORPA	533	Radiology	(2)
ORDN	545	Growth and Development	(2)
ORDN	606	Craniofacial Genetics	(2)
ORDN	608	Physiology and Pathology of Speech	(1)
REL_	___	A course in religion	(3)

PERIODONTICS AND IMPLANT SURGERY

Program description

The advanced education program in periodontics and implant surgery offers a three-year graduate training toward a certificate in periodontics or a Master of Science degree combined with a certificate.

The certificate in periodontics training prepares the student for a specialty practice and provides the basis for continuing professional development after completion of the program. There is specific emphasis placed on various high level technique procedures including esthetic and prosthetic related mucogingival surgery, root form implant placement, preparatory augmentation and repairs. The training includes didactic and clinical components as well as research opportunities.

The Master of Science degree training prepares the student for academic careers in periodontal research and teaching. The program includes the didactic and clinical components of the certificate training. In addition, the student is required to complete one or more research projects and to be involved in clinical and didactic undergraduate teaching activities.

A minimum of 36 months in residence is required beginning in July.

Departmental required courses

PERI	524	The Periodontium	(2)
PERI	531	Periodontal Pathology	(8)
PERI	546	General Anesthesia Clinic	(84 clock hrs)
PERI	601	Periodontal Therapy	(12)
PERI	604	Current Periodontal and Implant Literature	(18)
PERI	605	Implant Literature Review	(2)
PERI	611	Introduction to Periodontics	(2)
PERI	614	Implant Treatment Planning	(24)
PERI	625	Clinical Practice Periodontics	(3000-3600 clock hrs)
PERI	626	Clinical Practice in Implant Surgery	(500 clock hrs)
PERI	634	Clinical Conference	(9)
PERI	654	Practice Teaching in Periodontics	(4)
PERI	697	Research	(8)
PERI	698	Thesis (M.S. track only)	(arranged)

Nondepartmental courses

ANES	548	Anesthesia Residents Seminar	(2)
ANES	604	Anesthesia Literature Review	(1)
ANES	622	Conscious Sedation Techniques	(1)

GRDN	509	Research and Statistics I	(3)
GRDN	604	Topics in Medicine and Hospital Protocol	(2)
GRDN	607	Research and Statistics II	(3)
GRDN	609	Professional Ethics	(2)
GRDN	622	Biomedical Science I	(4)
GRDN	623	Biomedical Science II	(4)
GRDN	632	Basic Microsurgery Technique	(2)
GRDN	651	Scientific Writing	(2)
ORPA	531	Clinical Oral Pathology	(2)
REL_	___	A course in religion	(3)

PROSTHODONTICS

The advanced education program in prosthodontics is designed to increase the knowledge base, clinical skills, and laboratory skills of the resident in all areas of prosthodontics. In addition to conventional fixed and removable prosthodontics, this program offers considerable experience in implant prosthodontics and esthetic dentistry, an introduction to maxillofacial prosthetics and the diagnosis and treatment of patients with temporomandibular dysfunction. Comprehensive treatment planning seminars with the residents and faculty of other graduate programs are designed to prepare the resident to interact with and coordinate the treatment of patients requiring advanced prosthodontic care.

The program begins in July and requires thirty-three months to complete a certificate awarded by the School of Dentistry, or thirty-six months or more to complete the master's degree level.

Following enrollment in the program, students may apply for acceptance to Graduate School for a master's degree in addition to the specialty certificate. The application must be supported by a letter of recommendation from the program director. Acceptance into the master's degree program may extend the length of study.

Departmental required courses

PROS	500	Prosthodontic Literature Review	(20)
PROS	501	Removable Partial Prosthodontic Literature Review	(2)
PROS	502	Complete Denture Prosthodontic Literature Review	(2)
PROS	505	Patient Presentation Seminar (Prosthodontic, Implant, Perio)	(12)
PROS	510	Clinical Practice in Prosthodontics	(1800-2000 clock hrs)
PROS	515	Practice Teaching	(1 unit per quarter; 3 quarters)
PROS	525	Dental Materials Science	(2)
PROS	527	Clinical Application of Dental Materials	(2)
PROS	546	Occlusion and Morphology	(2)
PROS	547	Occlusion: Principles and Instrumentation	(2)
PROS	555	Removable Partial Prosthodontics	(2)
PROS	557	Advanced Removable Partial Prosthodontics	(2)
PROS	565	Complete Denture Prosthodontics	(2)
PROS	566	Advanced Complete Denture Prosthodontics	(2)
PROS	575	Fixed Partial Prosthodontics	(2)
PROS	576	Advanced Fixed Partial Prosthodontics I (MC Esthetics)	(2)
PROS	577	Advanced Fixed Partial Prosthodontics II (All-Ceramic Esthetics)	(2)
PROS	595	Maxillofacial Prosthetics	(2)
PROS	604	Literature Review in Implant Dentistry for Prosthodontists	(16)
PROS	634	Diagnosis and Treatment Planning	(20)
PROS	637	Geriatric Dentistry	(1)
PROS	697	Research	(7)
PROS	698	Thesis (M.S. track only)	(arranged)

Nondepartmental courses

GRDN	509	Research and Statistics I	(3)
GRDN	555	TMJ Function and Dysfunction	(1)
GRDN	607	Research and Statistics II	(3)
GRDN	609	Professional Ethics	(2)
GRDN	622	Biomedical Science I	(4)
GRDN	651	Scientific Writing	(2)
IMPD	561	Dental Bioengineering	(2)
IMPD	611	Introduction to Implant Dentistry	(2)
IMPD	631	Oral Implant Surgery	(3 quarters; 1 unit per quarter)
ORPA	531	Clinical Oral Pathology	(2)
REL_	___	A course in religion	(3)

DEPARTMENTAL REQUIRED COURSES

ENDODONTICS

ENDN 499 Directed Study (1)
Comprehensive study of various clinical techniques on extracted teeth.

ENDN 534 Endodontic Treatment Conference (12)
Designed to evaluate and discuss diagnosis, treatment plans, prognosis, and outcome of endodontic treatment cases.

ENDN 601 Principles of Endodontics (12)
Comprehensive study of various aspects of endodontics.

ENDN 604 Literature Seminar in Endodontics (12)
Review of literature pertaining to the principles and practice of endodontics.

ENDN 625 Clinical Practice in Endodontics (1000-1300 clock hours)
Designed to provide practice and experience in all aspects of endodontics. Emphasis placed on obtaining experience in treating complex endodontic cases.

ENDN 654 Practice Teaching in Endodontics (2)
Supervised teaching in the endodontics pre-clinical laboratory and predoctoral clinic.

ENDN 697 Research (arranged)

ENDN 698 Thesis (M.S. track only) (2)

IMPLANT DENTISTRY

IMPD 505 Patient Presentation Seminar (8)
Implant patient treatment presentations, discussion of alternate methods of rehabilitation, and related literature.

IMPD 533 Applied Radiology for Implant Dentistry (1)
Postdoctoral fundamental aspects of radiology imaging as part of the diagnosis and treatment.

IMPD 561 Dental Bioengineering (2)
Study of structures and properties of dental implant materials and implant prosthodontic superstructures.

IMPD 585 Implant Prosthodontics (2)
Graduate-level, in-depth didactic and clinical instruction on techniques and procedures related to the rehabilitation of patients with prosthodontic devices supported by dental implants. Advanced clinical and laboratory procedures with emphasis on implant restorations for completely and partially edentulous patients. Special emphasis on attachments and superstructure design.

IMPD 601 Literature Review in Implant Dentistry (22)
Review of historical and/or fundamental implant dentistry literature.

IMPD 604 Current Literature Review in Implant Dentistry (20)
Provides postdoctoral student in implant dentistry a deeper understanding of the research and literature currently available.

IMPD 611 Introduction to Implant Dentistry (2)
Overview of the clinical science of implant dentistry, including etiology, therapy, clinical methods, and record keeping.

IMPD 612 Advanced Implant Dentistry (2)
Provides the resident with knowledge and techniques of advanced prosthodontic and implant procedures—notably those involved in sinus graft surgery, surgical repairs of implant defects, and the principles involved in immediate loading of implants.

IMPD 625 Clinical Practice in Implant Dentistry (1056 clock hrs)
Experience in the clinical diagnosis and treatment of patients who may benefit from implant dentistry therapy.

IMPD 631 Oral Implant Surgery (10)
Instruction in basic and advanced implant-surgery principles.

IMPD 634 Diagnosis and Treatment Planning in Implant Dentistry (10)
Didactic and clinical aspects of diagnosis and treatment planning for patients with complex dental problems.

IMPD 637 Peri-Implant Histopathology (1)
Designed to give the postdoctoral student in implant dentistry a better understanding of the implant interface and biological changes that take place in the tissues surrounding dental implants following their placement.

IMPD 654 Practice Teaching in Implant Dentistry (3)
Teaching experience in implant prosthodontics and implant surgery

IMPD 697 Research (8)

IMPD 698 Thesis (M.S. track only) (1)

ORAL AND MAXILLOFACIAL SURGERY

ORSR 524 Applied Cephalometrics for Oral Surgeons (2)
Construction of progress cephalometric tracings and use of superimposition to evaluate and revise a treatment plan; students' presentation; evaluation of the progress of their clinical patients.

ORSR 531 Oral and Maxillofacial Surgery I First-Year Residency (12)
Study of the principles of dento-alveolar technique and the surgical treatment of oral diseases. Minor surgery procedures performed under local anesthesia and intravenous sedation. Residents introduced to ambulatory Emphasis on treatment of emergencies in oral and maxillofacial surgery practice, mastering of hospital procedures, assisting with staff hospital cases. Attendance at specified seminars, conferences, special lectures and rounds in the Medical Center. Required off-service rotation to other surgical and medical services.

ORSR 532 Oral and Maxillofacial Surgery II Second-Year Residency (32)
Residents participate as assistant surgeons in planning and performing major oral and maxillofacial surgery procedures and in managing the hospitalized patient. Diagnosis and treatment of fractures of the facial bones, facial osseous reconstruction, and orthognathic surgery. Continuation of training in ambulatory general anesthesia for oral and maxillofacial surgery. Rotations continue to other medical and surgical services in the Medical Center. Attendance required at specified seminars, conferences, special lectures, and rounds.

ORSR 533 Oral and Maxillofacial Surgery III Third-Year Residency (32)
Residents trained in advanced treatment of complicated fractures of the facial bones, reconstructive maxillofacial surgery, surgical orthognathic correction, treatment of developmental and acquired deformities of the jaw, implant surgery, temporomandibular joint arthroscopy and arthroplasty, osseous grafting of post-resection and posttraumatic maxillofacial defects. Study continues in the application of general anesthesia to ambulatory outpatient surgery patients. Students trained in assuming full responsibility of all aspects of the oral and maxillofacial surgery practice.

ORSR 534 Oral and Maxillofacial Surgery IV Fourth-Year Residency (32)
Research and advanced clinical training in the subspecialty areas of oral and maxillofacial surgery, as well as training through off-service rotations with plastic and reconstructive surgery, head and neck surgery, anesthesiology, and implant dentistry.

ORSR 535 Principles of Medical History, Physical Examination, and Pathophysiology (6)
Study of methods for obtaining a medical history and physical examination. Specific topics include review of organ systems and associated pathology (physical and laboratory), hospital protocol, and charting.

ORSR 601 Surgical Oral Pathology Conference (3)
Recent oral pathology laboratory cases used as the basis for review and discussion of the common and ominous lesions that are encountered in a dental specialty clinical practice. Differential diagnosis and patient management emphasized.

ORSR 604 Literature Review in Oral and Maxillofacial Surgery (12)
Clinical review of present and past literature dealing with pertinent oral and maxillofacial surgical problems.

ORSR 641 The Application of Surgical Principles to Orthognathic Surgery (7)
Seminar course emphasizing preoperative diagnosis, planning, intraoperative procedures, and postoperative care of orthognathic patients, description of congenital and developmental deformities, and emphasis on all aspects of surgical-orthodontic patient management.

ORSR 654 Practice Teaching in Oral and Maxillofacial Surgery (8)
Experience in teaching the undergraduate dentistry student.

ORSR 697 Research (8)

ORSR 698 Thesis (M.S. degree only) (2)

ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS

ORDN 524 Introduction to Graduate Orthodontics (12)
Lecture course outlining the principles of applied design, the application of forces to produce tooth movement, and the tissue response to such forces. Overview of orthodontics to prepare the student for clinical practice of orthodontics-diagnosis and treatment planning, including cephalometrics, growth forecasting, and preparation of visual treatment objectives.

ORDN 524L Introduction to Graduate Orthodontics, Laboratory (6)
Selected laboratory projects to enhance didactic portion of the course.

ORDN 525 Materials Science and Mechanics (2)
Structure and properties of materials used in orthodontics. Analysis of the effects of mechanical and heat treatment. Survey of strength and mechanics in force-delivery systems.

ORDN 526 Applied Anatomy (2)
Fundamentals of anatomy as applied to a special region or application.

ORDN 527 Clinical Photography (1)
Clinical proficiency in intra-oral and extra-oral photography. Discussion and use of photographic equipment and techniques on orthodontic patients. Camera, lens, and flash required.

ORDN 535 Advanced Cephalometrics (2)
Cephalometrics from a histological perspective to the present time, including most of the major analyses.

ORDN 536 Concepts of Physical Anthropology (2)
Basic and classic concepts of physical anthropology as they relate to orthodontics.

ORDN 545 Growth and Development (3)
Principles of growth and development from the subcellular to the tissue level. Emphasis on myogenesis and osteogenesis. Prenatal and postnatal development of the face and jaws, including the classic concepts of facial growth. Consideration of general growth, with the goal of developing ability to recognize abnormal signs, observe variations, diagnose pathological conditions, know the normal, predict height, and use various standards to assess growth and development.

ORDN 546 Fundamentals of Occlusion (2)
Development of the human face and dentition. A concept of dynamic functioning occlusion.

ORDN 571 Diagnosis and Treatment Planning I (2)
Diagnosis and treatment of assigned patients.

ORDN 574 Diagnosis and Treatment Planning II (2)
Continuation of ORDN 571; follow-up of clinical cases with progress records.

ORDN 584 Current Orthodontics Literature I (2)
Presentation of current papers in various disciplines of orthodontics.

ORDN 591 Current Orthodontics Literature II (2)
Presentation of current papers in various disciplines of orthodontics.

ORDN 597 Orthognathic Surgery Theory and Literature Review (2)
Presentation of current papers in various disciplines of orthodontics, with primary emphasis on surgical orthodontics. Presentation of cases with various problems requiring surgery.

ORDN 604 Seminar in Orthodontics (1)
Critical review of suggested etiological factors of malocclusion. Problems of diagnosis and the rationale of various treatment philosophies. Liberal use of current literature. Discussion by guest lecturers with demonstrated competence in the field.

ORDN 605 Advanced Seminar in Orthodontics (2)
Second-year seminar. Design of clinical diagnosis. Practice management.

ORDN 606 Craniofacial Genetics (2)
Basic genetics. Introduction to craniofacial clinic.

ORDN 608 Physiology and Pathology of Speech (1)
Study of specific areas of oral myofunctional disorders that influence the occlusion.

ORDN 625 Clinical Practice in Orthodontics (1400 clock hrs)
Diagnosis and treatment of assigned patients, including adults.

ORDN 634 Orthodontic Clinical Conference (2)
Preparation and presentation of the diagnosis, case analysis, and treatment plan—with primary emphasis on difficult and unusual cases.

ORDN 635 Finishing Mechanics I (2)
Orthodontic treatment modalities, with emphasis on finishing mechanics for the patient.

ORDN 636 Finishing Mechanics II (1)
Principally a seminar course created for first-year graduate orthodontic students to expose them to alternate treatment philosophies and modalities. Guest orthodontists present the main portion of the course and demonstrate their treatment concepts in finishing orthodontic cases.

ORDN 654 Practice Teaching in Orthodontics (4)
Experience in teaching the undergraduate dentistry student.

ORDN 655 Temporomandibular Function and Dysfunction (2)
The temporomandibular joint and dysfunction in health and disease. Diagnosis, treatment planning, and treatment of the temporomandibular joint treatment.

ORDN 657 Orthodontic Board Preparation (5)
Presentation of finished orthodontic cases to faculty and residents. Preparation for the American Board of Orthodontics.

ORDN 697 Research (12)

ORDN 698 Thesis (M.S. track only) (3)

PEDIATRIC DENTISTRY

PEDN 503 Pediatric Dental Seminar I (2)
Selected clinical topics in pediatric dentistry.

PEDN 504 Pediatric Dental Seminar II (2)
Selected clinical topics in pediatric dentistry.

PEDN 505 Pediatric Dental Seminar III (2)
Selected clinical topics in pediatric dentistry.

PEDN 506 Pediatric Dental Seminar IV (2)
Selected clinical topics in pediatric dentistry.

PEDN 508 Pediatric Hospital Dentistry Seminar (2)
Hospital protocol and the care of patients in a hospital environment.

PEDN 524 Introduction to Orthodontics (2)
Diagnosis and treatment planning for clinical orthodontics.

PEDN 524L Introduction to Orthodontics, Laboratory (1)
Fabrication of various orthodontic appliances.

PEDN 546 General Anesthesia (160 clock hrs)
Experience in general anesthesia in a hospital setting.

PEDN 601 Pediatric Dental Practice Management (2)
Principles of establishing a pediatric dental practice. Information regarding establishment and operation of a pediatric dental practice.

PEDN 604 Pediatric Dental Literature (12)
Pediatric dental literature study, including that found on the reading list of the American Board of Pediatric Dentistry.

PEDN 625 Pediatric Dental Clinic
(1500 - 2000 clock hrs)
Clinical pediatric dental experience in both the outpatient and inpatient settings for patients with a variety of clinical needs and problems.

PEDN 654 Practice Teaching in Pediatric Dentistry (5)
Experience in the teaching of pediatric dentistry in a clinical and laboratory setting.

PEDN 680 Elective Study for Advanced-Education Students of Pediatric Dentistry (10)
Elective study selected by students in the advanced education program in pediatric dentistry and department faculty.

PEDN 697 Research (8)

PEDN 698 Thesis (M.S. track only) (arranged)

PERIODONTICS AND IMPLANT SURGERY

PERI 524 The Periodontium (2)
Review of the literature concerning the anatomy (macro-, micro-, and ultrastructural) and the physiology of the periodontium.

PERI 531 Periodontal Pathology (8)
Review of the literature that forms the basis for current concepts of the etiology and pathogenesis of periodontal diseases.

PERI 546 General Anesthesia Clinic (84 clock hrs)
Clinical rotation—including physical evaluation, airway management, management of medical emergencies in patients scheduled for anesthesia, and introduction to conscious sedation.

PERI 601 Periodontal Therapy (12)
Review of the literature that forms the basis for current concepts of the treatment of periodontal diseases.

PERI 604 Current Periodontal and Implant Literature (18)
Review of the most recent issues of periodontal and implant scientific journals.

PERI 605 Implant-Literature Review (2)
Review of literature providing the basis for implant surgery as well as concepts for implant restoration.

PERI 611 Introduction to Periodontics (2)
Overview of the clinical science of periodontics—including epidemiology, etiology, therapy, clinical methods, and record keeping.

PERI 614 Implant-Treatment Planning (24)
Designed for graduate students enrolled in two disciplines, (i.e., advanced education in periodontics and implant surgery, and advanced prosthodontics). Students required to present cases that involve mutual interests. Scope of report to include a full documentation of patient data. Presenter offers a treatment plan (or plans) with supporting rationale, open for discussion. Some of the presentations will be of electronic format, archived for distance learning and future review regarding outcomes.

PERI 625 Clinical Practice in Periodontics (3000-3600 clock hrs)
Clinical experience in the diagnosis and treatment of periodontal diseases.

PERI 626 Clinical Practice in Implant Surgery (500 clock hrs)
Clinical experience in the diagnosis and treatment regarding implant surgery.

PERI 634 Clinical Conference (9)
Case management conference to assist the student in diagnosis, treatment planning, and the management of periodontal diseases and surgical implant surgery.

PERI 654 Practice Teaching in Periodontics (4)
Experience in teaching the undergraduate dentistry student.

PERI 697 Research (8)

PERI 698 Thesis (M.S. track only) (arranged)

PROSTHODONTICS

PROS 500 Prosthodontic Literature Review (20)
Discussion of assigned topics from classic and current prosthodontic and course-related literature, led by students and moderated by faculty member in charge.

PROS 501 Removable Partial Prosthodontics Literature Review (2)
Discussion of assigned topics from classic removable partial denture literature, led by students and moderated by faculty member in charge.

PROS 502 Complete Dentures Prosthodontics Literature Review (2)
Discussion of assigned topics from classic, complete dentures literature, led by students and moderated by faculty member in charge.

PROS 505 Patient Presentation Seminar (Prosthodontic, Implant, Perio) (12)
Patient treatment presentations, discussion of alternate methods of rehabilitation, and related literature.

PROS 510 Clinical Practice of Prosthodontics (1800-2000 clock hrs)
Advanced clinical practice in the treatment of individuals with fixed, removable, maxillofacial, and implant prostheses.

PROS 515 Practice Teaching in Prosthodontics (2 quarters; 1 unit per quarter)
Teaching experience in the areas of fixed and removable prosthodontics.

PROS 525 Dental Materials Science (2)
Elements of materials science presented. Properties of structural solids, metals, ceramics, and polymers related to their structure—using basic laws and principles from physics, chemistry, and engineering science.

PROS 527 Clinical Application of Dental Materials (2)
Clinical application and manipulation of dental materials discussed. Specific clinical problems identified and their behavior explained or solved through the acquired knowledge of basic properties.

PROS 546 Occlusion and Morphology (2)
Lecture, seminar, and laboratory course that includes waxing techniques and axial and occlusal morphology of natural teeth. Concepts of occlusal function and dysfunction related to prosthodontic therapy.

PROS 547 Occlusion: Principles and Instrumentation (2)
Continuation of PROS 546, with emphasis on occlusal equilibration, jaw movements, determinants of occlusion and articulators commonly used.

PROS 555 Removable Partial Prosthodontics (2)
Lecture, seminar, and laboratory course covering principles, concepts, and techniques used to design and fabricate removable partial dentures.

PROS 557 Advanced Removable Partial Prosthodontics (2)
Advanced clinical and laboratory procedures, with emphasis on intracoronal attachments, rotational path, and alternate removable partial denture design.

PROS 565 Complete Denture Prosthodontics (2)
Clinical and laboratory procedures for the fabrication of complete dentures, including setting and balancing denture teeth.

PROS 566 Advanced Complete Denture Prosthodontics (2)
Lecture-seminar course covering the treatment of immediate denture and overdenture, and treatment of difficult and unusual complete denture situations.

PROS 575 Fixed Partial Prosthodontics (2)
Tooth preparation for and fabrication of extracoronal restorations and fixed prostheses, including partial coverage gold crowns, complete coverage gold crowns, pinledge retainers, metal-ceramic crowns, metal-ceramic pontics, and sanitary pontics.

PROS 576 Advanced Fixed Partial Prosthodontics I (MC Esthetics) (2)
Clinical and laboratory procedures, with emphasis on advanced metal-ceramic restorations.

PROS 577 Advanced Fixed Partial Prosthodontics II (All-Ceramic Esthetics) (2)
Advanced clinical and laboratory procedures, with emphasis on all-ceramic restorations. (Not offered every year.)

PROS 595 Maxillofacial Prosthetics (2)
Design and fabrication of obturators for partial maxillectomy patients, both edentulous and dentulous. Introduction to the fabrication of extra-oral prostheses.

PROS 604 Literature Review in Implant Dentistry for Prosthodontists (16)
Designed to give the postdoctoral student a deeper understanding of the research and literature currently available on the restoration of implants. Emphasis on biomechanics of implant restorations.

PROS 634 Diagnosis and Treatment Planning (20)
Didactic and clinical aspects of diagnosis and treatment planning for patients with complex dental problems.

PROS 637 Geriatric Dentistry (1)
Lectures selected to enhance the knowledge base in the expanding area of elder care. Problems of chronic diseases combined with multiple drug regimes complicate care for this population.

PROS 697 Research (7)

PROS 698 Thesis (M.S. track only) (arranged)

INTERDISCIPLINARY COURSES

GRDN 509 Research and Statistics I (3)
Introduction to research methods, including identification of variables, statement of research questions and hypotheses, research design. Fundamental procedures for collecting, summarizing, presenting, analyzing, and interpreting data. Measures of central tendency and variation, probability, binomial distribution, normal distribution, sampling distributions and standard error, confidence intervals, hypothesis testing, t-test, chi-square, correlation and regression. Sample size and power analysis for the t-test. Introduction to computer analysis for solution of statistical problems.

GRDN 531 Applied Surgical Anatomy (2)
Surgical approach to anatomy as it relates to special anatomic regions.

GRDN 545 Clinical Nutrition in Dentistry (2)
Review of basic nutrition, application of nutritional principles to the processes of mastication and deglutition, surgical wound healing, skeletal development and maintenance, tooth development and disease resistance, perinatal oral development, and oral health in aging. Videotaped review, seminar, and conference.

GRDN 555 Temporomandibular Joint Function and Dysfunction (1)
Designed to provide students with information about the function and dysfunction of the temporomandibular joint and associated structures. Prepares students to obtain history, perform clinical examination, recognize disorders, and prescribe treatment.

GRDN 601 Practice Management (2)
Designed to prepare the student for specialty practice, concepts of employment, records, incorporating, insurance, and practice planning.

GRDN 604 Topics in Medicine and Hospital Protocol (1-2)
Topics presented in internal medicine and physical evaluation, with emphasis on diseases and physical conditions relating to dental treatment. Overview of hospital utilization. Local anesthesia, inhalation, and intravenous sedation techniques reviewed.

GRDN 607 Research and Statistics II (3)
Research designs for ANOVA, ANCOV, and multiple regression, including repeated measures and blocking. One-way ANOVA, factorial ANOVA, repeated-measures ANOVA, and analysis of covariance using the computer, with emphasis on interpretation of data. Multiple correlation and regression models using the computer, with emphasis on interpretation of data. Introduction to nonparametric statistics. Evaluation of the research literature.

GRDN 609 Professional Ethics (2)
Designed to provide students with a theological and philosophical framework for professional ethics. Topics include individual rights, autonomy, informed consent, and responsibilities of the professional person in the dental field, as well as in society as a whole.

GRDN 622 Biomedical Science I (4)
A two-quarter course offered every other year (alternating with GRDN 623) during Fall and Winter quarters. Applied oral bacteriology, immunology, topics in oral medicine, applied pharmacology, and orofacial pain. Course participants expected to have basic knowledge in the various topic areas since course is constructed on an advanced level of understanding.

GRDN 623 Biomedical Science II (4-5)
A two-quarter course offered every other year (alternating with GRDN 622) during Fall and Winter quarters. Cell biology, applied oral pathology, biology of hard tissues, physiology, and biochemistry. Course participants expected to have basic knowledge in the various topic areas since course is constructed on an advanced level of understanding.

GRDN 632 Basic Microsurgery Technique (2)
Designed as an integrated 40-hour laboratory course tailored to the needs of the individual student. This course provides the individual with the principles and application of microscope operation and use, microinstrumentation, microdissection, micromanipulation, and microsuturing techniques. Skills further enhanced through the performance of various microvascular and microneural repair procedures.

GRDN 651 Scientific Writing (1)
Designed to inform graduate students of techniques of writing and editing that will help them in their writing projects in graduate school and in their future careers.

ORPA 531 Clinical Oral Pathology (2)
Emphasis on oral manifestation of disease. Diagnosis, prognosis, and treatment of various oral neoplasms.

ORPA 533 Radiology (2)
Utilization of the physical nature of x-rays to better understand image production, biological effects of x-rays, radiation safety, application of principles of radiographic techniques; risk estimation and radiographic interpretation.

DRUG AND ALCOHOL COUNSELING

MARY E. MOLINE, Dr.P.H., M.P.H. Loma Linda University PH 1975; Ph.D. Brigham Young University 1979
Chair, Department of Counseling and Family Sciences; Professor of Counseling and Family Sciences; AAMFT-Approved Supervisor; Licensed Marital and Family Therapist
Marital and family therapy, family studies, family theory, treatment of couples, group process, group therapy, and legal and ethical issues

RANDALL WALKER, M.S. California State University, Fullerton 1983
Program Coordinator; Licensed Marital and Family Therapist; Clinical Instructor in Counseling and Family Sciences; Drug and Alcohol Specialist; AAMFT-Approved Supervisor
Solution-focused and cognitive behavioral therapy

FACULTY

See Marital and Family Therapy (MFAM) Program.

THE PROGRAM

The Drug and Alcohol Counseling Certificate Program is administered by the Department of Counseling and Family Sciences through the Marital and Family Therapy Program. The department administers programs leading to the following degrees and certificates:

- Ph.D., D.M.F.T, and M.S. degrees in marital and family therapy
- M.A. degree in family studies
- Certificate in clinical mediation
- Certificate in drug and alcohol counseling
- Certificate in family counseling
- Certificate in family-life education (see M.A. degree program in family studies)
- Certificate in group counseling
- Certificate in school counseling

OBJECTIVES

The objectives of the Drug and Alcohol Counseling Certificate Program are to:

- Prepare master's degree-level professionals to effectively counsel substance abusing and addicted adults and their families;
- Create a certificate that offers practical and meaningful certification for master's degree-level professionals;
- Offer curriculum and experience that meets the requirements for certification by national certification organizations;
- Easily integrate certificate requirements into the existing MFAM curriculum; and
- Allow hours of experience to be accrued concurrently to meet BBS, AAMFT, and other certifying organization requirements.

APPLICATION PROCESS

Applicants must meet the Graduate School admission requirements outlined in this BULLETIN and give evidence of academic ability, emotional stability, and maturity. The drug and alcohol counseling certificate is designed to be a track in the M.S. degree program in marital and family therapy or the combined D.M.F.T./Ph.D. degrees program in marital and family therapy (MFAM).

The certificate program is open to currently enrolled MFAM students or other master's degree-level students or graduates. Students in the MFAM program must complete the current core MFAM curriculum. Candidates will be screened for appropriateness to complete the certificate program and for ability to work with addicted adults and their families. A written application letter is required, which must include: how s/he will integrate the substance-abuse certificate into work as a marriage and family therapist or other clinical profession; and how s/he will contribute to the addiction-treatment field and professional field by completing the certificate. Two letters of reference are required. A panel interview composed of faculty and student(s) currently enrolled in the certificate program will be required. The critical essay test (if not already taken) is required, and a writing course is required if the student does not pass the essay examination.

PROGRAM COURSES
(18 quarter units minimum)

Course work is developed to help candidates successfully take and pass certification examinations offered through the National Association of Alcoholism and Drug Abuse Counselors (NAADAC) and the American Academy of Health Care Providers in the Addictive Disorders (AAHCPAD).

Candidates will complete the following courses :

MFAM 638	Family Therapy and Chemical Abuse	(3)
MFAM 645	Treatment Strategies	(3)
MFAM 515	Crisis-Intervention Counseling	(3)
MFAM 635, 636, and 637	Case Presentation	(2, 2, 2)
or		
MFAM 694	Directed Study: Marriage and Family (optional)	(6)
A religion course		(3)
TOTAL UNITS		18

FIELDWORK

Candidates will complete three quarters of fieldwork in an approved site dealing with addicts and families. Fieldwork affords several excellent opportunities to gain experience working with substance abusers and their families. The student will be evaluated quarterly.

Matrix Institute on Addictions in Rancho Cucamonga is connected with the National Institute on Drug Addiction (NIDA) research system and will be running government-funded studies through their office. My Family, Inc. (MFI, Craig Lambdin) in Riverside offers a variety of opportunities to work with substance abusers in residential and outpatient settings. Inland Valley Drug and Alcohol Recovery Services (IVDARS, Randall Walker) in Upland offers opportunities for students to work with substance abusers in residential treatment.

The Loma Linda University Behavioral Medicine Center offers students opportunities to work with substance abusers in a hospital setting. The Betty Ford Hospital in Rancho Mirage, Cedar House in Bloomington, and Riverside County Office of Alcohol and Drug Programs may also offer additional opportunities for candidates to gain experience. In addition, there are numerous other programs offering substance abuse services in San Bernardino and Riverside counties.

COURSES

MFAM 638 Family Therapy and Chemical Abuse (3)
General overview course that meets the BBS requirements for MFT licensure in California.

MFAM 645 Treatment Strategies (3)
Presents information about addictions treatment for adults, adolescents, families, groups, and the multiply diagnosed.

MFAM 515 Crisis-Intervention Counseling (3)
Required for candidacy.

MFAM 635, 636, 637 Case Presentation (2, 2, 2)
Placement dealing with substance-abuse treatment. Completion of 150-200 hours in direct service to substance-abusing clients and their families.

MFAM 694 Directed Study: Marriage and Family (6)
For master's degree-level students not working directly with clients (i.e., clergy, educators, administrators). Research and writing about a topic relevant to substance abuse and its relationship to the student's discipline/profession.

FAMILY COUNSELING

MARY E. MOLINE, Dr.P.H., M.P.H. Loma Linda University PH 1975; Ph.D. Brigham Young University 1979
Chair, Department of Counseling and Family Sciences; Certificate Program Coordinator; Professor of Counseling and Family Sciences; AAMFT-Approved Supervisor; Licensed Marital and Family Therapist
Marital and family therapy, family studies, family theory, treatment of couples, group process, group therapy, and legal and ethical issues

The Family Counseling Certificate Program is designed for individuals who find a significant part of their work directed toward dealing with the relationship problems of individuals, families, and children. It is for those professionals who would like to gain family counseling skills but who do not desire to complete another degree or earn a clinical license.

The program will help participants acquire theoretical and systemic knowledge about relationships, families, and children; as well as develop practical skills applicable both to their professional and personal lives. It is designed for people who have a wide range of experiences, backgrounds, and goals. Physicians, ministers, nurses, teachers, chaplains, EAP counselors, social workers, school counselors, childcare workers, drug counselors, lawyers, and others in the helping professions can enhance their effectiveness through this program. Paid paraprofessionals, such as group-home workers, and volunteers for counseling organizations can also benefit from a knowledge of family counseling techniques. People involved in the business world—such as supervisors, managers, and personnel department employees—can also benefit from the improvement of interpersonal and family skills offered through the program.

FACULTY

See Marital and Family Therapy (MFAM) Program.

THE PROGRAM

The Family Counseling Certificate Program is administered by the Department of Counseling and Family Sciences through the Marital and Family Therapy Program. The department administers programs leading to the following degrees and certificates:

- Ph.D., D.M.F.T, and M.S. degrees in marital and family therapy
- M.A. degree in family studies
- Certificate in clinical mediation
- Certificate in drug and alcohol counseling
- Certificate in family counseling
- Certificate in family-life education (see M.A. degree program in family studies)
- Certificate in group counseling
- Certificate in school counseling

Admission

Applicants to the certificate program must meet the Graduate School admission requirements outlined in the BULLETIN and give evidence of completion of a B.A. or B.S. degree with a 3.0 G.P.A. or equivalent. Evidence of emotional stability and maturity is required, along with qualifications appropriate for one of the helping professions as listed below.

Certificate requirements

To earn the certificate, participants must successfully complete 25 quarter units. This includes 20 core units and 5 units of electives. It is possible to complete the certificate in three academic quarters. No clinical experience is required, but students may use their electives to become exposed to clinical modalities.

Required courses (20 units)

MFAM	515	Crisis-Intervention Counseling	(3)
MFAM	535	Case Presentation and Professional Studies	(4)
MFAM	551	Family Therapy: Theory and Practice	(3)
MFAM	553	Family Systems Theory	(3)
MFAM	564	Family Therapy II: Theory and Practice	(3)
MFAM	639	Interdisciplinary Professional Seminar	(1)
RELR	564	Religion, Marriage, and Family	(3)

Electives (5 units required)

MFAM	522	Family and Career Counseling	(2)
MFAM	539	Solution-Focused Family Therapy	(2)
MFAM	549	Christian Counseling and Family Therapy	(2)
MFAM	555	Narrative Family Therapy	(2)
MFAM	567	Families and Schools	(2)
MFAM	615	Reflective Practice	(2)
MFAM	638	Family Therapy and Chemical Abuse	(3)
MFAM	644	Child Abuse and Family Violence	(3)
MFAM	665	Structural Family Therapy	(2)

FAMILY STUDIES

MARY E. MOLINE, Dr.P.H., M.P.H. Loma Linda University PH 1975; Ph.D. Brigham Young University 1979
Chair, Department of Counseling and Family Sciences; Professor of Counseling and Family Sciences; AAMFT-Approved Supervisor; Licensed Marital and Family Therapist
Marital and family therapy, family studies, family theory, treatment of couples, group process, group therapy, and legal and ethical issues

CURTIS A. FOX, Ph.D., CFLE University of Tennessee at Knoxville 1997
Program Coordinator; Director of M.A. in Family Studies; Assistant Professor of Counseling and Family Sciences
Marriage and family therapy, family studies, quantitative research, family life education, marital relations, human sexuality, family diversity, religion and families, families in crisis, and adolescent development

The Department of Counseling and Family Sciences in the Graduate School at Loma Linda University administers a Master of Arts degree program in family studies. Students in this program may obtain a Master of Arts degree in family studies and/or a certificate in family life education. The Master of Arts degree in family studies requires a minimum of 52 units of academic credit. It orients students to an understanding of the structure and function of the family as a social institution from systems, ecological, and spiritual perspectives.

The degree program is designed for individuals with academic or applied interests. It prepares students for doctoral studies in the family sciences, including family studies and family therapy. At the applied level, the program serves to prepare students to develop, implement, and evaluate family-life programs for school, community, and church settings. Students are prepared for employment in various settings—such as community family-agency administrators, Headstart administrators, extension specialists, researchers, family specialists, human development specialists, community-services representatives, probation advisers, social service workers, mental health workers, vocational counselors, and volunteer-services coordinators.

The Family-Life Education Certificate Program is designed for those who wish to complete the basic requirements for certification as a family-life educator by the National Council on Family Relations (NCFR). Family therapists, teachers, ministers of religion, school counselors, social service workers, health workers, and others have found this program useful for their career development.

Both the Master of Arts degree in family studies and the Family-Life Education Certificate Program meet the requirements of the NCFR for certification as a family-life educator. In fact, these programs are approved by the NCFR and maintain the designated standards and curricula that allow students who complete any or both of these programs to use a shortened application process and pay lower fees for the application for certification as a family-life educator by the NCFR. This certification increases professional credibility in several important areas of concern to families.

FACULTY

See Marital and Family Therapy Program.

THE PROGRAM

The Family-Life Education Certificate Program (see M.A. degree program in family studies) is administered by the Department of Counseling and Family Sciences through the Marital and Family Therapy Program. The department administers programs leading to the following degrees and certificates:

- Ph.D., D.M.F.T, and M.S. degrees in marital and family therapy
- M.A. degree in family studies
- Certificate in clinical mediation
- Certificate in drug and alcohol counseling
- Certificate in family counseling
- Certificate in family-life education (see M.A. degree program in family studies)
- Certificate in group counseling
- Certificate in school counseling

General requirements

For information about requirements and standards to which all graduate students are subject, the student should consult the Policies and General Requirements section of the Graduate School BULLETIN.

MASTER OF ARTS

Admission

Applicants must meet the Graduate School admission requirements outlined in this BULLETIN and give evidence of academic ability, emotional stability, and maturity.

In addition to completing the required application forms, providing character and academic references, and completing the critical essay examination, the prospective student should also arrange for a personal interview with two of the program faculty.

Although no particular undergraduate major is specified as preparation for the family-studies program, an introductory statistics course is required for the student seeking the Master of Arts degree.

Degree requirements

Following are the requirements for the Master of Arts degree in family studies:

1. A minimum of 52 units of graduate credit in family studies, as outlined in the BULLETIN.
2. Satisfactory performance on a written comprehensive examination.
3. Completion of a thesis or project near the end of the program.

Core course requirements (11 units)

MFAM	515	Crisis-Intervention Counseling	(3)
MFAM	545	Gender Perspectives	(2)
MFAM	568	Group Process and Procedures	(3)
MFAM	638	Family Therapy and Chemical Abuse	(3)

Specialization requirements (26 units)

FMST	514	Cross-cultural Counseling and Family Values	(2)
FMST	515	Professional Issues in Family-Life Education	(3)
FMST	524	Family-Resource Management	(2)
FMST	526	Marriage and the Family	(3)
FMST	528	Parenting	(2)
FMST	529	Family-Life Education	(2)
MFAM	553	Family-Systems Theory	(3)
MFAM	558	Social Ecology of Individual and Family Development	(3)
MFAM	669	Human Sexual Behavior	(3)
RELR	564	Religion, Marriage, and the Family	(3)

Research requirements (9 units)

FMST	505	Social Research Methods I	(3)
FMST	506	Social Research Methods II	(3)
FMST	697	Project	(3)
or			
FMST	698	Thesis	(3)

Practicum requirements (2 units)

FMST	695	Internship in Family-Life Education	(1-4)

Electives (4-6 units selected from the following):

FMST	635	Single Adult in Family and Society	(3)
FMST	694	Directed Study: Family Studies	(1-3)
MFAM	522	Family and Career Counseling	(2)
MFAM	548	Men and Families	(2)
MFAM	549	Christian Counseling and Family Therapy	(2)
MFAM	567	Families and Schools	(2)
MFAM	584	Treatment of Child and Adolescent Problems	(3)
MFAM	614	Law and Ethics	(3)
MFAM	634	Marital and Family Assessment	(3)
MFAM	644	Child Abuse and Family Violence	(3)

POSTBACCALAUREATE CERTIFICATE

Certificate requirements

The following requirements must be completed for the certificate program:

1. An undergraduate degree or its equivalent for admission.
2. A minimum of 26 units of graduate credit in family studies as outlined in this BULLETIN. Students may transfer toward the certificate up to 9 units of graduate credit earned at an approved institution.

Specialization requirements (26 units)

Completion of the following courses meets the requirements for the certificate in family-life education issued by the Graduate School and the National Council on Family Relations (NCFR). The NCFR has minor stipulations beyond the present Loma Linda University requirements, which moves the applicant from provisional status to full status as a certified family life educator (CFLE). Specifically, students

must complete the equivalent of at least two years of practical work in family-life education programming to qualify for full certification by the NCFR.

FMST	514	Cross-cultural Counseling and Family Values	(2)
FMST	515	Professional Issues in Family-Life Education	(3)
FMST	524	Family-Resource Management	(2)
FMST	526	Marriage and the Family	(3)
FMST	528	Parenting	(2)
FMST	529	Family-Life Education	(2)
MFAM	553	Family-Systems Theory	(3)
MFAM	558	Social Ecology of Individual and Family Development	(3)
MFAM	669	Human Sexual Behavior	(3)
RELR	564	Religion, Marriage, and the Family	(3)

COURSES

FMST 505 Social Research Methods I (3)
Analysis of current social research methods. Practice in the use of techniques. Scientific method.
Prerequisite: Introductory course in statistics as an undergraduate research methods course.

FMST 506 Advanced Social Research Methods II (3)
Use of computer. Statistical analysis. Writing research report.

FMST 514 Cross-Cultural Counseling and Family Values (2)
Structure and function, changing patterns, future in urban society. Relationship of changes in society to widespread family problems. Familiarity with a wide range of social and ethnic backgrounds including but not limited to people of color, Asians, Native Americans, and Hispanics.

FMST 515 Professional Issues in Family-Life Education (3)
Surveys the professional practice of family life education, examines the legal and ethical issues that govern the practice of family-life education, investigates the major policies and legal codes that govern family behavior in the United States and other countries, evaluates strategies for professional development in the field, and delineates boundaries regarding the scope of practice in this field and in family therapy.

FMST 524 Family-Resource Management (2)
Challenges of health care costs, childcare, reorganizing and downsizing organizations, managing cultural diversity, and equal employment opportunity. Responding to needs of families and employees through consistent and effective planning so that people become more productive and more satisfied with their lives at work and at home.

FMST 526 Marriage and the Family (3)
Studies the family from perspectives of psychology, anthropology, biology, history, politics, and religion. Investigates the major movements or moving forces in society that have influenced families living in the United States and elsewhere. Evaluates the important contemporary issues in families and presents theories of family functioning that inform therapeutic and educational interventions by professionals.

FMST 528 Parenting (2)
Principles and practices relating to parent-child relationships. Emphasis on family roles, communication, conflict resolution, values development, and parenting-skill development.

FMST 529 Family-Life Education (2)
Systematic comparative analysis of the historical development, theoretical perspectives, types of programs, and research in family-life studies.

FMST 614 Family Communication (3)
Theoretical foundations of human communication. Therapeutic techniques of major communication theorists in marital and family therapy.

FMST 635 Single Adult in Family and Society (3)
Perceptions, needs, challenges, and opportunities during the periods of adult singleness in the life cycle.

FMST 694 Directed Study: Family Studies (3)

FMST 695 Internship in Family Studies (1-4)

FMST 697 Project (3)

FMST 698 Thesis (3)

GEOLOGY

H. PAUL BUCHHEIM, Ph.D. University of Wyoming 1978
Program Coordinator; Professor of Geology
Sedimentology, limnogeology, paleoenvironments

The Department of Natural Sciences offers the Geology Program leading to the Master of Science degree in geology. Research and course work emphasizes field and laboratory studies in sedimentology, paleontology, paleoenvironmental reconstruction, paleoecology, paleobotany, and taphonomy. Areas of curriculum strengths include sedimentary geology, paleontology, and environmental geology. Research in paleontology may also be pursued through the M.S. and Ph.D. degree programs in biology.

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FACULTY

LEONARD R. BRAND, Ph.D. Cornell University 1970
Professor of Biology and Paleontology
Vertebrate zoology and paleontology

RONALD L. CARTER, Ph.D. Loma Linda University GS 1977
Professor of Biology
Molecular ecology and systematics

ROBERT A. CUSHMAN, Jr., Ph.D. Colorado School of Mines 1994
Assistant Professor of Geology
Biostratigraphy, paleopalynology, and invertebrate paleontology

KEVIN E. NICK, Ph.D. University of Oklahoma 1990
Assistant Professor of Geology
Paleomagnetics and sedimentology

ADJUNCT FACULTY

BEN CLAUSEN, Ph.D. University of Colorado 1987
Assistant Professor of Geophysics
Nuclear physics, geophysics

H. THOMAS GOODWIN, Ph.D. University of Kansas 1990
Adjunct Associate Professor of Paleobiology, Andrews University
Vertebrate paleontology and biogeography

THE DEPARTMENTAL PROGRAMS

The Geology Program leading to the Master of Science degree in geology is administered by the Department of Natural Sciences. The department administers programs leading to the following degrees or combined degrees:

- M.S. and Ph.D. in biology
- M.D./M.S. or D.D.S./M.S. in biology
- M.D./Ph.D. or D.D.S./Ph.D in biology
- M.S. in geology (paleontology, sedimentary geology, or environmental geology)
- B.S. in geology

MASTER OF SCIENCE

Admission

Applicants must meet the general Graduate School admission requirements. Acceptable undergraduate preparation is a bachelor's degree and must include: physical geology, petrology, structural geology, and statistics. (Students with an undergraduate degree other than in geology may remove geology deficiencies while in residence in the graduate program.) Prerequisite cognates include one-year courses in biology (zoology, botany, ecology, non-human biology courses, etc.), chemistry, mathematics through calculus, and physics.

Curriculum

A minimum of 48 quarter units, including 28 at or above the 500 level, constitutes the curriculum for the Master of Science degree in geology. In addition to the general Graduate School requirements, the following courses are required:

During the graduate or undergraduate program

GEOL	431	Geochemistry	(4)
GEOL	616	Research and Experimental Design	(2)
GEOL	617	Proposal Writing and Grantsmanship	(2)

During the graduate program at LLU

GEOL	425	Field Methods of Geologic Mapping	(4)
GEOL	547	Advanced Historical Geology	(4)

GEOL	556	Paleoenvironments	(4)
GEOL	558	Philosophy of Science	(4)
GEOL	566	Advanced Sedimentology	(4)
GEOL	567	Stratigraphy and Basin Analysis	(4)
GEOL	605	Seminar Presentation in Geology	(7)
GEOL	607	Seminar in Geology	(1)
GEOL	697	Research	(1-4)
GEOL	698	Thesis	(1-2)

Two of the following:

GEOL	524	Paleobotany	(4)
or			
GEOL	525	Paleopalynology	(4)
GEOL	534	Invertebrate Paleontology	(4)
GEOL	544	Vertebrate Paleontology	(4)

The remainder of the student's program will be planned in consultation with the major professor and graduate advisory committee. In addition to course work, students are expected to attend all program seminars, fulfill research and thesis expectations, and successfully pass a final oral examination.

PROGRAM OBJECTIVES

The Geology Program focuses on field-oriented geology, particularly sedimentology, stratigraphy, and paleontology. The integrated core-course sequence provides students with the tools to conduct research in the subdisciplines of sedimentology, paleontology, or environmental geology. Fieldwork is emphasized because it provides a first-hand experience with geological phenomena that cannot be satisfactorily grasped or understood solely from classroom or laboratory study. Throughout the geology curriculum, students are encouraged to develop an open minded and investigative approach in the application of the scientific method to the resolution of geologic problems. Consideration of multiple working hypotheses is encouraged.

EMPHASES

The primary research and curriculum strength of the graduate Geology Program is paleontology and sedimentary geology. Environmental geology is available as a curriculum emphasis. In addition to the basic requirements listed above, students wishing to concentrate in one of these three emphases should take the following courses as electives:

PALEONTOLOGY

BIOL	526	Principles and Methods of Systematics	(3)
BIOL	545	Genetics and Speciation	(4)
GEOL	534	Invertebrate Paleontology	(4)
GEOL	544	Vertebrate Paleontology	(4)
GEOL	524	Paleobotany	(4)
GEOL	525	Paleopalynology	(4)

Graduate paleontology and biology courses related to area of specialty also recommended.

SEDIMENTARY GEOLOGY

GEOL	454	Sedimentary Petrology	(4)
GEOL	556	Paleoenvironments	(4)
GEOL	554	Limnogeology	(4)

Additional readings and special-topic courses in sedimentology also recommended

ENVIRONMENTAL GEOLOGY

GEOL	574	Environmental Geology	(3)
GEOL	575	Hydrogeology	(4)
GEOL	437	Geophysics	(4)
GEOL	556	Paleoenvironments	(4)
ENVH	568	Water-Quality Assurance	(3)
ENVH	567	Hazardous-Materials and Solid-Waste Management (recommended)	(3)

COURSES

UNDERGRADUATE

(For 100- to 400-level course descriptions, see Section V, the undergraduate geology section of this BULLETIN.)

GEOL	125	Rocky Mountain Field Geology	(2-3)
GEOL	304	Physical Geology	(4)
GEOL	316	Mineralogy	(4)
GEOL	317	Optical Mineralogy and Petrology	(4)
GEOL	325	Rocky Mountain Field Geology	(2-3)
GEOL	326	Geology of Southern California	(3-4)
GEOL	327	Geology of Death Valley	(3-4)
GEOL	328	Geology of Anza Borrego	(3-4)
GEOL	341	The Natural History of Fossils	(3-4)
GEOL	384	Paleobotany	(4)
GEOL	386	Invertebrate Paleontology	(4)
GEOL	387	Vertebrate Paleontology	(4)
BIOL	400+-level courses (as approved by guidance committee)		

Course descriptions for BIOL courses can be found in the Biology Program section of this BULLETIN.

GRADUATE

GEOL 524 Paleobotany (4)
Fossil plants; their morphology, paleoecology, taphonomy, classification, and stratigraphic distribution. Analysis of floral trends in the fossil record. Three class hours, one three-hour laboratory or field trip per week.
Prerequisite: Consent of instructor.

GEOL 525 Paleopalynology (4)
Morphology, paleoecology, classification, and stratigraphic distribution of plant microfossils. Includes an introduction to biostratigraphic and paleoecologic analytical methods. Three class hours and one three-hour laboratory or field trip per week.

Prerequisite: GEOL 430 or consent of instructor.

GEOL 534 Invertebrate Paleontology (4)
Structure, classification, ecology, and distribution of selected fossil invertebrate groups. Principles and methods involved in the study and analysis of invertebrate fossils considered. Three class hours and one three-hour laboratory per week.

Prerequisite: Consent of instructor.

GEOL 544 Vertebrate Paleontology (4)
Fossil vertebrates, with emphasis on the origins of major groups. Systematics, biology, and biogeography of ancient vertebrates. Three class hours, one three-hour laboratory per week.

Prerequisite: BIOL 106 or consent of the instructor.

GEOL 545 Taphonomy (3)
Processes that affect an organism from death until its final burial and fossilization, and the utilization of this information in reconstructing ancient assemblages of organisms. Three class hours per week.

GEOL 546 Ichnology (2)
Fossilized traces produced by animal activity, such as tracks, burrows, feeding traces, etc. Two class hours per week.

GEOL 547 Advanced Historical Geology (4)
History of the earth, with an in-depth examination of paleontologic and lithologic changes of the geologic column. Emphasis on concepts of interpretation, particularly the causes of mass extinctions within the context of their accompanying sedimentologic variations. Term paper or research project report required.

Prerequisite: GEOL 304, 427, 429.

GEOL 548 Field Seminar in Historical Geology (4)
Field analysis of the stratigraphic and fossil record, with emphasis on interpretation and discussion of models of deposition. Includes one week of lecture and a two-week field trip to specific sites in the western United States. Summer only.

Prerequisite: GEOL 547, 566, 567; or consent of the instructor.

GEOL 554 Limnogeology (4)
Ancient lake deposits, including their sedimentologic, paleontologic, mineralogic, geochemical, and stratigraphic characteristics. The depositional processes occurring in modern lakes investigated as analogs. Laboratory and several extended field trips.

Prerequisite: GEOL 427, 429; or consent of the instructor.

GEOL 555 Carbonate Geology (4)
An advanced look at the geology of carbonate rocks, including petrology; depositional environments; and overview of current topics of research. Laboratory experience in the analysis of carbonate rocks and rock sequences. A field trip to an ancient carbonate sequence.

Prerequisite: GEOL 427, 454; or consent of the instructor.

GEOL 556 Paleoenvironments (4)
Application of paleontologic, sedimentologic, and geochemical data and methods to the interpretation of past sedimentary environments, with emphasis on organism-sediment relationships. Processes, sediments, and organisms in modern depositional environments investigated as analogs.

Prerequisite: GEOL 427, 429; or consent of the instructor.

GEOL 558 Philosophy of Science (4)
Selected topics in the history and philosophy of science, and the application of these principles in analyzing contemporary scientific trends.

Prerequisite: GEOL 430 or consent of the instructor.

GEOL 564 Field Geology Studies (1-6)
Special field study trips lasting one week or longer. Student involvement required, including field presentations and field work assignments—such as the measurement and analysis of sedimentary sections, facies profiling, paleontologic excavation, mapping, or other geological or paleontology field activity. One unit of credit per week. May be repeated for additional credit.

GEOL 566 Advanced Sedimentology (4)
Advanced methods and principles of sedimentology, with emphasis on the analysis and interpretation of sedimentary structures and the processes that produced them. Sedimentary facies, depositional environments, chemogenic and biogenic sedimentation, and post-depositional diagenetic processes discussed in detail. Research or project paper required. Three class hours, one three-hour laboratory or field trip per week, and several extended field trips.

Prerequisite: GEOL 304, 315 recommended.

GEOL 567 Stratigraphy and Basin Analysis (4)
Advanced methods of stratigraphy and basin analysis, including facies analysis, depositional systems, sequence stratigraphy, paleogeography, and basin modeling. Research or project paper required. Three class hours, one laboratory or field trip per week, and two extended field trips.

Prerequisite: GEOL 304, 427, 429.

GEOL 569 Tectonics and Sedimentation (4)
Analysis of depositional systems developed in various tectonic settings. Comparisons of unique depositional styles in strike-slip basins, foreland basins, arc-trench systems, rift margins, and aulacogens. Three class hours and one laboratory or field trip per week.

Prerequisite: GEOL 441, 442, 443; or consent of the instructor.

GEOL 574 Environmental Geology (3)
Geological and hydrogeological principles that apply to subsurface waste and contaminant characterization. Review of rededication techniques and hazardous-waste-disposal alternatives. Three class hours per week.

Prerequisite: Physical geology; GEOL 427, 429 recommended.

GEOL 575 Hydrogeology (4)
Theory and geology of groundwater occurrence and flow, the relation of groundwater to surface water, and the potential distribution of groundwater by graphical and analytical methods. Three class hours, one three-hour laboratory per week.

Prerequisite: GEOL 427, 429; or consent of the instructor.

GEOL 588 Topics in Geology (1-4)
Review of current knowledge in specified areas of the earth sciences. When registering, the student must indicate specific topic to be studied. May be repeated for additional credit. Offered on demand.

Prerequisite: Consent of the instructor.

GEOL 589 Readings in Paleontology (1-4)
Review of the literature in a specific area of paleontology. Students make presentations from the literature and submit current papers dealing with the assigned topic.

GEOL 594 Readings in Geology (1-4)
Review of the literature in a specific area of geology. Students make presentations from the literature and submit current papers dealing with the assigned topic.

GEOL 595 Lacustrine Readings (1)
Readings and analysis of current and classic scientific literature dealing with modern and ancient lake environments—including geochemistry, sedimentology, biology and paleontology, and related subjects. Activities include student presentations of papers, discussion, and research proposals and reports. One extended, multi-day field trip required.

GEOL 605 Seminar Presentation in Geology (1)
Selected topics dealing with recent developments, particularly reports of current research. Student attends and presents one seminar during the quarter.

GEOL 607 Seminar in Geology (5)
Selected topics dealing with recent developments. Student attends seminar; no presentation required.

GEOL 616 Research and Experimental Design (2)
Concepts, methods, and tools of research—including experimental design and data analysis.

GEOL 617 Proposal Writing and Grantsmanship (2)
Skills and practice of effective proposal writing, and strategies for locating and obtaining research grants.

GEOL 695 Special Projects in Geology (1-4)
Special project in the field, laboratory, museum, or library under the direction of a faculty member. Registration indicates the specific field of the project.

Prerequisite: Consent of instructor.

GEOL 697 Research (1-4)

GEOL 698 Thesis (1-2)

OTHER COURSES APPLICABLE TO GEOLOGY PROGRAM

Additional courses not listed here may be approved by the student's advisory committee.

ENVH	567	Hazardous-Materials and Solid-Waste Management	(3)#
ENVH	568	Water-Quality Assurance	(3)#
BIOL	459	Marine Invertebrates	(5)*
BIOL	460	Marine Ecology	(5)*
BIOL	462	Ichthyology	(5)*
BIOL	504	Biology of Marine Invertebrates	(4)
BIOL	509	Mammalogy	(4)
BIOL	515	Biogeography	(3)
BIOL	518	Readings in Ecology	(2)
BIOL	526	Principles and Methods of Systematics	
BIOL	545	Genetics and Speciation	(4)
BIOL	547	Molecular Biosystematics	(4)
BIOL	588	Marine Biology	

*Summer Rosario Beach courses indicated by an asterisk.

#See School of Public Health BULLETIN for ENVH course descriptions.

GROUP COUNSELING

MARY E. MOLINE, Dr.P.H., M.P.H. Loma Linda University PH 1975; Ph.D. Brigham Young University 1979
Chair, Department of Counseling and Family Sciences; Certificate Program Coordinator; Professor of Counseling and Family Sciences; AAMFT-Approved Supervisor; Licensed Marital and Family Therapist
Marital and family therapy, family studies, family theory, treatment of couples, group process, group therapy, and legal and ethical issues

GERALD COREY, Ed.D. University of Southern California 1967
Adjunct Professor of Counseling and Family Sciences; Diplomate in Counseling Psychology, American Board of Professional Psychology; Licensed Psychologist
Group counseling, ethics, and counseling theories

The Group Counseling Certificate Program is designed to prepare marital and family therapy graduate students to design and lead groups in a variety of settings (e.g., school, hospital, outpatient, inpatient, legal, public, and private). These courses are embedded in the master's and doctoral degree programs in marital and family therapy.

FACULTY

See Marital and Family Therapy (MFAM) Program.

THE PROGRAM

The Group Counseling Certificate Program is administered by the Department of Counseling and Family Sciences through the Marital and Family Therapy Program. The department administers programs leading to the following degrees and certificates:

- Ph.D., D.M.F.T, and M.S. degrees in marital and family therapy
- M.A. degree in family studies
- Certificate in clinical mediation
- Certificate in drug and alcohol counseling
- Certificate in family counseling
- Certificate in family-life education (see M.A. degree program in family studies)
- Certificate in group counseling
- Certificate in school counseling

Admission

Applicants to the Group Counseling Certificate Program must meet the Graduate School admission requirements outlined in this BULLETIN and give evidence of academic ability, emotional stability, and maturity. Students who pursue group counseling as a track within their D.M.F.T. or Ph.D. degree program are required to take three courses: MFAM 525, 526, 527.

CERTIFICATE REQUIREMENTS

Prerequisites

The prerequisites for taking a track within the degree are MFAM 568, approval by the department's Executive Committee, and a master's degree or concurrent enrollment in a master's/doctoral degree program at Loma Linda University.

The graduate degree must be in marital and family therapy or a related field.

COURSE REQUIREMENTS AND SCHEDULE

Post-Summer Session

MFAM 525	Therapeutic Group	(3)

Fall Quarter

MFAM 568	Group-Process Theory and Procedures: Theories in MFAM Therapy	(3)

Winter Quarter

MFAM 526	Theory and Practice of Group Counseling	(3)

Spring Quarter

MFAM 527	Training/Supervision Workshop in Group Counseling	(3)

Summer Quarter

MFAM 569	Advanced Group Therapy	(3)

Quarter varies

Religion options		(3)

COURSES

MFAM 525 Therapeutic Group (3)
Process group designed to provide opportunities for self-exploration, with particular emphasis on personal concerns that are likely to influence one's ability to function as a professional. Students learn more about their style of relating to others. Helps trainees identify potential blocks to their effectiveness as counselors and provides tools for developing strengths. May be repeated for additional credit.

MFAM 526 Theory and Practice of Group Counseling (3)
Critical evaluation of ten major models of group counseling, as well as an overview of stages in the development of a group. Didactic and experiential methods used to apply diverse theories and techniques to actual group sessions. Theories explored include psychodynamic approaches, existential/humanistic and relationship-oriented approaches, psychodrama, and action-oriented approaches.

MFAM 527 Training/Supervision Workshop in Group Counseling (3)
Opportunities for supervised practice in co-facilitation of the classroom group. Students function in the role of group members and also co-lead the group several times during the quarter. An experiential course that studies group process in action and teaches ways to apply diverse techniques to an ongoing group.

MFAM 568 Group-Process Theory and Procedures: Theories in MFAM Therapy (3)
Major theoretical approaches surveyed include individual theories, marital groups, network, and family therapy groups. Group-laboratory experience provided in which students apply theory to practice and develop group leadership skills.

MFAM 569 Advanced Group Therapy (3)
Provides advanced knowledge and training in leading structured groups. Students design a structured group treatment based on a therapeutic, psychoeducational and/or educational model—to be used in a community setting.

MARITAL AND FAMILY THERAPY

MARY E. MOLINE, Dr.P.H., M.P.H. Loma Linda University PH 1975; Ph.D. Brigham Young University 1979
Chair, Department of Counseling and Family Sciences; **Coordinator, Marital and Family Therapy M.S. Degree Program;** Professor of Counseling and Family Sciences; AAMFT-Approved Supervisor; Licensed Marital and Family Therapist
Marital and family therapy, family studies, family theory, treatment of couples, group process, group therapy, and legal and ethical issues

DIANNA LYNNE CONNORS, M.A. Western Michigan University 1978
Program Coordinator, Canadian University College campus
Clinical Instructor in Marriage and Family Therapy

Recognizing our influence through teaching, research, supervised practice, and service, the mission of the Department of Counseling and Family Sciences in the Graduate School of Loma Linda University is to address relational needs and concerns of individuals and families over the life course as faced in the contexts of communities and in the larger global society; encourage spirited wholeness by attending to the physical, mental, and social dimensions of human experience; create understanding about humans as relating beings; advance appreciation for human diversity as modeled; advocate for the rights for all humans, for the protection of human dignity, and the value of respect in all human interactions; collaborate with community in terms of training, service, and scholarship in our field; and influence our immediate environment as well as the whole world.

The Department of Counseling and Family Sciences, through the Marital and Family Therapy Program, offers quality clinical training and an academic education that leads to a variety of degree options. Students in this program can obtain a degree in one of the following: M.A. degree in family studies, M.S. degree in marital and family therapy (Canada campus), M.S. degree in marital and family therapy (Loma Linda University campus); and/or a Ph.D. or D.M.F.T. degree in marital and family therapy.

Students can also select an emphasis within their degree or obtain a certificate in one (or more) of the following areas: clinical mediation, drug and alcohol counseling, family counseling, family life education, group counseling, and school counseling. Combined degrees are offered in marital and family therapy with clinical ministry (M.S./M.A.); and in marital and family therapy with public health (M.S./M.P.H.).

A postbaccalaureate interim master's and doctoral degree program allows students to finish in approximately four-to-five years, complete the hours required for a California state license in marital and family therapy, and obtain their AAMFT-approved supervisor status.

FACULTY

IAN P. CHAND, Ph.D. Pennsylvania State University 1980
Director of Clinical Training; Clinical Mediation Certificate Program Coordinator; Professor of Counseling and Family Sciences; General Member, Academy of Family Mediators; AAMFT-Approved Supervisor
Marital and family therapy, Christian family therapy, family mediation, cross-cultural family counseling, parenting, family law and ethics, and sociology of the family

DOUGLAS HUENERGARDT, Ph.D. Northwestern University 1967
Professor of Counseling and Family Sciences; Coordinator of the DMFT Program; Director of the LLU Marriage and Family Therapy Clinic; AAMFT-Approved Supervisor
Competency-based family therapy, couples therapy, family therapy program design and evaluation, and family and community systemic practice

CARMEN KNUDSON-MARTIN, Ph.D. University of Southern California 1987
Professor of Counseling and Family Sciences; Director of the Doctoral Programs; Coordinator of Ph.D. program; AAMFT-Approved Supervisor
Qualitative research, gender, family systems theory, health and social context

CHERYL SIMPSON, Ph.D. University of Oregon 1980
Professor of Counseling and Family Sciences; PPS-Credentialed School Counselor/ Psychologist; Licensed Educational Psychologist
Counseling psychology and educational psychology, assessment of children, adolescents, and adults, school counseling

SUZANNE HANNA, Ph.D. Brigham Young University 1982
Professor of Counseling and Family Sciences; Coordinator of the Medical Family Therapy Doctoral Track; AAMFT-Approved Supervisor
Minority health/mental health issues, collaborative interdisciplinary practice, medical family therapy, behavioral genetics, evidence-based practice

JENNIFER ANDREWS, Ph.D. The Union Institute 1989
Adjunct Associate Professor of Counseling and Family Sciences; Psychology with specialty in Marital and Family Therapy; AAMFT-Approved Supervisor
Postmodern ideas (solution-focus, narrative and collaborative language systems)

COLWICK WILSON, M.A. University of Michigan 2002
Associate Professor of Counseling and Family Sciences
Statistics, quantitative and qualitative methods, sociology of the family, marital status and health, medical family therapy, religion and health, and school counseling

CURTIS FOX, Ph.D. CFLE University of Tennessee at Knoxville 1997
Family Studies Certificate Program Coordinator; Assistant Professor of Counseling and Family Sciences; Director of M.A. in Family Studies
Marriage and family therapy, family studies, quantitative research, family life education, marital relations, human sexuality, family diversity, religion and families, families in crisis, and adolescent development

DORIS HUBBARD, M.S. Loma Linda University, 1992
Assistant Professor of Counseling and Family Sciences; Director of Clinical Training (Canadian University College Campus); Clinical Instructor; AAMFT-Approved Supervisor

ASSOCIATE FACULTY

KENNETH M. AUSTIN, Ph.D. California Western University, 1975
Adjunct Professor of Counseling and Family Sciences; Licensed Psychologist
Clinical psychology, law, and ethics

GERALD COREY, Ed.D. University of Southern California, 1967
Adjunct Professor of Counseling and Family Sciences; Diplomate in Counseling Psychology, American Board of Professional Psychology; Licensed Psychologist
Group counseling, ethics, and counseling theories

MARIANNE COREY, M.A. Chapman College 1975
Adjunct Instructor, Counseling and Family Sciences
Group counseling

M. JERRY DAVIS, Rel.D. Claremont School of Theology 1967
Adjunct Professor of Counseling and Family Sciences and Religion; Licensed Marital and Family Therapist; AAMFT-Approved Supervisor
Pastoral counseling

RANDALL LEE ROBERTS, D.Min. Fuller Theological Seminary 1995
Associate Professor of Religion; Licensed Marital and Family Therapist

CLINICAL FACULTY

CRAIG LAMBDIN, M.S. University of Redlands, 1980
Clinical Instructor in Counseling and Family Sciences; Licensed Marital and Family Therapist; Director of MFI Recovery Inc.

RANDALL WALKER, M.S. California State University, Fullerton 1983
Licensed Marital and Family Therapist; Clinical instructor in Counseling and Family Sciences; Drug and Alcohol Specialist; AAMFT-Approved Supervisor
Solution-focused and cognitive behavioral therapy

MASTER OF SCIENCE IN MARITAL AND FAMILY THERAPY (M.S.)

Purpose

The Marital and Family Therapy Program leads to the Master of Science degree and is designed to give students a broad academic background as well as professional practice for working with individuals, couples, and families in a variety of settings. These include, but are not limited to, medical, legal, educational, mental health, managed care/HMO, private practice, and church settings.

The Department of Counseling and Family Sciences, through the Marital and Family Therapy Program, offers various certificates of study in addition to the primary M.S. degree curriculum. The certificates have been designed to enhance the student's scope of practice. A certificate can add units and clinical hours to the existing 78-unit M.S. degree program. These certificates include, but are not limited to:

- clinical mediation
- drug and alcohol counseling
- family counseling
- family-life education (see M.A. degree program in family studies)
- group counseling
- school counseling.
- medical family therapy (see doctoral track, p. 105)
- Christian family therapy (see doctoral track, p. 106)

See certificate programs for further details.

Licensure and program accreditation

Marriage and family therapy is established in California by law as a profession requiring state licensure. Persons who desire to enter the profession must have the proper academic and clinical preparation and must pass the written and oral licensing examinations. The master's degree program at Loma Linda University provides the academic requirements to meet the California licensing standards according to Business and Professions Code 4980.38 and has the following objectives:

1. Develop skilled professionals in marriage and family therapy.
2. Expose students to available content material in the field.
3. Provide supervised clinical training toward the development of clinical skills and competence.
4. Provide specialized training in one of the family therapy modalities that will qualify graduates for licensure as marriage and family therapists.
5. Prepare students to be familiar with sociocultural issues.
6. Prepare marital and family therapy students for professional practice, with specialized training in the delivery of services in private-practice and institutional settings.

The American Association for Marriage and Family Therapy (AAMFT), with headquarters in Washington, D.C., functions on a national basis to ensure that academic and clinical training programs adhere to the standards of the profession. The program offered by Loma Linda University is fully accredited by the Council on Accreditation for Marriage and Family Therapy Education (COAMFTE), the accrediting body for AAMFT. Clinical license requirements vary by state and will require additional hours of supervised clinical practice.

Admission

Applicants to this M.S. degree program—which can be pursued at Loma Linda University or at Canadian University College—must meet the Graduate School admission requirements outlined in this BULLETIN and give evidence of academic ability, emotional stability, and maturity.

Prerequisites

Students are required to take theories of personality or theories of counseling, abnormal psychology, and statistics. Students can request to challenge any prerequisite or request a prerequisite to be waived upon approval of the Admissions Committee. Students wishing to apply master's degree-level course work completed at a regionally accredited school prior to application must provide applicable transcripts and/or syllabi. In addition to completing the required application forms, students should provide character and academic references and take the critical-essay examination.

General admission information

Students will be admitted in Autumn and Winter quarters. With special permission, a student may be permitted to enter Spring or Summer quarter. Program requirements for admission are as follows:

1. Applicants must have a bachelor's degree from a regionally accredited institution in any field. Candidates must have a minimum 3.00 G.P.A. for the last 45 quarter credits (30 semester units) of course work completed before applying for admission, or in all undergraduate work—whichever is higher.
2. Applicants must submit three letters of recommendation:
   - at least two from persons professionally qualified to recommend for a field of this nature, and
   - at least one from a person qualified to evaluate according to ability. Letters will not be accepted from friends or relatives.
3. Applicants will submit a typed personal statement. The personal statement should address:
   - career objectives,
   - personal interest in marriage and family therapy,
   - rationale for choosing to attend Loma Linda University,
   - how life experiences have influence applicant's choice to enter the field of marriage and family therapy, and
   - any additional thoughts the applicant deems important to add.
4. Those for whom English is not their first language must present a minimum score of 213 for the computer test and 550 for the pencil test on the Test of English as a Foreign Language (TOEFL).
5. Those who are not citizens or permanent residents of the U.S. must provide a valid student visa.

Admission procedures

The Marital and Family Therapy Admissions Committee will screen application materials submitted, and then will invite selected applicants to an individual or group interview. Under special circumstances a phone interview will suffice.

Upon completion of 18 quarter units, each student will be evaluated by all teaching faculty to determine if the evaluated student can continue the program and/or be permitted to enter the clinical phase of the program. The clinical phase requires a student be admitted to a six-quarter practicum sequence while being supervised as a trainee at a clinical site.

DEGREE COMPLETION

The M.S. degree in marital and family therapy can be completed in either a two-year (full-time) or three-year (part-time) sequence; but in exceptional circumstances students have up to five years to complete the degree. In order to maintain full-time status, students must take a minimum of 8 units per quarter during Fall, Winter and Spring; and 4 units during Summer Quarter. Courses are held during afternoon or evening hours. Typically, first-year courses are held on Tuesday and Thursday, and second-year courses on Monday and Wednesday. Full-time employment is discouraged if a student enrolls full time.

Degree requirements

Requirements for the Master of Science degree for both Loma Linda University and Canadian University College campuses include the following:

1. Residence of at least two academic years.
2. A minimum of 78 quarter units of graduate work, which includes credit received for core courses, electives, and a 3-unit religion course.
3. Practicum in marriage and family counseling. A minimum of 500 direct client-contact hours and 100 direct-supervision hours are required. Of the direct client-contact hours, at least 250 hours must be with couples and families. Of the direct-supervision hours, at least 50 hours must be with raw data (video, audio, and live supervision). For every week in which clients are seen, the student must have at least one hour of individual supervision. The ratio of supervision hours to treatment hours must not be less than one hour of supervision to five hours of clinical contact.

   Clinical training, as defined by the Commission on Accreditation for Marriage and Family Therapy, includes a minimum of twelve continuous months in a clinical traineeship. Students enrolled in the program should consult the *Clinical Training Manual* regarding clinical training requirements.
4. Successful completion of a written comprehensive examination (taken before advancement to candidacy) and an oral examination (taken at the end of the program).

Clinical services

The program operates a community marriage and family therapy clinic to provide counseling services to individuals, couples, and families; and to give opportunity for clinical practice for MFAM student trainees and interns. The student's field experience and traineeship may be taken at other clinics in the Riverside, San Bernardino, and Orange County areas. Paid traineeships are available.

General requirements

For information about requirements and practices to which all graduate students are subject, consult the Policies and General Regulations section of the Graduate School BULLETIN.

Financial aid

The Marital and Family Therapy Program students are eligible for federal, state, and private loans and grants. The Counseling and Family Sciences Department offers financial aid on a limited basis. Research assistantships and other paid opportunities in the department are also available on a limited basis.

CANADIAN CAMPUS PROGRAM

The Canadian campus program is an innovative venture that combines the teaching expertise of the Loma Linda University California campus faculty, the Canadian campus program faculty, and adjunct instructors and guest lecturers from the local professional community. A clinically based program, courses are taught on campus, utilizing two methods of instruction. Approximately half the courses are taught on an "intensive" basis. Typically, 2-unit intensives run for three days, Monday through Wednesday; and 3-unit intensives run for four days, Monday through Thursday. Generally, there is one intensive scheduled per month. The remainder of the courses meet once a week (except during intensive weeks) for the full quarter. Courses are taught three quarters per year, mid-September through mid-June. It should be noted that certain courses cannot be offered on an intensive basis and require weekly attendance.

Loma Linda University is accredited by the Western Association of Schools and Colleges (WASC) in the United States and the Canadian campus program is recognized by Alberta Advanced Education (Private Institutions) as a graduate degree-granting program. The Canadian campus program is officially directed by the California campus and meets the WASC accreditation requirements.

Depending on undergraduate preparation and individual selection of course work, students graduating from this program may be qualified to become provisionally chartered as psychologists in the province of Alberta, or registered social workers with the Alberta College of Social Workers. Marriage and family therapy is an unregulated profession in Alberta. However, we do encourage students to become concurrent members of the American Association for Marriage and Family Therapy. This organization has collegial benefits to the student, long-term legislative initiatives, as well as a local chapter, the Alberta Association for Marriage and Family Therapy.

M.S. CURRICULUM

COURSE REQUIREMENTS

The following are the major areas of study and the required and elective courses for each, totaling 78 quarter units.

THEORETICAL FOUNDATIONS OF MARITAL AND FAMILY THERAPY (12)

MFAM	551	Family Therapy I: Theory and Practice	(3)
MFAM	552	Couples Therapy: Theory and Practice	(3)
MFAM	553	Family Systems Theory	(3)
MFAM	564	Family Therapy II: Theory and Practice	(3)

ASSESSMENT AND TREATMENT IN MARITAL AND FAMILY THERAPY (20)

MFAM	515	Crisis-Intervention Counseling	(3)
MFAM	524	Psychopharmacology and Medical Issues	(3)
MFAM	556	Psychopathology and Diagnostic Procedures	(3)
MFAM	568	Group-Process Theory and Procedures: Theories in MFAM Therapy	(3)
MFAM	624	Individual and Systems Assessment	(3)
MFAM	638	Family Therapy and Chemical Abuse	(3)
MFAM	644	Child Abuse and Family Violence	(3)

HUMAN DEVELOPMENT AND FAMILY STUDIES (13)

FMST	514	Cross-cultural Counseling Family Values	(2)
MFAM	545	Gender Perspectives	(2)
MFAM	547	Social Ecology of Individual and Family Development	(3)
MFAM	584	Treatment of Child and Adolescent Problems	(2-3)
MFAM	669	Human Sexual Behavior	(3)

ETHICS AND PROFESSIONAL STUDIES (7)

MFAM	535	Case Presentation and Professional Studies	(4)
MFAM	614	Law and Ethics	(3)

RESEARCH (6)

MFAM	501	Research Tools and Methodology I	(3)
MFAM	502	Research Tools and Methodology II	(3)

SUPERVISED CLINICAL PRACTICE (12)

MFAM	536, 537	Case-Presentation Seminar	(2, 2)
MFAM	635, 636, 637	Case-Presentation Seminar	(3, 3, 2)
MFAM	534	Clinical Training	(200 hours total)
MFAM	634	Advanced Clinical Training	(300 hours total)

RELIGION (3)

RELR	564	Religion, Marriage, and the Family	(3)

ELECTIVES (6) (One course in theory is required.)

FMST	524	Family-Resource Management	(2)
FMST	528	Parenting	(2)
FMST	529	Family-Life Education	(2)
MFAM	516	Play Therapy	(2)
MFAM	517	Field Practice in School Counseling (600 clock hours)	(4)
MFAM	518	Assessment in Counseling	(3)
MFAM	519	Exceptional Learners	(3)
MFAM	522	College and Career Counseling	(3)
MFAM	525	Therapeutic Group	(3)
MFAM	526	Theory and Practice of Group Counseling	(3)
MFAM	527	Training/Supervision Workshop in Group Counseling	(3)
MFAM	528	School-Counseling Seminar	(3)
MFAM	538	Theory and Practice of Conflict Resolution	(3)
MFAM	539	Solution-Focused Family Therapy	(2)
MFAM	544	Family and Divorce Mediation	(4)
MFAM	548	Men and Families	(2)
MFAM	549	Christian Counseling and Family Therapy	(2)
MFAM	555	Narrative Family Therapy	(2)
MFAM	557	Object-Relations Family Therapy	(2)
MFAM	559	Cognitive Behavioral Couples Therapy	(2)
MFAM	565	Advanced Bowen Theory and Practice	(2)
MFAM	566	Psychopathology and Diagnostic Procedures II	(2)
MFAM	567	Families and Schools	(2)
MFAM	569	Advanced Group Therapy	(2)
MFAM	585	Internship in Family Mediation	(4)
MFAM	605	Gestalt Family Therapy	(2)
MFAM	615	Reflective Practice	(2)
MFAM	659	Current Trends in the Field of Family Therapy	(2)
MFAM	664	Experiential Family Therapy	(2)
MFAM	665	Structural Family Therapy	(2)
MFAM	670	Seminar in Sex Therapy	(2)
MFAM	675	Clinical Problems in Marriage and Family Therapy	(1-2)
MFAM	694	Directed Study: Marriage and Family	(1-4)
MFAM	695	Research Problems: Marriage and Family	(1-4)

POST-MASTER'S

MFAM	651	AAMFT-Approved Supervisor Training	(3)
MFAM	704	MFAM State Board Written-Examination Review	(2)
MFAM	705	MFAM State Board Oral-Examination Review	(2)
MFAM	744	Clinical Internship	(1)

CERTIFICATES—
School Counseling, Clinical Mediation, Drug and Alcohol Counseling, Group Counseling, or Family Life Education

A student may complete an M.S. degree program in combination with one of the certificates listed below. The units required for this M.S. degree are then reduced from 78 to 74 (and the 6 units of electives are reduced to 2). The additional units required for each certificate are:

SCHOOL COUNSELING CERTIFICATE (18)

MFAM	517	Field Practice 600 clinical hours (some of these may count toward the MFAM hours)	(4)
MFAM	518	Assessment in Counseling	(3)
MFAM	519	Exceptional Learners	(3)
MFAM	522	College and Career Counseling	(3)
MFAM	528	School Counseling Seminar	(3)
MFAM	567	Families and Schools	(2)

TOTAL: School Counseling Certificate Program 18
TOTAL: M.S degree 74
TOTAL UNITS: combined certificate/M.S. degree 92

CLINICAL MEDIATION CERTIFICATE (11)

MFAM	538	Theory and Practice of Conflict Resolution	(3)
MFAM	544	Family and Divorce Mediation	(4)
MFAM	585	Internship in Family Mediation (150 clock hours)	(4)

TOTAL: Clinical Mediation Certificate Program 11
TOTAL: M.S degree 74
TOTAL UNITS: combined certificate/M.S. degree 85

DRUG AND ALCOHOL COUNSELING CERTIFICATE (4)

Treatment strategies (4 units)

TOTAL: Drug and Alcohol Certificate Program 4
TOTAL: M.S degree 74
TOTAL UNITS: combined certificate/M.S. degree 78

GROUP COUNSELING CERTIFICATE (12)

MFAM	525	Therapeutic Group	(3)
MFAM	526	Theory and Practice of Group Counseling	(3)
MFAM	527	Training/Supervision Workshop in Group Counseling	(3)
MFAM	569	Advanced Group Therapy	(3)

TOTAL: Group Counseling Certificate Program 12
TOTAL: M.S degree 74
TOTAL UNITS: combined certificate/M.S. degree 86

FAMILY-LIFE EDUCATION CERTIFICATE (6)

FMST	524	Family-Resource Management	(2)
FMST	528	Parenting	(2)
FMST	529	Family-Life Education	(2)

TOTAL: Family-Life Education Certificate Program 6
TOTAL: M.S degree 74
TOTAL UNITS: combined certificate/M.S. degree 80

DOCTORAL PROGRAMS

DOCTOR OF PHILOSOPHY (PH.D.)
IN MARITAL AND FAMILY THERAPY

DOCTOR OF MARITAL AND FAMILY THERAPY (D.M.F.T.)

COMBINED-DEGREES
POSTBACCALAUREATE PH.D. OR D.M.F.T.
WITH INTERIM MASTER'S (M.S.) DEGREE
IN MARITAL AND FAMILY THERAPY

Loma Linda University Graduate School's Department of Counseling and Family Sciences offers the Ph.D. and D.M.F.T. degrees in marital and family therapy. The Ph.D. degree in marital and family therapy (MFT) follows the scientist-practitioner model, in which the students are expected to develop expertise both in empirical research methods and clinical practice for careers in teaching and research. The D.M.F.T. degree follows the practitioner-evaluator model and focuses on applied skill development for use in clinical practice and administrative positions.

The Ph.D. degree in marital and family therapy is a 108-unit program requiring three-to-four years for completion—including two-to-three years of course work, a dissertation, and clinical internship.

The D.M.F.T. degree is a 100-unit program, requiring three to four years for completion—including doctoral project and clinical internship.

The combined-degrees Ph.D. with interim master's and the D.M.F.T. with interim masters require 168 or 160 units respectively. This combined-degrees program is for selected advanced students who have a bachelor's degree, or for students whose master's degree is not in marital and family therapy (or equivalent). It takes four-to-five years to complete.

Tracks

Medical family therapy
Family studies
Clinical mediation
Group counseling
School counseling
Christian family therapy
MFT licensure track (for students who have not previously met academic requirements for MFT licensure)

Marriage and family therapy is established in California by law as a profession requiring state licensure. Persons who desire to enter the profession must have the proper academic and clinical preparation and must pass the written and oral licensing examinations. The doctoral degree programs at Loma Linda University are designed to provide the academic requirements to meet the California licensing standards according to Business and Professions Code 4980.38.

The doctoral programs offered by Loma Linda University are currently seeking accreditation through the Council on Accreditation of Marriage and Family Therapy Education (COAMFTE), the accrediting body associated with the American Association for Marriage and Family Therapy.

Purpose and mission

The purpose of the doctoral programs in marital and family therapy is to develop family therapy scholars who will advance theory, research, clinical practice, community involvement and teaching in the field of marital and family therapy. Students will be prepared for research, teaching, supervisory, administration, and clinical training positions in health-care settings, in training institutes, and in institutions offering graduate degrees. The D.M.F.T. degree program offers the opportunity to expand clinical skills and prepares students with expertise in program-evaluation research methods. Ph.D. degree students develop expertise in conducting original research from both quantitative and qualitative approaches.

Knowledge and skills promoted

MARITAL AND FAMILY THERAPY (MFT) FOUNDATIONS: Students study the work of the original thinkers in marital and family therapy as well as the most recent developments in the field, such as social constructionism, narrative and solution-oriented therapies, and reflecting teams. They will develop a critical understanding of the theoretical and philosophical foundations of MFT; critically examine the interrelationships between socio-historical factors, family structures and relationships and clinical approaches; be conversant with the current issues in the field; and contribute to the discourse regarding them.

PERSONAL DEVELOPMENT: The program encourages students to develop a more clear understanding of themselves and to consider reflectively the impact of their personal values, social positions, and contexts on their clinical and scholarly practices. Students are supported in the development of their strengths as they create an epistemological framework and ethical consciousness to guide their work.

PRACTICE AND SUPERVISORY SKILLS: Students will apply a critical understanding of theory to the practice of marital and family therapy at the family, community, and societal levels, drawing on the core modalities of the field. They will develop sophistication in their personal clinical skills, supervisory skills, and skills for active multisystemic involvement.

RESEARCH SKILLS: Students will develop research skills and a critical understanding of the process of research related to families and marital and family therapy. This includes the ability to apply research findings to clinical practice and to utilize research findings in creative ways for the benefit of the general population. Ph.D. degree students will develop expertise in both qualitative and quantitative research methods, leading to publication in scholarly journals and presentations at professional conferences. D.M.F.T. degree students will focus more on research methods pertaining to program evaluation than on doing original research.

Core ideas guiding the program

RELATIONAL SYSTEMS: People are best understood within the cultural, spiritual, and relational systems in which they are embedded. Change therefore occurs in context of family, community, and interpersonal relationships. This program focuses both on the structured relational patterns of communication and interaction and on the systems of meaning that define and shape these patterns.

WHOLENESS: The program encourages wholeness by attending to the physical, mental, social, and spiritual dimensions of human experience. These dimensions reciprocally interact at every level.

SOCIAL FORCES: The program is guided by a belief that social contexts and processes influence meanings, values, and people's understandings of self, family, and others. Particular emphasis is placed on—

- research focusing on social forces relevant to the distinctive multicultural mix of families in the southern California region,
- the interrelationship between faith and family relationships throughout the world, and
- the effects of the changing health care system and of medical technology; as well as
- collaboration among education, family, work, and legal systems.

HEALING POWER OF RELATIONSHIPS: As people become more connected to each other and their communities, the potential for growth and healing are enhanced and the opportunity for making positive contributions maximized. Students are encouraged to develop their therapeutic relationship and community involvement skills such that they can co-create an environment of safety, respect, compassion, openness, and community participation.

DIVERSITY: Congruent with an appreciation of the importance of social forces is an interest in and respect for the diverse experiences and perceptions of human beings. Different social contexts—such as race, ethnicity, religion, gender, and socioeconomic status—result in a wide variety of meanings and behavior patterns in marriages, families, and intimate relationships. The program seeks to create a diverse mix of students and faculty, and to challenge all who are involved to learn from the richness of multiple perspectives.

EMPIRICAL PROCESS: The program encourages clinical work and theory development grounded in an empirical understanding of human experience. Students are offered the opportunity to develop their capacities to utilize inductive and deductive reasoning as well as objectivity, subjectivity, and intersubjectivity in research and therapy.

EDUCATION AND PREVENTION: Connections at family, school, and community levels are important components of resilience. The program emphasizes helping individuals and families access their relational competencies as an important part of prevention, as well as the resolution of their current difficulties.

SPIRITUALITY: This program sees spirituality as central to wholeness and healing. Students are encouraged to integrate their practices of faith with their professional work. The program places strong emphasis on active demonstration of moral and ethical principles as exemplified by, but not limited to, Judeo-Christian teachings.

WORLDWIDE FOCUS: The mission of the program reaches beyond the local and national community to the international community. This includes our collaboration with people from other nations and cultures to promote mutual understanding, resolve problems, and strengthen families.

ADMISSIONS

The doctoral programs in marital and family therapy are advanced study over and above a standard master's degree curriculum in the field. Acceptance into these programs is based on an integrated evaluation of the following criteria:

1. Autobiographical/personal statement, including personal goals and writing sample on file.
2. Course work prerequisites for M.S. degree in marital and family therapy degree or equivalent (individual equivalency review).
3. M.S. degree in marital and family therapy, M.A. degree in family studies, or a graduate degree in a related field (i.e., sociology or anthropology) unless applying for bachelor's entry level.
4. Grade-point average of 3.3 or above.
5. Oral interviews with department (one day).
6. Three letters of reference (academic and/or professional).
7. Resumé (preferred but not required).
8. Minimum test scores—GRE, 1000 (combined verbal and highest of quantitative or analytic, for Ph.D. degree only); TOEFL, 550 (pencil test) or 213 (computer score) (English as a second language only).
9. Official transcripts for all college and graduate study.
10. According to COAMFTE guidelines, 500 hours of direct client contact required prior to entering the program (or 1,000 clinical hours required while in program).
11. Critical essay examination (D.M.F.T. degree only).

Prerequisite master's degree-level study

Student transcripts will be evaluated on a course-by-course basis for the following areas of prerequisite study. A plan of study incorporating these standard master's degree-level courses is available for students who have not completed these prerequisites:

	Quarter units
Theoretical knowledge in family systems/relational therapy	8
Clinical knowledge in marital and family therapy	16
Individual development and family relations	8
Additional study in areas 1-3	4
Professional issues and ethics in marital and family therapy	4
Research	4
Additional related study	4
MINIMUM TOTAL APPROVED PREREQUISITE STUDY:	48

Financial assistance

Students who are accepted into the Marital and Family Therapy Program may receive financial assistance through merit-based awards, such as teaching fellowships and a variety of research and student-service assistantships; or through need-based financial aid, such as a loan or the University's work-study program.

If you are interested in receiving financial assistance of any kind, please indicate your interest on your application and during your admissions interview.

PROGRAM COURSE OUTLINE

FOR STUDENTS WHO HAVE NOT COMPLETED MASTER'S LEVEL PREREQUISITE COURSES

CORE COURSES FOR PH.D. AND D.M.F.T. DEGREES

			Quarter units
Theory (4)			
MFTH	504	Advanced Theory in MFT	(4)
Clinical practice (12)			
MFTH	506	Clinical 1—Cybernetics (MRI, Milan)	(3)
MFTH	507	Clinical 2—Meaning (Narrative, Solution-Focused)	(3)
MFTH	508	Clinical 3—Natural Systems (Structural, Bowen, etc.)	(3)
MFTH	509	Clinical 4—Clinical Issues	(3)
Individual development and family relations (4)			
MFTH	505	Advanced Family Studies	(4)
Supervision (4)			
MFTH	501	Supervision in MFT	(2)
MFTH	502	Advanced Supervision in MFT	(2)
Research (15)			
MFTH	601	Statistics I	(3)
MFTH	604	Advanced Qualitative Methods	(4)
MFTH	605	Advanced Quantitative Methods	(4)
MFTH	606	Overview and Critique of Research in MFT	(4)
Spirituality (9)			
RELF	615	Seminar in Philosophy of Religion	(3)
RELR	535	Spirituality and Mental Health	(3)
RELE	505	Clinical Ethics	(3)
or other RELE course			
Clinical practicum (6)			
MFTH	634	Practicum	(2, 2, 2)

Direct client contact

Required: 1000 hours of systems/relational therapy supervised by an AAMFT-approved supervisor (or equivalent). Some or all of these hours may be completed prior to doctoral study.

Doctoral internship

Nine month, full-time work under a senior marital and family therapist following completion of course work.

TOTAL SHARED CORE HOURS **54**

ADDITIONAL REQUIRED PH.D. DEGREE COURSES

			Quarter units
Research (13)			
MFTH	602	Statistics II	(3)
MFTH	607	Computer	(1)
MFTH	608	Assessment and Presentation of Research	(3)
MFTH	694	Research/Dissertation Seminar	(2, 2, 2)

Dissertation (20)

MFTH 697		(17)
MFTH 698	Dissertation (Ph.D. degree only)	(3)

UNIT SUBTOTALS, PH.D. DEGREE—	
Doctoral Core	54
Required Ph.D. degree units	13
Electives/track	21
Dissertation	20
TOTAL PH.D. DEGREE UNITS	108

ADDITIONAL REQUIRED D.M.F.T. DEGREE COURSES

Clinical practice (9)

MFTH 525	Advanced MFT Assessment	(3)
MFTH 526	Advanced Psychopharmacology	(3)
MFTH 527	Advanced Legal and Ethical Issues	(3)

Program development and administration (12)

MFTH 524	Administration in MFT	(3)
MFTH 624	Program Development and Monitoring	(3)
MFTH 625	Grant Writing	(3)
MFTH 626	Program Evaluation	(3)

Project (12)

MFTH 695	Doctoral Project (D.M.F.T. degree only)	(3)
MFTH 697	Research	(9)

UNIT SUBTOTALS, D.M.F.T. DEGREE—	
Doctoral core	54
Required D.M.F.T. degree units	21
Doctoral project	12
Electives/track	13
UNITS D.M.F.T. DEGREE UNITS	100

ADDITIONAL REQUIRED INTERIM MASTER'S DEGREE COURSES

Additional courses must be taken for the interim master's degree program prior to doctoral courses.

Required standard master's degree courses (60 units)

MFAM 535	Case Presentation and Professional Studies	(4)
MFAM 515	Crisis Intervention Counseling	(3)
MFAM 551	Family Therapy I: Theory and Practice	(3)
MFAM 556	Psychopathology and Diagnostic Procedures I	(3)
MFAM 614	Law and Ethics	(3)
MFAM 624	Individual and Systems Assessment	(3)
MFAM 547	Social Ecology of Individual and Family Development	(3)
MFAM 553	Family-Systems Theory	(3)
MFAM 644	Child Abuse and Family Violence	(3)
MFAM 552	Couples Therapy: Theory and Practice	(3)
FMST 514	Cross-Cultural Counseling and Family Values	(2)
MFAM 501	Research Tools and Methodology I	(3)
MFAM 545	Gender Perspectives	(2)
MFAM 669 or MFAM 670	Human Sexual Behavior / Seminar in Sex Therapy	(3) / (2-3)
MFAM 564	Family Therapy II: Theory and Practice	(3)
MFAM 584	Treatment of Child and Adolescent Problems	(3)
MFAM 536	Case-Presentation Seminar	(2)
MFAM 537	Case-Presentation Seminar	(2)
MFAM 638	Family Therapy and Chemical Abuse	(3)
MFAM 534	Clinical Training (200 client-contact hours)	
_____ ___	Group counseling elective	(3-4)

An interim master's degree will be awarded after students have completed all 60 master's level units, 30 doctoral level units, an objective comprehensive examination, a capstone oral presentation in the doctoral practicum, and 500 hours of direct client contact under an AAMFT- approved supervisor. All doctoral requirements remain the same. (Ph.D. degree students must also take MFTH 506 Advanced Psychopharmacology, 3 units.)

TRACKS OFFERED

Medical family therapy

MFTH 534	Family Therapy and Medicine	(4)
MFTH 535	Health Care Concepts	(4)
MFTH 635	Research in Family-Systems Health Care	(4)

Family studies

MFTH 536	Family Theory	(4)
MFTH 537	Contemporary Issues in Marriage and the Family	(4)
MFTH 636	Family Research	(4)

Clinical mediation*

MFAM 538	Theory of Conflict Resolution	(3)
MFAM 544	Family and Divorce Mediation	(4)
MFAM 585	Internship in Family Mediation	(4)

Group counseling*

MFAM 525	Therapeutic Group	(3)
MFAM 526	Theory and Practice of Group Counseling	(3)
MFAM 527	Training/Supervision Workshop in Group Counseling	(3)

School counseling*

MFAM 519	Exceptional Learners	(3)
MFAM 522	College and Career Counseling	(3)
MFAM 528	School Counseling Seminar	(3)
MFAM 567	Families and Schools	(3)

Christian family therapy*
(Student to arrange course work.)

***Additional course work and experience may be required to complete certificate.**

MFT licensure track (Ph.D.)
This track is for students who have not previously met academic requirements for MFT licensure.

MFTH	525	Advanced Marital and Family Therapy Assessment	(3)
MFTH	526	Advanced Psychopharmacology	(3)
MFTH	527	Advanced Legal and Ethical Issues	(3)
MFTH	529	Advanced Psychopathology and Diagnosis	(2)
or			
MFAM	556	Psychopathology and Diagnostic Procedures I	(3)
FMST	514	Cross-Cultural Counseling and Family Values	(2)
MFTH	515	Couples and Sex Therapy	(2)
or			
MFAM	669	Human Sexual Behavior	(3)
MFAM	638	Family Therapy and Chemical Abuse	(3)
MFAM	644	Child Abuse and Family Violence	(3)
MFTH	634	Practicum	(2, 2, 2)

MFT licensure track (D.M.F.T.)
For students who have not previously met academic requirements for MFT licensure:

MFTH	529	Advanced Psychopathology and Diagnosis	(2)
or			
MFAM	556	Psychopathology and Diagnostic Procedures I	(3)
FMST	514	Cross-Cultural Counseling and Family Values	(2)
MFTH	515	Couples and Sex Therapy	(2)
or			
MFAM	669	Human Sexual Behavior	(3)
MFAM	638	Family Therapy and Chemical Abuse	(3)
MFAM	644	Child Abuse and Family Violence	(3)

PARTIAL LISTING OF ELECTIVE COURSES

MFAM	516	Play Therapy	(2)
MFAM	539	Solution-Focused Family Therapy	(2)
MFAM	549	Christian Counseling and Family Therapy	(2)
MFAM	555	Narrative Family Therapy	(2)
MFAM	559	Cognitive Behavioral Couples Therapy	(2)
MFAM	670	Seminar in Sex Therapy	(2)
MFTH	514	Child and Family Therapy	(2)
MFTH	515	Couples and Sex Therapy	(2)
MFTH	516	Divorce and Remarriage	(2)
MFTH	517	Group Therapy	(2)
MFTH	518	Addictions and Eating Disorders	(3)
MFTH	519	Teaching Techniques	(2)
MFTH	528	Human Relationships in Organizations	(3)
MFTH	529	Advanced Psychopathology and Diagnosis	(2)
MFTH	538	Introduction to Relational Practice	(2)

COURSES

MFAM 501 Research Tools and Methodology I (3)
Current social research methods, practice in the use of techniques, consideration of the philosophy of the scientific method, and familiarization with MFAM test instruments.

Prerequisite: An introductory course in statistics as an undergraduate research methods course.

MFAM 502 Research Tools and Methodology II (3)
Qualitative methodology. Designed to prepare students to undertake research projects using the intensive interview method of qualitative research. Practical and epistemological issues and problems in qualitative research explored in a workshop format.

MFAM 515 Crisis-Intervention Counseling (3)
Experiential course in which theory, techniques, and practices of crisis intervention are presented, with special attention to the development of the basic communication skills of counseling. Areas included that are intended to contribute to the development of a professional attitude and identity are: confidentiality, interprofessional cooperation, professional socialization, and organization. Therapeutic tapes also presented covering topics such as death and dying, incest, spousal abuse, and rape. Laboratory required.

MFAM 516 Play Therapy (2)
Experiential course designed for practitioners and graduate students to learn how to apply play therapy techniques in dealing with childhood problems such as molestation, physical abuse, depression, trauma, and family conflict.

MFAM 517 Field Practice in School Counseling (4)
Demonstration of knowledge and skills within supervised field experience in schools and other agencies. Competencies include areas of educational assessment, personal and social counseling, academic and career counseling, program development, program coordination and supervision, consultation, legal aspects, and professional ethics. State Pupil Personnel Services (PPS) requires a minimum of 600 clock hours—which must include two educational levels, public school activity, and involvement with students from diverse cultural-ethnic-language backgrounds.

Prerequisite: Department approval at least six weeks prior to placement, and state clearances for health, character, and competence in basic skills.

MFAM 518 Assessment in Counseling (3)
Development of competencies and understandings for selecting, administering, and interpreting the major types of standardized tests and inventories used in psychology and education. Theoretical principles and issues presented together with hands-on applications. Practicum required.

Cross-listing: PSYC 404 Psychological Tests and Measurements—with additional requirements in research, and clinical application with schools and families.

MFAM 519 Exceptional Learners (3)
Study of the determinants, characteristics, problems, and adjustments of individuals who deviate markedly from the norm in their mental, physical, emotional, or social aptitudes, traits, and tendencies. Emphasis on education and career planning.

Cross-listing: PSYC 460 The Exceptional Individual—with additional requirements in research, and clinical application with schools and families.

MFAM 522 College and Career Counseling (3)
Examination of vocational and career-choice theories, trends, and related educational programming—including an introduction to interest, attitude, and ability evaluation used for career counseling. Administration, scoring, and interpretation included as part of hands-on application in schools and clinic settings.

MFAM 524 Psychopharmacology and Medical Issues (3)
Introduction to common physical and medical issues that relate to the practice of marriage and family therapy. Students learn a biopsychosocial spiritual model to assess and intervene—with emphasis given to psychopharmacology, neuroanatomy, the mind-body relationship, and research relative to the field of medical family therapy.

MFAM 525 Therapeutic Group (3)
A process group designed to provide opportunities for self-exploration, with particular emphasis on personal concerns likely to influence one's ability to function as a professional. Students learn more about their style of relating to others. Helps trainees identify potential blocks to their effectiveness as counselors and provides the tools to develop strengths.

MFAM 526 Theory and Practice of Group Counseling (3)
Critical evaluation of ten major models of group counseling, as well as an overview of stages in the development of a group. Didactic and experiential methods used to apply diverse theories and techniques to actual group sessions. Theories explored include psychodynamic approaches, existential/humanistic and relationship-oriented approaches, psychodrama, and action-oriented approaches.

MFAM 527 Training/Supervision Workshop in Group Counseling (3)
Opportunities for supervised practice in cofacilitation of the classroom group. Students function in the role of group members and also co-lead the group several times during the quarter. An experiential course to study group process in action and to learn ways of applying diverse techniques to an ongoing group.

MFAM 528 School Counseling Seminar (3)
Integration of knowledge and skills essential for development, implementation, coordination, and supervision of counseling programs within educational institutions—with emphasis on the role and function of school counselors in preschool, elementary, middle, and secondary grades. Applications made to state graduation requirements, case management, school law, community, consultation, and professional ethics.

MFAM 534 Clinical Training (200 total clock hours)
Supervised clinical counseling of individuals, couples, families, and children. At least one hour of individual supervision per week and two hours of case-presentation seminar per week. Continuous registration for this portion of the clinical training until completion of at least 200 clock hours.

MFAM 535 Case-Presentation and Professional Studies (3-4)
Formal presentation of ongoing individual, marital, and family cases by clinical trainees. Taping, video playbacks, and verbatim reports with faculty and clinical peers. Exploration of the interface between MFTs and other professionals. Examination of licensure procedures; applying to professional organizations (AAMFT, etc.). Development of professional attitude and identity. Limited to students in clinical training.

MFAM 536, 537 Case-Presentation Seminar (2, 2)
Formal presentation of ongoing individual, marital, and family cases by clinical trainees. Taping, video playbacks, and verbatim reports with faculty and clinical peers. Examination and training in applied psychotherapeutic techniques, assessment, diagnosis, prognosis, and treatment of premarital, couple, family, and child relationships; dysfunctional and functional aspects examined, including health promotion and illness prevention. Limited to students in clinical training.

MFAM 538 Theory of Conflict Resolution (3)
Overview of the field of conflict management and resolution. Examines basic theories and methodologies in the field and provides opportunity to develop basic clinical mediation skills.

MFAM 539 Solution-Focused Family Therapy (2)
Designed to provide an in-depth understanding of solution-focused family therapy and practice. Particular focus on the work of de Shazer and Berg, along with the foundational constructs of MRI.

MFAM 544 Family and Divorce Mediation (4)
Comprehensive coverage of concepts, methods and skills in family and divorce mediation. Includes the relational and legal aspects of property division and child custody. Substantial experience in role plays.

MFAM 545 Gender Perspectives (2)
Explores the identities, roles, and relationships of women and men in light of social, cultural, and historical perspectives. Implications for the family therapist explored.

MFAM 547 Social Ecology of Individual and Family Development (3)
Study of human individual development and its relationship to the family life cycle from birth through aging and death of family members. Biological, psychological, social, and spiritual development discussed in the context of family dynamics involving traditional two-parent families, alternative partnerships, single parents, blended families, and intergenerational communities.

MFAM 548 Men and Families (2)
Surveys the experience of contemporary men in American and global contexts. Examines the reciprocal influences of society, men, and their families in the contexts of close relationships—including friendships, marriages, parenting, and therapeutic relationships.

MFAM 549 Christian Counseling and Family Therapy (2)
Integration of Christian concepts and family therapy in a conceptual and clinical context.

MFAM 551 Family Therapy: Theory and Practice I (3)
Overview of the major theories in marriage and family therapy. Systems theory concepts explored in light of the major models of family therapy.

MFAM 552 Couples Therapy: Theory and Practice (3)
Overview of the marital therapy literature, with a focus on clinical theory and techniques.

MFAM 553 Family Systems Theory (3)
Review of Bowen theory, theory of family systems. Introduction to family psychotherapy as an outgrowth of the theory. Students examine their own families of origin.

MFAM 555 Narrative Family Therapy (2)
Narrative therapy and social construction as important developments in social theory and in clinical practice. Use of narratives and the role they play in a person's life through language and meaning systems. Issues of power, collaboration, culture, community, and re-authoring narratives examined, particularly in the works of Michael White and David Epston.

MFAM 556 Psychopathology and Diagnostic Procedures I (3)
Explores the history and development of psychopathology and how it relates to current clinical practice in general and marriage and family therapy in particular. Utilizes the multiaxial classifications of the DSM-IV as a practical basis for diagnostics.

Prerequisite: A course in abnormal psychology.

MFAM 557 Object-Relations Family Therapy (2)
Designed in a seminar format to acquaint students in marriage and family therapy with the basics of object-relations theory. Special emphasis given to the unique properties of object-relations systems theory in bridging intrapsychic and environmental forces.

MFAM 559 Cognitive Behavioral Couples Therapy (2)
Experiential course in which major cognitive behavioral family therapy therapists are surveyed, and treatment techniques are integrated into practice in laboratory.

MFAM 564 Family Therapy: Theory and Practice II (3)
Comprehensive survey of more recent therapy models, such as narrative, collaborative language systems, and solution-focused theory. Using these models, student learns to assess and consider diagnosis; as well as learn the role of language, meaning, and process in relationships. The class examines the theoretical strengths and limitations of these models in relation to culturally diverse populations.

Prerequisite: MFAM 551.

MFAM 565 Advanced Bowen Theory and Practice (2)
Provides advanced knowledge and training in Bowen theory as it applies to couples and family therapy.

Prerequisite: MFAM 553.

MFAM 566 Psychopathology and Diagnostic Procedures II (2)
Focuses on the etiology of marital dysfunction specifically from a dual function of individual and systems psychopathology.

Prerequisite: MFAM 556.

MFAM 567 Families and Schools (2)
Study of relationships between families and schools—with emphasis on students with special needs for remediation, accommodation, and/or counseling. Emphasis on federal and state legislation, parental rights and responsibilities, referral procedures, special-education services, interdisciplinary strategies, and intake procedures for marital and family therapists that will provide an adequate foundation for interdisciplinary work with the school system.

MFAM 568 Group Process Theory and Procedures: Theories in Marital and Family Therapy (3)
Major theoretical approaches surveyed include individual theories, marital groups, network, and family therapy groups. Group-laboratory experience provided in which students apply theory to practice and develop group leadership skills.

MFAM 569 Advanced Group Therapy (2)
Provides advanced knowledge and training in leading structured groups. Students design a structured group treatment—based on a therapeutic, psychoeducational and/or educational model—to be used in a community setting.

Prerequisite: MFAM 568.

MFAM 584 Treatment of Child and Adolescent Problems (2-3)
Psychodynamics involved in child and adolescent problems with respect to the family relationship. Demonstration of a variety of counseling approaches to the treatment of children and adolescents.

MFAM 585 Internship in Family Mediation (4)
Internship includes 50 hours of observation in the court room, 100 client-contact hours of mediation experience, twenty cases of mediation experience, and six mediation case studies.

MFAM 605 Gestalt Family Therapy (2)
Principles of Gestalt psychology and therapy; the relationship between the individual and the physical, emotional, societal, and spiritual environment. Group experience which permits the spiritual and affective aspects of Gestalt therapy to be expressed and integrated with systems theory.

MFAM 614 Law and Ethics (3)
Laws pertaining to the family: child welfare, separation, divorce, and financial aspects of family maintenance. Case management, referral procedures, professional and client interaction, ethical practices (AAMFT), ethical relations with other professions, legal responsibilities, liabilities, and confidentiality. Current legal patterns and trends in the mental health profession. Exploration between the practitioner's sense of self and human values and his/her professional behavior and ethics.

MFAM 615 Reflective Practice (2)
Develops narrative-therapy ideas and emphasizes a reflective process in both therapy and research. Focus on developing the student's skills as an active agent in therapy and research.

Prerequisite: MFAM 555.

MFAM 624 Individual and Systems Assessment (3)
Application of psychological testing methods in the diagnostic assessment of individual, family, and group behavioral dynamics as encountered in marriage and family counseling. Observations and/or laboratory experience.

MFAM 634 Advanced Clinical Training (300 total clock hours)
Supervised clinical counseling of individuals, couples, families, and children. At least one hour of individual supervision per week and two hours of case presentation seminar per week. Continuous registration for this portion of the clinical training until completion of a total of at least 300 clock hours.

MFAM 635, 636, 637 Case-Presentation Seminar (2, 2, 2)
Formal presentation of ongoing individual, marital, and family cases by clinical trainees. Taping, video playbacks, and verbatim reports with faculty and clinical peers. Limited to students enrolled in clinical training.

MFAM 638 Family Therapy and Chemical Abuse (3)
Current theories and treatment of chemical dependencies. Emphasis on family therapy, assessment techniques, understanding of how chemicals affect the mental and biological systems, issues of dual diagnosis.

MFAM 639 Interdisciplinary Professional Seminar (1)
Designed from different mental health disciplines to orient the student to the arena of professional issues regarding family counseling.

MFAM 644 Child Abuse and Family Violence (3)
Definition and incidence of physical and emotional abuse, neglect, sexual molestation, dynamics of family violence; offender and nonoffender characteristics. Treatment of children, adolescents, the family, and adults abused as children. Treatment modalities, including individual, group, and family therapy. Ethical and legal issues, referral sources, multidisciplinary approach to child abuse, assessment, interview techniques, and confidentiality. Minimum of thirty contact hours.

MFAM 651 AAMFT-Approved Supervisor Training (3)
Postgraduate: The didactic component requirement for AAMFT-approved supervisor designation.

MFAM 659 Current Trends in the Field of Family Therapy (2)
Acquaints students with the field of health care management by analyzing the important areas with which the manager should be concerned. In addition to the emphasis given to the basic functions of health care manager—planning, organizing, directing, and controlling—particular emphasis given to growing concerns regarding external environmental changes, rising health care costs, emergence of new types of health care providers, medical and legal issues, and quality assurance.

MFAM 664 Experiential Family Therapy (2)
Examination of various experiential family theories. Laboratory experience included.

MFAM 665 Structural Family Therapy (2)
Designed to enhance observational, conceptual, planning, and intervention skills. Increases ability to understand verbal and nonverbal communication. Broadens understanding of structural family therapy.

MFAM 669 Human Sexual Behavior (3)
Sexuality in contemporary society from the socio-psychological viewpoint. Anatomy and physiology of human sexuality: reproduction, normal and abnormal sexual response, psychosexual development, human fertility, human sexual dysfunction. Integration of systems theory. A minimum of Thirty contact hours.

MFAM 670 Seminar in Sex Therapy (2)
Discussion of the major male and female sexual dysfunctions. Therapeutic processes of treatment.

Prerequisite: MFAM 669.

MFAM 675 Clinical Problems in Marriage and Family Therapy (1-2)
Intensive, clinically focused course using videotape, live interview, and role playing. Marriage and family counseling methods observed and applied to problems representative of clinical practice.

MFAM 694 Directed Study: Marriage and Family (1-4)
Individual study in areas of special interest concerning the family and its problems. May be repeated for credit at the discretion of the faculty.

MFAM 695 Research Problems: Marriage and Family (1-4)
Directed research in the student's special field of interest in the family.

Prerequisite: MFAM 501 or concurrent registration with the consent of the coordinator.

MFAM 697 Project (1)
Student submits a written modality paper and a case description, and makes a videotape presentation of a final case project to a three-member committee selected by the student. Oral response to a case vignette required.

Prerequisite: Advancement to candidacy.

MFAM 704 Marital and Family Therapy State-Board Written Examination Review (2)
Training for candidates preparing to take the written examination for MFT licensure.

MFAM 705 Marital and Family Therapy State-Board Oral Examination Review (2)
Course designed to provide training to candidates preparing to take the oral examination for MFT licensure.

MFAM 744 Clinical Internship (1)
Supervised clinical counseling of individuals, couples, families, and children. One hour of individual supervision per week. Postgraduates only. Approved by internship coordinator.

MFTH 501 Supervision in Marital and Family Therapy (2)
A study of the research and theory regarding the supervision of marriage and family therapy trainees and interns. Can be used toward the requirements for certification as an AAMFT-approved supervisor.

MFTH 502 Advanced Supervision in Marital and Family Therapy (2)
Supervised clinical supervision of MFT trainees and interns in a clinical setting. Can be used toward the requirements for certification as an AAMFT-approved supervisor.

MFTH 504 Advanced Theory in MFT (4)
Provides an overview of theories that use metaphors of system, pattern, interaction, and communication to describe human behavior and relationships; and examines their relevance to the practice of marriage and family therapy. Explores how philosophical, religious, political, sociological, and ecosystemic notions have influenced the field. Assists each student in developing a personal epistemology.

MFTH 505 Advanced Family Studies (4)
Critical survey of the research and theory growing out of the fields of family studies and family sociology. Provides students with a background on the social and historical factors that form the contexts within which families are defined and function. Students make application of course material to the practice of marriage and family therapy.

MFTH 506 Clinical 1—Cybernetics (MRI, Milan) (3)
Study of those systemic therapies informed by cybernetics and oriented to the social organization of communication. Emphasizes the work of the Mental Research Institute and the Milan Group.

MFTH 507 Clinical 2—Meaning (Narrative, Solution-Focused) (3)
Study of those systemic therapies oriented to the meaning expressed in communication, emphasizing current developments such as narrative therapies, reflecting teams, and solution-oriented therapy.

MFTH 508 Clinical 3—Natural Systems (Structural, Bowen, etc.) (3)
A study of the basic concepts of the natural-systems approach to family therapy. Emphasizes structural, family-of-origin issues, multigenerational systems processes, and sociological and biological contributions to the understanding of human systems.

MFTH 509 Clinical 4—Clinical Issues (3)
Examination of issues of treatment related to specialized content areas of marriage and family therapy. Focus on topics such as sexual dysfunction, divorce counseling and mediation, the abusive/violent family, addicted family members, suicidal problems, and ethical and professional issues in treating marriages and families.

MFTH 514 Child and Family Therapy (2)
Specific advanced therapeutic techniques to address current relational and mental health problems in children and adolescents.

MFTH 515 Couples and Sex Therapy (2)
Course examining research, models, and techniques of marital and couples therapy; and applying course material to clinical work. Emphasis on intimacy and sexual issues.

MFTH 516 Divorce and Remarriage (2)
A family-systems approach to separation, divorce, remarriage and step-family formation. Review of research and family-intervention strategies.

MFTH 517 Group Therapy (2)
Examination of theory, research, and techniques of group therapy from a family-systems perspective.

MFTH 518 Addictions and Eating Disorders (3)
A family systems approach to the assessment and treatment of eating disorders, alcoholism, and other addictions.

MFTH 519 Teaching Techniques (2)
Discusses theory, techniques, and processes in the teaching of MFT, including an examination of didactic and experiential techniques.

MFTH 524 Administration in Marital and Family Therapy (3)
Specific administration, leadership, and management skills for use in MFT clinics, hospitals, schools, churches, and other organizations.

MFTH 525 Advanced Marital and Family Therapy Assessment (3)
Critical evaluation of the individual and systemic assessment tools utilized in MFT, and their application to clinical work.

MFTH 526 Advanced Psychopharmacology (3)
Overview of medications commonly used in relationship and mental health counseling, with discussion of the interrelationship between marriage and family therapy and medication.

MFTH 527 Advanced Legal and Ethical Issues (3)
Reviews the AAMFT Code of Ethics and the California Legal Codes pertaining to the practice of marriage and family therapy. Develops skills and knowledge that assist student to be an expert witness and family mediator (therapeutic), and that help student understand how to work with the legal system.

MFTH 528 Human Relationships in Organizations (3)
Considers the application of family-systems theories and principles to human relationships in organizations. Examines research and theory on human relationships in the workplace and organizations, including the issues of management, conflict, problem-solving, teamwork, productivity, and employee/individual well-being.

MFTH 529 Advanced Psychopathology and Diagnosis (2)
Focuses on the etiology of marital and family dysfunction, drawing on the perspectives growing out of individual and systems psychopathology.

MFTH 534 Family Therapy and Medicine (4)
Orientation to the field of family systems health care that focuses on the collaboration between family therapists, health care providers, patients, and their families. In-depth study of clinical skills that translate well within health care settings. Pharmacology, psychoneurology, and basic biological principles as they relate to medical family therapy. Biological functioning as it relates to mental health.

MFTH 535 Health Care Concepts (4)
Introduction to health care delivery systems through investigation of medical models, terminology, and approaches used by physicians and other health care professionals to diagnose and treat disease and to care for the human condition. Orientation to health care systems and settings, including hospitals, clinics, hospices, and private practice.

MFTH 536 Family Theory (4)
Examination and critique of the major theories of family, from the fields of family studies and family sociology.

MFTH 537 Contemporary Issues in Marriage and the Family (4)
Examines a variety of issues that are the subject of current research, theorizing, and debate within the field—particularly those that are of relevance to the challenges and changes faced by families. Examines different family forms in the U.S. society and around the world.

MFTH 538 Introduction to Relational Practice (2)
Examines relational practice through observation and team involvement with on-going cases. Emphasizes conceptionalization and clinical skills and techniques using systems/relational approaches. Designed to help students distinguish and clarify what it means to practice from a systems/relational perspective.

MFTH 601 Statistics I (3)
Thorough introduction to regression analysis and analysis of variance (ANOVA), with emphasis on hypothesis testing and the development of general models that partition overall variability. Topics covered include simple and multiple regression, one-way and factorial, repeated-measures of ANOVA, and analysis of covariance. Evaluation and assumptions of nonparametric alternatives.

MFTH 602 Statistics II (3)
Broad introduction applying linear (matrix) algebra to maximum likelihood estimation, generally—using several important multivariate statistical techniques, including but not limited to multivariate analysis of variance, multivariate regression, path analysis and structural equations causal modeling, log-linear models, and time-series analysis. Alternatives to maximum likelihood estimation are also evaluated.

MFTH 604 Advanced Qualitative Methods (4)
Overview of qualitative methods and their application to research of marriage and family therapy. Includes an examination of ethnographies, naturalistic inquiry, phenomenological research, the grounded theory approach, and narrative inquiry.

MFTH 605 Advanced Quantitative Methods (4)
Advanced overview of quantitative research methods in marriage and family therapy, including experiments and quasi-experiments, survey methodology, and outcome studies.

MFTH 606 Overview and Critique of Research in Marital and Family Therapy (4)
Critical examination of existing research on marriage and family therapy. Draws on prior courses in qualitative and quantitative research methods, which enable students to evaluate the current and prominent research in the field. Helps students identify those areas of the field in which further research is needed.

MFTH 607 Computer (1)
Provides the basic tools and information for using computer applications to analyze quantitative and qualitative information, to present marriage and family systemic information, and to conduct project management.

MFTH 608 Assessment and Presentation of Research (3)
Brings together and integrates material from the previous research classes. Deals with the ethics of research, and with questions of reliability and validity in both quantitative and qualitative methods. Emphasis on the problems of coherently and succinctly presenting research results in proposals, posters, brief reports, and articles.

MFTH 624 Program Development and Monitoring (3)
Examination of the core components of program design, including methods of monitoring program outputs. Provides practical experience designing and managing MFT programs, using project management tools.

MFTH 625 Grant Writing (3)
Explores the process of finding and writing grants for research, teaching, and clinical work.

MFTH 626 Program Evaluation (3)
Covers the methodology and tools for doing program evaluation in the field of MFT.

MFTH 634 Practicum (2, 2, 2)
Supervised clinical practice with individuals, couples, and families in the University MFAM clinic or another approved clinical setting. Three quarters, 2 units per quarter.

MFTH 635 Research in Family-Systems Health Care (4)
Application of qualitative and quantitative research methods to the clinical study of family systems health care.

MFTH 636 Family Research (4)
Examination and critique of the research pertaining to marriage and family relationships.

MFTH 694 Research/Dissertation Seminar (6)
Students develop and refine their dissertation proposals through presentation and discussion with faculty and other students in a workshop format. The dissertation proposal is an expected outcome of this series of courses. (For Ph.D. degree students only.)

MFTH 695 Doctoral Project (3)
Required capstone project for the D.M.F.T. degree.

Students must also enroll in 9 units of MFTH 697 Research while completing the project.

MFTH 697 Research (1-17)
Independent research relating to marital and family therapy, under the direction of a faculty advisor.

MFTH 698 Dissertation (3)
Completion of independent research contributing to the field of marital and family therapy.

Students must also enroll in 17 units of MFTH 697 Research while completing research. (Ph.D. degree students only.)

MEDICAL SCIENTIST PROGRAM

ANTHONY J. ZUCCARELLI, Ph.D., California Institute of Technology 1974
Director; Professor of Microbiology and Molecular Genetics
Molecular genetics, bacterial genomic polymorphism, bacterial plasmids

FACULTY

The faculty that participate in this program come from the biomedical science programs of the Graduate School, from the clinical departments of the School of Medicine at Loma Linda University, and from research laboratories outside of Loma Linda University.

MEDICAL SCIENTIST PROGRAM—PH.D./M.D.

The Medical Scientist Program integrates the education tracks leading to the Ph.D. and M.D. degrees. The foundation course in the program is a sequence that explores the biochemical, molecular, and cellular functions of living systems within the context of the biomedical sciences. Through correlative seminars, this basic material is extended to include organ systems and is applied to the study of human diseases. Subsequent courses in the curriculum include specialized areas of biomedical and clinical sciences. Research and dissertation are supervised by graduate faculty of the basic biomedical sciences. An application to the School of Medicine, processed through the American Medical College Application Service (AMCAS), should be completed by November prior to the year admission is desired. A separate application to the Graduate School, directed to the Medical Scientist Program, should be submitted by February of the year admission is desired.

DOCTOR OF PHILOSOPHY/DOCTOR OF MEDICINE

Admission

Applicants submit complete applications (with fees) to both the Graduate School and the School of Medicine during the senior undergraduate year. The applications are considered concurrently by two separate admissions committees. Applicants must be accepted into both the Graduate School and the School of Medicine to participate in the program. The Medical Scientist Program admissions committee bases its recommendations upon academic criteria; personal interviews; scores from the GRE General Test and MCAT; and other measures of analytical potential, creativity, compassion, and initiative. Accepted applicants are invited to participate in ongoing research in one of the biomedical science departments during the summer preceding their matriculation.

Curriculum

The curriculum is innovative in content and sequence. It includes courses that provide a pervasive research perspective, as well as those that provide basic instruction in clinical sciences. A three-quarter course sequence in biochemistry, molecular biology, cell biology, and immunology taken during the first year emphasizes analytical thinking and problem solving as a foundation for a research-oriented approach to biomedical science and clinical medicine. Seminar sessions merge research and clinical approaches to medical problems and expand the perspective of the program to include organ systems and disease processes.

Curriculum sequence

The typical sequence of courses in the curriculum is outlined below, though several variations are possible, with approval of the program director and curriculum committee.

First year:	Biochemistry, molecular biology/immunology, human genetics, gross anatomy/embryology, religion, clinical correlates, introduction to research, research rotations
First summer:	Research
Second year:	Modification of School of Medicine freshman year (all freshman courses except anatomy/embryology and religion), clinical correlates
Second summer:	Research
Third year:	School of Medicine sophomore year, clinical correlates; national board examination (USMLE Step I)
Research years:	Two or more years to complete research, graduate course work, and Ph.D. degree
Junior year:	School of Medicine
Senior year:	School of Medicine

Advisement

Admitted students are classified as medical scientists on both the School of Medicine and Graduate School rosters and are advised by the Medical Scientist Program director. During the second year, students select a basic science program (anatomy, biochemistry, microbiology and molecular genetics, pharmacology, or physiology) in which they will pursue their subsequent research and graduate course work. After making that selection, they will be guided by the coordinator for that graduate program and by a research guidance committee.

Time limits

Limits apply to the time allotted for the completion of graduate degrees. Four years (between the sophomore and junior years of the School of Medicine curriculum) are allowed for the completion of a Ph.D. degree; two years are allowed for completion of the M.S. degree. Completion within these limits is required to retain eligibility for further tuition waivers for School of Medicine course work, as described under "Financial assistance."

Students are expected to complete their graduate degree prior to reentry into the School of Medicine for the junior year. No additional financial aid will be provided for medical school tuition until the graduate degree is completed.

Financial assistance

Financial assistance to students in the Medical Scientist Program may provide:

1. Stipends during those periods in which students are most directly involved in graduate education—the first year and the research years. The amount of the stipend is equivalent to that available to Ph.D. degree students in the biomedical science graduate programs.
2. A tuition waiver for all Graduate School course work.
3. Tuition deferment for the freshman and sophomore years of the School of Medicine curriculum. When a student completes an M.S. or Ph.D. degree, tuition deferred from the freshman and sophomore years is canceled.
4. A tuition waiver for two quarters of tuition during the junior or senior years in the School of Medicine curriculum, upon completion of an M.S. degree.
5. Tuition waiver for both the junior and senior years of the School of Medicine curriculum, upon completion of a Ph.D. degree.

Completion of the M.D. degree terminates the student's participation in the Medical Scientist Program and ends the availability of tuition waiver. Any tuition deferments then in force will convert to loan obligations at that time.

COURSES

CMBL 501 Steady State Cell (8)
The generalized cell. Its structural and functional integrity in a thermodynamically hostile environment. Biochemical concepts of the flow of biological information and of free energy. Emphasis on the interplay of information and energy, the integrating role of compartmentalization, and regulation of metabolic pathways. Fall Quarter.

CMBL 502 The Cell in Transition (8)
Survey of prokaryotic and eukaryotic molecular biology. Topics include genome structure and organization, recombination and repair, transcription and translation, control of gene expression, posttranslational modification of proteins, protein folding and degradation, gene transfer and mobile genetic elements, control of development, methods and applications of genetic engineering, and bioinformatics. Winter Quarter.

CMBL 503 The Differentiated Cell (10)
Biological membranes and cell fibrillar systems as a basis for studying specialized structures and functions of selected differentiated cell types. The role of cell-cell interactions in specialized tasks. Emphasis on underlying molecular mechanisms of specialized cell function. Spring Quarter.

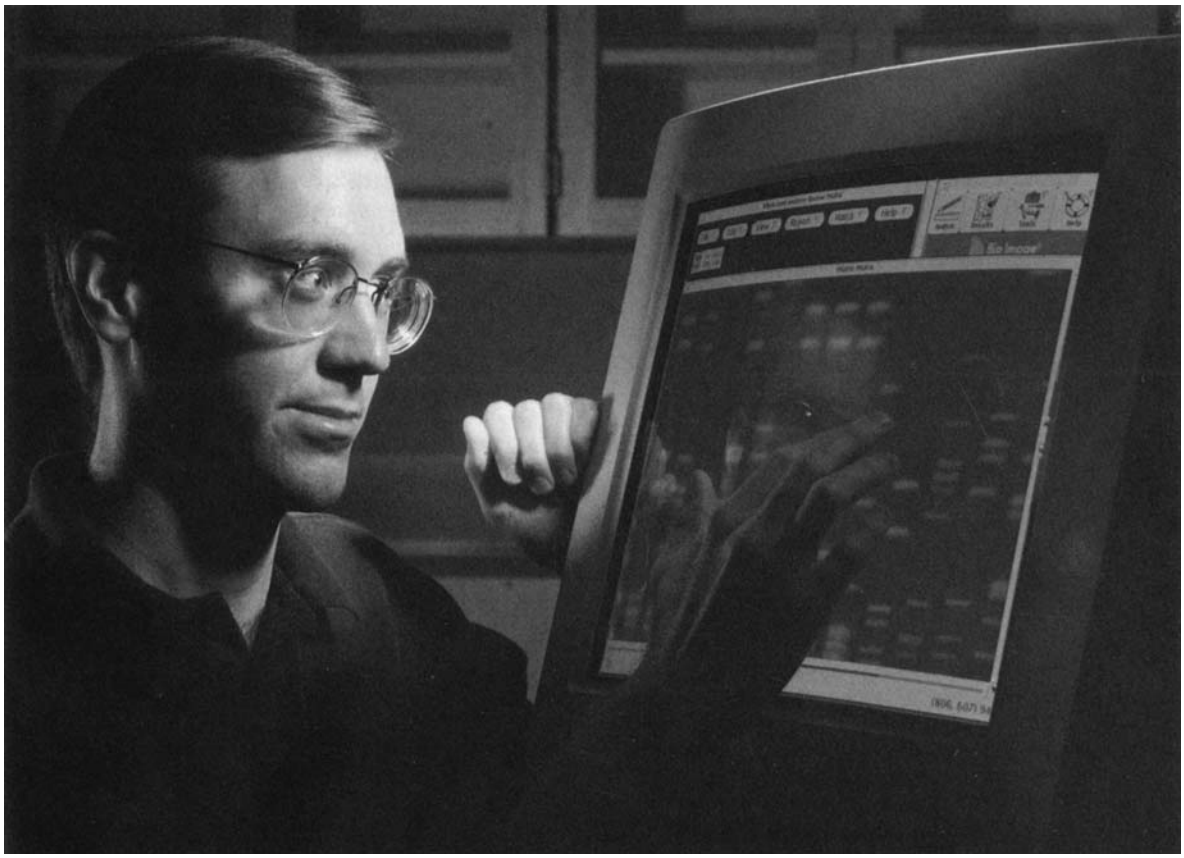
CMBL 511, 512, 513 Clinical Correlates (1, 1, 1)
A three-quarter companion sequence to CMBL 501, 502, 503 that utilizes the topics of cell functions presented in the major sequence as a basis for discussion of clinical problems arising from abnormalities in those functions. Fall, Winter, Spring quarters.

CMBL 537 Introduction to Human Genetics (1)
Introduction to medical genetics, human chromosomal abnormalities, Mendelian inheritance, multifactorial inheritance, prenatal diagnosis, newborn screening, and genetic counseling. Spring Quarter.

CMBL 541 Cellular Structural Elements (4)
Comprehensive description of biological membranes and cytoskeletal fibrillar systems that will form a basis for elucidating the functions of specialized cells. Spring Quarter.

CMBL 542 Signal Transduction and Regulation (3)
Comprehensive description of signal transduction pathways and other cellular regulatory mechanisms that form the basis of receptor-response phenomena. Spring Quarter.

CMBL 543 Cell-Cell Interactions (3)
Discussion of the role of cell-cell interactions and the mechanism for cellular specialization emphasizing the immune system. Spring Quarter.



MICROBIOLOGY AND MOLECULAR GENETICS

LAWRENCE C. SOWERS, Ph.D. Duke University 1983
Chair; Professor of Biochemistry and of Microbiology
Genetic causes of cancer; DNA damage and repair

JAMES D. KETTERING, Ph.D. Loma Linda University GS 1974
Associate Chair; Program Coordinator; Professor of Microbiology and Molecular Genetics
Diagnostic and clinical virology; tumor immunology, using a cell-mouse system transformed by herpes virus; dental immunology and bacteriology

The Department of Microbiology and Molecular Genetics offers programs leading to the Doctor of Philosophy and Master of Science degrees. The programs include a core curriculum that provides a broad background in molecular biology, immunology, and medical microbiology and infectious diseases. Advanced courses allow each student to develop fully an area of interest. Research strengths of the department include: signal transduction in bacteria, virulence and periodontal disease, mechanisms of cell death, cellular and tumor immunology, autoimmunity, chaperonins and protein folding, diagnostic virology, DNA restriction modification, and antimicrobial resistance.

The Doctor of Philosophy degree is designed to prepare students for a career of independent research and teaching in a university, clinical, or biotechnology setting. Students are encouraged to develop creativity and independence in addition to technical skills. A superior academic record is required for entry into the program.

The research or thesis Master of Science degree provides training for persons who will become technicians involved in biomedical research in universities or in the biotechnology industry, and for medical technologists seeking specialized research training.

The nonthesis Master of Science degree provides content appropriate for medical technologists preparing for the specialist in microbiology certification; for secondary teachers seeking advanced training in areas such as molecular biology, immunology, or microbiology; and for students seeking admission to a professional school, such as medicine or dentistry.

In addition to these programs, combined M.D./Ph.D., M.D./M.S, D.D.S./Ph.D., or D.D.S./M.S. degrees are offered to those seeking a career in academic medicine or dentistry—combining research, teaching, and clinical practice. (See sections on Combined Science/Professional Degrees and on the Medical Scientist Program.)

FACULTY

ISTVAN FODOR, Ph.D. USSR Academy of Sciences (Moscow, Russia) 1968; D.Sc. USSR Academy of Sciences (Moscow, Russia) 1985
Professor of Microbiology and Molecular Genetics
Virus-vectored gene-delivery systems; cancer gene and immuno-therapies

DAILA S. GRIDLEY, Ph.D. Loma Linda University GS 1978
Professor of Microbiology and Molecular Genetics, of Radiation Medicine, and of Biochemistry
Cancer radioimmunotherapy, space-radiation effects, tumor necrosis factor and other cytokines

BENJAMIN H. S. LAU, Ph.D. University of Kentucky 1966; M.D. Loma Linda University SM 1980
Professor of Microbiology and Molecular Genetics
Modulation of natural immunity; immune-modulating and antioxidant effects of phytochemicals; antiaging medicine

JOHN E. LEWIS, Ph.D. Loma Linda University GS 1969
Professor of Pathology and of Laboratory Medicine
Cell-mediated immunity; cytokines; monoclonal antibodies for bacterial identification

MICHAEL B. LILLY, M.D. Loma Linda University SM 1975
Professor of Medicine and of Microbiology and Molecular Genetics
Role of hematopoietic growth factors and signal transduction pathways in human leukemias; Pim1 kinase as a survival factor

BARRY L. TAYLOR, Ph.D. Case Western Reserve University 1973
Vice President for Research Affairs; Professor of Microbiology and Molecular Genetics
Mechanism of oxygen chemoreceptors; bacterial chemotaxis

ANTHONY J. ZUCCARELLI, Ph.D. California Institute of Technology 1974
Professor of Microbiology and Molecular Genetics
Genomic polymorphisms in Staphylococcus; DNA typing of pathogenic microorganisms; bacterial plasmids; virulence genes

LORA M. GREEN, Ph.D. University of California at Riverside 1987
Associate Professor of Microbiology and Molecular Genetics and of Medicine, Cancer Research Institute
Cell and molecular biology; immunology, elucidation of the mechanisms regulating cellular communication as they correspond to or contribute to human diseases, specifically autoimmune diseases and cancer

MARK S. JOHNSON, Ph.D. University of Utah 1984
Associate Research Professor of Microbiology and Molecular Genetics
Intracellular signaling in microorganisms; protein structure and function

GIUSEPPE A. MOLINARO, M.D. Naples University (Italy) 1960
Associate Research Professor of Microbiology and Molecular Genetics
Autoimmunity; repertories and responses of lymphocytes

JUNICHI RYU, Ph.D. Tokyo Metropolitan University (Japan) 1977
Associate Professor of Microbiology and Molecular Genetics
Bacterial gene structure and function; gene regulation; search for new restriction enzymes; cloning of restriction enzymes

CARLOS A. CASIANO, Ph.D. University of California at Davis 1992
Assistant Professor of Microbiology and Molecular Genetics
Molecular cell biology; autoimmunity to nuclear autoantigens in rheumatic disease and cancer; biology of nuclear autoantigens involved in cell death and survival

ALAN P. ESCHER, Ph.D. Cornell University 1992
Associate Professor of Microbiology and Molecular Genetics
Gene therapy for type 1 diabetes; secreted proteins for gene therapy

HANSEL M. FLETCHER, Ph.D. Temple University 1990
Associate Professor of Microbiology and Molecular Genetics
Molecular genetics of bacterial pathogenesis; molecular basis of bacterial-induced apoptosis

SANDRA HILLIKER, Ph.D. University of Massachusetts 1974; M.B.A. University of California at Riverside 1990
Instructor in Microbiology and Molecular Genetics
Biotechnology, scientific communication

ASSOCIATE FACULTY

GEORGE T. JAVOR, Ph.D. Columbia University 1967
Professor of Biochemistry and of Microbiology and Molecular Genetics
Bacterial physiology; effect of reductive stress on gene expression; regulation of porphyrin synthesis, regulation of coenzyme Q synthesis

WILLIAM H. R. LANGRIDGE, Ph.D. University of Massachusetts 1973
Professor of Biochemistry
Gene therapy: construction of edible plants containing foreign and autoantigens for protective immunization against infectious and autoimmune disease

YIMING LI, Ph.D. Indiana University 1987
Professor of Restorative Dentistry and of Microbiology and Molecular Genetics
Biological and pharmacological effects of fluoride; genetic toxicology; biocompatibility and safety evaluation of medical devices

SANDRA L. NEHLSEN-CANNARELLA, Ph.D. National Institute for Medical Research (London, U.K.) 1971
Professor of Pathology and Human Anatomy and of Surgery
Immunology; transplantation alloimmunology and xenoimmunology; maternal-fetal compatibility

JOHN J. ROSSI, Ph.D. University of Connecticut 1976
Adjunct Professor of Microbiology and Molecular Genetics
Adjunct Professor of Biochemistry, Beckman Research Institute of the City of Hope
Functional analyses and applications of ribozymes: biochemical and genetic analyses of the 200 kdalton U4/U5/U6 tri-snRNP associated helicase

EDOUARD M. CANTIN, Ph.D. Cambridge University 1976
Adjunct Associate Research Professor of Microbiology and Molecular Genetics of the Beckman Research Institute, City of Hope
Molecular mechanisms of herpes virus latency, cytokines and viral infections in the brain, ribozyme/antisense ribozyme/antisense as antivirals

REN-JANG LIN, Ph.D. Pennsylvania State University 1983
Adjunct Associate Professor of Microbiology and Molecular Genetics of the Beckman Research Institute, City of Hope
RNA splicing and cell-cycle control, gene therapy

DONNA D. STRONG, Ph.D. University of California at Los Angeles 1977
Associate Research Professor of Medicine, of Biochemistry, and of Microbiology and Molecular Genetics of the Jerry L. Pettis Memorial Veterans Hospital
Cloning and expression and insulin-like growth factors and their binding proteins

DANIELA CASTANOTTO, Ph.D. University of Messina (Italy) 1987
Adjunct Associate Research Professor of Microbiology and Molecular Genetics of the Beckman Research Institute, City of Hope
Molecular biology, gene therapy

IGOR B. JOULINE (ZHULIN), Ph.D. St. Petersburg State University (Russia) 1988
Adjunct Assistant Professor of Microbiology and Molecular Genetics
Microbial physiology and ecology, bioinformatics and genomics, redox sensing in bacteria

MASTER OF SCIENCE

There are thesis and nonthesis options for the Master of Science degree. The thesis option involves intensive research on a single project and culminates in a thesis or a research publication. The nonthesis option includes rotations through different laboratory settings that provide training in a wide variety of research techniques.

Students may choose to obtain laboratory training in a hospital clinical laboratory or in an industrial laboratory. Southern California has a concentration of biotechnology companies and other research facilities. Students preparing for a career as a technician in the biotechnology industry or a university will benefit from the thesis option. Those planning to transfer to a doctoral program must enroll in the thesis option.

The core curriculum includes MICR 521 Medical Microbiology, MICR 539 Molecular Biology of Prokaryotes and Eukaryotes, MICR 520 Basic Immunology, and MICR 530 Introduction to Graduate Immunology. A grade of B- or better is required for core courses as well as for the electives in microbiology and molecular genetics. Religion/ethics (3 units), colloquium (2 units), and graduate seminar (1 unit), are required. Other requirements depend on the program selected. A minimum of 53.5 units is required for graduation.

Thesis option

In addition to the core sequence, 11 units of additional course work in elective microbiology and cognates are required. This may include 5 units of a minor such as biochemistry or human physiology. Biochemistry is required if a complete biochemistry sequence has not been taken. The candidate is required to complete 12 units of research and 3 units of thesis, leading to the presentation of a thesis or published paper.

Nonthesis option

This is a terminal degree. In addition to the core sequence, 18-22 units of additional course work in elective microbiology and cognates are required. The electives must include a minimum of two courses from the Department of Microbiology and Molecular Genetics. The additional course work and 4-8 units of laboratory experience replace the research and thesis requirements of the research Master of Science degree. The laboratory experience involves a formal practicum in the clinical laboratory of Loma Linda University Medical Center, laboratory courses, or a research project. The student must also pass a written comprehensive examination covering three areas of microbiology.

Biotechnology emphasis

Master of Science candidates can choose curriculum options that prepare for a career in the biotechnology industry, including: biotechnology seminars and colloquia, scientific communication and career development workshops, and an internship in a biotechnology company. The thesis option is recommended but is not required.

DOCTOR OF PHILOSOPHY

The core curriculum includes MICR 521 Medical Microbiology, MICR 539 Molecular Biology of Prokaryotes and Eukaryotes, MICR 520 Basic Immunology, MICR 530 Introduction to Graduate Immunology, and MICR 536 Laboratory in Gene Transfer and Gene Expression. Two elective microbiology courses (5-7 units) selected from MICR 515, 531, 534, 537, 546, 565, 566, or 626 or similar didactic courses; and 15 units of cognate electives are required. A minimum grade of B is required in all departmental courses. Biochemistry is recommended as a cognate course and is required for students who have not completed an approved course in biochemistry. For combined-degrees students, the cognate requirements are satisfied by courses in their professional program (M.D. or D.D.S. degree).

In addition to religion/ethics (3 units), colloquium (2 units), graduate seminar (1 unit), and dissertation (3 units), the primary requirement for the Ph.D. degree is the completion of a significant, original contribution to microbiological research. Candidates for the Doctor of Philosophy degree are assigned to laboratories and are expected to participate in research during the first year of their graduate program. They must pass a written comprehensive examination in three of five selected areas of microbiology, and an oral comprehensive examination of a written research proposal. After passing the written and oral examinations, the student applies for admission to candidacy. The candidacy period is spent in full-time research. After completing the research and writing the dissertation, the dissertation is publicly defended at an oral examination. It is expected that students will assist in teaching a laboratory course for a minimum of one quarter.

COMBINED-DEGREES PROGRAMS

In addition to the above programs, combined M.D./Ph.D., M.D./M.S., D.D.S/Ph.D., and D.D.S./M.S. degrees are offered to those with the goal of combining research and clinical practice. The graduates of a Ph.D./professional degree program usually seek careers as medical or dental school faculty. The combined M.S./professional degrees are designed to provide additional content or research experience as a background for postgraduate medical or dental education.

General information

Details of the graduate program are given in the "Student Guide," supplied by the Department of Microbiology and Molecular Genetics. For information about the requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN.

Prerequisites

One year of course work in each of the following is required: general biology, general chemistry, organic chemistry, and general physics. Microbiology and biochemistry are recommended.

GRE and TOEFL

The Graduate Record Examination (GRE) General Test is required. Test of English as a Foreign Language (TOEFL) is required for students whose native language is not English.

Financial aid deadline

Applications for admission requesting financial support should be completed by March 1.

COURSES

MICR 515 Introduction to Bioinformatics and Genomics (2)
Introduction to computer-aided analysis of macromolecules and the study of genes and their products on the level of whole genomes.

Prerequisite: MICR 539 or equivalent.

MICR 520 Basic Immunology (2.5)
Study of cellular and molecular aspects of the immune system, immune responses associated with host defense and disease processes, cellular interaction, and modern immunologic technology. Identical to the immunology section of MDCJ 514.

Prerequisite: Permission of department.

MICR 521 Medical Microbiology (8)
Systematic study of bacteria, fungi, viruses, and animal parasites of medical importance; pathogenic mechanisms; methods of identification and prevention; and clinical correlation.

Cross-listing: MICR 511.

MICR 530 Introduction to Graduate Immunology (3)
Selected topics of modern immunology introduced to graduate students, with emphasis on understanding key paradigms. Identical to immunology section of CMBL 503.

MICR 531 Biological Membranes (3)
Comprehensive description of biological membranes, oxidative phosphorylation, active transport, and signal transduction. Identical to membranes, transport, and signal transduction sections of CMBL 503.

Prerequisite: A course in biochemistry.

MICR 534 Microbial Physiology (3)
Provides in-depth coverage of microbial nutrition and growth kinetics, structure and function, bioenergetics and metabolism, nutrient transport, and special bacterial groups and processes unique to microorganisms.

Prerequisite: MICR 521 and a course in biochemistry.

MICR 536 Laboratory in Gene Transfer and Gene Expression (4)
Intensive (two-week) laboratory course in the methods of gene transfer and gene regulation in prokaryotes and eukaryotes. Evaluation and discussion of experimental results in group sessions. Suitable for students, faculty, and postdoctoral fellows who wish to learn modern molecular biology techniques. Limited to fifteen participants.

Prerequisite: CMBL 501, 502, or equivalent.

MICR 537 Selected Topics in Molecular Biology (2)
Critically evaluates current progress in a specific research area of molecular biology, including recently published papers and unpublished manuscripts. Students may register for multiple courses under this designation.

Prerequisite: MICR 539 or CMBL 502.

MICR 539 Molecular Biology of Prokaryotes and Eukaryotes (8)
Survey of prokaryotic and eukaryotic molecular biology. Topics include genome structure and organization, recombination and repair, transcription and translation, control of gene expression, posttranslational modification of proteins, protein folding and degradation, gene transfer and mobile genetic elements, control of development, methods and applications of genetic engineering, and bioinformatics.

Cross-listing: CMBL 502.

Prerequisite: CMBL 501 or equivalent.

MICR 545 Molecular Biology Techniques Laboratory (4)
Laboratory course in modern molecular biology techniques for gene manipulation and analysis in prokaryotes and eukaryotes. Evaluation and discussion of experimental results in group sessions.

MICR 546 Advanced Immunology (4)
Emerging concepts of immunology first discussed by the class and then reviewed by guest lecturers on a weekly schedule.

Prerequisite: MICR 530 or equivalent.

MICR 565 Virology (3)
Fundamental aspects of virus-cell relationships of selected groups of animal viruses. Lectures and a library research project. Guest lecturers.

Prerequisite: MICR 521 (MICR 511) or consent of instructor.

MICR 566 Cell Culture (3)
Practical aspects of growth of animal cells in culture. Experience with both primary cell cultures and established cell lines.

MICR 604 Seminar in Microbiology (1)
Students required to register for this course every quarter throughout their training.

MICR 605 Colloquium (1)
Presentations by peers on a topic selected and directed by a faculty member. (All students are required to attend the colloquium. Students who are registered for colloquium are required to give a presentation.)

MICR 606 Graduate Seminar (1)
Student presentation in the form of a seminar. (The course requirement will normally be fulfilled by presentation of the dissertation or thesis seminar. Other major student presentations may also qualify.)

MICR 624 Special Problems in Microbiology (2-4)
Designed primarily for students enrolled in a course work M.S. degree program who elect to work on a research problem.

MICR 625 Independent Study in Microbiology Literature (2-4)
In-depth exploration of a specific topic, selected in consultation with the mentor, such as the antecedents for theses or dissertation research. (A formal proposal for the scope and evaluation of the independent study must be approved by the faculty prior to enrollment in this course. This does not satisfy an elective requirement in the microbiology and molecular genetics program.)

MICR 626 Special Topics in Microbiology (2-4)
Critically evaluates current progress in a specific research area, including recently published papers and unpublished manuscripts. (Each course is taught by a resident or a visiting scientist who is a recognized authority in the research area under discussion. Students may register for multiple courses under this designation.)

MICR 634 Clinical Microbiology Practicum (4)
Rotations through the clinical microbiology laboratory at Loma Linda University Medical Center. Includes exposure to all aspects of testing procedures necessary for the identification of microorganisms isolated from patient specimens. Instrumentation, automation, and rapid testing identification methods included with "hands-on" experience. Rotation to include tuberculosis and mycology, anaerobic bacteriology, blood, special microbiology, parasitology, and general bacteriology.

Prerequisite: Consent of instructor.

MICR 697 Research (1-5)

MICR 698 Thesis (3)

MICR 699 Dissertation (3)

NURSING

HELEN E. KING, Ph.D. Boston University 1973
Dean; Professor of Nursing

LOIS VAN CLEVE, Ph.D. Claremont Graduate School 1985
Graduate Nursing Program Coordinator; Professor of Nursing

The sections that follow describe the nursing curricula offered by the Graduate School (Master of Science and Post-Master's Certificate Programs) and list the courses for each. School of Nursing students are expected to operate under the general policies of the University and the School of Nursing and the specific policies of the Graduate School program in which they are enrolled.

A curriculum leading to a Master of Science degree with preparation for advanced nursing practice or nursing administration is offered through the Graduate School of Loma Linda University. Options available for advanced nursing practice are outlined below.

In graduate education, the student has opportunity for the intense pursuit of knowledge in a chosen field of interest. Teaching focuses on attainment of knowledge and development of advanced intellectual, clinical, leadership, and investigative skills.

The CLINICAL OPTION in advanced nursing practice can be pursued in the following areas:

- ADULT NURSE PRACTITIONER
- FAMILY NURSE PRACTITIONER
- PEDIATRIC NURSE PRACTITIONER
- NEONATAL CRITICAL CARE NURSE PRACTITIONER
- ADULT AND AGING FAMILY
- GROWING FAMILY
- SCHOOL NURSING

The NURSING ADMINISTRATION OPTION prepares nurses for leadership in a variety of organizational settings. The curriculum draws from the practice of nursing, management, and related fields; and includes administrative, research, and clinical components.

Convenient scheduling of classes allows one to complete the program on a full-time or part-time basis. Required nursing courses are scheduled in late afternoons to accommodate working nurses. Applications may be initiated throughout the year.

A minimum of 53-68 quarter units is required to complete the program. The sequence ideally begins in the Fall Quarter; however, students may begin their studies any quarter during the year, and part-time study is available.

FACULTY

ELIZABETH A. BOSSERT, D.N.S., University of California at San Francisco 1990
Professor of Nursing
Growing family

MICHAEL C. GALBRAITH, Ph.D. Claremont Graduate School 1989
Professor of Nursing

PATRICIA S. JONES, Ph.D. Vanderbilt University, Peabody College 1977
Professor of Nursing

FRANCES P. MILLER, Ph.D. University of California at Riverside 1985
Associate Professor of Nursing

RUTH S. WEBER, Ed.D. Loma Linda University Riverside SE 1991
Associate Professor of Nursing
Nursing administration

BETTY WINSLOW, Ph.D. University of Colorado Health Sciences Center 1994
Associate Professor of Nursing

ASSOCIATE FACULTY

MARGARET A. BURNS, D.N.Sc Catholic University of America 1985
Associate Professor of Nursing
Adult and aging family

EVA G. MILLER, M.S. Loma Linda University SN 1975
Associate Professor of Nursing
Community health nursing, school nursing

CLINICAL FACULTY

CHERYL M. ACOB, M.S.N. University of California at Los Angeles 1994
Assistant Professor of Nursing
Pediatric nursing practitioner

LOIDA BRINCKHAUS, M.S.N. University of California at Los Angeles 1990
Assistant Professor of Nursing
Family nurse practitioner

KATHLEEN BROWN, M.S. Loma Linda University GS 1997
Assistant Professor of Nursing
Family nurse practitioner

ELAINE M. GACKLE, M.N., FNP, University of California at Los Angeles 1990
Assistant Professor of Nursing
Family nurse practitioner

ADMISSION TO THE GRADUATE PROGRAM

Admission requirements

The following criteria are considered for admission to the graduate program in nursing:

1. A baccalaureate degree in nursing from an accredited program (or its equivalent).
2. An undergraduate G.P.A. of 3.0 (on a 4.0 scale), both cumulative and in the nursing major.
3. A standardized interview with two graduate nursing faculty members.
4. The GRE general test recommended but not required.
5. Current California registered nurse license before enrollment in clinical nursing courses.
6. Nursing experience in the area of the desired major before beginning graduate study. One year of experience as a registered nurse is required to enter nursing administration. A minimum of one year of experience in critical care is a prerequisite to beginning the sequence of specialty courses in neonatal and pediatric critical care.
7. An A.S. degree or diploma in nursing from an accredited program and a B.S. or B.A. degree in another field can qualify the applicant for admission to the graduate program in nursing after s/he takes 37 quarter units of approved upper division clinical nursing courses that include at least 8 quarter units of community health nursing with field experience. Many courses may be challenged.

PROGRAM REQUIREMENTS

Grades

A minimum grade-point average of 3.0 must be maintained in all work taken for the degree and in the nursing major.

Thesis option

The student has the option of completing a thesis within the curriculum for the master's degree. The decision is made in consultation with the student's adviser.

Candidacy

Students are eligible for candidacy after completing 24 units of required graduate course work.

Examination

A comprehensive written examination is required. The examination must be taken before enrolling in the last 8 units of the program.

Curriculum change

To maintain quality education, the curriculum is subject to change without prior notice. Students in the program will meet graduation requirements of the BULLETIN in force at the time they entered the Graduate School.

General requirements

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN.

UNIT AND CORE COURSE REQUIREMENTS

For the Master of Science degree in nursing, the student must complete 53-68 units (quarter rather than semester units). Elective courses are selected in consultation with the student's adviser.

The following core courses are required of all students:

NRSG	508	Nursing in Community Systems	(2)
NRSG	515	Health Policy: Issues and Process	(2)
NRSG	516	Advanced-Practice Role Development	(2)
NRSG	604	Nursing in Family Systems	(3)
NRSG	680	Intermediate Statistics	(3)
NRSG	681, 682	Research Methods I, II	(3, 2)
RELE	524	Christian Bioethics	(3)

Students who choose the thesis option take:

NRSG	697	Research	(3)
NRSG	698	Thesis in Nursing	(2)

THE CLINICAL OPTION

The clinical option in nursing—leading to a Master of Science degree or post-master's certificate in advanced nursing practice—prepares nurse specialists who have advanced nursing knowledge, clinical expertise, and functional preparation.

NOTE: A class preceded by an asterisk (*) indicates a course that is offered every other year.

The clinical option is offered in the following areas:

ADULT NURSE PRACTITIONER—M.S. (67)

The *adult nurse practitioner* clinical option prepares the nurse to exercise independent judgment in assessment, supervision, and management of sick adults in collaboration with physicians. The curriculum prepares the student to be certified by the state of California and the American Nurses Association as a nurse practitioner.

Clinical focus

*NRSG	624	The Adult and Aging Family I	(2)
*NRSG	651	Advanced Physical Assessment	(3)
*NRSG	561	Adult Primary Health Care I	(4)
*NRSG	562	Adult Primary Health Care II	(7)
*NRSG	563	Adult Primary Health Care III	(8)
*NRSG	564	Adult Primary Health Care IV	(6)
*NRSG	565	Adult Primary Health Care V	(4)

Required courses

PHSL	533	Physiology I	(4)
NRSG	544	Teaching and Learning Theory	(3)
NRSG	547	Management: Principles and Practices	(3)
NRSG	555	Pharmacology in Advanced Practice	(3)

ADULT NURSE PRACTITIONER POST-MASTER'S CERTIFICATE (37)

The *adult nurse practitioner* post-master's certificate clinical option is designed to prepare the nurse with a master's degree in a clinical area of nursing to become certified by the Board of Registered Nursing as a nurse practitioner in the state of California.

Prerequisite: Graduate level physiology and advanced physical assessment.

Required courses

NRSG	604	Nursing in Family Systems (may be challenged)	(2)
or			
*NRSG	624	Adult and Aging Family	(2)
NRSG	555	Pharmacology in Advanced Practice	(3)
RELE	524	Christian Bioethics	(3)
*NRSG	561	Adult Primary Health Care I	(4)
*NRSG	562	Adult Primary Health Care II	(7)
*NRSG	563	Adult Primary Health Care III	(8)
*NRSG	564	Adult Primary Health Care IV	(6)
*NRSG	565	Adult Primary Health Care V	(4)

FAMILY NURSE PRACTITIONER—M.S. (68)

The *family nurse practitioner* clinical option prepares the nurse to exercise independent judgment in assessment, supervision, and management of sick families in collaboration with physicians. The curriculum prepares the student to be certified by the state of California and the American Nurses Association as a nurse practitioner.

Clinical focus

NRSG	651	Advanced Physical Assessment	(3)
NRSG	652	Family Primary Health Care I	(5)
NRSG	653	Family Primary Health Care II	(7)
NRSG	654	Family Primary Health Care III	(8)
NRSG	655	Family Primary Health Care IV	(8)
NRSG	656	Family Primary Health Care V	(4)

Required courses

PHSL	533	Physiology I	(4)
NRSG	544	Teaching and Learning Theory	(3)
NRSG	547	Management: Principles and Practices	(3)
NRSG	555	Pharmacology in Advanced Practice	(3

FAMILY NURSE PRACTITIONER POST-MASTER'S CERTIFICATE (40)

The *family nurse practitioner* post-master's certificate is designed to prepare the nurse with a master's degree in a clinical area of nursing to become certified by the Board of Registered Nursing as a nurse practitioner in the state of California.

Prerequisite: Graduate level physiology and advanced physical assessment.

Required courses

NRSG	604	Nursing in Family Systems (may be challenged)	(2)
NRSG	555	Pharmacology in Advanced Practice	(3)
RELE	524	Christian Bioethics	(3)
NRSG	652	Family Primary Health Care I	(5)
NRSG	653	Family Primary Health Care II	(7)
NRSG	654	Family Primary Health Care III	(8)
NRSG	655	Family Primary Health Care IV	(8)
NRSG	656	Family Primary Health Care IV	(4)

PEDIATRIC NURSE PRACTITIONER—M.S. (67)

The *pediatric nurse practitione*r clinical option prepares the nurse to exercise independent judgment in assessment, supervision, and management of sick children in collaboration with physicians. The curriculum prepares the student to be certified by the state of California and the American Nurses Association as a nurse practitioner.

Clinical focus

*NRSG 645	Growing Family	(2)
NRSG 651	Advanced Physical Assessment	(3)
*NRSG 551	Pediatric Primary Health Care I	(4)
*NRSG 552	Pediatric Primary Health Care II	(7)
*NRSG 553	Pediatric Primary Health Care III	(8)
*NRSG 554A	Pediatric Primary Health Care IV	(6)
*NRSG 554B	Pediatric Primary Health Care IV	(4)

Required courses

PHSL	533	Physiology I	(3)
NRSG	544	Teaching and Learning Theory	(3)
NRSG	547	Management: Principles and Practices	(3)
NRSG	555	Pharmacology in Advanced Practice	(3)

Required experience

One year current clinical nursing practice in pediatrics preferred.

PEDIATRIC NURSE PRACTITIONER
POST-MASTER'S CERTIFICATE (37)

The *pediatric nurse practitioner* post-master's certificate is designed to prepare the nurse with a master's degree in a clinical area of nursing to become certified by the Board of Registered Nursing as a nurse practitioner in the state of California.

Prerequisite: Graduate-level physiology and advanced physical assessment.

Required courses

NRSG	604	Nursing in Family Systems (may be challenged)	(2)
or			
*NRSG 645		Growing Family I (may be challenged)	(2)
NRSG	555	Pharmacology in Advanced Practice	(3)
RELE	524	Christian Bioethics	(3)
*NRSG 551		Pediatric Primary Health Care I	(4)
*NRSG 552		Pediatric Primary Health Care II	(7)
*NRSG 553		Pediatric Primary Health Care III	(8)
*NRSG 554		Pediatric Primary Health Care IV	(6)

NEONATAL CRITICAL CARE CNS/NURSE PRACTITIONER—M.S. (67)

Within the *neonatal critical care nurse practitioner* clinical option, students specialize in the theory and practice of neonatal intensive care nursing. The curriculum prepares the nurse to exercise independent judgment in assessment, supervision, and management of sick newborns in consultation and collaboration with neonatologists. Working with families, the nurse will fill the role of consultant and educator. The curriculum prepares the student to be certified by the state of California and the American Nurses Association as a nurse practitioner.

Clinical focus

*NRSG 645	Growing Family I	(2)
*NRSG 619	Neonatal Critical Care I	(4)
*NRSG 620	Neonatal Critical Care II	(7)
*NRSG 621	Neonatal Critical Care III	(8)
*NRSG 622	Neonatal Critical Care IV: Practicum	(13)

Required courses

PHSL	533	Physiology I	(4)
NRSG	544	Teaching and Learning Theory	(3)
NRSG	547	Management: Principles and Practices	(3)
NRSG	555	Pharmacology in Advanced Practice	(3)

Required experience

One year of nursing experience in neonatal intensive care before beginning graduate study.

The Neonatal Critical Care option is offered every other year or when the student pool is sufficient.

NEONATAL CRITICAL CARE CNS/NURSE PRACTITIONER
POST-MASTER'S CERTIFICATE (36)

The *neonatal CNS/nurse practitioner* post-master's certificate is designed to prepare the nurse who has a master's degree in parent/child nursing (or the Loma Linda University master's degree with the *growing family* major or its equivalent) to become certified by the Board of Registered Nursing as a nurse practitioner in the state of California.

Admission requirements

Applicants to this program must have met the following requirements:

1. Completion of a master's degree with a clinical major in parent/child nursing or its equivalent from a National League for Nursing-approved program.
2. Current California nurse licensure.
3. Minimum of one year full-time experience in a tertiary-level neonatal intensive care unit. Each applicant's clinical experience will be individually evaluated.
4. Graduate-level physiology and pharmacology.

Required courses

*NRSG 645	Growing Family I	(2)
RELE 524	Christian Bioethics	(3)
*NRSG 619	Neonatal Critical Care I	(4)
*NRSG 620	Neonatal Critical Care II	(6)
*NRSG 621	Neonatal Critical Care III	(8)
*NRSG 622	Neonatal Critical Care IV: Practicum	(13)

THE ADULT AND AGING FAMILY—M.S. (55)

The *adult and aging family* clinical option prepares students for a variety of leadership roles in nursing, including clinical specialization and teaching. Clinical and theoretical content focuses on adult and aging clients and families. The program offers opportunities to develop knowledge and expertise for advanced practice in oncology nursing, coronary care nursing, and gerontological nursing. The curriculum includes preparation for certification by the American Nurses Association as a clinical nurse specialist in either medical-surgical nursing or gerontological nursing after completing the required practice hours.

Clinical focus

*NRSG 624	The Adult and Aging Family I	(4)
*NRSG 626	The Adult and Aging Family II	(4)
*NRSG 628	Clinical Practicum: Adult and Aging Family	(4-8)
NRSG 651	Advanced Physical Assessment	(3)

Required courses

PHSL 533	Physiology I	(4)
NRSG 544	Teaching and Learning Theory	(3)
NRSG 547	Management: Principles and Practices	(3)

Teaching option

*NRSG 545	Teaching Practicum	(3)
*NRSG 546	Curriculum Development in Higher Education	(3)

Advanced practice option

NRSG 555	Pharmacology in Advanced Practice	(3)
PHSL 534	Physiology II	(3)
Electives		(3)

THE GROWING FAMILY—M.S. (55)

The *growing family* clinical option prepares students for a variety of leadership roles in nursing, including clinical specialization and teaching. The curriculum offers opportunity for the student to choose an emphasis providing advanced nursing care to families in the early phase of childbearing or in the care of children. The curriculum includes preparation for certification by the American Nurses Association as a child and adolescent nurse specialist or as a maternal-child health nurse specialist after completing the required practice hours.

Clinical focus

*NRSG 645	Growing Family I	(3)
*NRSG 646	Growing Family II	(3)
*NRSG 617	Clinical Practicum: Growing Family	(3)
NRSG 651	Advanced Physical Assessment	(3)

Required courses

NRSG 544	Teaching and Learning Theory Practices	(3)
NRSG 547	Management: Principles and Practices	(3)
PHSL 533	Physiology I	(4)

Teaching option

*NRSG 545	Teaching Practicum	(3)
*NRSG 546	Curriculum Development in Higher Education	(3)

Advanced practice option

NRSG 555	Pharmacology in Advanced Practice	(3)
PHSL 534	Physiology II	(3)
_____ ___	Electives	(3)

SCHOOL NURSING—M.S. (53)

Public health nursing certificate required

The *school nursing* clinical option prepares students to meet both the requirements for a health services (school nurse) credential issued by the state of California and a Master of Science degree. It builds on the content of the baccalaureate degree and has a strong emphasis in advanced nursing theories, cultural and behavioral concepts, research, and nursing issues. The role of the school nurse encompasses a broad range of activities—including health-promotion education, illness prevention and detection, counseling and guidance, and providing specialized health services to students and their families.

Prerequisite: PSYC 460 Exceptional Individual (or equivalent course) (3).

Clinical focus

*NRSG 512	School Nursing Services Prerequisite: audiometry certificate	(4-6)

NRSG	544	Teaching and Learning Theory	(3)
*NRSG	645	Growing Family I	(3)
*NRSG	646	Growing Family II	(3)
*NRSG	546	Curriculum Development in Higher Education	(3)
NRSG	547	Management: Principles and Practices	(3)
NRSG	651	Advanced Physical Assessment	(3)
Electives			(7-9)

COMBINED-DEGREES PROGRAM

ADVANCED PRACTICE NURSING—M.S. and PUBLIC HEALTH—M.P.H.

(Total: 80 units + 100 clock hours field practicum)

The M.S./M.P.H. combined-degrees program in *advanced practice nursing*—in the field of *growing family* or *adult and aging family*—and *public health* prepares students for leadership roles in population-focused primary health care with emphasis on clinical specialization and/or teaching. The combined degrees are designed for individuals who wish to integrate advanced practice nursing with population-based public health perspectives. The individual may select curricula that prepare for teaching, certification by the American Nurses Association as a clinical specialist in community health, and/or certification by the National Commission for Health Education as a certified health education specialist (CHES). Students must meet admission and graduation requirements for both the Graduate School and the School of Nursing.

GROWING FAMILY or ADULT AND AGING FAMILY
(55 units of nursing)

NRSG	604	Nursing in Family Systems	(3)
NRSG	508	Nursing in Community Systems	(2)
NRSG	515	Health Policy: Issues and Process	(2)
NRSG	516	Advanced-Practice Role Development	(2)
NRSG	547	Management: Principles and Practice	(3)
*NRSG	546	Curriculum Development in Higher Education	(3)
PHSL	533	Physiology I	(4)
NRSG	651	Advanced Physical Assessment	(3)
NRSG	681	Research Methods I	(3)
NRSG	682	Research Methods II	(2)
RELE	524	Christian Bioethics	(3)
or			
Other religion course			
STAT	514	Intermediate Statistics for Health Science	(3)
or			
STAT	509	General Statistics	(4)

Advanced practice nursing

*NRSG	624	Adult and Aging Family I	(4)
*NRSG	626	Adult and Aging Family II	(4)
*NRSG	628	Clinical Practicum: Adult and Aging	(4)
or			
*NRSG	645	Growing Family I	(4)
*NRSG	646	Growing Family II	(4)
*NRSG	617	Clinical Practicum: Growing Family	(4)
Selectives from public health (HPRO 535, 538, 509)			(10)
Electives			(1-2)

PUBLIC HEALTH EDUCATION
(50 units of public health)

ENVH	509	Principles of Environmental Health	(3)
EPDM	509	Principles of Epidemiology I	(3)
HADM	509	Principles of Administration	(3)
HPRO	509	Principles of Health Behavior	(3)
RELE	534	Ethical Issues in Public Health	(3)
SHCJ	605	Philosophy of Public Health	(1)

Health education

HPRO	536	Program Planning and Evaluation	(3)
HPRO	537	Community Programs Laboratory	(1, 1)
HPRO	538	Health Education Program Development	(3)
HPRO	539	Policy and Issues in Health Education	(3)
HPRO	535	Health Education Program Administration	(3)
HPRO	589	Qualitative Research Methods	(4)
NUTR	509	Public Health Nutrition	(3)
or			
NUTR	534	Maternal and Child Nutrition	(3)
or			
NUTR	536	Nutrition and Aging (includes 1 unit of independent study)	(2+1)
HPRO	798	Field Practicum	(100 clock hrs)
Selectives from nursing			(13)

COMBINED-DEGREES PROGRAM

ADVANCED PRACTICE NURSING—M.S. and BIOMEDICAL AND CLINICAL ETHICS—M.A. (Total: 78)

The M.S./M.A. combined-degrees program in *advanced practice nursing* and *biomedical and clinical ethics* is designed to facilitate more efficient completion of two graduate degrees for students with strong interest in both nursing and ethics. Students who complete this program will be prepared to make significant, interdisciplinary contributions to both fields. Students are required to gain separate acceptance into the M.S. degree program in advanced practice nursing and into the M.A. degree program in biomedical and clinical ethics.

GROWING FAMILY or ADULT AND AGING FAMILY (55 units of nursing)

NRSG	508	Nursing in Community Systems	(2)
NRSG	604	Nursing in Family Systems	(3)
NRSG	515	Health Policy: Issues and Process	(2)
NRSG	544	Teaching and Learning Theory	(3)
NRSG	547	Management: Principles and Practice	(3)
PHSL	533	Physiology I	(4)
STAT	514	Intermediate Statistics	(3)
NRSG	681	Research Methods I	(3)
NRSG	682	Research Methods II	(2)
*NRSG	546	Curriculum Development in Higher Education	(3)
NRSG	651	Advanced Physical Assessment	(3)

Advanced practice nursing

*NRSG	624	Adult and Aging Family I	(4)
*NRSG	626	Adult and Aging Family II	(4)
*NRSG	628	Clinical Practice: Adult and Aging	(4)

or

*NRSG	645	Growing Family I	(4)
*NRSG	646	Growing Family II	(4)
*NRSG	617	Clinical Practice: Growing Family	(4)

Electives from biomedical and clinical ethics (10)

BIOMEDICAL AND CLINICAL ETHICS (48 units of ethics)

RELG	504	Research Methods	(4)
RELE	554	Clinical Intensive I	(4)
RELE	555	Clinical Intensive II	(4)
RELE	577	Theological Ethics	(4)
RELE	588	Philosophical Ethics	(4)
RELE	589	Biblical Ethics	(4)
RELE	524	Christian Bioethics	(4)
RELE	548	Christian Social Ethics	(4)

Selectives from public health (HPRO 535, 538, 509) (10)

Electives from religion or ethics (3)

Electives from nursing (13)

Electives (1-2)

THE NURSING ADMINISTRATION OPTION

NURSING ADMINISTRATION—M.S. (53)

The *nursing administration* option prepares nurses for leadership in a variety of organizational settings. The curriculum draws from the practice of nursing, management, and related fields; and includes administration, research, and clinical components.

Administration focus

NRSG	____	Clinical course	(3)
*NRSG	541	Nursing Administration Practicum I	(3)
*NRSG	542	Nursing Administration Practicum II	(3)
NRSG	547	Management: Principles and Practice	(3)

Required courses

HADM	541, 542	Financial Accounting of Health Care Organizations I, II	(3, 3)
HADM	528	Organizational Behavior in Health Care	(3)
HADM	514	Health Care Economics	(3)
or			
HADM	564	Health Care Finance	(3)

NURSING MANAGEMENT POST-BACCALAUREATE CERTIFICATE (28)

The *nursing management* postbaccalaureate certificate is a 25-quarter unit program designed for the nurse with a baccalaureate degree who is interested in a career in nursing management.

Admission requirements

The following are admission requirements for the program:

1. Current employment in a first-level or middle-management position, or employment in a nursing management position for at least two of the past five years.
2. Current California nurse licensure.
3. Baccalaureate degree with a major in nursing, with a cumulative G.P.A. of 3.0.

Required courses

NRSG	515	Health Policy: Issues and Process	(2)
NRSG	516	Advanced Practice Role Development	(2)
NRSG	547	Management: Principles and Practice	(3)
HADM	514	Health Care Economics	(3)
or			
HADM	564	Health Care Finance	(3)
HADM	528	Organizational Behavior in Health Care	(3)
HADM	541, 542	Financial Accounting of Health Care Organizations I, II	(3, 3)
Electives in areas of marketing, finance, legal and regulatory issues, and economics			( )

POSTCERTIFICATE M.S. DEGREE OPTION

Upon completion of the postbaccalaureate Nursing Management Certificate Program, the student may apply for acceptance into the M.S. degree program in *nursing administration*. The Graduate Record Examination is required. Courses completed with a grade of B or higher will apply toward the M.S. degree.

THE PH.D. DEGREE PROGRAM IN NURSING

The Ph.D. degree in nursing is designed to prepare nurse scholars for leadership in education, health care administration, clinical practice, and research. The doctorally prepared nurse scientist who completes this program should be committed to the generation of knowledge critical to development of nursing science and practice. Graduates join with other nursing leaders in furthering the development of nursing science and improving health care delivery throughout the world.

THE CURRICULUM

The doctoral degree program is designed to provide an in-depth understanding of knowledge development within the discipline of nursing through philosophical, theoretical, and scientific methods of inquiry. The core courses of the program emphasize these three areas. In addition to the core courses, each student is encouraged to select an individually focused area of concentration that will support the student's chosen area of expertise in nursing and that will focus her or his area of advanced inquiry. The area of concentration may fit with established research programs of School of Nursing faculty and may also take advantage of graduate courses throughout the University.

Potential areas of concentration include: symptom management, family caregiving, quality of life, spirituality in health care, nursing education, biomedical and clinical ethics, physiological nursing, health policy, health care leadership, and behavioral health sciences.

The Ph.D. degree in nursing has a credit-hour requirement of 95-quarter units beyond the Master of Science degree. Twenty-four of the units are for dissertation; the remaining units are divided among core courses, area of concentration, religion, and electives. The program can be completed in eleven quarters of full-time study or may be extended up to seven years to accommodate the part-time student. Classes are scheduled to accommodate the needs of adult students. Some seminar experiences are supplemented with on-line distance learning.

SELECTION CRITERIA

The following criteria are considered for admission to the doctoral program in nursing:

1. Preference will be given to applicants with a master's degree in nursing.
2. The grade-point average minimum is 3.5 on a 4.0 scale or equivalent at the master's level.
3. The Graduate Record Examination must have been taken within the past five years with satisfactory scores indicating advanced verbal and quantitative skills.
4. A minimum TOEFL score of 550 must be earned by international students.
5. A personal interview is required.
6. Evidence of scholarly work must be provided.

Progression criteria

The following sequential elements are required for progression in the doctoral program:

1. Area of concentration developed and approval of student's proposed program of study by end of the first year of full-time study.
2. Written and oral qualifying examination after completion of all required course work.
3. Advancement to candidacy.
4. Successful defense of research proposal.
5. Successful defense of dissertation.

OUTLINE OF COURSES

PHILOSOPHY OF SCIENCE AND NURSING

PHIL	616	Seminar in Philosophy of Science I	(3)
NRSG	524	Philosophical Foundation of Nursing Science	(2)

THEORY DEVELOPMENT

NRSG	575	Strategies for Theory Development	(4)

RESEARCH AND STATISTICS

HPRO	589	Qualitative Research Methods	(4
NRSG	684	Advanced Quantitative Research Methods	(4)
PSYC	501	Advanced Statistics I	(4)
PSYC	502	Advanced Statistics II	(4)
PSYC	503	Advanced Multivariate Statistics III	(4)
Selected analytical topics (optional)			(2-4)

COGNATES AND ELECTIVES

RELE	___	Religion (ethics, foundational, and relational)	(3, 3, 3)
NRSG	664	Nursing Science Seminar concentration courses	(4, 4, 4)
Electives			(8-12)
NRSG	697	Research (20 units required)	(1-4)
NRSG	699	Dissertation	(4)

COURSES

NRSG 508 Nursing in Community Systems (2)
Utilizes the perspective of population-focused primary health care and examines theoretical frameworks and strategies for working with population groups in community systems. Functions of assessment, planning, intervention, and assurance in providing advanced practice nursing to populations at risk.

NRSG 509 Guided Study (1-6)
Opportunity for study in a particular area of nursing, under faculty direction.

NRSG 512 School-Nursing Services (4-6)
Explores the role of the school nurse and the administrative styles in school-health programs. School-health program planning. Methods of implementation and evaluation examined within the context of school systems, family systems, and health care-delivery systems. Students registered for 5 or 6 units are involved in clinical experience designed to develop competencies in school nursing. Offered alternate years.

NRSG 515 Health Policy: Issues and Process (2)
Examines the impact of the sociopolitical system. Current trends and issues affecting the changing profession of nursing; as well as the impact of nursing on these systems in the workplace, government, professional organizations, and the community.

NRSG 516 Advanced Practice Role Development (2)
Transition into the advanced practice nursing role examined through consideration of the history, theoretical bases, role competencies, selected professional strategies, and legal requirements necessary for role enactment.

NRSG 541, 542 Nursing Administration Practicum I, II (3, 3)
Observation and practice in selected levels of nursing administration.

Prerequisite: NRSG 547; HADM 528 or equivalent; 6 quarter units of clinical nursing.

NRSG 544 Teaching and Learning Theory (3)
Exploration of the components of the teaching-learning process. Opportunity provided for students to practice specific teaching strategies.

NRSG 545 Teaching Practicum (3)
Designed to assist the student in developing the ability to teach nursing in the clinical area of choice. Emphasis on the nurse-teacher as facilitator of learning. Integration of knowledge and skills related to educational methodology and clinical nursing. Practice in teaching students in clinical and classroom settings.

Prerequisite or concurrent: NRSG 544, 546; and 12 quarter units of clinical nursing.

NRSG 546 Curriculum Development in Higher Education (3)
Examines principles of curriculum development—including the selection, organization, and evaluation of learning experiences—with emphasis on the nursing major. Examines the nature, place, and interrelationship of general and specialized education in higher education.

NRSG 547 Management: Principles and Practices (3)
Analysis of administrative issues in health care settings. Organizational complexities, power distribution, political strategies, interdependence of management, and clinical teams. Focuses on the application of selected management theory to the practice of nursing.

NRSG 551 Pediatric Primary Health Care I (4)
Provides a beginning introduction to the problem-oriented approach to assessment and diagnosis. Prepares the nurse-practitioner student as a primary care clinician, an evaluator, and an educator through integration of the traditional nursing and nurse-practitioner roles.

Prerequisite: NRSG 651.

NRSG 552 Pediatric Primary Health Care II (7)
Advanced course in continuing the aspects of health maintenance and promotion and evaluation of common health problems—integrating the student's understanding of pathophysiology, epidemiology, pharmacology, diagnostic studies, and physical assessment skills to formulate diagnoses (medical and nursing) and management plans.

Prerequisite: NRSG 551.

NRSG 553 Pediatric Primary Health Care III (8)
Continues the aspects of health maintenance and promotion as well as evaluation of common health problems—integrating the student's understanding of pathophysiology, epidemiology, pharmacology, diagnostic studies, and physical assessment skills to formulate diagnoses (medical and nursing) and management plans.

Prerequisite: NRSG 552.

NRSG 554A, 554B Pediatric Primary Health Care IV, V (6,4)
Final course in the pediatric primary health care series, aimed at preparing the nurse practitioner student to function independently and collaboratively with other health professionals.

Prerequisite: NRSG 553.

NRSG 555 Pharmacology in Advanced Practice (3)
Overview of the major drug classifications and discussion of the therapeutic use of drugs in the maintenance and strengthening of the client-system lines of resistance and defense.

NRSG 561 Adult Primary Health Care I (4)
Provides a beginning introduction to the problem-oriented approach to assessment and diagnosis. Prepares the nurse practitioner student as a primary care clinician, an evaluator, and an educator through integration of the traditional nursing and nurse-practitioner roles.
Prerequisite: NRSG 651.

NRSG 562 Adult Primary Health Care II (7)
Includes aspects of health maintenance and promotion and evaluation of common health problems integrating the student's understanding of pathophysiology, epidemiology, pharmacology, diagnostic studies, and physical assessment skills to formulate diagnoses (medical and nursing) and management plans.
Prerequisite: NRSG 561.

NRSG 563 Adult Primary Health Care III (8)
Advanced course in continuing the aspects of health maintenance and promotion and evaluation of common health problems—integrating the student's understanding of pathophysiology, epidemiology, pharmacology, diagnostic studies, and physical assessment skills to formulate diagnoses (medical and nursing) and management plans.
Prerequisite: NRSG 562.

NRSG 564, 565 Adult Primary Health Care IV, V (6, 4)
Final course in the adult primary health care series, aimed at preparing the nurse-practitioner student to function independently and collaboratively with other health professionals.
Prerequisite: NRSG 563.

NRSG 604 Nursing in Family Systems (3)
Concepts and theories guiding advanced nursing practice to families—including systems, stress and coping, role, change, and family-assessment models. Clinical experience concurrent.

NRSG 617 Clinical Practicum: Growing Family (3)
Designed to assist the student in developing expertise as a clinical specialist in a selected area of nursing practice of *the growing family.* Includes intensive clinical practice under the guidance of a preceptor.
Prerequisite: NRSG 507, 604, 645, 646.

NRSG 619 Neonatal Critical Care I (4)
Focuses on maternal conditions that affect the fetus/newborn during the perinatal period. Concepts and principles of genetics, embryology, growth and development, psychosocial aspects, and physiology/pathophysiology as they relate to the caregiver role of the clinical nurse specialist/practitioner.
Prerequisite: NRSG 507, 604, 645.

NRSG 620 Neonatal Critical Care II (6)
Focuses on the physiology of the well neonate and pathophysiology of the critically ill neonate. Concepts and principles of neonatal disease entities and disorders studied as they relate to clinical management strategies and the caregiver role of the clinical nurse specialist/practitioner.
Prerequisite: NRSG 619.

NRSG 621 Neonatal Critical Care III (8)
Prepares students for their management role as practitioner and clinical specialist, utilizing the theories and principles of nursing and medical management, problem solving, record keeping, and role definition.
Prerequisite: NRSG 620.

NRSG 622 Neonatal Critical Care IV: Practicum (13)
Synthesizes concepts, principles, theories, knowledge, and skills from the preceding advanced neonatal critical care nursing courses to the practice setting.
Prerequisite: NRSG 621.

NRSG 624 The Adult and Aging Family I (2-4)
Addresses concepts and theories relevant to nursing practice with adults who are experiencing/responding to health-related problems associated with an acute or chronic illness, or the aging process. Focuses on promoting effective individual and family coping. Clinical experience concurrent.
Prerequisite: NRSG 507, 604.

NRSG 626 The Adult and Aging Family II (3-4)
Focuses on the aging adult in the context of family and contemporary society. Issues related to the needs and care of elderly individuals, factors affecting their well-being, and the role of the nurse in promoting wellness both for the client and family. Clinical experience concurrent.
Prerequisite: NRSG 624.

NRSG 628 Clinical Practicum: Adult and Aging Family (4)
Designed to assist the student in developing expertise as a clinical specialist in a selected area of the adult and aging family. Includes intensive clinical practice under the guidance of a preceptor.
Prerequisite: NRSG 626.

NRSG 645 Growing Family I (2-4)
Focuses on theories central to the parent-child relationship and on concepts relevant to their response to health care and illness. Application focused on the child and parents interacting with the advanced practice nurse in a variety of settings.
Prerequisite: NRSG 507, 604.

NRSG 646 Growing Family II (3-4)
Examines current issues in pediatric health care based on changes in society and the health care system. Focus on application of this knowledge by the advanced practice nurse in a variety of settings.
Prerequisite: NRSG 645.

NRSG 651 Advanced Physical Assessment (3)
Provides an in-depth review of physical assessment skills and knowledge to prepare the student to successfully conduct a complete history and physical throughout the patient's life span. Incorporates lecture, audiovisual aids, laboratory skills practicum, and individual study.

NRSG 652 Family Primary Health Care I (4)
Introduction to the problem-oriented approach to assessment and diagnosis. Prepares the nurse-practitioner student as primary-care clinician, evaluator, and educator through integration of the traditional nursing and nurse practitioner roles.

Prerequisite: NRSG 651.

NRSG 653 Family Primary Health Care II (7)
Includes aspects of health maintenance and promotion and evaluation of common health problems—integrating the student's understanding of pathophysiology, epidemiology, pharmacology, diagnostic studies, and physical assessment skills to formulate diagnoses (medical and nursing) and management plans.

Prerequisite: NRSG 652.

NRSG 654 Family Primary Health Care III (8)
Advanced course in continuing the aspects of health maintenance and promotion and evaluation of common health problems—integrating the student's understanding of pathophysiology, epidemiology, pharmacology, diagnostic studies, and physical assessment skills to formulate diagnoses (medical and nursing) and management plans.

Prerequisite: NRSG 653.

NRSG 655, 656 Family Primary Health Care IV, V (8, 4)
Final course in the family primary health care series, aimed at preparing the nurse-practitioner student to function independently and collaboratively with other health professionals within a family-oriented setting.

Prerequisite: NRSG 654.

NRSG 681 Research Methods I (3)
Guides the student in understanding scientific thinking and research methods beyond the introductory level. Research literature in nursing and related fields used to illustrate the application of principles of research. Development of a research area of interest by identifying a research problem and reviewing the relevant literature.

Prerequisite: NRSG 507, 604; STAT 514.

NRSG 682 Research Methods II (2)
Application of research concepts in the completion of a research proposal. Focuses on design issues and management and analysis of data.
Prerequisite: NRSG 681.

NRSG 693 Experience Portfolio (16)
Portfolio preparation documenting nurse practitioner educational program, including the clinical practice component.

Prerequisite: Certified nurse practitioner with current nurse practitioner practice of at least two years; at least five years of postbaccalaureate nurse practitioner practice experience.

NRSG 697 Research (3)

NRSG 698 Thesis (2)

NUTRITION

SUJATHA RAJARAM, Ph.D. Home Science University, India 1988; Ph.D. Purdue University 1993
Program Coordinator; Assistant Professor of Nutrition
Advanced nutrition, nutritional biochemistry, sports and exercise nutrition

The Department of Nutrition, in collaboration with other departments of the University, offers programs leading to the Master of Science degree in the field of nutrition. To meet the specific needs of prospective students who desire training in nutrition, three clearly defined programs are offered: nutritional sciences, clinical nutrition, and nutrition-care management. In addition, a master's degree in public health nutrition is being offered through the School of Public Health.

The program in nutritional sciences has the following objectives:

1. To provide a basic science approach to understanding advanced areas in human nutrition.
2. To enhance research skills by developing or applying advanced laboratory techniques in human-nutrition research.

This program is suitable for persons pursuing a doctoral degree in nutrition or other related areas and for persons preparing to teach at the secondary or college level. It provides background experience to those interested in research careers in academia or industry and provides advanced training in basic nutrition for physicians and other health professionals.

The program in clinical nutrition has the following objectives:

1. To provide the student with training needed in specialized areas of clinical nutrition.
2. To prepare the student to become eligible for nutrition-support certification (CNSD) and other areas of advanced clinical practice.

This program is suitable for persons pursuing careers as managers of free-standing outpatient clinics, treatment centers, or wellness centers; as chief clinical dietitians in acute care facilities; and as research dietitians. It provides specialized training in medical nutrition therapy for advanced-level practice and provides advanced educational opportunities in clinical nutrition for physicians and other health professionals.

Both nutrition programs emphasize the role of diet—particularly vegetarian diet—in health promotion and disease prevention and treatment. The programs are interdisciplinary and require a project or a research thesis.

The program in nutrition-care management has the following objectives:

1. Provide students a strong background in nutrition-care management.
2. Prepare students for management of institutional services facilities in varied settings.

The program in nutrition-care management is suitable for those planning careers in institutional settings with food-services divisions. It provides a strong background in the fundamentals of nutrition and of organizational and management skills, as well as exposure to finance and technology.

FACULTY

PATRICIA K. JOHNSTON, Dr.P.H. University of California at Los Angeles 1987
Dean PH; Professor of Nutrition
Public health nutrition, maternal and child nutrition, nutrition and aging, minerals

JOAN SABATÉ, M.D. Universidad Autonoma de Barcelona (Spain) 1977; Dr.P.H. Loma Linda University PH 1989
Chair; Professor of Nutrition and of Biostatistics and Epidemiology
Nutritional epidemiology, methods of nutrition research, nutritional assessment

ELLA HADDAD, Dr.P.H. Loma Linda University PH 1979
Associate Professor of Nutrition
Advanced nutrition, public health nutrition, nutrition assessment

ZAIDA CORDERO-MACINTYRE, Ph.D. University of Arizona 1998
Assistant Professor of Nutrition
Drug-nutrient interactions, clinical nutrition

ASSOCIATE FACULTY

KENNETH I. BURKE, Ph.D. Florida State University 1973
Professor of Nutrition and Dietetics
Food science

BERTRUM C. CONNELL, Ph.D. University of Missouri at Columbia 1981
Professor of Nutrition and Dietetics
Food-systems management

JONI PAGGENKEMPER, M.S. Texas Woman's University 1988
Assistant Professor of Nutrition and Dietetics
Renal disease, clinical nutrition

CRYSTAL WHITTEN, M.S. Loma Linda University GS 1985
Assistant Professor of Nutrition and Dietetics
Hyperlipidemias, clinical nutrition

CLINICAL FACULTY

GEORGIA HODGKIN, Ed.D. Loma Linda University SE 1991
Associate Professor of Nutrition and Dietetics
Nutrition-care management, nutrition and aging

ELAINE FLEMING, M.P.H. Loma Linda University PH 1975
Assistant Professor of Nutrition and Dietetics
Community nutrition, nutrition and aging, ethnic food practices

CINDY KOSCH, M.S. Loma Linda University GS 1986
Assistant Professor of Nutrition and Dietetics
Metabolic nutrition care

General requirements

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN.

MASTER OF SCIENCE

Admission

Applicants must meet the general Graduate School admission requirements as well as those specific to the program in nutrition, as stated below.

Prerequisites

Applicants for the *Nutritional Sciences* Program must hold a baccalaureate degree in science, or be a physician or other health professional.

Applicants for the *Clinical Nutrition* Program must hold a baccalaureate degree; be a registered dietitian, a physician, or a dentist; or be RD eligible. Specific courses required as prerequisites for both programs are microbiology, physiology, and general and organic chemistry. For the program in nutritional sciences, applicants must have taken a complete sequence of general and organic chemistry.

Students in the *Nutrition-Care Management* Program must be registered dietitians with a minimum of two years of professional work experience. Applicants to all programs must have an overall G.P.A. of 3.0 or better in their undergraduate course work and must provide acceptable scores on the general test of the Graduate Record Examination, as well as a clear statement of personal and professional goals. Evidence of computer literacy must be provided; however, computer requirements may be taken concurrently and in addition to the required courses.

CURRICULUM

NUTRITIONAL SCIENCES PROGRAM

Required courses

NUTR	504	Nutritional Metabolism	(5)
NUTR	517	Advanced Nutrition I	(4)
NUTR	518	Advanced Nutrition II	(4)
NUTR	539	Research Methods in Nutrition	(2)
NUTR	604	Seminar in Nutrition	(1,1)
NUTR	694	Research	(5)
NUTR	695	Thesis	(2)
STAT	____	Statistics	(4-6)
REL_	____	Religion	(3)
Area of emphasis and nutrition electives			(15-17)

TOTAL UNITS REQUIRED (48)

Possible areas of emphasis

Biochemistry
Physiology
Pharmacology
Molecular biology
Nutrition

Additional requirements

In addition to the course work, students are required to attend the Department of Nutrition colloquia and Graduate School seminars, and pass a comprehensive examination and the oral defense of their thesis.

CLINICAL NUTRITION PROGRAM

Required courses

PHSL	533	Physiology I	(4)
PHSL	534	Physiology II	(3)
NUTR	504	Nutritional Metabolism	(5)
NUTR	517	Advanced Nutrition I	(4)
NUTR	518	Advanced Nutrition II	(4)
NUTR	539	Research Methods in Nutrition	(2)
NUTR	554	Critical Care Nutrition I	(3)
NUTR	555	Critical Care Nutrition II	(3)
NUTR	577	Nutrition-Care Management	(3)
NUTR	597	Special Topics in Clinical Nutrition	(1, 1)
REL_	____	Religion	(3)

Project option

STAT	509	General Statistics	(4)
Approved electives			(12)
NUTR	____	Project	(4)

Thesis option

STAT	____	Statistics	(5)
NUTR	694	Research	(5)
NUTR	695	Thesis	(2)

TOTAL UNITS REQUIRED:

Project option	(56)
Thesis option	(48)

Additional requirements

In addition to the course work, students are required to attend the Department of Nutrition colloquia and grand rounds, pass a comprehensive examination, and either present the project or pass the oral defense of their thesis.

NUTRITION-CARE MANAGEMENT PROGRAM

Prerequisite

Registered dietitian credential

Required courses

NUTR	517	Advanced Nutrition I	(4)
NUTR	518	Advanced Nutrition II	(4)
NUTR	539	Research Methods	(2)
NUTR	564	Contemporary Issues of Vegetarian Diets	(2)
NUTR	577	Nutrition-Care Management	(3)
NUTR	605	Seminar	(1, 1)
AHCJ	504	Current Issues in Health Care	(3)
MHIS	503	Organizational Structure and Behavior	(3)
MHIS	504	Health Care Financial Management	(3)
MHIS	521	Human Factors in Technology Management	(3)
MHIS	601	Health Systems Operations Management	(3)
DTCS	5__	Nutrition-Care Marketing	(3)
DTCS	5__	Capstone course	(3)
REL_	5__	Religion elective	(3)

Thesis track

STAT	531	Statistics	(4)
DTCS	694	Research	(4)
DTCS	695	Thesis	(2)

Nonthesis track

STAT	531	Statistics	(4)
DTCS	696	Nutrition Project	(2)
Electives			(9)

TOTAL UNITS REQUIRED:

Thesis track	(51)
Nonthesis track	(56)

Additional requirements

Two years work experience as a registered dietitian.

Show leadership potential.

Have a mentor.

M.P.H. and Dr.P.H. programs in nutrition

Professional programs leading to the Master of Public Health and the Doctor of Public Health degrees in nutrition are offered through the School of Public Health and are described in the BULLETIN of that school.

COURSES

NUTR 504 Nutritional Metabolism (5)
Study of the static and dynamic aspects of the metabolism of carbohydrates, lipids, amino acids, proteins, nucleic acids, cations, anions, enzyme kinetics, hormones, vitamins, and minerals in the normal healthy human.

NUTR 509 Public Health Nutrition (3)
Introduction to the concepts of nutrition as related to public health. Includes life-cycle issues as well as discussion of major nutrition-related diseases and their prevention. Not applicable toward a major in nutrition.

NUTR 510 Advanced Public Health Nutrition (3)
Study of the applied and preventive aspects of nutrition as related to public health.

Prerequisite: NUTR 504.

NUTR 517 Advanced Nutrition I: Carbohydrates and Lipids (4)
Advanced study of the nutrition, metabolism, and function of carbohydrates and lipids as related to health and disease.

Prerequisite: NUTR 504.

NUTR 518 Advanced Nutrition II: Proteins, Vitamins, and Minerals (4)
Advanced study of the nutrition, metabolism, and function of proteins, vitamins, and minerals as related to health and disease.

Prerequisite: NUTR 504.

NUTR 519 Phytochemicals (2)
Discussion of the role of phytochemicals in disease prevention and treatment. Review of current research in this area

Prerequisite: NUTR 504.

NUTR 525 Nutrition Policy, Programs, and Services (3)
Development of professional skills in management of nutrition programs. Includes legislative advocacy and analysis of current nutrition programs at local, state, and federal levels. Laboratory included.

NUTR 527 Assessment of Nutritional Status (2)
Techniques of individual nutrition assessment: dietary intake and evaluation, use of computer software (1 unit); anthropometric, clinical, and biochemical methodologies (1 unit); principles and practice in nutrition counseling in a supervised community setting (1 unit). Laboratory or practicum included in each unit.

Prerequisite: Basic nutrition or consent of instructor.

NUTR 528 Symposium: Adventist Philosophy of Nutrition (1)
The science of nutrition as related to the Seventh-day Adventist philosophy of health.

NUTR 534 Maternal and Child Nutrition (3)
Role of nutrition in human growth and development during the prenatal period, lactation, infancy, and childhood.

NUTR 536 Nutrition and Aging (2)
Effect of nutrition on aging and chronic degenerative diseases, and their effects on nutritional status. Geriatric nutrition screening and assessment. Anorexia of aging. Nutrition support, supplement use, and services for older Americans.

Prerequisite: Basic nutrition or consent of instructor.

NUTR 537 Community Programs Laboratory (1)
Supervised nutrition intervention in the community. Design, implementation, and evaluation of nutrition programs. May be repeated for a total of 3 units.

Prerequisite: HPRO 509.

Prerequisite or concurrent: HPRO 536.

NUTR 539 Research Methods in Nutrition (2)
Discussion of the steps in the research process as they relate to basic and clinical nutrition investigation. Validity of biological parameters and dietary intake measurements, study design, subject selection, and ethical issues.

Prerequisite: STAT 509 or equivalent.

NUTR 543 Concepts in Nutritional Epidemiology (3)
Designed to prepare students for conducting research relating diet to health/disease outcomes. Review of methodological issues related to dietary assessment for clinical/metabolic and epidemiological research. Topics include: variation in diet, measurement error and correction for its effects, advantages and limitations of different diet assessment techniques, design and development of a food-frequency instrument, total energy intake in analyses.

Prerequisite: STAT 521; EPDM 509; NUTR 527 or consent of instructor.

NUTR 545 Clinical Nutrition (4)
Medical nutrition therapy and care for a variety of clinical disorders with nutritional implications. Laboratory included.

Prerequisite: Basic nutrition, physiology or equivalent.

NUTR 554 Critical Care Nutrition I (3)
Current issues related to the nutritional needs of patients with diabetes, heart disease, and renal disease. Drug-nutrient interactions, laboratory values, treatment modalities, and their effect on nutrition in the critical care of these patients. Counseling strategies for each.

Prerequisite: RD, RD eligible with appropriate experience, M.D., or consent of instructors.

NUTR 555 Critical Care Nutrition II (3)
Current issues related to the nutritional needs of the preterm neonate, transplant, oncology, AIDS, and COPD patients. In-depth study of enteral/parenteral feeding products and their administration. Counseling strategies for the client and/or caregiver in each instance.

Prerequisite: RD, RD eligible with appropriate experience, M.D., or consent of instructor.

NUTR 564 Contemporary Issues of Vegetarian Diets (1-2)
Introduction to contemporary issues and controversies related to vegetarian diets. Background information on the history and rationale of vegetarian diets; ecologic and environmental issues; health benefits as well as risks of the vegetarian lifestyle.

NUTR 565 Ethnic Food Practices (2)
Introduction to major ethnic and religious food practices in the United States. Focuses on cultural background and reported data for the purpose of preparing health professionals to serve their clients in a culturally sensitive manner.

NUTR 575 Food-Systems Management (3)
Development of administrative skills in effective management of food systems. Qualitative and quantitative standards, budget development and analysis, labor-management relations, computer-assisted information system.

Prerequisite: HADM 509 or equivalent.

NUTR 577 Nutrition-Care Management (3)
Translation of institutional mission into goals, objectives, and standards of care. Application of operations analysis, financial management, quantitative decision making, and productivity-management techniques to enhance the delivery of nutrition care. Ethical and legal behavior. Staff recruitment, selection, development, and retention. Development of quality-assurance indicators. Skills in managing the human and technological resources available to the registered dietitian.

Prerequisite: RD, RD eligible with appropriate experience, M.D., or consent of instructor.

NUTR 578 Exercise Nutrition (2-3)
Nutritional needs of professional and recreational athletes. The role of macro- and micronutrients as ergogenic aids. Overview of current research in the areas of exercise nutrition. Third unit requires a term paper on current research topic in exercise nutrition.

Prerequisite: NUTR 504 or HPRO 573.

NUTR 597 Special Topics in Clinical Nutrition (1)
Investigation and discussion of current topics in clinical nutrition; may be repeated for credit.

Prerequisite: NUTR 554, 555.

NUTR 604 Seminar in Nutrition (1)
Designed to explore current major issues in nutrition. Students choose and research a topic or problem and discuss their findings in class. Written report required. May be repeated for additional credit.

Prerequisite: Five graduate units in nutrition or consent of instructor.

NUTR 694 Research (1-12)
Independent research for doctoral degree candidates and qualified master's degree students on problems currently being studied in the department, or in other department(s) with which they collaborate. Research program arranged with faculty member(s) involved. Minimum of one hundred hours required for each unit of credit. Written report required.

Prerequisite: Consent of instructor responsible for supervision and the program adviser.

NUTR 695 Thesis (2)
Individual guided experimental research study in nutrition, under direct faculty supervision. Limited to graduate students whose thesis project has been approved by their research committee.

NUTR 696 Directed Study/Special Project (1-4)
Individual arrangements for advanced students to study under the guidance of a program faculty member. May include readings, literature reviews, or other special projects. Minimum of thirty hours required for each unit of credit. A maximum of 4 units applicable to any master's degree program.

PHARMACOLOGY

J. MAILEN KOOTSEY, PH.D. Brown University 1966
Chair; Professor of Physiology and of Pharmacology
Cardiac electrophysiology, computer simulation, pharmacokinetics

JOHN N. BUCHHOLZ, Ph.D. Loma Linda University GS 1989
Program Coordinator; Professor of Pharmacology
Cardiovascular and neuropharmacology

The Pharmacology Program in cooperation with other departments of the University, offers an interdisciplinary program with emphasis in cellular and molecular pharmacology or in systems pharmacology leading to the Doctor of Philosophy, concurrent D.D.S./Ph.D., or concurrent M.D./Ph.D. degree. The student may choose to emphasize either a cell or molecular pharmacology curriculum with selected interdisciplinary courses and seminars coordinated by the faculties in the Departments of Pharmacology, Biochemistry, and Microbiology; or a systems pharmacology curriculum with selected interdisciplinary courses and seminars coordinated by the faculties in the Departments of Pharmacology, Anatomy, and Physiology. These degree programs provide opportunities for qualified students to prepare for careers in teaching and research.

FACULTY

IAN M. FRASER, Ph.D., Cambridge University 1952
Distinguished Emeritus Professor of Physiology and Pharmacology
Drug metabolism, chemotherapy

DAVID A. HESSINGER, Ph.D. University of Miami 1970
Professor of Physiology and Pharmacology
Cell biology, sensory transduction, marine toxicology

WILLIAM J. PEARCE, Ph.D. University of Michigan 1979
Professor of Physiology and Pharmacology
Cardiovascular physiology, control of cerebral circulation

MARVIN A. PETERS, Ph.D. University of Iowa 1969
Emeritus Professor of Pharmacology
Drug metabolism, biochemical pharmacology, neuropharmacology

ALLEN STROTHER, Ph.D. Texas A and M University 1963
Emeritus Professor of Pharmacology
Drug metabolism, biochemical pharmacology, nutrition

ROBERT W. TEEL, Ph.D. Loma Linda University GS 1972
Professor of Physiology and Pharmacology
Carcinogen metabolism, chemoprevention of cancer

BERNARD TILTON, M.D., Ph.D. University of California at Los Angeles 1960
Emeritus Professor of Pharmacology

C. RAYMOND CRESS, Ph.D. Oregon State University 1970
Associate Professor of Physiology and Pharmacology
Toxicology

RAMON R. GONZALEZ, JR., Ph.D. Wake Forest University 1973
Associate Professor of Physiology and Pharmacology
Cardiovascular physiology, control of circulation

LUBO ZHANG, Ph.D. Iowa State University at Ames 1990
Professor of Physiology and Pharmacology
Biochemical pharmacology

GLYNE THORINGTON, Ph.D. Boston University 1980
Assistant Research Professor of Physiology and Pharmacology
Cell biology, signal transduction

ASSOCIATE FACULTY

RALPH E. CUTLER, M.D. University of California at Los Angeles 1956
Professor of Medicine and of Pharmacology; Chief, Clinical Pharmacology Section, Loma Linda University
Clinical pharmacology

PIPER DUCKLES, Ph.D. University of California at San Francisco 1973
Adjunct Professor of Physiology and Pharmacology
Comparative pharmacology and toxicology

DOCTOR OF PHILOSOPHY

Admission

A student may be admitted to a program of study toward the Doctor of Philosophy degree in pharmacology after having completed an undergraduate program or after successfully completing a master's degree in one of the natural sciences.

Prerequisites

The incoming student must have completed the prerequisites or have made suitable arrangements to do so, as stated below and in the Programs and Degrees and the Academic Practices sections of division I of this BULLETIN.

The optimum undergraduate preparation for a student to do well in graduate pharmacology is a major in chemistry with a minor in biology, or a biology major with a chemistry minor. Either combination should include a good background in elementary physics.

Applicants to a graduate degree program in pharmacology are expected to have a baccalaureate degree with the following minimum prerequisites in their undergraduate preparation (quarter units):

Biology	(8)
Chemistry (including general, quantitative, and organic chemistry)	(20)
Physics	(8)

With the consent of the department, applicants who do not meet the foregoing requirements may be admitted to the Graduate School on a provisional basis until the deficiencies are removed.

Financial aid

Applications for admission requesting financial support should be completed by February 1.

Master's degree credit toward doctoral degree

Applicants having completed a master's degree elsewhere may receive up to 48 quarter units of academic credit toward the doctoral degree. The amount of credit given will depend on the course work taken during the master's degree program.

Terminal master's degree

Incoming students will not be accepted into the program with the intent of completing a master's degree only. However, if a student pursuing a Ph.D. degree finds it impossible or undesirable to continue, a terminal master's degree may be awarded, providing he or she has completed a minimum of 48 quarter units. Of this total, 30 units must be in pharmacology.

Program requirements

The student may select 18 units of cognate courses in consultation with the departmental adviser. A maximum of 12 of the 30 units of pharmacology may be in research leading to the preparation and successful oral defense of a formal thesis, or the results may be in the form of a publishable scientific paper.

Ph.D. degree

A student pursuing the Ph.D. degree will be required to take a minimum of four academic years of full-time work (approximately 100 quarter units). Approximately 25 units of course work must be in the major field of study, with an additional 26 to 43 units of course work in selected cognates. An additional 20 to 30 units of research, 4 units of seminar, and 3 to 4 units for writing and defense of the dissertation will also be required.

The candidate must take comprehensive written and oral examinations over the major field of study and prepare an acceptable dissertation based on the research program, as stated in division II of the Graduate School BULLETIN.

COMBINED-DEGREES PROGRAMS

In each combined-degrees program, some Graduate School credit may be accepted for certain courses taken toward the professional degree. Consent for such credit must be obtained from the Department of Pharmacology and the Graduate School after the courses are completed with satisfactory grades. For a course taken in a professional curriculum to be accepted for graduate credit, the student must maintain the competence required for the respective graduate level.

General requirements

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN.

COURSES

PHRM 511, 512 General and Systematic Pharmacology I, II (5, 3)

Principles of drug action: drug receptors, absorption and fate of drugs, drug toxicity, and drug development. Systematic consideration of the pharmacology and the therapeutic value of the drugs used in medicine. Demonstration and laboratory exercises illustrating the effects of drugs in man or animals.

PHRM 534 Topics in Pharmacology for Dentistry (2)

Lectures and discussions dealing with pharmacologic agents used in dentistry. Emphasis on the current agents used in dental anesthesia, both local and general. Offered on demand. .

PHRM 544 Topics in Advanced Pharmacology (3)

Lectures and discussions dealing with current advanced concepts in pharmacology, such as structure-action relationships, mechanisms of action, and metabolism and detoxification of therapeutic agents. Offered on demand.

PHRM 545 Laboratory in Advanced Pharmacology (1-2)
Experimental studies illustrating the didactic material presented in PHRM 544. Offered on demand.

PHRM 554 Neuropharmacology (4)
Systematic discussion of drugs that affect primarily the nervous system, with major emphasis on mechanism of action.

PHRM 555 Laboratory in Neuropharmacology (1)
Experimental studies illustrating the didactic material presented in PHRM 554.

PHRM 564 Cardiovascular and Renal Pharmacology (3)
Systematic discussion of drugs that affect primarily the cardiovascular and renal systems, with major emphasis on mechanism of action. Offered on demand.

PHRM 565 Laboratory in Cardiovascular and Renal Pharmacology (1)
Experimental studies illustrating the didactic material presented in PHRM 564. Offered on demand.

PHRM 584 Drug Metabolism and Biochemical Pharmacology (3)
Detailed discussion of the fate of drugs in the body, together with related aspects of biochemical actions of drugs.

PHRM 585 Laboratory in Drug Metabolism and Biochemical Pharmacology (1)
Experimental studies illustrating the didactic material presented in PHRM 584.

PHRM 586 Toxicology (3)
Discussion of deleterious effects of drugs and common poisons. Measures that can be taken to combat poisoning. Offered on demand.

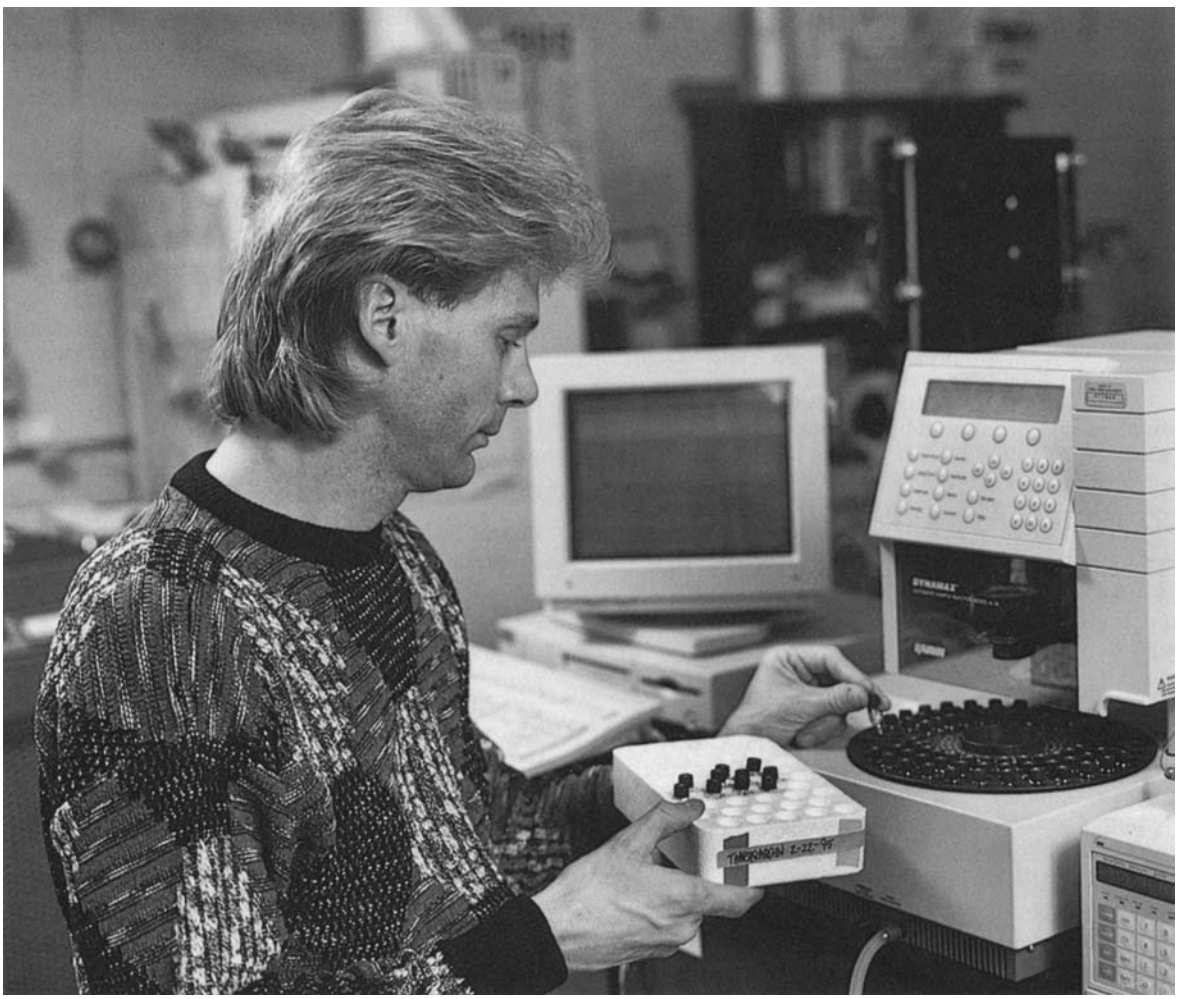
PHRM 605 Integrative Biology Graduate Seminar (1)
Seminar coordinated by the Departments of Anatomy and of Pharmacology and Physiology. Reports from current literature and presentation of student and faculty research on various aspects of regulatory and integrative biology as applied to cells, tissues, organs, and systems. Students and faculty expected to participate in a discussion and critical evaluation of the presentation.

PHRM 684 Special Problems in Pharmacology (2-6)
Assignments in literature reviews and/or laboratory exercises.

PHRM 697 Research (1-6)

PHRM 698 Thesis (1-6)

PHRM 699 Dissertation (1-6)



PHYSIOLOGY

J. MAILEN KOOTSEY, Ph.D., Brown University 1966
Chair; Professor of Physiology and Pharmacology
Cardiac electrophysiology, computer simulation,pharmacokinetics

JOHN LEONORA, Ph.D. University of Wisconsin 1957
Cochair; Program Coordinator; Professor of Physiology
Endocrinology

The graduate program in physiology provides a Christian environment in which Ph.D. degree candidates may pursue curricula oriented to their specific interests. Individual attention is assured by maintenance of a small student/faculty ratio. Research opportunities are available in cell and molecular biology; cardiovascular, respiratory, neuro-, reproductive, endocrine, bone, and neonatal physiology and cancer.

FACULTY

CHARLES A. DUCSAY, Ph.D. University of Florida 1980
Professor of Physiology and Pharmacology
Reproductive physiology, endocrinology

RAYMOND D. GILBERT, Ph.D. University of Florida at Gainesville 1971
Professor of Physiology and Pharmacology
Fetal cardiovascular physiology

DAVID A. HESSINGER, Ph.D. University of Miami 1970
Professor of Physiology and Pharmacology
Cell biology, sensory transduction, marine toxicology

LAWRENCE D. LONGO, M.D. Loma Linda University SM 1954
Distinguished Professor of Gynecology and Obstetrics, of Physiology and Pharmacology, and of Pediatrics
Placental exchange, fetal physiology

WILLIAM J. PEARCE, Ph.D. University of Michigan 1979
Professor of Physiology and Pharmacology
Cardiovascular physiology, control of cerebral circulation

GORDON G. POWER, M.D. University of Pennsylvania 1961
Professor of Gynecology and Obstetrics and of Physiology and Pharmacology
Placental exchange, fetal physiology

ROBERT W. TEEL, Ph.D. Loma Linda University GS 1972
Professor of Physiology and Pharmacology
Carcinogen metabolism, chemoprevention of cancer

STEVEN M. YELLON, Ph.D. University of Connecticut 1981
Professor of Physiology and Pharmacology and of Pediatrics
Reproductive endocrinology, neuroendocrinology, biological rhythms, and neuroimmunology

DAISY DE LEÓN, Ph.D., University of California at Davis 1987
Associate Professor of Physiology and Pharmacology
Endocrinology, breast cancer

MARINO DE LEÓN, Ph.D., University of California at Davis 1987
Associate Professor of Physiology and Pharmacology and of Anatomy
Neurophysiology, molecular neurobiology

RAMON R. GONZALEZ, JR., Ph.D. Wake Forest University 1973
Associate Professor of Physiology and Pharmacology
Cardiovascular physiology, control of circulation

RAYMOND G. HALL, JR., Ph.D. Loma Linda University GS 1968
Associate Professor of Physiology and Pharmacology
Cell physiology

GEORGE MAEDA, Ph.D. Loma Linda University GS 1976
Associate Professor of Physiology and Pharmacology
Neurophysiology

ELWOOD S. McCLUSKEY, Ph.D. Stanford University 1959
Emeritus Associate Professor of Physiology
Comparative physiology

JEAN-MARC TIECHE, Ph.D. Loma Linda University GS 1979
Assistant Research Professor of Physiology and Pharmacology
Endocrinology

ASSOCIATE FACULTY

WILLIAM H. FLETCHER, Ph.D. University of California at Berkeley 1972
Professor of Pathology and Human Anatomy and of Surgery
Neurophysiology

SUBBURAMAN MOHAN, Ph.D. University of Bangalore (India) 1978
Professor of Physiology, of Medicine, and of Biochemistry
Bone matrix proteins and growth factors

SANDRA L. NEHLSEN-CANNARELLA, PH.D. National Institute for Medical Research, Medical Research Council (London) 1971
Professor of Pathology and Human Anatomy and of Surgery
Immunology

JOHN J. ROSSI, Ph.D. University of Connecticut at Storrs 1976
Adjunct Professor of Microbiology and Molecular Genetics
Microbial genetics

LORA M. GREEN, Ph.D. University of California at Riverside 1987
Associate Professor of Microbiology and Molecular Genetics and of Medicine
Cell and molecular biology

MICHAEL A. KIRBY, Ph.D. University of California at Riverside 1984
Associate Professor of Pediatrics and of Pathology and Human Anatomy
Neurophysiology, neuroanatomy, developmental neurobiology, radiation neurobiology

PHILIP J. ROOS, M.D. Loma Linda University SM 1976
Associate Professor of Medicine and of Physiology
Pulmonary physiology

DOCTOR OF PHILOSOPHY

Prerequisites

The equivalent of a major in one field of science or mathematics and a minor in another is prerequisite. Undergraduate courses should include zoology.

Financial aid deadline

Applications for admission requesting financial support should be completed by February 1.

Admission

A student may be admitted to a program of study toward the Doctor of Philosophy or a master's degree after having completed an undergraduate program, as specified above.

Master's degree credit toward doctoral degree

Applicants having completed a master's degree elsewhere may receive up to 48 quarter units of academic credit toward the doctoral degree. The amount of credit given will depend on the course work taken during the master's degree program.

PROGRAM REQUIREMENTS

Master's degree

The master's degree is a nonthesis program that requires 48 quarter units. It is offered primarily to students who have completed the certificate program and to high school teachers who are interested in strengthening their background in physiology. In addition to physiology (30 units), the student may select up to a maximum of 18 units of cognate courses in consultation with the departmental adviser.

If a student pursuing a Ph.D. degree finds it impossible or undesirable to continue, a terminal master's degree may be awarded, providing s/he has completed a minimum of 48 quarter units. Of this total, 30 units must be in physiology.

Ph.D. degree

A student pursuing the Ph.D. degree will be required to complete 96 quarter units of academic work. Formal classes are normally completed in two years; and the remaining credits are for seminars, research, and dissertation writing. A minimum of 30 units of course work must be in the major field of study, with an additional 26 to 43 units of course work in selected cognates. An additional 20 to 30 units of research, 6 units of seminar, (4 units PHSL 605 and 2 units PHSL 604), and 4 units for writing and defense of the dissertation are also required. Students who have satisfied the 4 units of PHSL 605 must continue presenting seminars each year thereafter, in the Fall Quarter, without receiving any further credit. Students majoring in neurophysiology must take the neuroscience block (PHSL 537 Neuroscience I and II, 8 units); all other students will take PHSL 502 Basic Neurophysiology, 3 units.

Required major field courses for the Ph.D. degree include: PHSL 521, 522, 523 (10 units); and PHSL 541, 542, 543 or 544 (10 units). Required cognate courses include CMBL 501 (8 units) and CMBL 502 (8 units). During the first year, the student must also take one research credit by rotating through at least two research laboratories to become familiar with available research opportunities before making a final decision in selecting a research mentor.

The student must take a comprehensive written examination in all of the major areas of physiology within the first two years. Within one quarter of passing the comprehensive written examination, the student must take an oral examination over his his/her area of special interest and related areas. It is appropriate at that time to present before his/her committee their research proposal for approval. Ultimately, an acceptable dissertation based on the research program, as stated in section I of this BULLETIN, must be submitted.

COMBINED-DEGREES PROGRAM

The program in physiology, in cooperation with other departments of the University, offers an interdisciplinary program leading to the Doctor of Philosophy, concurrent M.D./Ph.D., or concurrent D.D.S./Ph.D. degrees. The physiology curriculum includes selected interdisciplinary courses and seminars coordinated by the faculties in the Departments of Physiology, Anatomy, and Pharmacology.

In the combined-degrees programs, some Graduate School credit may be accepted for certain courses taken toward the professional degree. Consent for such credit must be obtained from the program in physiology and the Graduate School after the courses are completed with satisfactory grades. For a course taken in a professional curriculum to be accepted for graduate credit, the student must maintain the competence required for the respective graduate level.

General requirements

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN.

COURSES

PHSL 502 Basic Neurophysiology (3)
Intensive four-week course including rudimentary neuroanatomy, electrophysiology of neurons, skeletal muscle, synaptic transmission, sensory systems, and motor control. Discussion of higher functions, such as sleep and brain electrical activity.

PHSL 503 The Differentiated Cell (10)
Biological membranes and cytoskeletal systems as a basis for studying specialized structures and functions of selected differentiated cell types. The role of signal transduction pathways in regulation of cell cycle, cell death, and cell signaling. The role of cell-cell interactions in specialized cellular tasks. Emphasis on the underlying molecular mechanisms of specialized cell function.

PHSL 521, 522, 523 Medical Physiology (1,6,3)
Physiological basis of normal and selected pathological conditions, modern concepts of homeostasis, and negative-feedback control systems. Utilization of modern electronic instrumentation to study function in man or experimental animals in laboratory sessions.

PHSL 525 Cellular and Molecular Neuralendocrine Interactions (3)
Study of the nervous and endocrine systems as they work together to maintain homeostasis in normal and during pathological conditions. Introduction to the nature of this interaction, with emphasis on understanding the basic cellular and molecular events. Taught alternate years. Consent of the instructors required.

PHSL 533, 534 Physiology I, II (4, 3)
Study of basic human physiology at the cellular and systemic levels, and of pathological conditions. Laboratory sessions utilizing modern electronic instrumentation to study function in man or experimental animals. Designed for students in all applied and basic sciences except physiology.

PHSL 535 Comparative Physiology (5)
Comparison of the major animal groups, from protozoa to mammals, with emphasis on analysis of diversity. Lecture 4 units, laboratory 1 unit. Offered alternate years.

Prerequisite: Zoology (preferably invertebrate), physiology (or biochemistry).

PHSL 537, 538 Neuroscience (4, 4)
Integrated approach to the fundamentals of neuroanatomy and neurophysiology, with applications to clinical neurology.

PHSL 541 Cell and Molecular Biology (4)
Life processes fundamental to animal, plant, and microorganism; a graduate-level introduction. Lecture 3 units, laboratory 1 unit each term. Offered alternate years.

Prerequisite: Organic chemistry and one of the following—biochemistry, molecular biology, or cell biology. Physics desirable.

PHSL 542 Signal Transduction and Regulation (3)
Part of PHSL 503. A comprehensive description of signal transduction pathways and other cellular regulatory mechanisms that form the basis of receptor-response phenomena.

PHSL 543 Cell-Cell Interaction
Part of PHSL 503. Discussion of the role of cell-cell interactions and the mechanism for cellular specialization, emphasizing the immune system.

PHSL 544 Cell and Molecular Neurobiology (3)
A comprehensive, introductory, lecture-based course designed to introduce basic biomedical science graduate students to the cellular and molecular concepts that underlie most forms of neurobiological phenomena. Selected topics to be studied include the molecular and cellular components of neuronal excitation and transmission, neuronal development, differentiation and aging, axonal injury and nerve regeneration, and specific cases of nervous system pathology.

PHSL 550 Properties of the Nervous System (3)
Critical analysis of current neurophysiological data attempting to characterize the vertebrate nervous system. Emphasis on selected topics covering neuronal topology, intracellular recordings, ultrastructure, evoked potentials, and neurotransmitter chemistry. Offered alternate years.

Prerequisite: Consent of the instructor.

PHSL 551 Cellular Structural Elements (4)
Part of PHSL 503. A comprehensive description of biological membranes and cytoskeletal systems that will form a basis for elucidating the functions of most specialized cells.

PHSL 553 Introduction to Electronics and Computing as Applied to Biomedical Research (4)
Introduction to electronics and computers for recording and analyzing data in biomedical research. Analog and digital electronics covered at a modular level—with practical application of the instrumentation, and applications of computers to control and recording. Construction and use of mathematical/computer models of biomedical systems and fitting of models to data. Laboratory activities in electronics and computer simulation.

Prerequisite: College-level physics; calculus is helpful.

Courses 553-587 are advanced lecture and conference courses exploring the latest concepts in the respective area.

Prerequisite or concurrent: PHSL 511, 512; or the equivalent.

PHSL 554 Computer Simulation of Biomedical Systems (4)
How to construct and apply computer models of complex biomedical systems, with applications in areas such as biochemistry, physiology and pharmacology, toxicology, population dynamics, and epidemiology. Emphasis on model quality and comparison of model behavior with laboratory data. Laboratory activities with simulation software.

Prerequisites: Mathematics through at least algebra; calculus is helpful; experience in computer programming is not required.

PHSL 555 Biology of Cancer, Lecture)(3)
Interdisciplinary approach to study of the causation, characterization, and prevention of cancer. Offered alternate years.

PHSL 556 Biology of Cancer, Laboratory (2)
Introduction to techniques essential to research investigations in cancer. Offered alternate years.

PHSL 558 Physiology of Exercise and Inactivity (3)
Effects of exercise and inactivity on the physiological systems of the body, including the skeletal, muscular, cardiovascular, respiratory, and others. Emphasis at the cellular and molecular levels. Study not only of immediate changes in the body necessary to meet the demands of exercise but also of the long-term adaptive changes. Offered alternate years.

Prerequisite: Medical physiology.

PHSL 560 Physiology of Bone (3)
Study of bone cells and bone as an organ. Lectures and discussions include functions of bone cells, effects of growth factors, hormones and physical forces on bone, growth and repair of bone, osteoporosis and other clinical conditions involving bone. Review of current literature.

PHSL 576 Vascular Smooth Muscle (3)
Study of the structure and function of vascular smooth muscle and the mechanism(s) controlling its function.

PHSL 577 Cardiac Physiology (3)
Didactic course dealing with the developmental, transitional, and adult anatomy of the heart; as well as its electrical, mechanical, and metabolic processes in health and disease. Offered alternate years.

Prerequisite: An advanced physiology course or consent of the instructor.

PHSL 578 Vascular Physiology (3)
Study of the physical principles which govern flow of fluids (rheology), functional anatomy, and reflexes of the peripheral circulation. Also considered is the role of the peripheral vasculature in the control of cardiac output and blood flow to special regions, such as the brain, heart, skeletal muscle, etc. Offered alternate years.

Prerequisite: An advanced physiology course or permission of the instructor.

PHSL 584 Readings in Neurophysiology (2)
Seminar tracing the development of twentieth-century ideas about the nervous system. The writings of three early neurobiologists (Sherrington, Pavlov, Herrick) emphasized in context with classical and current understanding of the nervous system.

Prerequisite: Consent of the instructor.

PHSL 587 Physiology of Reproduction (2)
Study of the development of the male and female reproductive systems, neural and hormonal control of reproductive function, fetal development, and parturition. Offered alternate years.

PHSL 595 Readings in Physiology (arranged)
Assigned reading and conferences on special problems in physiology.

PHSL 604 Perinatal Biology Graduate Seminar (1)

PHSL 605 Integrative Graduate Seminar (1)
Coordinated by the Departments of Anatomy and of Pharmacology and Physiology. Reports from current literature and the presentation of student and faculty research on various aspects of regulatory and integrative biology as applied to cells, tissues, organs, and systems. Students and faculty expected to participate in a discussion and critical evaluation of the presentation.

PHSL 694 Special Problems in Physiology (arranged)

PHSL 697 Research (1-18)

PHSL 698 Thesis (1)

PHSL 699 Dissertation (2)

PSYCHOLOGY

LOUIS JENKINS, Ph.D., ABPP The Pennsylvania State University 1973
Chair; Professor of Psychology
Health-related behaviors, high-risk populations, clinical neuropsychology/brain-behavior relationships, biological bases of behavior, diversity issues, psychology and religion

JOHN FLORA-TOSTADO, Ph.D., ABPP University of Illinois 1974
Director of Clinical Training, Psy.D.; Director of Psychological Services Clinic;
Associate Clinical Professor of Psychology
Individual/child psychotherapy, clinical psychology training and supervision, integrated health care delivery systems, managing clinical information/data, new mental/behavioral health care delivery systems

JANET SONNE, Ph.D. University of California at Los Angeles 1981
Director of Clinical Training, Ph.D.; Coordinator, Department of Student Affairs;
Professor of Psychology
Ethical and legal issues in the practice of clinical psychology, clergy misconduct, sexual and non-sexual multiple relationships in professional practice, posttraumatic stress disorder, ego deficits in victims of abuse, psychosocial sequelae in pediatric leukemia patients and their families

The Department of Psychology offers a combination of innovative training opportunities in clinical and experimental psychology. The Doctor of Psychology (Psy.D.) and the Doctor of Philosophy (Ph.D.) degrees are offered in the area of clinical psychology and are APA accredited. The Ph.D. and M.A. degrees also are offered with emphases in a number of experimental areas. Combined-degrees programs—Ph.D./M.P.H., Psy.D/M.P.H., and Psy.D./Dr.P.H.—are offered in coordination with the School of Public Health. Other combined-degrees programs—Ph.D./M.A. or Psy.D./M.A. degrees in biomedical and clinical ethics—are offered in coordination with the Faculty of Religion.

The Ph.D. degree in clinical psychology has been informed by the traditional scientist-practitioner model, which emphasizes training in research and clinical practice. The Psy.D. degree, influenced by the practitioner-scholar model, emphasizes training in clinical practice based on the understanding and application of scientific psychological principles and research. The Psy.D./Dr.P.H. combined-degrees program combines training in psychology and health sciences to prepare individuals who will be qualified in the application of psychology to health promotion, preventive medicine, and health care, as well as for clinical practice and research.

The M.A. and Ph.D. degrees in experimental psychology are designed to train a select number of individuals for research and academic careers in basic as well as applied psychology. Applications for the experimental Ph.D. degree are currently accepted in general experimental psychology (e.g., psychophysiology, perception, cognition and performance, and development); and applied social psychology (e.g., cross-cultural and health psychology). Additional areas will become available with the planned expansion of the faculty in coming years.

The specific objectives of the APA-accredited Ph.D. degree program in clinical psychology are to train its students to be scientist-practitioners which, according to the Loma Linda

University Ph.D. clinical model, means that they will be given—

- a solid academic foundation,
- high-level training in the empirical methods of science so that they are capable of conducting independent and original research, and
- the skills to be highly competent clinicians from whom research and practice constantly inform each other.

Among the outcome measures used to determine the clinical Ph.D. program's success in achieving the above-mentioned objectives are the following:

1. Academic foundations—course evaluations and the comprehensive examination.
2. Training in empirical methods of science—a second-year project or master's degree thesis; a doctoral degree dissertation; presentations, publications, and grants received; research and teaching assistantships; teaching positions in area colleges; and membership in scientific/professional organizations.
3. Clinical skills—ongoing clinical evaluations; the quality and type of internships obtained; and the final clinical proficiency examination.

The specific objectives of the APA-accredited Psy.D. degree program are to train students to be practitioner-scholars which, according to the Loma Linda University model, means training them with—

- a solid academic foundation,
- the highest level of clinical skills, and
- the ability to apply research relevant to clinical issues and cases.

Among the outcome measures used to determine the Psy.D. degree program's success in achieving the above-mentioned objectives are the following:

1. Academic foundations—course evaluations and the comprehensive examination.
2. Clinical skills—ongoing clinical evaluations, the quality and type of internships obtained, and the final clinical proficiency examination.
3. Application of research—the doctoral project; involvement in community-based program development, evaluation, and consultation; and membership in professional organizations.

In all its programs, the Department of Psychology emphasizes research and practice based on the scientific principles and methods of psychology and related disciplines. This emphasis in psychological science takes place within the context of an approach to human health and welfare, which is consistent with the institutional motto, "To Make Man Whole." Within this context a systematic attempt is made, through the wholeness component of the curriculum, to promote an understanding of human behavior in relation to the psychological, physical, spiritual, and social/cultural aspects of being human. In this way the Department of Psychology provides, in addition to the traditional training in psychology, a positive environment for the study of cultural, social, and spiritual issues relevant to psychological research and practice in contemporary American society and around the world.

FACULTY

HECTOR BETANCOURT, Ph.D. University of California at Los Angeles 1983
Professor of Psychology
Attribution theory, cross-cultural psychology, prosocial behavior, conflict and violence

TODD BURLEY, Ph.D. University of Tennessee 1972
Clinical Professor of Psychology
Cognition and phenomenology, developmental phenomenology, neuropsychological correlates of phenomenological processes, effects of EMDR desensitization techniques with PTSD, and clinical judgment in psychological assessment

MICHAEL GALBRAITH, Ph.D. Claremont Graduate School 1989
Professor of Psychology and of Nursing
Psychiatric/mental health nursing, health psychology

MARY CATHERIN (KITI) FREIER, Ph.D. Finch University of Health Sciences, The Chicago Medical School
Associate Professor of Psychology and of Pediatrics
Child/Pediatric neuro- and health psychology high-risk children and youth

PAUL HAERICH, Ph.D. University of Florida 1989
Professor of Psychology, Program Coordinator, Department Academic Affairs Coordinator
Psychobiology, psychophysiology of cognition and emotion

MATT RIGGS, Ph.D. Kansas State University 1989
Professor of Psychology
Statistical methods, experimental design, measurement, industrial/organizational psychology

ALVIN J. STRAATMEYER, Ph.D., ABPP University of South Dakota 1974
Emeritus Professor of Psychology
Geropsychology, hypnosis, death and grief intervention and research

KELLY R. MORTON, Ph.D. Bowling Green State University 1992
Associate Professor of Psychology/Family Medicine
The development of the self, moral development, adult development, bioethics, palliative care, and religious coping

KENDAL C. BOYD, Ph.D. Fuller Theological Seminary Graduate School of Psychology 1999
Assistant Professor of Psychology
Social and health psychology, psychology of religion, statistics/methodology, individual and group clinical treatment of adolescents and adults, marriage and family research and clinical treatment, cross-cultural issues.

ASSOCIATE FACULTY

MARK HAVILAND, Ph.D. University of Colorado 1979
Professor of Psychiatry and of Psychology
Affect deficits/alexithymia, depression, psychoactive substance dependence, posttraumatic stress disorders, measurement and statistics

JERRY W. LEE, Ph.D. University of North Carolina 1976
Professor of Health Promotion and Education
Social and health psychology, smoking withdrawal, associations between religion and health

JOHNNY RAMIREZ, Ed.D. Harvard University 1993
Professor of Religion
Theology, psychological study of religion, and culture

HELEN HOPP MARSHAK, Ph.D. University of Washington 1991
Associate Professor of Health Promotion and Education
Theories of health-behavior change, attitude assessment, cognitive responses to diagnostic feedback

MICHAEL MASKIN, Ph.D., ABPP Fordham University 1973
Director of Training, Psychology Service, Jerry L. Pettis Veterans Medical Center
Assistant Professor of Psychiatry/Psychology
Clinical psychology training, preparation, and competency; forensic psychology; group psychotherapy and treatment approaches; multidisciplinary staff teaching and consultation

MICHAEL GOLDSTEIN, Psy.D., University of Denver 1983
Staff Psychologist, In-patient Coordinator, Jerry L. Pettis Veterans Medical Center
Group psychotherapy, addictive disorders, program/outcome evaluation, health psychology, and computer applications

CALIFORNIA STATE UNIVERSITY SAN BERNARDINO FACULTY

As part of a consortial agreement between the Departments of Psychology at Loma Linda University (LLU) and California State University at San Bernardino (CSUSB), a select number of professors whose primary appointment is at CSUSB have an adjunct appointment in psychology at LLU. These faculty members teach, mentor, and supervise students in research and clinical practice on a regular basis. The following are the current CSUSB faculty members who are part of the graduate psychology faculty at LLU:

GLORIA COWAN, Ph.D. Rutgers University 1964
Professor of Psychology
Gender issues: power, pornography, rape, and codependency; social issues: hate speech and attitudes toward immigrants, and women's hostility toward women

STUART ELLINS, Ph.D. University of Delaware 1972
Professor of Psychology
Food aversion conditioning as a tool in the understanding of dietary selection and in the control of coyote predation on domestic livestock

CHARLES D. HOFFMAN, Ph.D. Adelphi University 1972
Professor of Psychology
Gender roles, the psychology of men, fathering and family relations, divorce and its aftermath

FREDERICK NEWTON, Ph.D. University of Houston 1975
Professor of Psychology
Human psychophysiology, physiological correlates of control and self-regulation, neurofeedback, psychophysiological profiles of addicts

EDWARD TEYBER, Ph.D. Michigan State University 1977
Professor of Psychology
Clinical training, relational aspects of psychotherapy, family therapy, children and divorce

FAITH MCCLURE, Ph.D. University of California at Los Angeles 1989
Professor of Psychology
Multicultural issues in mental health, treatment outcome, abuse, coping, and resilience

MICHAEL WEISS, Ph.D. University of Florida 1983
Associate Professor of Psychology
Forgiveness as a therapeutic construct, relationship between TMJ and early childhood sexual abuse, chronic pediatric medical illnesses and mental health; divorce and custody arrangements

DAVID V. CHAVEZ, Ph.D. University of California at Berkeley 1988
Professor of Psychology
Ethnicity and mental health, developmental psychopathology, psychotherapy with families and children, and applied psychology

MICHAEL R. LEWIN, Ph.D. Oklahoma State University 1992
Professor of Psychology
Cognitive-behavioral treatment of anxiety disorders, experimental psychopathology, cross-cultural psychology and psychopathology

CLINICAL FACULTY

Listed below are clinical training supervisors. For the current list of internship supervisors, contact the Department of Psychology.

JOHN ANTHONY BENJAMIN, Ph.D. California State School of Professional Psychology 1977
Adjunct Clinical Professor of Psychology

JOYCE EARL, Ph.D. United States International University at San Diego 1982
Adjunct Professor of Psychology

CHRISTOPHER EBBE, Ph.D. University of Missouri at Columbia 1971
Adjunct Clinical Professor of Psychology

CLIFFORD M. MIYASHIRO, Ph.D. Ohio University 1975
Adjunct Clinical Professor of Psychology

CRAIG A. MUIR, Ph.D. University of Southern California 1976
Adjunct Clinical Professor of Psychology

KEITH L. DRIEBERG, Ph.D. United States International University 1990
Adjunct Clinical Associate Professor of Psychology

BEVERLY B. FRANK, Psy.D. Pepperdine University 1990
Adjunct Clinical Associate Professor of Psychology

BROCK KILBOURNE, Ph.D. University of Nevada at Reno 1983
Adjunct Clinical Associate Professor of Psychology

JACQUELINE KURCH TUREK, Ph.D. University of North Dakota 1988
Adjunct Clinical Associate Professor of Psychology

GLENN HEINRICHS, Ph.D. Fuller Seminary 1995
Adjunct Clinical Assistant Professor of Psychology

ELAINE HURST, Psy.D. Pepperdine University 1990
Adjunct Clinical Assistant Professor of Psychology

GENERAL REQUIREMENTS

All doctoral degrees

The following general requirements for all doctoral degrees apply to all programs in the Department of Psychology. Note that the first three sections—foundations, methodology, and wholeness—are referred to as the core curriculum.

CORE CURRICULUM I (31 units): FOUNDATIONS OF PSYCHOLOGICAL SCIENCE

PSYC	524	History, Systems, and Philosophy of Psychology	(4)
PSYC	544	Foundations of Learning and Behavior	(4)
PSYC	545	Cognitive Foundations	(4)
PSYC	551	Psychobiological Foundations	(3)
PSYC	551L	Psychobiological Foundations, Laboratory	(1)
PSYC	552	Brain and Behavior	(3)
PSYC	564	Foundations of Social Psychology and Culture	(4)
PSYC	574	Foundations of Personality Theory	(4)
PSYC	575	Foundations of Development	(4)

CORE CURRICULUM II (13/15): QUANTITATIVE PSYCHOLOGY/RESEARCH METHODOLOGY

PSYC	501	Advanced Statistics I	(4)
PSYC	502	Advanced Statistics II	(4)
PSYC	504	Research Methods for Clinical Psychologists (Psy.D.)	(2)
PSYC	505	Research Methods in Psychological Science	(4)
PSYC	511	Psychometric Foundations	(3)

CORE CURRICULUM III (16): WHOLENESS

An integral part of the mission of Loma Linda University involves meeting the academic needs of students and professionals from different cultural and social realities around the world as well as here at home. The Department of Psychology's wholeness curriculum reflects this commitment and is grounded in the University's educational philosophy and wholistic approach to human health and welfare. This approach emphasizes the importance of the physical, spiritual, and sociocultural dimensions of human existence in psychological research and practice. It implies, for instance, recognition of the importance of religion, culture, and the physical and social environment in the lives of those we pledge to serve. This aspect of the curriculum is intended to encourage tolerance for human diversity as well as a genuine interest in the understanding of psychological phenomena within the context of all aspects of being human.

Six units of psychology of religion, one selected from RELF prefix and one from RELR:

RELF	557	Theology of Human Suffering	(3)
RELF	615	Seminar in Philosophy of Religion	(3)
RELR	564	Religion, Marriage, and the Family	(3)
RELR	568	Care of the Dying and Bereaved	(3)
RELR	575	Art of Integrative Care	(3)
RELR	584	Culture, Psychology, and Religion	(3)
RELR	585	Psychological Study of Religion	(3)
PSYC	554	Health Psychology	(4)
PSYC	566	Cross-Cultural Psychology	(2)
PSYC	567	Ethnic Diversity and Community Issues	(2)
PSYC	568	Sex Roles and Gender Issues	(2)

COLLOQUIA (3 units)

The colloquia include lectures by distinguished speakers in the various areas of scientific and professional psychology. Students prepare a critical report based on each of the presentations attended. Enrollment is for 1 unit each year for three years.

PSYC 591A, B, C	Colloquia	(1, 1, 1)

Comprehensive examination

A written comprehensive examination must be taken after completion of the core curriculum and minimum specialty area course work. This examination, which will normally occur after the second year of study, is intended to evaluate the candidate's general knowledge and understanding of the various areas of psychological science as well as the ability to integrate and use such knowledge for the purposes of developing research and applications.

Language requirement

Students are required to demonstrate proficiency in a language other than English. This language should be relevant to psychological research or the practice of psychology, particularly with underserved populations. This requirement is normally satisfied by demonstrating the ability to read or converse at the AFMLT low-intermediate level (e.g., through traditional classroom courses). Alternative methods of satisfying this requirement (e.g., spending significant time in another culture actively involved in activities relevant to academic or professional psychology) must be approved by the faculty of the Department of Psychology.

Master's degree

A master's degree in psychology is available to students as they proceed towards their doctoral degree. Separate application to and acceptance by the Graduate School for the master's degree is required.

SPECIALTY CURRICULUM: CLINICAL

The requirements of the clinical curriculum apply to all students enrolled in the Psy.D. program, the Psy.D./Dr.P.H. combined-degrees program, and the Ph.D. degree program with a clinical emphasis.

Clinical psychology: general (14 units)

PSYC	525	Introduction to Clinical Psychology	(2)
PSYC	526	Ethics and Legal Issues in Clinical Psychology	(2)
PSYC	555	Psychopharmacology	(2)
PSYC	571	Psychopathology	(4)
PSYC	572	Child Psychopathology	(2)
PSYC	686	Licensure Course: Elder, Partner, and Child Abuse	(2)

Psychological assessment (12 units)

PSYC	512	Assessment I	(2)
PSYC	512L	Practice Laboratory	(1)
PSYC	513	Assessment II	(2)
PSYC	513L	Practice Laboratory	(1)
PSYC	514	Assessment III	(2)
PSYC	514L	Practice Laboratory	(1)
PSYC	515	Assessment IV	(2)
PSYC	515L	Practice Laboratory	(1)

Psychological treatment (10 units)

PSYC	581	Behavioral and Cognitive Therapy	(3)
PSYC	581L	Practice Laboratory	(1)
PSYC	582	Psychodynamic Therapy	(2)
PSYC	582L	Practice Laboratory	(1)
PSYC	583	Humanistic/Phenomenological Therapy	(2)
PSYC	583L	Practice Laboratory	(1)

Psychological treatment electives (6)

PSYC 584, 584L, 585, 585L, 586, 586L, 587, 587L; or
684, 685, 687, 688, 689, etc.

Practicums and internship (16 units)

PSYC	782	Practicum I	(3)
PSYC	783	Practicum II	(3)
PSYC	784	Practicum III	(3)
PSYC	785	Practicum IV	(3)
PSYC	799, 799L	Internship (1000 to 2000 hours)	(4)
PSYC	799, 799L	Internship (1000 to 2000 hours)	(4)

Clinical proficiency examination

This examination is taken toward the end of the internship and is intended to demonstrate the student's highest level of competency up to that time. This will include demonstrating skill in:

1. conceptualizing the presenting problem;
2. obtaining information regarding personal history, interpersonal functioning, and present status;
3. synthesizing psychodiagnostic data;
4. justifying diagnostic impressions;
5. applying relevant research to treatment planning;
6. formulating a comprehensive treatment plan;
7. engaging in effective intervention; and
8. evaluating treatment progress and outcome.

Professional, legal, and ethical issues are also covered in this examination.

DOCTOR OF PSYCHOLOGY

Admission

Applicants must meet the requirements of the Graduate School as outlined in the current edition of the Graduate School BULLETIN. In addition to the general test of the Graduate Record Examination (GRE), the psychology subject test is also required of all applicants.

Prerequisites

Undergraduate preparation should include successful completion of: one course in history and systems of psychology; one course in biology (anatomy and physiology is recommended); one course in physics or chemistry; one course in anthropology or sociology; one course in statistics and one course in mathematics; two courses from learning, physiological psychology, cognition, or sensation and perception; two courses from developmental, personality, or social psychology. Students are required to demonstrate proficiency using a computer operating system and at least one of the packages for statistical analysis (e.g., SPSS). Students can take a course offered by the Department of Psychology in order to meet this requirement.

COURSE OF STUDY

CLINICAL EMPHASIS

The course of study for the Doctor of Psychology (Psy.D.) degree includes a minimum of 168 units of academic credit. In addition to the general requirements and the clinical curriculum detailed above, the student will complete the requirements indicated below:

Professional concentration (16)

Psy.D. degree students will complete 16 units in an area of interest which reflects a professional concentration. This must include:

PSYC	681	Clinical Supervision: Concepts, Principles, and Functions	(2)
PSYC	683	Management, Consultation, and Professional Practice	(2)
PSYC	781	Second-Year Practicum	(2-6)

The remaining 10 units are chosen by the student.

Doctoral research

A doctoral project is required of all students in the Psy.D. degree program. This project involves research—generally of an applied nature—either qualitative or quantitative; and must be developed in consultation with the student's supervisory committee.

Course requirements

In preparation for their doctoral research, students must complete PSYC 504 Research Methods in Clinical Psychology (Ph.D. degree substitutes PSYC 505), PSYC 506 Qualitative Methods in Clinical Psychology, and PSYC 507 Program Evaluation. In addition, students will complete PSYC 691, 692, 693 Psy.D. Research I, II, III for a total of 8 units. The student will complete 4 units of PSYC 698 while working on the project.

Proposal

A formal proposal must be submitted to and approved by a faculty supervisory committee.

Defense

Upon completion of the doctoral project, a public defense before the supervisory committee is required.

Advancement to candidacy

Students may apply for doctoral candidacy upon successful completion of—

- the core curriculum (Parts I, II, III);
- minimum specialty course work;
- the practicum (PSYC 782-785); and
- the comprehensive examination; and

upon acceptance of the doctoral project proposal; and upon recommendation of the faculty.

DOCTOR OF PHILOSOPHY

Admission

Applicants must meet the requirements of the Graduate School as outlined in the current edition of the Graduate School BULLETIN. In addition to the general test of the Graduate Record Examination (GRE), the psychology subject test is also required of all applicants.

Prerequisites

Undergraduate preparation should include successful completion of: one course in history and systems of psychology; one course in biology (anatomy and physiology is recommended); one course in physics or chemistry; one course in anthropology or sociology; one course in statistics and one course in mathematics; two courses from learning, physiological psychology, cognition, or sensation and perception; two courses from developmental, personality, or social psychology. Students are required to demonstrate proficiency using a computer operating system and at least one of the packages for statistical analysis (e.g., SPSS). Students can take a course offered by the Department of Psychology in order to meet this requirement.

COURSE OF STUDY

CLINICAL EMPHASIS

The course of study for the Doctor of Philosophy degree with a clinical emphasis includes a minimum of 204 units of academic credit. In addition to the general requirements and the clinical curriculum detailed above, the student will complete the requirements that follow.

Minor concentration (12)

Ph.D. degree students will complete 12 units in an area other than their major concentration relevant to psychological research and therapy. The area of concentration and the courses to be included must be approved by the department.

Examples of possible areas of minor concentration include, but are not limited to: health psychology (or related areas, such as preventive care or health promotion and education); psychology and religion; psychology and culture/ethnic diversity; psychology and biology; development; psycho-pharmacology; and neuropsychology.

Doctoral dissertation

A doctoral dissertation is required of all students in the Ph.D. degree program in clinical psychology. This project should involve an original research contribution to the field and must be developed in consultation with the student's supervisory committee.

In preparation for the doctoral dissertation, students must complete PSYC 503 Advanced Multivariate Statistics and 12 units of PSYC 595 Directed Research as a second-year project or thesis. These units normally will be completed by the beginning of the third year of study.

Advancement to candidacy

Students may apply for doctoral candidacy upon successful completion of—

- the core curriculum (Parts I, II, III);
- minimum specialty course work;
- the practicum (PSYC 782-785); and
- the comprehensive examination; and

upon acceptance of the doctoral project proposal; and upon recommendation of the faculty.

Course requirements

While working on the dissertation, candidates must complete at least 36 units of doctoral research, PSYC 697; and 4 units of PSYC 699.

Qualifying examination

Students must complete a qualifying examination prior to advancing to doctoral candidacy. This examination will be composed of a comprehensive written examination (see the department's *Academic Policy Handbook* for details) and a defense of the dissertation proposal.

Defense

Upon completion of the doctoral dissertation, a public defense before the supervisory committee is required.

COURSE OF STUDY

EXPERIMENTAL EMPHASIS

The course of study for the Doctor of Philosophy degree with an experimental emphasis includes a minimum of 122 units of academic credit. These units are distributed across a core curriculum (56 units), advanced topical seminars and electives (20 units), and research (46 units). The student will complete these units and the other requirements that follow.

Core curriculum courses (56)

A. Foundations of psychological science (24)

PSYC	524	History, Systems, and Philosophy of Psychology	(4)

Three courses selected from:

PSYC	544	Foundations of Learning and Behavior	(4)
PSYC	545	Cognitive Foundations	(4)
PSYC	546	Sensation and Perception	(4)
PSYC	551	Psychobiological Foundations and Laboratory	(4)
PSYC	552	Brain and Behavior	(4)

B. Quantitative psychology and research methods (16)

PSYC	501	Advanced Statistics I	(4)
PSYC	502	Advanced Statistics II	(4)
PSYC	503	Advanced Multivariate Statistics	(4)
PSYC	505	Research Methods in Psychological Science	(4)

C. Diversity, ethics, wholeness (8)

_____	____	Ethics for scientists	(3)
PSYC	566	Cross-Cultural Psychology	(2)

Remaining course to be selected from

RELR	584	Culture, Psychology, and Religion	(3)
RELR	585	Psychological Study of Religion	(3)

Or other graduate level religion course as approved by the Academic Affairs Committee.

D. Teaching of psychology (8)

PSYC	541	Seminar in the Teaching of Psychology I	(2)
PSYC	541L	Internship for Teaching of Psychology I	(1)
PSYC	542	Seminar in the Teaching of Psychology II	(2)
PSYC	542L	Internship for the Teaching of Psychology II	(1)
PSYC	543	Advanced Seminar in the Teaching of Psychology	(2)

Advanced topical seminars and electives (20)

A. Concentration courses/seminars in the area of specialization (6 units, minimum)

B. Topical seminars and colloquia (6 units, minimum)

Research (46)

A. Supervised research experience (3)

PSYC	597	Supervised Research [taken 3 times]	(1, 1, 1)

B. Master's thesis (13)

PSYC	595	Directed Research	(12)
PSYC	598	Master's Thesis	(1)

C. Doctoral dissertation (30)

PSYC	697	Doctoral Research	(26)
PSYC	669	Doctoral Dissertation	(4)

Supervised research experience

Students will register for one unit of PSYC 597 Supervised Research each year for a total of three years. In addition to their own research, students are expected to become part of and actively contribute to an ongoing laboratory or other research program conducted by department faculty.

Master's thesis and doctoral dissertation

A master's degree thesis is required of all students in the Ph.D. degree program. Students must complete a minimum of 12 units of PSYC 595 Directed Research and 1 unit of PSYC 598 Master's Thesis while working on a project. Students may apply to the Master of Arts degree program in the department to receive a degree for this work.

A doctoral dissertation is required of all students in the Ph.D. degree program. This project should involve an original research contribution to the field and should be developed in consultation with the student's supervisory committee.

While working on the dissertation, candidates must complete at least 26 units of doctoral research (PSYC 697) and 4 units of PSYC 699.

Beginning the quarter following the completion of PSYC 505 Research Methods in Psychological Science, all students are expected to enroll in a minimum of 2 units of research (PSYC 595 or PSYC 697) each quarter until completion of the thesis and dissertation.

Qualifying examination

Students are expected to take a qualifying examination by the end of their third year of study. This examination will be composed of a comprehensive written portion and, approximately one week later, an oral defense. The topics covered in the examination will reflect the student's chosen area of concentration and will be determined by the student in consultation with the supervisory committee.

Defense

Upon completion of the doctoral dissertation, a public defense before the supervisory committee is required.

Advancement to candidacy

Students may apply for doctoral candidacy upon—

1. completion of the core curriculum,
2. successful completion of the comprehensive examination,
3. acceptance of the doctoral dissertation proposal, and
4. recommendation of the faculty.

COMBINED-DEGREES PROGRAMS DR.P.H/PSY.D.

Admission

For acceptance into the Doctor of Public Health/ Doctor of Psychology (Dr.P.H./Psy.D.) combined-degrees program, applicants must meet the respective requirements of both degrees, as outlined in the Graduate School BULLETIN and the School of Public Health BULLETIN. Application must be made to each school, and each school will process the application separately.

COURSE OF STUDY

The course of study for the Psy.D./Dr.P.H. combined-degrees program consists of a minimum of 225 units as outlined below. In addition to the general requirements (Core I, II, III) for all doctoral degree students in psychology, the specialty curriculum in clinical psychology, and the 6 units of required courses in the Psy.D. professional concentration, those in the Psy.D./Dr.P.H. combined-degrees program must complete the following requirements [Note—research methods and psychopharmacology are taken in the School of Public Health]:

Corequisites (16)

ENVH	509	Principles of Environmental Health	(3)
EPDM	509	Principles of Epidemiology I	(3)
HADM	509	Principles of Administration in Public Health	(3)
HPRO	509	Health-Behavior Change	(3)
HPRO	536	Program Planning	(3)
SHCJ	605	Philosophy of Public Health	(1)

Biomedical sciences (38)

ANAT	503	Human Histology	(4)
HPRO	519	Pharmacology	(3)
HPRO	531	Pathology of Human Systems I	(3)
HPRO	532	Pathology of Human Systems II	(3)
HPRO	533	Human Anatomy I	(4)
HPRO	534	Human Anatomy II	(4)
NUTR	504	Nutritional Metabolism	(5)
NUTR	517	Advanced Human Nutrition I	(4)
NUTR	518	Advanced Human Nutrition II	(4)

Preventive care (29)

HPRO	515	Mind-Body Integration	(3)
HPRO	526	Lifestyle-Diseases–Risk Reduction	(3)
HPRO	527	Obesity and Disordered Eating	(3)
HPRO	529	Preventive and Therapeutic Intervention	(3)
HPRO	553	Addiction Theory and Program Development	(3)
HPRO	573	Exercise Physiology I	(3)
HPRO	578	Exercise Physiology II	(3)
HPRO	584	Aging and Health	(3)
HPRO	586	Introduction to Preventive Care	(1)
HPRO	606	Preventive Care Seminar	(2, 2)

Research and evaluation (17)

PSYC	506	Qualitative Research in Clinical Psychology	(2)
SHCJ	534	Research Methods	(3)
HPRO	694	Research	(4)
HPRO	698	Dissertation	(8)

Practicums

HPRO	704	Preliminary Clinical Experience	(400 hours)

TOTAL UNITS 225

COMBINED-DEGREES PROGRAM M.P.H/PH.D.

Students who are interested in health psychology and areas related to health care promotion may choose a degree track leading to an M.P.H. degree. In this case, 24 of the units in the doctoral degree program in psychology can be applied towards the M.P.H. degree. These units for dual counting are determined by the corresponding program in the School of Public Health in conjunction with the Department of Psychology. The remaining units for the completion of the M.P.H. degree will depend on the specific area of public health (e.g., preventive care, health promotion, or health administration) and will be decided by the corresponding program coordinators.

For course listings, see the BULLETIN of the School of Public Health in the chosen area(s) of emphasis.

COURSES

PSYC 501 Advanced Statistics I (4)
General introduction to statistical analysis—detailing the descriptive/inferential distinction; and covering sampling distributions (e.g., normal, binomial), hypothesis testing, and basic parametric and nonparametric techniques.

PSYC 502 Advanced Statistics II (4)
Thorough introduction to regression analysis and analysis of variance (ANOVA), with emphasis on hypothesis testing and the development of general models that partition overall variability. Topics covered include simple and multiple regression, one-way and factorial, repeated-measures ANOVA, and analysis of covariance. Evaluation of assumptions and nonparametric alternatives.

Prerequisite: PSYC 501 or consent of the instructor.

PSYC 503 Advanced Multivariate Statistics III (4)
Broad introduction applying linear (matrix) algebra to maximum likelihood estimation generally, using several important multivariate statistical techniques, including but not limited to multivariate analysis of variance, multivariate regression, path analysis and structural equations causal modeling, log-linear models, and time series analysis; alternatives to maximum likelihood estimation are also evaluated.

Prerequisite: PSYC 502 or consent of the instructor.

PSYC 504 Research Methods for Clinical Psychologists (2)
To be taken by students in the Psy.D. program. Examination of research methods appropriate for application to clinical psychology—from the formulation of research problems to the design, execution, and report of findings. Experimental, quasi-experimental, case study, and programmatic evaluation designs included.

PSYC 505 Research Methods in Psychological Science (4)
Comprehensive examination of research methods in psychology—from the formulation of research problems to the design, execution, and report of findings. Experimental and quasi-experimental designs, as well as field and case studies included. The exploratory-confirmatory distinction in scientific epistemology, and its implications for research and theory. Review and critical analysis of research literature from various areas of contemporary psychological science.

Prerequisite: PSYC 502 or consent of the instructor.

PSYC 506 Qualitative Methods in Clinical Psychology (2)
Examines a broad range of qualitative research methods in clinical psychology—including case studies, ethnographic studies, archival evaluations, survey methods, and other data-collection procedures and inductive methods of analysis that provide an understanding of naturally occurring human and social problems in which findings are not dependent on statistical analysis or summary.

PSYC 507 Research Methodologies for Clinical Interventions and Treatment-Program Evaluation (2)
Special emphasis given to research methodologies relevant to conducting research for clinical interventions. Includes methods and tools for doing treatment-program evaluation.

Prerequisite: PSYC 505.

PSYC 511 Psychometric Foundations (2)
Advanced orientation to psychological instruments; their theoretical derivation, construction, and use. Emphasis on reliability, validity, and factor structures.

Prerequisite: PSYC 501 or consent of the instructor.

PSYC 512 Assessment I (2)
Instruction in administering, scoring, interpreting, and report writing relevant to various adult and child intelligence and achievement instruments, such as the WAIS-III, WISC-III, WPPSI-R, KBIT, Stanford-Binet, WIAT, PIAT, KABC, WRAT-3, and the Woodcock-Johnson batteries. Consideration of the empirical reliability and validity data for each instrument.

Prerequisite: PSYC 511 or consent of the instructor.

PSYC 512L Assessment I, Practice Laboratory (1)
Supervised experiences in administering, scoring, interpreting, and reporting relevant to various adult and child intelligence and achievement instruments.

Concurrent: PSYC 512.

PSYC 513 Psychological Assessment II (2)
Instruction in administering, scoring, interpreting, and report writing relevant to various adult and child objective personality instruments—including the MMPI-2, MMPI-A, MACI, PIC, 16PF, CDI, BDI, and BAI. Consideration of the empirical reliability and validity data for each instrument.

Prerequisite: PSYC 512 and 574; or consent of the instructor.

PSYC 513L Psychological Assessment II, Practice Laboratory (1)
Supervised experiences in administering, scoring, interpreting, and reporting relevant to various adult and child objective personality instruments.

Concurrent: PSYC 513.

PSYC 514 Psychological Assessment III (2)
Administering, scoring, interpreting, and report writing relevant to various adult and child projective personality instruments—including the Rorschach, TAT, CAT, and House-Tree-Person. Consideration of the empirical reliability and validity data for each instrument.

Prerequisite: PSYC 513 and 574, or consent of the instructor.

PSYC 514L Psychological Assessment III, Practice Laboratory (1)
Supervised experiences in administering, scoring, interpreting, and reporting relevant to various adult and child projective personality instruments.

Concurrent: PSYC 514.

PSYC 515 Assessment IV, Battery (2)
Instruction in the integration of results of intellectual, achievement, objective personality, and projective personality assessment techniques; and the composition of full-battery reports.

Prerequisite: PSYC 514 or consent of the instructor.

PSYC 515L Assessment IV, Practice Laboratory (1)
Supervised experiences integrating the results of assessment batteries and composing full-battery reports.

Concurrent: PSYC 515.

PSYC 524 History, Systems, and Philosophy of Psychology (4)
Builds on the coverage of the history and systems of psychology provided in most undergraduate courses. Focuses on how different approaches to psychology (e.g., the schools of psychology) have defined the field, what topics and information they have considered as a part of psychology, and what mechanisms and criteria for advancing the field these approaches have considered acceptable. Examination of current trends in light of their contributions to the development of psychology as a science and as a profession.

PSYC 525 Introduction to Clinical Psychology (2)
Introduction to the development and current status of clinical psychology within the context of professional and basic psychology. Examination of the practice of clinical psychology in light of the psychological principles and scientific methods on which it is based. Surveys methods and contemporary professional and ethical issues, providing the context within which the role of the doctoral level clinical psychologist is compared to that of other professionals and technicians. Examination of commonalities and areas of collaboration as well as differences.

PSYC 526 Ethics and Legal Issues in Clinical Psychology (2)
Overview of current ethical and legal standards for the conduct of psychology. Guidelines and standards drawn from *APA Ethical Guidelines, Standards for Providers of Psychological Services,* and *Standards for Educational and Psychological Tests,* as well as relevant California and civil licensing laws.

PSYC 534 Culture, Psychology, and Religion (3)
Introduction to the major contours of Western culture as they relate to various schools of psychological thought and the influence of religious beliefs in their inception. Theological critique of various world views that have guided psychological schools of thought. Topics include liberalism and modernism, pietism and evangelicalism, the Enlightenment and Romantic movements.

PSYC 535 Psychological Study of Religion (3)
Surveys research areas, methods, and issues in the study of religion and spirituality from a psychological perspective. Emphasizes understanding of religious phenomena relative to the scientific study of human behavior and psychological functioning. Examination of the philosophical foundations of research in psychology, sociology, and anthropology in order to provide an eclectic approach to research in this area. Topics include ethnographic approaches to religious experience, conversion, religiosity, faith and moral development, worship, rituals, and cross-cultural manifestations of religion.

PSYC 536 Seminar in Psychology and Religion (2)
Focuses on an aspect of integration of psychology and religion.

PSYC 544 Foundations of Learning and Behavior (4)
Surveys the major theories, methods, and applications in the psychology of learning. Includes classical, operant, and cognitive aspects, with emphasis on contemporary issues in research and applications as well as laboratory training with animals.

PSYC 545 Cognitive Foundations (4)
Reviews the major theories, methods, and findings in perception, cognition, and memory, including an introduction to contemporary cognitive science. Applications to the understanding of normal as well as abnormal behavior and psychological interventions.

PSYC 551 Psychobiological Foundations (3)
Basic course in psychobiology. Neuroanatomy, the physiology of the neuron, and neural communication. Includes consideration of structure and function of visual, auditory, and somesthetic sensation and perception. Concludes with coverage of the structure and function of motor systems. Consideration of visuospatial, visuoperceptual, and visuoconstructive disorders; and of apraxia.

PSYC 551L Psychobiology Foundations, Laboratory (1)
Laboratory experience to accompany PSYC 551 Psychobiological Foundations. Focuses on neuroanatomy through dissection of appropriate specimens.

Concurrent: PSYC 551.

PSYC 552 Brain and Behavior (3)
Builds on the foundations of psychobiology to examine the neurophysiological bases of molar behaviors, including consideration of sleep and biological rhythms; language; learning and memory; motivated behaviors (e.g., aggression, hunger, thirst, sex); emotion; and psychological dysfunction (e.g., schizophrenia, anxiety disorders).

Prerequisite: PSYC 551 or consent of the instructor.

PSYC 554 Health Psychology (4)
Overview of the field of clinical health psychology. The biopsychosocial model and the management of chronic illness used as a framework in which to address assessment and intervention principles, cultural influences, bioethics, and dying and death issues.

PSYC 555 Psychopharmacology (2)
Advanced coverage of neurotransmitter systems, with particular emphasis on the mechanism of action of various psychoactive substances.

Prerequisite: PSYC 551.

PSYC 556 Biofeedback (4)
Intensive learning experience in biofeedback concepts, terms, and techniques—including biofeedback applications for treating and diagnosing a wide range of psychophysiologic disorders, such as headaches, temporomandibular disorder, Raynaud's disease, chronic lower-back pain, and irritable bowel syndrome. Training in diaphragmatic breathing and biofeedback-assisted relaxation strategies for teaching patient self-regulation of tension-related problems. Hands-on laboratory experience and training in thermal, electromyographic, and electrodermal activity of biofeedback.

PSYC 564 Foundations of Social Psychology and Culture (4)
General survey of research, theory, and applications of social psychology within the context of other areas of psychology and related disciplines. Emphasizes scientific study of how people think about, influence, and relate to each other—both at the interpersonal and intergroup levels—within the context of cultural, social, and related phenomena. Applications to areas of psychology, such as clinical, health, and organizational psychology; as well as to economics, politics, and social issues.

PSYC 566 Cross-Cultural Psychology (2)
Cross-cultural variations in psychological processes and human behavior examined in light of the role of culture and implications for the universality of psychological principles. Cross-cultural research, theory, and interventions examined in terms of their implications for the understanding of cross-cultural variations and the universality of psychological knowledge; the implications for the study and practice of psychology in a multicultural society and interdependent world. Includes basic areas—such as personality, developmental, and social psychology—as well as clinical and other professional areas.

PSYC 567 Ethnic Diversity and Community Issues (2)
Surveys theories, research, and interventions dealing with culture and ethnicity in mental health and clinical practice. Focuses on working with ethnic minorities, while emphasizing the effects of culture, ethnicity, and socioeconomic factors in the behavior of all ethnic-minority as well as mainstream individuals and groups. The role of cultural and socioeconomic factors in psychological processes, psychopathology, psychological assessment, and intervention examined within the context of human diversity and community.

PSYC 568 Sex Roles and Gender Issues (2)
Seminar covering research literature on the differences between males and females, masculinity, femininity, and androgyny; and the roles and cultural expectations of the sexes. Examines the antecedents and consequences of sex-based prejudice and discrimination within the context of contemporary social issues and culture.

PSYC 571 Adult Psychopathology (4)
Advanced overview of the major theoretical and empirical approaches to the understanding and classification of adult psychopathology in light of contemporary psychological research and the context of culture. The DSM-IV provides the basic structure for analysis of the various major types of adult psychopathology, including schizophrenia and other psychotic disorders, mood disorders, anxiety disorders, dissociative disorders, personality disorders, adjustment disorders, and cognitive disorders.

PSYC 572 Child Psychopathology (2)
Advanced overview of the major theoretical and empirical approaches to the understanding and classification of child psychopathology in light of contemporary psychological research and the context of culture. The DSM-IV provides the basic structure for analysis of the major types of child psychopathology, including mental retardation, learning disorders, pervasive developmental disorders, conduct disorders, and eating disorders.
Prerequisite: PSYC 571 or consent of the instructor.

PSYC 574 Personality Theory and Research (4)
Surveys the major theories and contemporary areas of development in the field of personality. Examines theories in light of contemporary research evidence in areas dealing with individual patterns of thinking, feeling, and acting; as well as developments in areas such as the biological, cultural, and social foundations of human behavior. Evaluates theories based on criteria such as stimulation of research and applications. Attempts to integrate knowledge from the various basic areas of scientific psychology—such as learning, motivation, and emotion—in order to advance the understanding of current issues and trends in personality theory, research, measurement, and applications.

PSYC 575 Foundations of Human Development (4)
Human development considered from conception through old age—including personality as well as social, cognitive, and physiological aspects of development. Emphasizes contemporary developments in research, theory, and applications.

PSYC 581 Psychological Treatment I: Behavior and Cognitive Therapies (3)
Basis for understanding behavior therapy, the concepts and techniques of classical conditioning and operant conditioning interventions, and the empirical data regarding the efficacy of this treatment orientation.
Prerequisite: PSYC 571 or consent of instructor.

PSYC 581L Behavior and Cognitive Therapies, Practice Laboratory (1)
Supervised experience observing and/or engaging in behavior therapy in laboratory assignments.
Concurrent: PSYC 581.

PSYC 582 Psychological Treatment II: Psychodynamic Therapy (2)
Basis for understanding psychodynamic therapy (from psychoanalysis to object-relations therapy to short-term psychodynamic therapy), the concepts and techniques of various types of psychodynamic interventions, and the empirical data regarding the efficacy of this treatment orientation.
Prerequisite: PSYC 571 or consent of instructor.

PSYC 582L Psychodynamic Therapy, Practice Laboratory (1)
Supervised experience observing and/or engaging in psychodynamic therapy.
Concurrent: PSYC 582.

PSYC 583 Psychological Treatment III: Humanistic/Phenomenological Approaches to Therapy (2)
Overview of the various humanistic/phenomenological approaches to therapy, including client-centered and Gestalt therapies. Student develops an understanding of concepts and techniques of the various approaches, as well as the empirical data regarding the efficacy of these treatment orientations.
Prerequisite: PSYC 571 or consent of instructor.

PSYC 583L Humanistic/Phenomenological Therapy, Practice Laboratory (1)
Provides the student with supervised experience observing and/or engaging in humanistic/phenomenological therapy.
Concurrent: PSYC 583.

PSYC 584 Psychological Treatment IV: Conjoint and Group Psychotherapies (2)
Provides the student with understanding of conjoint and group psychotherapies. The concepts and techniques of conjoint and group psychotherapies presented, as well as the empirical data regarding the efficacy of these interventions.
Prerequisite: PSYC 571 or consent of instructor.

PSYC 584L Conjoint and Group Psychotherapies, Practice Laboratory (1)
Supervised experience observing and/or engaging in conjoint or group therapy.
Concurrent: PSYC 584.

PSYC 591A, B, C Colloquium (1)
Students participate in a series of lectures presented by distinguished speakers in the various areas of scientific and professional psychology. Students prepare a report critiquing each of the presentations attended. Enrollment is for 1 unit each year for three years.

PSYC 594 Readings in Psychology (1-4)

PSYC 595 Directed Research (1-4)
Academic credit for research leading to the second-year project. A total of 12 units required.

PSYC 596 Directed Study (1-4)
Academic credit for specific research projects arranged between individual students and faculty members. May include readings, literature review, and/or laboratory research. Not to be used for the second-year project.

PSYC 597 Supervised Research (1-12)
Academic credit for research for those students who have not yet advanced to doctoral candidacy. Not to be used for the second-year-project.

PSYC 598 Master's Thesis (1-4)
Required course for all master's degree students in the psychology experimental program.

PSYC 604 Advanced Topics in Multivariate Analyses (2)
Advanced topics in statistical analysis and research methods in psychology.

Prerequisite: PSYC 503, 505.

PSYC 614 Neuropsychological Assessment (2)
Instruction in the administration, scoring, interpretation, and report write-up of various neuropsychological instruments and batteries, including the Halstead Reitan Neuropsychological Battery, the Luria Nebraska Neuropsychological Battery, and others. Consideration of the empirical reliability and validity of data for each instrument; supervised practice in their use and interpretation.

Prerequisite: PSYC 514 or consent of the instructor

PSYC 615 Advanced Rorschach Assessment (2)
Advanced issues in the interpretation and integration of Rorschach findings. Includes a review of Rorschach scoring and interpretation, with an emphasis on difficult scoring and interpretation issues including the use of Rorschach with children and adolescents. Experience with scoring and interpreting example cases will be included.

Prerequisite: PSYC 515, 515L.

PSYC 624 Techniques in Clinical Management (2)
Seminar course designed to provide students who have had little or no clinical case management experience with the basic information and skills needed to work effectively with psychological assessment and therapy clinics. Open only to those accepted into a clinical psychology doctoral program.

Prerequisite: PSYC 525.

PSYC 646 The Nature of Emotion (3)
Seminar course that considers the fundamental questions in the scientific investigation of the emotions—including the theories of emotional taxonomy, the expression of emotion in neurophysiological and muscular systems, facial expression and the universality of emotions, the cognitive foundations of emotional processing and expression, and emotional memory.

PSYC 545 and 551 or consent of the instructor.

PSYC 654 Behavioral Neurology (3)
Seminar course that examines the intersection of the fields of neurology and neuropsychology. Includes general principles of neurology, neuropathology, and neurological examinations with an emphasis on material useful for the neuropsychologist to function as a member of a clinical team.

PSYC 655 Principles in Psychophysiology (3)
Seminar course in basic methodological, inferential, and conceptual issues in psychophysiology. Beginning with principles of inference and psychophysiological constructs, the course considers each of the major physiological systems—including the electrodermal, skeletomotor, electrocortical, cardiovascular, pulmonary, and sexual response systems. Major papers, both current and historical, relevant to these systems and the major conceptual lines of research.

Prerequisite: PSYC 551 or consent of the instructor.

PSYC 656 Seminar in Cortical Functions: Frontal Cortex (2)
Readings and discussions on the neuroanatomy and function of the frontal lobe cortex, the neurological and neuropsychological disorders, assessment strategies, and treatment strategies associated with frontal lobe damage.

Prerequisite: PSYC 552 or consent of the instructor; corequisite course(s), if any.

PSYC 657 Seminar in Cortical Functions: Posterior Cortex (2)
Readings and discussions on the neuroanatomy and function of the parietal, temporal, and occipital lobe cortices; the neurological and neuropsychological disorders; assessment strategies; and treatment strategies associated with damage to the posterior portions of the brain.

Prerequisite: PSYC 552 or consent of the instructor; corequisite course(s), if any.

PSYC 658 Seminar in Subcortical Function (2)
Readings and discussions on the neuroanatomy and function of the major subcortical structures—including the basal ganglia, limbic system, thalamus, cerebellum, and brainstem. Seminar covers the neurological and neuropsychological disorders, assessment strategies, and treatment strategies associated with damage to these subcortical structures.

Prerequisite: PSYC 552 or consent of the instructor; corequisite course(s), if any.

PSYC 674 Infant/Toddler Development (2)
Focus on infant development from 0 through 36 months of age, examining milestones of cognitive, motor, and psychosocial development. Developmental scales and instruments that address these aspects of infant/toddler development examined within the context of assessment and intervention.

PSYC 675 Cognitive Development (2)
Current research and theory regarding cognitive development across the lifespan. Readings focused on development in adolescence and in young, middle, and late adulthood. Specific topics to be covered include: intelligence, creativity, memory and autobiographical memory, consciousness, spatial cognition, imagery, social cognition, and moral reasoning. Explores changes in cognition over adulthood with consideration of how these changes effect an individual's growth and development in other domains.

Prerequisite: PSYC 575 or consent of the instructor.

PSYC 681 Clinical Supervision: Concepts, Principles, and Functions (2)
Seminar course in the basic skills and corresponding knowledge of clinical psychology supervision. Different theoretical approaches to conceptualizing the clinical supervisor-supervisee dyad and the supervisory process. Principles, methods, and techniques of individual, group, and live supervision. Supervision interpersonal issues and dilemmas, multicultural context, ethical and legal considerations, and research issues and methods. Prepares the student to become a supervision trainee.

PSYC 682 Psychotherapy Supervision Practicum (2)
A supervised practice experience in psychotherapy supervision. Designed to enhance the supervision trainee's awareness of: what experiences and personal tendencies s/he brings to the process of supervising; how to increase his/her skills in managing the supervisory relationship to the benefit of the supervisee and the trainee's own professional development; and how to enrich his/her understanding of reciprocal meanings and concepts. Provides information that can be used by the student in making decisions about further training in psychotherapy supervision and possibly about pursuing a specialty in psychotherapy supervision.

Prerequisite: PSYC 681 or consent of the instructor.

PSYC 683 Management, Consultation and Professional Practice (2)
Seminar course in the management, consultation, and business skills needed by the clinical psychologist to fit into contemporary integrated health and mental health-care delivery systems (i.e., a health-maintenance organization or an independent-practice association). Explores the wide range of roles psychologists are playing in developing, evaluating, and administering behavior health care services. Special emphasis given to examining how the psychologist's clinical and research skills can enhance his/her ability to adapt to a changing marketplace.

PSYC 684 Human Sexual Behavior and Therapy (2)
Human sexuality in contemporary society. Physiological, psychological, sociocultural, and developmental factors associated with human sexuality. Interventions for sexual dysfunctions and sexual well-being. Designed to fulfill California state licensing requirements for psychologists.

PSYC 685 Drug Addiction and Therapy (2)
Overview of the definitions, incidence, detection, assessment, effects, and the ethical, legal, and therapeutic management of substance abuse. Designed to fulfill California state licensing requirements for psychologists.

PSYC 686 Child, Partner, and Elder Abuse (2)
Overview of the definitions, incidence, detection, assessment, effects, and the ethical, legal, and therapeutic management of child, partner, and elder/ dependent-adult abuse. Perpetrator and victim characteristics, including cultural and ethnic diversity factors. Controversies regarding assessment techniques, diagnoses, sequelae syndromes, interventions, and forensic issues. Designed to fulfill California state licensing requirements for psychologists.

PSYC 687 Cognitive Behavioral Treatment of Anxiety Disorders (2)
Advanced course in the assessment of cognitive behavioral treatment of the DSM-IV anxiety disorders. Concurrent group-therapy experience observing/ engaging in cognitive behavioral therapy with adult clients.

Prerequisite: PSYC 581 or consent of the instructor.

PSYC 688 Empirically Supported Treatments of Depression (2)
Advanced course in the clinical assessment and treatment of DSM-IV unipolar depressive disorders. Three empirically validated treatments: cognitive therapy, behavioral therapy, and interpersonal psychotherapy of depression. Assessment of treatment outcome.

Prerequisite: PSYC 581 or consent of the instructor.

PSYC 691 Psy.D. Research I (3)
Development and implementation of the Psy.D. degree dissertation. Research methods and applications reviewed. Students develop dissertation topic and complete a first draft of the literature review.

Prerequisite: PSYC 502, 505; admission to Psy.D. degree program.

PSYC 692 Psy.D. Research II (3)
Development and implementation of the Psy.D. degree dissertation. Statistical methods and applications reviewed. Students complete the literature review and begin work on the methods section.

Prerequisite: PSYC 691, admission to Psy.D. degree program.

PSYC 693 Psy.D. Research III (2)
Development and implementation of the of the Psy.D. degree dissertation. Student forms the supervisory committee and, with the input of the committee, completes the preliminary draft of the doctoral project proposals. Practice for the oral defense of the dissertation proposal.

Prerequisite: PSYC 692, admission to Psy.D. degree program.

PSYC 694 Seminar in Advanced Topics in Psychology (1-4)

PSYC 695 Issues in Clinical Psychology (1-4)
Seminar course that examines current issues of clinical knowledge and the application of that knowledge as required for the competent practice of clinical psychology.

PSYC 697 Doctoral Research (1-12)
Academic credit for dissertation research. A total of 36 units required.

PSYC 698 Doctoral Project (1-4)
Course credit for work on doctoral project. (Students must enroll for at least 1 unit during each quarter from the acceptance of the proposal until the project is completed.)

Prerequisite: PSYC 505 and advancement to candidacy

PSYC 699 Doctoral Dissertation (1-4)
Course credit for work on doctoral dissertation. (Students must enroll for at least 1 unit during each quarter from the acceptance of the proposal until the dissertation is completed.)

Prerequisite: Advancement to doctoral candidacy.

PSYC 781 Second-Year Practicum (2-6)
Required units for Psy.D. degree students, elective clinical training experience for Ph.D. degree students. Second-year practicum provides students with clinical training before they enter the formal practicum sequence. May be repeated up to five times for a total of 6 units.

PSYC 782 Practicum I (3)
Provides students with a pre-internship level of clinical psychology training that will be more intensive, extensive, and continuous than anything they have previously experienced in the academic/clinical aspects of the program. A highly integrated component in the student's entire sequence of training and education at Loma Linda University. Practicum provides (a) access to greater numbers of practicing psychologists who can serve as valid role models; (b) further education and experience in the areas of psychological assessment, diagnostic conceptualizations, and scientifically based treatment regimens; and (c) additional training with regard to the ethical, legal, and professional standards of the profession of clinical psychology.

Prerequisite: Completion of two years of the clinical psychology program at Loma Linda University; good academic and professional standing in the program.

PSYC 783, 784, 785 Practicum II, III, IV (3, 3, 3)

PSYC 795 Directed Clinical Experience (1)
Designed for those students who have finished their external practicum and pre-internship but who still desire further clinical training before going on internship. It is also open to those occasional students who are not a part of the doctoral degree program but who are seeking a particular clinical experience available through the department. The clinical experience will be individually designed according to the needs and desires of the student and be under the direction of a member of the department's faculty.

PSYC 798 Pre-Internship (1)
Elective clinical experience for students who have successfully completed the practicum year. May be repeated to a maximum of 6 units.

PSYC 799 Internship (.5–1)
(Must be repeated to a total of 4 units.)

Prerequisite: Advancement to candidacy and completion of all academic course work.

PSYC 799L Internship (250-500 hours)
Prerequisite: Advancement to candidacy and completion of all academic course work.

REHABILITATION SCIENCE

W. WILLIAM HUGHES, Ph.D. Loma Linda University GS 1978
Program Director, Associate Dean for Educational Support, Professor of Basic Science, School of Allied Health Professions
Associate Clinical Professor of Pathology and Human Anatomy, School of Medicine

JOYCE W. HOPP, Ph.D. University of Southern California 1974
Dean; Distinguished Professor of Health Education

The Graduate School in cooperation with the School of Allied Health Professions offers the Doctor of Philosophy in Rehabilitation Science. The degree program by design is inclusive of the many rehabilitation professions, and offers opportunities for qualified clinical professionals in allied health to prepare for careers in independent research, teaching, and administration. It is the goal of this program to prepare graduates who will

- provide vision and direction for the integration of the rehabilitation professions;
- commit themselves to whole-person care;
- advance the theory and practice of rehabilitation science through research;
- acquire and integrate knowledge related to the social and basic medical sciences; and
- assess, develop, and implement interdisciplinary community-based services.

Doctoral degree students will have access to academic, clinical, and research opportunities with Loma Linda University Adventist Health Sciences Center.

ADMISSION

Applicants must meet the following minimum requirements:

1. Bachelor's or master's degree in any allied health profession area or discipline related to rehabilitation science, with a minimum G.P.A. of 3.0 in academic and professional course work.
2. Current licensure/certification, if available, in one of the rehabilitation science professions.

In addition to the completed application form to the Graduate School, all prospective students are required to submit the following:

1. A formal letter of support from a primary research faculty member whose research interests and availability most closely match those of the applicant. The program director will coordinate meetings between applicants and prospective research faculty.
2. Curriculum vitae, including work history, formal education, continuing education, licensing and certification, professional organizations, honors, awards, publications, presentations, and grants.
3. At least one example of written work (e.g., term paper, course assignment, publications, master's degree research project or thesis, etc.).

REQUIREMENTS

A minimum of 114 units beyond the bachelor's degree level is required. Students entering the program holding a bachelor's degree may apply to transfer a maximum of 23 quarter units of graduate level course work. For students holding a master's degree, up to 45 graduate level quarter units taken in completion of a master's degree may be applicable, in which case the applicant would be eligible to apply for advanced standing. For applicants with post-masters graduate level course work, an additional 14 quarter units can be transferred. Transfer of credits, including credits applied to advanced standing, must be reviewed by the School of Allied Health Professions Doctor of Philosophy in Rehabilitation Science Committee prior to submission to the Graduate School for approval.

CURRICULUM

There are three core areas of study in the doctoral degree program:

Rehabilitation science core	(42 quarter units)
Selectives	(36 quarter units)
Research and dissertation	(36 quarter units)

These core areas have the following requirements:

REHABILITATION SCIENCE CORE

(42 quarter units, to include 6 units of religion; and 36 units selected from rehabilitation core domains, to include at least 6 units from each domain)

Religion (6 units selected from the following ethical, foundational, and relational courses)

RELE	525	Ethics for Scientists	(3-4)
RELR	536	Spirituality and Occupation	(3)

RELR	525	Health Care and Dynamics of Christian Leadership	(3-4)
RELF	557	Theology of Human Suffering	(3-4)

Other religion courses in consultation with the program director

Domain 1: Political and professional advocacy (6 units)

SPOL	614	Social Science Concepts and Theories	(4)
RESC	515	Political and Professional Advocacy in Rehabilitation	(3)
RESC	516	Practicum in Advocacy (Prerequisite: SPOL 614, RESC 515)	(1-3)

Domain 2: Theories and applications in health care systems and delivery (6 units, to include RESC 519)

RESC	519	Rehabilitation Theories and Applications in Health Care	(3)
AHCJ	537	Organizational Theory: Structure and Behavior	(3)
AHCJ	536	Health Care Financial Management	(3)
MHIS	575	Market Research Methods in Health Care	(3)
MHIS	602	Health Systems Operations Management	(3)
MHIS	604	Strategic Health Information Systems Management	(3)
AHCJ	545	Legal and Ethical Issues in the Health Professions	(3)

Domain 3: Determinants of health behavior (6 units, to include HPRO 588)

HPRO	509	Principles of Health Behavior	(3)
HPRO	588	Health Behavior Theory/Research (Prerequisite: HPRO 509)	(4)
AHCJ	574	Behavioral Modification and Personal Change	(3)
EPDM	509	Principles of Epidemiology I	(3)
HPRO	514	Values, Culture, and Health	(3)
HPRO	526	Lifestyle Diseases and Risk Reductions	(3)
INTH	517	Cultural Issues in Health Care	(3)

Domain 4: Leadership and higher education (6 units)

AHCJ	505	Educational Psychology for Health Professionals	(3)
AHCJ	509	Teaching and Learning Styles	(3)
AHCJ	515	Curriculum Development in Higher Education	(3)
AHCJ	556	Administration in Higher Education	(3)
AHCJ	557	Professional Systems Management	(3)
AHCJ	564	Group Process and Dynamics	(3)
AHCJ	585	Technology in Education	(3)
AHCJ	599	Directed Teaching	(3)

SELECTIVES (36 units)

Selected from an approved list of courses in consultation with the program director

RESEARCH AND DISSERTATION (36 units)

AHCJ	530	Research and Statistics I	(3)
AHCJ	531	Research and Statistics II	(3)
HPRO	589	Qualitative Research Methods	(3-4)
AHCJ	605	Critical Analysis of Literature	(3)
RESC	697	Research	(1-4)
RESC	699	Dissertation	(4)

COMPREHENSIVE EXAMINATION

The written comprehensive examination is designed to establish that the student has a broad understanding of rehabilitation science.

ADVANCEMENT TO CANDIDACY

The student may apply for admission to doctoral candidacy after (a) passing the comprehensive examinations; and (b) securing the support of his/her research advisory committee.

DISSERTATION

The candidate's capacity for independent investigation and scholarly achievement must be demonstrated by the presentation and oral defense of an acceptable dissertation, usually resulting in one-to-three publications.

GENERAL REQUIREMENTS

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN.

COURSES

RESC 515 Political and Professional Advocacy in Rehabilitation (3)
Attention to distinctions between the processes and outcomes of legislation and regulation in the health care professions. Emphasis on negotion strategies that enhance success in self-advocacy, and an on solutions to ensure agreement by all participants. Focus on identifying and solving professional concerns.

RESC 516 Practicum in Advocacy (1-3)
Participation in political and professional forums related to grassroots advocacy.
Prerequisite: SPOL 614; AHCJ 515.

RESC 519 Rehabilitation Theories and Applications in Health Care (3)
History of and current trends in health care theory and applications, with emphasis on successful approaches to integration of the rehabilitation professions.

RESC 697 Research (1-4)
Twenty units of doctoral research required.

RESC 699 Dissertation (4)
Preparation and defense of doctoral disseration. Registration during quarter of doctoral defense.

See the BULLETINS for the School of Public Health and the School of Allied Health Professions for course descriptions.

RELIGION AND THE SCIENCES

GERALD R. WINSLOW, Ph.D. Graduate Theological Union, University of California, Berkeley 1979
Dean; Professor of Christian Ethics
Christian ethics

RICHARD RICE, Ph.D. University of Chicago Divinity School 1974
Acting Program Coordinator; Professor of Religion
Theology and philosophy of religion

As the academic study of religion has developed over the past fifty years, the exploration of religion and science has emerged as a discipline of its own. Scholars in the natural sciences, the human sciences, and numerous applied sciences recognize the importance of examining religion from their particular perspectives. And religion scholars appreciate the importance of the questions that the methods and conclusions of the sciences raise for religious belief and practice.

As a Seventh-day Adventist health-sciences university, Loma Linda University rests on the conviction that there is a positive relation between religion and the sciences. Its commitment to a variety of health professional programs reflects the belief that the natural world is God's good creation and that human beings are inherently part of the physical order of things. Its commitment to higher education, including various avenues of graduate study, expresses the belief that all truth is God's truth and that the acquisition of truth calls for the diligent application of all our powers. These convictions support the attempt to bring scientific knowledge within the overarching perspective of Christian faith.

This degree is designed for several types of students: those who want a degree in religion and science before pursuing further graduate work in one or the other of these areas; graduate students in the natural and social sciences who would like to combine their other academic interests with a serious study of religion; students in professional programs who also have an interest in the area of religion and science; and individuals who wish to explore the interface of religion and the sciences within the context of serious academic work.

The Religion and the Sciences Program is administered by the Faculty of Religion through the Graduate School. It draws on resources from various sectors of the campus, including the Department of Natural Sciences faculty of the Graduate School, and the members of other faculties in the University, as well as other scholars and professors with expertise in the area.

The program is designed to encourage and assist students to—

- Understand the various ways people view the relation between science and religion.
- Appreciate the distinctive features of scientific and religious study.
- Appreciate religion and science as contrasting yet complementary approaches to truth.
- Participate in the ongoing conversation surrounding the relation of religion and the sciences.

MASTER OF ARTS

Admission

In addition to meeting admission requirements for the Graduate School, the applicant to the Religion and the Sciences Program must:

1. Propose clear personal and professional goals and ways in which the Religion and the Sciences Program may facilitate their realization.
2. Persuade the admissions committee by previous accomplishments that s/he is able and willing to reach these goals and to make a significant contribution to the field.

Course requirements

In order to receive the Master of Arts degree in religion and the sciences from Loma Linda University, the student will complete a minimum of 48 units of course work covering an appropriate range of courses and seminars as herein specified, with an overall grade-point average of B or better, with no grade lower than a C and with no grade in a required course lower than a B-.

Curriculum (44-52)

Introduction to research

RELG	504	Research Methods	(4)
SUBTOTAL:			4

Cluster I: Religion

RELF	539	Christian Understanding of God and Humanity	(4)
RELE	5__	One graduate level course in ethics	(4)
RELE	5__	One graduate level course in relational studies	(4)
RELF	526	Creation and Cosmology	(4)
SUBTOTAL:			16

Cluster II: Science

Two or three approved graduate courses, seminars or research projects selected from physical, life, behavioral, social or health sciences

SUBTOTAL: 8-12

Cluster III: Seminars

RELF	615	Seminar in Philosophy of Religion	(4)
PHIL	616	Seminar in the Philosophy of Science	(4)
RELF	617	Seminar in Religion and the Sciences	(4)
SUBTOTAL:			12

Cluster IV: Electives

One or two approved graduate courses, seminars or research projects offered at Loma Linda University or another educational institution.

SUBTOTAL: 4-8

Transfer credit

Students are permitted to transfer up to 8 units of approved graduate level courses from other accredited institutions into the Religion and the Sciences Program. In addition, prior or current students in other Loma Linda University postbaccalaureate degree programs are permitted to petition to receive credit for a maximum of 12 units for courses completed in their professional studies that are directly related to religion and the sciences.

Comprehensive examinations

A series of comprehensive examinations cover essential aspects of religion and science.

Research

The student prepares an acceptable thesis or material suitable for publication in relevant scholarly journals.

COURSES

RELG 504 Research Methods (3-4)
Examination of the presuppositions and procedures for graduate research in religious studies. Use of libraries and research centers. Ways and means of preparing and presenting term papers, theses, and scholarly articles.
Additional project required for fourth unit.

RELF 526 Creation and Cosmology (3-4)
Exploration of the similarities and contrasts between biblical and scientific views of the world, with special attention to biblical Creation accounts in their historical context.
Additional project required for fourth unit.

RELF 539 Christian Understanding of God and Humanity (3-4)
Study of the nature and attributes of God, with special emphasis on God's relation to the world, and the essential dynamic of human existence in light of the central biblical motifs of creature, image of God, and sin.
Additional project required for fourth unit.

RELF 615 Seminar in Philosophy of Religion (3-4)
Examination of the concept of God, arguments for the existence of God, the relationship of faith and reason, and the nature of religious language.
Additional project required for fourth unit.

RELF 617 Seminar in Religion and the Sciences (3-4)
Exploration of the interface between religion and the sciences—with attention to the religious origins of modern science, the similarities and contrasts between scientific and religious inquiry, and the particular challenges that the sciences pose for religious belief.
Additional project required for fourth unit.

PHIL 616 Seminar in the Philosophy of Science (3-4)
Exploration of the meaning(s) of scientific facts, laws and theories—with special attention to the development of scientific thought, the nature of scientific discovery, contrasting interpretations of scientific inquiry, and the ethical ramifications of scientific discovery.
Additional project required for fourth unit.0

SCHOOL COUNSELING

MARY E. MOLINE, Dr.P.H., M.P.H. Loma Linda University PH 1975; Ph.D. Brigham Young University 1979
Chair, Department of Counseling and Family Sciences; Professor of Counseling and Family Sciences; AAMFT-Approved Supervisor; Licensed Marital and Family Therapist
Marital and family therapy, family studies, family theory, treatment of couples, group process, group therapy, and legal and ethical issues

CHERYL SIMPSON, Ph.D. University of Oregon 1980
Program Coordinator; Professor of Counseling and Family Sciences;
Licensed Educational Psychologist; Credentialed School Counselor and School Psychologist
Psychological evaluation of children, adolescents and adults; lifespan development; crisis intervention; exceptional children and families

PUPIL PERSONNEL SERVICES CREDENTIAL PROGRAM PROPOSAL, IN DEVELOPMENT

Accreditation by the California Commission on Teacher Credentialing is currently being sought for the Pupil Personnel Services (PPS) Credential/School Counseling Certificate Program with approval anticipated prior to the printing of this BULLETIN. The School Counseling Program is designed as an integral part of the M.S. degree in marital and family therapy for those graduates who desire to work as counselors in the public school system.

FACULTY

See Marital and Family Therapy (MFAM) Program.

THE PROGRAM

The School Counseling Certificate Program is administered by the Department of Counseling and Family Sciences through the Marital and Family Therapy Program. The department administers programs leading to the following degrees and certificates:

- Ph.D., D.M.F.T, and M.S. degrees in marital and family therapy
- M.A. degree in family studies
- Certificate in clinical mediation
- Certificate in drug and alcohol counseling
- Certificate in family counseling
- Certificate in family-life education (see M.A. degree in family studies)
- Certificate in group counseling

Admission

Applicants must meet the Graduate School admission requirements outlined in this BULLETIN and give evidence of academic ability, emotional stability, and maturity. Students who have already completed a master's degree in marital and family therapy must complete a minimum of 21 quarter units in school counseling and meet all program standards for the California pupil personnel services credential. Students who pursue school counseling as a track within their M.S., D.M.F.T., or Ph.D. degree programs must meet all program standards for the California state pupil personnel services credential in school counseling.

CERTIFICATE REQUIREMENTS

Prerequisites

Master's degree in marital and family therapy or equivalent for admission to 21-unit School Counseling Certificate Program.

Approval of school counseling PPS track in M.S., D.M.F.T., or Ph.D. degree program in marital and family therapy.

Absence of any conviction for a felony or any communicable or contagious disease that would prevent the student from performing certified services.

Determination of candidate competence

Students who qualify for the school counseling certificate must demonstrate knowledge and skill in each of the following content areas and competencies. These are an integral part of the degree programs in marital and family therapy:

- Human growth and development
- Socio-cultural competencies
- Assessment
- Comprehensive prevention and early intervention for achievement

- Professional ethics and legal mandates
- Family-school collaboration
- Self-esteem and personal and social responsibility
- School safety and violence prevention
- Consultation
- Learning theory and educational psychology
- Professional leadership and development
- Coordination of pupil support systems
- Human relations
- Technology literacy
- Supervision and mentoring
- Foundations of the school counseling profession
- Professionalism
- Academic development
- Career development
- Individual counseling
- Group counseling and facilitation
- Coordination and team building
- Organizational and system development
- Research
- Program evaluation and technology
- Field experience

The certificate program

The course requirements for the certificate program are as follows:

MFAM	517	Field Practice in School Counseling (under supervision of PPS-credentialed school counselor) (600 clock hours)	(4)
MFAM	518	Assessment in Counseling	(3)
MFAM	519	Exceptional Learners	(3)
MFAM	522	College and Career Counseling	(3)
MFAM	528	School Counseling Seminar	(3)
MFAM	567	Families and Schools	(2)
RELR	564	Religion, Marriage, and the Family	(3)
TOTAL UNITS			21

Examination requirements

The Professional Assessments for Beginning Teachers (PRAXIS) - Speciality Area Tests in School Guidance and Counseling may be required instead of a departmental comprehensive examination. A satisfactory score report must be received by the University at least four weeks prior to issuance of a diploma. Early registration is essential.

The California Test of Basic Skills (CBEST) is required for state issuance of the pupil personnel services credential and must be taken no later than the first quarter of enrollment in the program.

Completion

Upon accreditation by the California Commission on Teacher Credentialing and recommendation from the Department of Counseling and Family Sciences, application may be made for the pupil personnel services credential in school counseling through the Loma Linda University credential officer when the above requirements have been met.

COURSES

See Marital and Family Therapy Program for other course descriptions.

MFAM 517 Field Practice in School Counseling (4)
Demonstration of knowledge and skills within supervised field experience in schools and other agencies. Competencies include areas of educational assessment, personal and social counseling, academic and career counseling, program development, program coordination and supervision, consultation, legal aspects, and professional ethics. State pupil personnel services (PPS) requires a minimum of 600 clock hours—which must include two educational levels, public school activity, and involvement with students from diverse cultural-ethnic-language backgrounds.

Prerequisite: Department approval at least six weeks prior to placement; and state clearances for health, character, and competence in basic skills.

MFAM 518 Assessment in Counseling (3)
Development of competencies and understandings for selecting, administering, and interpreting the major types of standardized tests and inventories used in psychology and education. Theoretical principles and issues presented together with hands-on applications. Practicum required.

Cross-listing: PSYC 404 Psychological Tests and Measurements—with additional requirements in research, and clinical application with schools and families.

MFAM 519 Exceptional Learners (3)
Study of the determinants, characteristics, problems, and adjustments of individuals who deviate markedly from the norm in their mental, physical, emotional, or social aptitudes, traits, and tendencies. Emphasis on education and career planning.

Cross-listing: PSYC 460 The Exceptional Individual—with additional requirements in research, and clinical application with schools and families.

MFAM 522 College and Career Counseling (3)
Examination of vocational and career-choice theories, trends, and related educational programming—including an introduction to interest, attitude, and ability evaluation used for career counseling. Administration, scoring, and interpretation included as part of hands-on application in schools and clinic settings.

MFAM 528 School Counseling Seminar (3)
Integration of knowledge and skills essential for development, implementation, coordination, and supervision of counseling programs within educational institutions—with emphasis on the role and function of school counselors in preschool, elementary, middle, and secondary grades. Applications made to state graduation requirements, case management, school law, community, consultation, and professional ethics.

MFAM 567 Families and Schools (2)
Study of relationships between families and schools—with emphasis on students with special needs for remediation, accommodation, and/or counseling. Emphasis on federal and state legislation, parental rights and responsibilities, referral procedures, special-education services, interdisciplinary strategies, and intake that will provide an adequate foundation for interdisciplinary work with the school system.

SOCIAL WORK

BEVERLY J. BUCKLES, M.S.W. Eastern Washington University, D.S.W. Adelphi University 1989
Chair, Department of Social Work; CSWE Liaison; Professor of Social Work
Policy/Administration and community organizing

ROBERT W. GARDNER, Ph.D. University of Utah 1977
Doctoral Degree Program Coordinator, Professor of Social Work
Program assessment

JAMES F. DYER, JR., M.S.W. Wayne State University 1976
M.S.W. Academic Program Coordinator, Associate Professor of Social Work
Clinical social work

The profession of social work centers on the improvement of the quality of life for people and the enhancement of human potential for full productive participation in society. With this philosophy at its core, the master's degree program in social work (M.S.W.) emphasizes ecological systems, a perspective that focuses on the interaction of a person or system in relation to his/her environment. Reflecting this stance is Loma Linda University's philosophy "To Make Man Whole" and its heritage as an international leader in the delivery of services in health care and related facilities. It is the combination of these influences that has guided the development of the foundation curriculum, professional concentrations, and selection of practicum sites for the Master of Social Work Program.

MISSION

The mission of the Department of Social Work at Loma Linda University is to prepare competent, ethical, and compassionate social work professionals who will possess the knowledge, values, and skills to equip them for a dedicated life of advanced practice in health and mental health institutions and agencies.

GOALS

The goals of the Department of Social Work are to:

1. Provide quality graduate social work education that supports the common knowledge, ethics, values, and skills of the profession.
2. Provide quality social work education that demonstrates respect for diversity and populations at risk, and the promotion of social and economic justice.
3. Be responsive in addressing the educational needs of social work in health and mental health institutions and agencies in the surrounding community.
4. Strengthen the student's academic experience through strong collaborations with area agencies and institutions.
5. Provide advanced curriculum in health and mental health concentrations in clinical social work practice, and policy planning and administration.
6. Express through curriculum and co-curricula activities the University's mission of wholeness.

FACULTY

IGNATIUS I. YACOUB, Ph.D. Claremont Graduate School 1976
Professor of Management and Administration

CRAIG R. JACKSON, M.S.W. Wayne State University 1976; J.D., Western State University College of Law 1993
Associate Professor of Social Work

DIANNA SIMON, M.S.W. University of California at Berkeley, Ph.D. University of Southern California 1993
Associate Professor of Social Work

TERRENCE J. FORRESTER, M.S. University of Louisville 1979
Director of MSW Field Education; Assistant Professor of Social Work

G. VICTORIA JACKSON, M.S.W. University of Michigan 1972
Assistant Professor of Social Work

FIELD LIAISON

VIOLA LINDSEY, M.S.W. Loma Linda University GS 1998

ACCREDITATION

The Master of Social Work Program is accredited by the Council on Social Work Education to provide graduate level social work education.

PROGRAMS

The Department of Social Work administers the following programs, leading to two degrees, one certificate, and three combined degrees:

- Certificate in case management
- Master of Social Work (M.S.W.)
- Ph.D. in social policy and social research
- Master of Social Work/Master of Public Health in maternal and child health
- Master of Social Work/Ph.D. in social policy and social research
- Master of Arts in biomedical and clinical ethics/Ph.D in social policy and social research

MASTER OF SOCIAL WORK

Prerequisite preparation

Graduate social work education builds on a broad liberal arts (general education) foundation. Consistent with this view, the program assesses the liberal arts foundation of students applying to the M.S.W. degree program, from two perspectives:

Course work that provides students with foundation concepts and/or skills in—

Interviewing and counseling (equivalent to 3 units)

Human biology: the interrelatedness of human biology and social functioning (equivalent to 3 units)

Human growth and development (equivalent to 3 units)

Cross-cultural issues (equivalent to 3 units)

Computer literacy (Department Skills Test; 1.5 units* of Windows required if competency is below 70 percent)

Introductory statistics (equivalent to 3 units)

*unit values represent quarter system of measurement

A balance of course work in four liberal arts areas—

Humanities (e.g., history, philosophy, literature, art, music, etc.) (20-24)

English and communication skills (e.g., oral and written communication media, etc.) (8-12)

Mathematics and natural sciences (e.g., mathematics, human biology, physiology, etc.) (12-16)

Social sciences (e.g., psychology, sociology, anthropology, human development, ethnic studies, economics, political science or government, etc.) (12-16)

Students not meeting the minimum number of units in any of the foregoing areas are required to complete additional course work prior to enrolling in the related M.S.W. classes. Table 1 outlines the time frame for completion of prerequisites. **Note: All prerequisite requirements must be completed by candidacy (i.e., prior to beginning the advanced curriculum).**

Table 1
SEQUENCING OF PREREQUISITE REQUIREMENTS

COURSES	SEQUENCE
Interviewing and counseling	Prior to SOWK 578 and 587A-C
Human development	Prior to SOWK 511, 512
Cross-cultural issues	Prior to SOWK 511, 512
Human biology	Prior to SOWK 511, 512
Computer literacy	Prior to SOWK 549
Introductory statistics	Prior to SOWK 549

Admission requirements

Following are the admission requirements for the Master of Social Work Program:

1. Applicants must have a bachelor's degree from an accredited university or college (official transcripts are evidence of courses completed). The department assesses the liberal arts preparation of each of its applicants in two areas: (a) the balance of course work in four broad liberal arts

areas, and (b) specific course work considered preparatory to the program's foundation (first year) courses [see also Liberal Arts Requirements in *M.S.W. Student Handbook*].

2. Applicants must submit a completed application—including.... (one must be from an academic source

   Applicants must submit a completed application, including a personal statement, application fee, all college and/or university transcripts, and three letters of recommendation (one from an academic source and one from a work supervisor).

3. Applicants must meet the minimum academic and professional compatibility criteria established by the program, which include:

- A cumulative grade point average of 3.0 or above, on a 4.0 scale (special consideration can be given to applicants with grade point averages as low as 2.5 if the last part of their college work shows significant improvement). Applicants whose cumulative grade point average does not meet the minimum requirements stated above may receive further consideration for admission to the M.S.W. degree program by providing a GRE or Miller's Analogies Test score, or two years related paid work experience. Evidence of work experience must be verified by current or past employers on official agency stationery.
- Applicants must show evidence of professional compatibility, personal qualifications, and motivation to complete a graduate program by obtaining a passing score on the admissions interview with the department's Admissions Committee. Evaluation criteria for the interview include:
  - verbal communication skills;
  - critical thinking ability;
  - values congruent with the social work profession;
  - appreciation of human diversity
  - evidence of reflective learning; and
  - comportment.

No academic credit is given for life experience and/or previous work experience for any part of the M.S.W. degree (i.e., field practicum or courses in the professional foundation or advanced curricula).

Individuals for whom the M. S. W. degree may not be an appropriate option may be admitted into the postbaccalaureate certificate program in case management.

Curriculum

The 78-unit curriculum of the M.S.W. degree program provides the mix of academic, experiential, and research experiences essential for M.S.W. degree students. Students must maintain a grade point average of 3.0 (or a letter grade of B on a 4.0 scale) and meet the knowledge, skill, and professional performance competencies outlined by the program. Students must also maintain a B- (2.7) or better in all required (core) courses, and a minimum of a C (2.0) in all selective courses. Courses with grades falling below the standards set for required and selective courses must be repeated. Students are financially responsible for the cost of repeating courses where grades obtained do not meet these minimum standards.

General overview

The program begins with the professional foundation content (first-year courses) common to all graduate social work education. Courses during this first year of study are divided into five professional areas: human behavior in a cross-cultural environment, social welfare policy and services, practice theory and skills, social research, and field practicum. These five areas are strengthened by the integration of social work values and ethics, as well as knowledge of special populations (i.e., issues of gender, race, class, disability, and oppression).

The advanced curriculum of the program is divided into four subdivisions:

M.S.W. degree advanced curriculum

The advanced curriculum of the program is divided into four subdivisions:

1. CONJOINING CURRICULUM AND PROCESSES —further integrating the foundational first year with the program's advanced curriculum.
2. ADVANCED CURRICULUM NUCLEUS—includes course work common to all second-year students.
3. THE CORE COURSES OF TWO CONCENTRATIONS—
   - CLINICAL PRACTICE; and
   - POLICY, PLANNING, AND ADMINISTRATION.
4. THE CULMINATING CURRICULUM AND PROCESSES—a capstone academic experience which facilitates the final stage of reflection and review in the development of the scholar-practitioner.

Each of these four curricular subdivisions articulates through the progressive presentation and integration of knowledge, practice roles, and intervention modes to develop the depth and breadth of proficiency expected in advanced practice within health and mental health.

PROFESSIONAL CONCENTRATIONS IN HEALTH AND MENTAL HEALTH

The Social Work Program offers two concentrations for professional practice, which are the focus of the second-year study: clinical practice; and policy, planning, and administration:

Clinical practice concentration

The clinical practice concentration requires mastery of advanced practice roles, modes of intervention, and methods used in clinical health and mental health settings. Study is required regarding the integration of clinical practice theories, diagnostic assessment, problem-solving skills and techniques; as well as the impact of policy upon the availability of treatment, treatment modalities, and expectation of outcomes.

Students' experiences and knowledge are expanded through the selection of practicum sites

and selectives concerning special population and problem areas. These include, but are not limited to, children at risk, geriatric dilemmas, mental disorders, substance abuse, and family conflict. The integration of cultural diversity as a factor guiding the analysis and intervention with clinical populations is incorporated into the totality of the concentration.

Policy, planning, and administration concentration

The policy, planning, and administration concentration represents a specialized study designed to prepare students for management roles in health and mental-health care organizations. As such, this concentration focuses on giving students understanding and skill in:

- interdisciplinary practice;
- systems establishment and maintenance to assist individuals, families, and groups managing health and illness in context of the life cycle;
- social change promotion in health and mental health care organizations; and
- health and mental health policy analysis.

In this way, students have an opportunity to integrate and explore health and mental health practices and policies from their underlying value base; and to explore the impact of cultural definitions on health, illness, and systems designs.

CENTRAL ACADEMIC EXPERIENCES AND PROCESSES

Field practicum

Field practicum is regarded as an integral part of the M.S.W. degree program because it offers an opportunity for students to integrate and apply theoretical and research knowledge with social work practice and intervention skills in institutional or agency settings. Practicums are designed (and selected) to provide maximum learning opportunities under the supervision of a qualified field instructor. As such, experiences are patterned to build upon one another, presenting the increasing challenges present in the continuum of generalist to advanced social work practice. Students complete 1,080 hours of field work and 20 contact hours of professional colloquia.

Emphasis during the foundation practicum (480 hours) is placed on achieving generic social work knowledge, values, and skills—including developing rapport with agency personnel and clients, acquiring interviewing skills, and obtaining beginning-level psychosocial assessment and intervention capabilities. Content of the concurrent seminar further supports this perspective as it provides students with opportunities to integrate their practicum experiences with their developing professional identity.

Second-year practicums (600 hours) reflect students' choice of concentration and provide the depth and breadth of learning opportunities underpinning the acquisition of advanced practice capabilities. More specifically, advanced practicum experiences build on the professional foundation skills achieved during the first year of study and are expected to promote increased insight and understanding of agency and/or client systems.

Research

The M.S.W. degree program may include completion of an individually authored thesis or completion of course work in applied research. These study options aim to develop knowledge for the advancement of social work practice and to provide guided experiences in the conduct of research applicable to a variety of professional and academic settings. Guidelines for these options are provided by the Graduate School and the department.

Foundation year processes

Professional graduate programs are given authority to develop and carry out educational programs in a manner best suited to prepare individuals to meet public and professional expectations of practice competency. Graduate social work education programs are accountable to the profession to prepare individuals for competent, compassionate, and ethical practice. This charge carries with it responsibility for what is known as "gatekeeping"—or the process of selecting, admitting, continuing, and graduating individuals who are considered suitable for participating in and advancing professional social work practice. In support of this responsibility, the program has developed fundamental academic criteria for continuation in the M.S.W. degree program. Two academic-review processes take place during the first year of the M.S.W. degree program. These are:

1 M.S.W. Advancement G.P.A.

The M.S.W. Advancement G.P.A. provides an initial predictor used for gatekeeping. The first 12 units completed towards the M.S.W. degree, including units acquired during nonmatriculation, must be completed with a G.P.A. of 3.0. Students who fail to achieve at this level may be dismissed from school. Students receive orientation to the process and requirements of the M.S.W. Advancement G.P.A. during the student orientation conducted prior to the Fall Quarter.

2. Qualifying Review

When all foundation course work is completed, students are required to pass the program's Qualifying Review. The intent of this process is to:

- assist faculty and students in assessment of strengths and areas for improvement;
- provide feedback;
- foster an environment of self-evaluation; and
- encourage heightened participation in individualized academic development.

Ultimately, the results of this review help both the student and faculty to develop learning objectives for the concentration year. A specific orientation is held to explain the expectations, format, and scheduling of the Qualifying Review process.

Concentration year processes

At the conclusion of the student's advanced curriculum, s/he participates in a culminating review. This review of the student's individualized objectives and professional development during the second year of study combined with a discussion of his/her future plans for employment and further growth is seen as a capstone academic experience; facilitating closure and the final stage of reflection and review in the development of a scholar-practitioner. The wholeness portfolio is the academic tool that provides the focus of this process.

Program options—full- and part-time models

Alternate program options have been designed to address the varying needs of students. As such, the program offers a full-time two-year option, a three-year part-time option, and a four-year part-time option.

Advanced standing

Students are not admitted into the M.S.W. degree program with advanced standing. Rather, the advanced standing recognizes the accomplishments in knowledge and skills of individuals who have received a baccalaureate degree from an accredited social work program. This recognition assumes that advanced standing candidates have the possibility of meeting the proficiency outcomes expected of M.S.W. degree students completing the foundation curriculum. As such, advanced standing candidates are eligible for transfer of up to 30 course units of first-year course work and 280 hours of first-year field practicum. Criteria for course transfer is available through the department. The curriculum for students who are granted advanced standing spreads across two academic years. This allows students an appropriate time frame for completion of the thesis or advanced research course work and for socialization into the profession, as well as opportunity to take advantage of the rich interdisciplinary options available at Loma Linda University. Note: Students are not allowed to transfer foundation courses where content is required by California state law. In addition, students who demonstrate difficulty in the application of foundation skills in their practicum (regardless of receipt of advanced standing designation) may have previously granted course transfers revoked or denied.

Transfer students

Individuals transferring from other accredited M.S.W. degree programs may transfer units for didactic course work in accordance with University policy. Field practicum experiences are nontransferable.

PROGRAM OF STUDY

REQUIRED COGNATES
(required of all students)

RELE	522	Bioethics for Social Work	(4)
GSCJ	515	Graduate Research Writing	(2)

PROFESSIONAL FOUNDATION
(required of all students)

(*Indicates students graduating from an accredited B.S.W. degree program are eligible to waive this course.)

Sequence I—Human Behavior and Cross-Cultural Environment

SOWK	511	Human Behavior in a Cross-Cultural Environment I	(3)*
SOWK	512	Human Behavior in a Cross-Cultural Environment II	(3)*

Sequence II—Social Welfare Policy and Services

SOWK	515	Social Policy I	3)*
SOWK	615	Social Policy II	(3)*

Sequence III—Social Research

SOWK	547	Research Methods I	(3)*
SOWK	549	Research Methods II	(3)*

Sequence IV—Practice

SOWK	517	Foundation Practice I: Individuals (3)*	
SOWK	518	Foundation Practice II: Groups	(3)*
SOWK	519	Foundation Practice III: Organizations and Communities	(3)*
SOWK	520	Foundation Practice IV: Families	(3)
SOWK	671	Foundation Practice V: Social Work Administration	(3)*

Sequence V—Field Practicum

SOWK	500	Professional Colloquium	(10 hours)*
SOWK	578	Field Orientation	(1)
SOWK	587A, B, C	Field Practicum and Seminar	(160, 160, 160 hours)

QUALIFYING EXAMINATION

CONJOINING CURRICULUM AND PROCESSES
(required of all students)

SOWK	613	Human Behavior in a Cross-Cultural Environment III	(3)
SOWK	660	Advanced Theory and Practice for Working with Ethnically Diverse Clients	(3)
SOWK	682	Legal and Ethical Aspects of Health and Mental Health	(3)

ADVANCED CURRICULUM NUCLEUS
(required of all students)

SOWK 600	Advanced Professional Colloquium	(10 hours)
SOWK 687A, B, C	Advanced Field Practicum and Seminar	(200, 200, 200 hours)
SOWK 695A, B, C	Advanced Research Methods	(2, 2, 2)

or

SOWK 697	Applied Research	(2, 2)
and		
SOWK 698	Thesis	(2)

CONCENTRATION CORES

Students take courses in one of the following concentrations—clinical practice; or policy, planning, and administration:

CLINICAL PRACTICE

SOWK 661	Time-Limited Services and Interventions	(3)
SOWK 663	Advanced Social Work Practice with Individuals	(3)
SOWK 665	Advanced Social Work Practice with Groups	(3)
SOWK 667	Advanced Integrative Practice	(3)

POLICY, PLANNING, AND ADMINISTRATION

SOWK 676A	Human Resources Planning and Development Seminar	(3)
SOWK 672	Organizations and Systems	(3)
SOWK 673	Program Planning and Evaluation	(3)
SOWK 683	Advanced Policy Practice	(3)

CULMINATING WORK

The curriculum for the master's degree in social work culminates with

- SOWK 675
- a review of the student's progress
- courses selected from
  - *population groups*
  - *problem areas*

CULMINATING CURRICULUM AND PROCESSES
(required of all students)

SOWK 675	Supervision	(3)

CULMINATING REVIEW

SELECTIVE COURSES

(8 units required)

Population groups

SOWK 650	Treatment with Children and Adolescents in Trauma	(2)**
SOWK 652	Social Problems within Minority Populations	(2)**
SOWK 653	Interventions with Special-Needs Children	(2)
SOWK 654	Therapeutic Interventions with Older Adults	(2)**
SOWK 658	Children's Psychotherapy	(2)
SOWK 659	Interventions with the Chronically Mentally Ill	(2)**
SOWK 666	Women's Clinical Issues and Treatment	(2)**
SOWK 668	Men's Clinical Issues and Treatment	(2)**
SOWK 669	Child and Adolescent Clinical Issues and Treatment	(2)

Problem areas

SOWK 649	Social Work and Health Care	(2)
SOWK 651	Health Care Interventions with High-Risk Families and Communities	(2)
SOWK 656	Religion and Spirituality in Direct Practice	(2)
SOWK 674	Fiscal and Information Management	(2)**
SOWK 676B	Human Resources Planning and Development Seminar	(2)
SOWK 677	Advanced Integrative Seminar in Psychotherapy	(2)
SOWK 680	Children and Families Policies and Services	(2)
SOWK 681	Health and Mental Health Policies and Services	(2)
SOWK 684	Advanced Policy Project	(2)**
SOWK 685	International Environment of Social Welfare	(2)

**Courses offered as special sessions dependent on student interest and minimum enrollment.

TOTAL DEGREE UNITS	78
PRACTICUM HOURS	1080
COLLOQUIUM UNITS	20

DOCTOR OF PHILOSOPHY IN SOCIAL POLICY AND SOCIAL RESEARCH

MISSION

The doctoral degree program extends the distinctive principles of "whole-person care" beyond the individual to include the care of communities and social institutions. Students are provided with an integrative approach to an advanced curriculum in social science, social policy, Christian ethics, and social research. Emphasis is placed on providing students with the theoretical and methodological knowledge and professional skills needed to conduct innovative and interdisciplinary research. Graduates of the program are prepared for advanced administrative and research roles in national and international health and human services, policy development and analysis, and education.

ADMISSIONS REQUIREMENTS

Students with a demonstrated commitment to health and human services may apply for admission. Admission to the program is governed by the policies and procedures established by the Graduate School. Admission requirements to the doctoral program include:

1. Master's degree from an accredited institution of higher education. Examples would include such disciplines as social work (M.S.W.), nursing (M.S.), business (M.B.A.), public health (M.P.H.), education (M.Ed.), and the ministry (M.Div.).
2. Evidence of adequate academic preparation in graduate education. This includes a minimum cumulative G.P.A. of 3.0 (4.0 scale) for graduate/postgraduate work.
3. Strong intellectual abilities, including background in social science and statistics.
4. Commitment to advancing knowledge and research related to social policy.
5. Professional experience and achievement that demonstrates the competence, motivation, organization, and leadership to complete doctoral education in a timely manner.
6. Personal interview.
7. Sample of writing in the form of a published article, academic or professional paper prepared for a research purpose, or an essay prepared for admission to the program.
8. Satisfactory performance on the (Graduate Record Examination) GRE.

   (Satisfactory is defined as a minimum combined score [verbal, quantitative, analytical] of 1500 for admission with *regular* status. Students submitting a GRE score lower than 1500 may be considered for *provisional* status).
9. Curriculum vitae or other description of education and employment history.

PROGRAM OF STUDY

The program is structured around three primary requirements: course work, comprehensive examinations, and dissertation.

Core curriculum—social science, social policy, and Christian ethics

The required core courses in social policy analysis emphasize the distinctive concepts, theories, and models of the various social science disciplines, ethical theory, and Christian theology. These courses are designed to strengthen the student's interdisciplinary perspectives and integrative skills as applied to common social policy problem.

Three courses are required in each of the core curriculum areas:

Social science

SPOL	614	Social Science Concepts and Theories	(4)
SPOL	615	Economic Theory and Social Policy	(4)
SPOL	624	Nature/Society Thought and Social Policy	(4)

Social policy

SOWK	683	Advanced Policy Practice	(3)
Two courses in a selected area of social policy specialization			(6)

Christian ethics

RELF	557	A Theology of Human Suffering (or an approved RELF course selected in consultation with the graduate adviser)	(4)
RELE	588	Philosophical Ethics (or an approved RELF course selected in consultation with the graduate adviser)	(4)
RELR	528	Christian Citizenship and Leadership (or an approved RELF course selected in consultation with the graduate adviser)	(4)

Research methods, statistics, and information technology

SPOL	654	Qualitative Research Methods	(4)
SPOL	655	Quantitative Research Methods	(4)
PSYC	501	Advanced Statistics I	(4)
PSYC	502	Advanced Statistics II	(4)
PSYC	503	Advanced Multivariate Statistics III	(2)
SPOL	664	Applied Research for Social Policy	(2)
SPOL	665	Information Technology and Social Policy	(2)

Research seminars

SPOL	671, 672, 673	Research Orientation Seminar Series I, II, III	(2, 2, 2)
SPOL	681, 682, 683	Research Seminar Series I, II, III	(2, 2, 2)

Dissertation

SPOL 697	Research	(24)
SPOL 699	Dissertation	(12)

TOTAL UNITS FOR MASTER IN SOCIAL WORK 103

Policy specialization

In consultation with the graduate adviser, the student selects a minimum of two additional courses in an area of policy specialization. Areas of policy specialization include: health, mental health, aging, family, health and human services management, and sustainable international development.

QUALIFYING EXAMINATION

Students must pass a qualifying examination. The qualifying examination consists of three parts:

1. Written comprehensive examination usually taken at the end of the first year in social science, social policy, and Christian ethics.
2. A research theory paper.
3. A research methodology paper.

CANDIDACY

Students who successfully complete all course work and pass the qualifying examination apply for Ph.D. degree candidacy. The candidacy period is spent in full-time dissertation research.

DISSERTATION

The candidate will, under the direction of a guidance committee, satisfactorily:

1. Complete a written dissertation proposal.
2. Pass an oral examination of the written dissertation proposal.
3. Conduct a significant research project.
4. Write the dissertation.
5. Defend the dissertation at an oral examination.

SUMMER PH.D. PROGRAM

The Ph.D. in social policy and social research is available as a summer program. The curriculum for the summer program is the same as for the full year program and is designed specifically to meet the needs of college and university faculty who would like to obtain a Ph.D. degree.

The program requires four summers in residence at Loma Linda University in Loma Linda, California. The summer term begins the middle of June and runs for ten weeks to the end of August. Each summer students will take a block of three courses and a research seminar. The research seminar will continue through the following academic year as a Web-based course using Loma Linda's Blackboard Web courseware. In addition, each student will also be responsible for completing an equivalent statistics sequence during the normal academic year at another institution. Elective courses may also be completed at the student's home campus. Elective courses must be approved by the academic adviser.

The program emphasizes an interdisciplinary curriculum and approach to research in the health and human-service professions. It is designed to provide students with a thorough knowledge of ethics, social science theory, social policy, and research and information-management skills. Students who successfully complete the course work and pass the comprehensive examinations will be advanced to candidacy. Doctoral candidates, under the direction of a guidance committee, will prepare and defend a dissertation. Dissertation work will be completed through correspondence and occasional trips to meet with the guidance committee at Loma Linda University. Students who satisfactorily defend the dissertation are awarded the Ph.D. degree.

Applications to the summer program will be reviewed according to the same criteria and standards used for the traditional program. Application to the Loma Linda University program includes GRE scores, transcripts, letters of reference, and a personal narrative.

COMBINED-DEGREES PROGRAMS

The Department of Social Work offers three combined-degrees programs:

- Master of Social Work/Master of Public Health (maternal and child health)
- Master of Social Work/Ph.D. in social policy and social research
- Master of Arts in biomedical and clinical ethics/ Ph.D in social policy and social research

MASTER OF SOCIAL WORK DEGREE with MASTER OF PUBLIC HEALTH DEGREE in MATERNAL AND CHILD HEALTH

The combined-degrees program in social work and public health reaffirms the heritage of these two professions working together. Simultaneously it addresses the requisite knowledge and skills increasingly needed by professionals working in maternal and child health in low-income communities. As such, the curricula of the M.S.W. degree and M.P.H. degree in maternal and child health have been merged to offer a combined-degrees program with both depth and breadth to address the myriad of intervention and community issues affecting this population.

Combined-degrees students must meet all the requirements of each of the participating programs. If completed separately, the M.S.W. degree is 78 units and the M.P.H. degree is 52 units, for a total of 130 units. In this combined-degrees option, 24 units of the 130 units are counted by both the M.S.W. and M.P.H. degrees programs; this reciprocity reduces the total number of units required to 106. Interested students should obtain from the department a curriculum plan showing the integration of the M.S.W. degree and M.P.H. degree programs.

MASTER OF ARTS DEGREE
in BIOMEDICAL AND CLINICAL ETHICS with

DOCTOR OF PHILOSOPHY DEGREE
in SOCIAL POLICY AND SOCIAL RESEARCH

The purpose of this combined-degrees program is to facilitate more efficient completion of two graduate degrees for students with strong interests in both social policy and bioethics. Students who complete this combined-degrees program will be prepared to make significant interdisciplinary contributions to the field of ethics and social policy. Individuals working in the area of social policy must be able to undertake and publish research on social problems. This requires the ability to apply ethical theory to world-policy scenarios. Graduates will be able to provide leadership in the social policy arena by conducting interdisciplinary research on various issues and agendas that have significant moral implications. Participants in the combined-degrees program will utilize the important resource networks within the University (ethics, social sciences, health professions) and among those organizations and persons working on solutions to social problems.

To enter the proposed program, students must gain separate acceptance to both graduate programs. Students complete all the core requirements for each degree and would complete approved selectives for both degrees by taking course work in social policy and bioethics, authorized by their respective advisers in both programs. To the extent possible, research projects in both programs focus on the interface of ethics and social policy. All other degree requirements, such as comprehensive examinations and theses or papers, would be completed as prescribed in the two programs.

SOCIAL POLICY AND SOCIAL RESEARCH CORE

Social science

SPOL	614	Social Science Concepts and Theories	(4)
SPOL	615	Economic Theory and Social Policy	(4)
SPOL	624	Nature/Society Thought and Social Policy	(4)

Social policy

SOWK	683	Advanced Policy Practice	(3)
Two courses in a selected area of social policy specialization			(6)

Research

SPOL	654	Qualitative Research Methods	(4)
SPOL	655	Quantitative Research Methods	(4)
PSYC	501	Advanced Statistics I	(4)
PSYC	502	Advanced Statistics II	(4)
PSYC	503	Advanced Multivariate Statistics	(2)
SPOL	664	Applied Research for Social Policy	(2)
SPOL	665	Information Technology and Social Policy	(2)
SPOL	671, 672, 673	Research Orientation Seminar	(2, 2, 2)
SPOL	681, 682, 683	Research Seminar	(2, 2, 2)

Dissertation

SPOL	697	Research	(24)
SPOL	699	Dissertation	(12)
Bioethics core courses for transfer credit (all are available)			(12)
TOTAL			103

ETHICS CORE

RELG	504	Research Methods	(4)
RELE	554	Clinical Intensive I	(4)
RELE	555	Clinical Intensive II	(4)
RELE	577	Theological Ethics	(4)
RELE	624	Scripture and Ethics	(4)
RELE	524	Christian Bioethics	(4)
RELE	548	Christian Social Ethics	(4)
RELE	558	Philosophical Ethics	(4)
Social Policy core courses that apply			
SPOL	614	Social Science Concepts and Theories	(4)
SPOL	615	Economic Theory and Social Policy	(4)
SPOL	624	Nature/Society Thought and Social Policy	(4)
SPOL	654	Qualitative Research Methods	(4)
TOTAL			48

103
+ 48

TOTAL UNITS FOR JOINT PROGRAM 123

(103 + 48 –16 –12 = 123)

COURSES

GSCJ 515 Graduate Research Writing (2)
Provides skills for critical writing, including organization, development of idea, and presentation of conclusion. Develops skills that will be applicable to the preparation of term papers in the students' disciplines. Course may be challenged through successful passing of a test designed to assess critical writing skills.

SOWK 500 Colloquium (10 colloquium units)
Seminar of selected topics on contemporary social work issues and social issues affecting the delivery of social work services. (*M.S.W. Program Handbook* outlines method of verifying attendance.)

SOWK 511 Human Behavior and Cross-Cultural Environment I (3)
First of a three-part sequence that provides the basis for understanding human development and life transitions throughout the life span within an ecological perspective. Orients the student to the generalistic, social work approach to understanding human behavior in a cross-cultural context. Focuses on normal behavior from birth through adolescence.

Prerequisite: Program prerequisites in human growth and development, human biology concepts, and cross-cultural issues.

SOWK 512 Human Behavior and Cross-Cultural Environment II (3)
Explores the dynamic of human behavior from young adult cross-cultural context. Provides a foundation of knowledge on which to build social work practice skills.

Prerequisite: SOWK 511; program prerequisites in human growth and development, human biology concepts, and cross-cultural issues.

SOWK 515 Social Policy I (3)
Orientation to the beliefs, values, and historical foundations of the social work profession. -cultural perspectives and contradictions as these have influenced the development of contemporary social policies and services.

SOWK 517 Foundation Practice I: Individuals (3)
First of the practice sequences. Provides the foundation for generic social work practice as it emphasizes an ecological systems approach within a cross-cultural context. Provides knowledge of social work principles, ethics, and values that assure a professional approach to individual client needs arising from an assessment of personal and social issues and problems. (Students must take this course before or concurrent with social work practicum.)

SOWK 518 Foundation Practice II: Social Groups (3)
Focuses on introducing the student to group-work methods. Emphasizes differentiation among the types of individuals, situations, and presenting problems best served by group interviews.

Prerequisite: SOWK 517.

SOWK 519 Foundation Practice III: Organizations and Communities (3)
Incorporates generic concepts of the generalists' approach in organizational and community settings. Provides knowledge and understanding concerning group formation and empowerment. Assists the student in understanding him-/herself as a member of, and an active participant in, community organizations and institutions.

Prerequisite: SOWK 517, 518.

SOWK 520 Foundation Practice IV: Families (3)
Provides students with an introduction to family interventions. Examines views and issues regarding contemporary family structure and function, and focuses on concepts and techniques used to promote change in family functioning. Course meets state requirement for content in family violence.

Prerequisite: SOWK 517, 518, 519.

SOWK 547 Research Methods I (3)
Reviews the quantitative and qualitative methodological techniques used in designing and analyzing social work research and practice. Primary emphasis placed on preparing students for practice evaluation.

SOWK 549 Research Methods II (3)
Provides students with a didactic laboratory exploration of computer-based statistical analysis. Includes review of statistical techniques such as correlation, chi-square, analysis of variance, and multiple regression. Primary emphasis placed on using and interpreting statistics most common to research designs employed in social work research and practice evaluation.

Prerequisite: Introduction to computing, introductory statistics, and SOWK 547.

SOWK 578 Field Orientation (1)
Provides students with the policies and procedures for completing the program's practicum requirements. Begins the process of examining social work values and ethics as students are introduced to the NASW code of ethics and fundamental principles of professional behavior prior to beginning their field practicum.

SOWK 587A, B, C Field Practicum and Seminar (160, 160, 160)
Provides students with experiential learning opportunities in foundation social work practice. Students placed at practicums sites, as determined by the director of field education. Students complete 160 hours for each of three consecutive quarters. Note: Students spend 20 hours of each quarter's practicum time in a required concurrent seminar designed to intensify students' acquisition of skills and their professional development.

Prerequisite: SOWK 578.

SOWK 595 Professional Development Tutorial (2)
Tutorial course work aimed at ameliorating difficulties associated with meeting the professional performance competencies of the M.S.W. degree program (see *M.S.W. Student Handbook)*. Students are enrolled in the course as a result of a corrective action plan developed with the Department of Social Work's Academic Standards Committee.

SOWK 600 Advanced Colloquium (10 colloquium units)
Advanced seminars on contemporary topics in social work affecting the delivery of services. Second-year students select colloquia to attend that are related to their designated concentration. (*M.S.W. Program Handbook* outlines method of verifying colloquia attendance.)

SOWK 613 Human Behavior and Cross-Cultural Environment III (3)
Presents more complex definitions of dysfunction. Encourages appreciation for sensitivity to the associated needs and issues of affected populations. Facilitates increased application and respect for social work values, policies, and ethics.

Prerequisite: SOWK 511, 512; pass qualifying examination, or permission of the Academic Standards Committee.

SOWK 615 Social Policy II (3)
Emphasizes the structure and processes of social programs, and reviews methodologies for the analysis and development of social policies as applied to social welfare programs. Addresses the professional values and ethics of social change through political and social action.

Prerequisite: SOWK 515.

SOWK 648 Dual Diagnosis (2)
Examines the diagnosis and treatment of clients with the dual diagnosis of mental illness and substance dependency. Special attention given to understanding social rehabilitation frameworks and dilemmas, care giver issues, the need for family and professional alliances, as well as treatment efficacy and adherence.

SOWK 649 Social Work and Health Care (2)
Considers the physiological, psychological, and social components of various illnesses/conditions encountered in health care settings. Themes include: the effect of these components on social functioning or rehabilitative and habilitative processes; the common psychological reactions of people to medical treatment; the medical team's respective roles and value orientation, and the impact of these on the patient and his/her family; and issues of loss and death. Special attention given to interventions specific to health care settings versus those of traditional agencies, and to methods appropriate to interdisciplinary practice.

SOWK 650 Children and Adolescents in Trauma (2)
Provides students with a comprehensive understanding of assessing, intervening with, and treating children and adolescents experiencing trauma. Most common traumatic events to be examined are those associated with sexual abuse, life threatening conditions, and severe familial disruption. The processes of assessing and diagnosing the source and severity of commonly associated behaviors, conduct, and mood disorders examined. Explores applicable intervention and treatment strategies.

SOWK 651 Health Care Interventions with High-Risk Families and Communities (2)
Special health care needs of high-risk populations (including the poor, ethnic and racial minorities, recent immigrants, and children in high-risk environments). Primary causes of poor health among these groups, and development of realistic goals and strategies for responding to health care systems. Social work's role in the development of interdisciplinary community health care systems services reviewed.

SOWK 652 Social Problems within Racial and Ethnic Minority Populations (2)
Overview of the most significant social problems affecting racial and ethnic minority populations. Focuses initially on examining the interactive nature of environmental stresses and successful functioning. Further emphasis placed on the unique practice role of social work in structuring interventions and culturally appropriate treatment approaches.

SOWK 653 Interventions with Special-Needs Children (2)
Focuses on practice with children and families in relationship to environmental stability. Attention given to examining how the physical and mental health of children are directly associated with family and environmental permanency. Emphasizes development of parental and social support capacities, as well as the requisite professional knowledge and skills to help children deal with identity issues and concerns of joining a new family. Addresses the impacts of race, ethnicity, gender, economic deprivation, physical illness, and disability.

SOWK 654 Therapeutic Interventions with Older Adults (2)
Designed to integrate the theories and practice skills needed for effective practice with older adults and their families. Focuses both on the significance of the older client's history as well as the influences of race, ethnicity, and gender on behavior within the clients environmental context. Emphasizes assessment and intervention methods that bridge health and mental heath services. Examines service delivery and case-management systems, as well as individual, family, and small-group intervention approaches.

SOWK 656 Religion and Spirituality in Direct Practice (2)
Acquaints students with predominant theories regarding religion and spirituality from the "person-in-the-situation" perspective. Theoretical orientations include psychodynamic, philosophical, and sociocultural. Examines the implications of these theories in terms of their impact on professional practice.

SOWK 658 Children's Psychotherapy (2)
Considers treatment techniques appropriate for young children with a wide range of diagnoses and behavior problems. Emphasizes the integration of theory and practice of psychotherapy with the ecological perspective of social work practice. Discussion of diagnosis, phases of treatment, and special communication issues. Research, ethical, and value issues addressed.

SOWK 659 Interventions with the Chronically Mentally Ill (2)
Provides students with an understanding of theories and techniques of direct interventions useful in helping those with major mental disorders to cope with their illnesses and aspects of their life situations. Topics include dangerous behavior, acute psychotic episodes, definitions of long-term chronic disability, enhancing social skills and social support systems, case management, and the interaction of medication and social functioning.

SOWK 660 Advanced Theory and Practice with Ethnically Diverse Clients (3)
Theories and concepts of ethnicity explored, with particular focus on their usefulness for understanding ethnic diversity in psychosocial functioning. Examines norms, values, and adaptive coping styles; generational and gender issues in the formation of ethnic identity; the impact of social, political, and economic deprivation on development; attitudes toward health and mental health; degrees of acculturation; styles in the use of help; and other patterns. Students explore their own ethnicity-related styles and identities as well as the potential "fit" between worker and client values and beliefs. Students learn how to apply ethnicity concepts in case situations, including the exploration of ethnic factors in the assessment of functioning and in the development of the therapeutic relationship. Particular attention given to practice with people of color and recent immigrants. Prevailing models of social work practice critically examined in terms of their sensitivity to issues of ethnic diversity.

SOWK 661 Time-Limited Services and Interventions (3)
Examines the rationales and assumptions of brief treatment, presenting the techniques and strategies of time-limited services as compared with extended models of treatment. Examines the nature and characteristics of crisis versus traumatic events for their long-term affects on psychosocial functioning. Continuum also examined as it guides assessment, treatment modalities and settings, and interdisciplinary interactions.

Prerequisite: Pass qualifying examination, or permission of the Academic Standards Committee.

SOWK 663 Advanced Social Work Practice with Individuals (3)
Focuses on developing students' knowledge and skills in advanced clinical social work with individuals. Classification, evaluation, and diagnosis of the psychiatric disorders described in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR). Emphasis placed on diagnostic and psychosocial evaluation, psychiatric epidemiology, genetic factors in mental illness, and the major categories of drugs used in treating psychiatric disorders.

Prerequisite: Pass qualifying examination, or permission of the Academic Standards Committee.

SOWK 665 Advanced Social Work Practice with Groups (3)
Deepens knowledge of group processes and treatment. Through lecture, discussion, use of case material, and experiential learning in the classroom, the group is examined for its therapeutic impact on individual members. Emphasizes assessment and interventional skills in relation to the development of the group and to the ego functioning of individuals in therapeutic groups.

Prerequisite: Pass qualifying examination, or permission of the Academic Standards Committee.

SOWK 666 Women's Clinical Issues and Treatment (2)
Presents students with the major psychosocial considerations and modalities applicable for working with women in clinical settings. Racial, ethnic, and socio-political-economic issues addressed.

SOWK 667 Advanced Integrative Practice (3)
Provides students in the clinical concentration an opportunity to deepen their knowledge and integration of advanced theories and treatment modalities. Emphasizes developing students' skill in selecting practice methods appropriate for working with client populations presenting complex, multidimensional considerations for diagnosis and treatment. Special attention given to furthering students' appreciation for practice evaluation and interdisciplinary interactions as guided by an "autonomy in collegiality" perspective. Underscores the responsibilities of clinical social workers to anticipate and respond to social, political, and other environmental factors changing the nature and availability of services.

Prerequisite: Pass qualifying examination, or permission of the Academic Standards Committee.

SOWK 668 Men's Clinical Interventions and Treatment (2)
Focuses on psychosocial issues, faced by men, that have implications for clinical interventions. Attention given to appreciating the influence of life stage, role definitions, race, ethnicity, and gender orientation. Focuses on the psychosocial, emotional, economic, and familial impact of health-status change (including chronic illness, disability, and AIDS).

SOWK 669 Child and Adolescent Clinical Issues and Treatment (2)
Explores the use of creative and expressive techniques as alternatives to traditional assessment and intervention methods used with children and adolescents in medical, mental health, and other community-intervention settings. Students gain knowledge and skill in the use of play therapy, art therapy, programmed writing, and other expressive intervention techniques.

SOWK 671 Foundation Practice V: Social Work Administration (3)
Provides macro practice knowledge, skills, and perspectives of administrative practices with which to develop, support, and maintain effective service delivery. Topics include role identification and development, situational leadership, strategic planning, levels and types of decision making, management of organizational behavior, use of information systems, budgeting, documentation and reporting, resource development and utilization, and community networking.

SOWK 672 Theories of Organizations and Systems (3)
Explores the complexities of large organizations and bureaucratic systems. Examines formal and informal structures, communication patterns, and philosophical approaches as these affect the effectiveness and efficiency of services delivery, worker motivation, resource procurement and allocation. Accomplishes the objectives of the course through the application of diverse organizational and diffusion theories and perspectives as a means to increase students' understanding of their practicum experiences in the policy, planning, and administration concentration.

Prerequisite: Pass qualifying examination, or permission of the Academic Standards Committee.

SOWK 673 Program Planning and Evaluation (3)
Introduces students to the range of issues, knowledge, and skills required in designing, planning, implementing, monitoring, and evaluating programs. Students build on knowledge obtained in other concentration courses. Integration of the course focus takes place through the development of a comprehensive program proposal for the students' practicum agency or other identified community group.

Prerequisite: Pass qualifying examination, or permission of the Academic Standards Committee.

SOWK 675 Supervision (3)
Examines the supervisory process in relation to clinical, administrative, educational, and supportive functions. Emphasizes supervisory knowledge, skills, and techniques necessary for the development of staff capable of functioning creatively and independently. Examines legal and ethical issues relating to supervisory processes.

Prerequisite: SOWK 613, 660, and 682.

SOWK 676A Human Resources Planning and Development (3)
Examines the complexities of human-resources management in large organizations and/or with diverse employee populations. Strengthens students' knowledge and professional decision-making relative to the implementation of federal, state, and local policies (i.e., affirmative action, nondiscrimination, sexual harassment, etc.). Permission of instructor required for students not in the policy/administration concentration.

Prerequisite: Pass qualifying examination, or permission of the Academic Standards Committee.

SOWK 676B Human Resources Planning and Development Seminar (3)
Selective course taken to supplement SOWK 676 A deepens students' exposure to leading edge discussions on the legal and ethical aspects of human resources management and contemporary issues affecting morale and productivity in today's work environments (e.g., familial dysfunction of employees, single-parent families, care-provider roles of employees, and co-worker violence). Guest speakers and panel discussions. Consent of the instructor required for students not in the public administration concentration.

SOWK 677 Advanced Integrative Seminar in Psychotherapy—Integrative Practicum (200 hours)
Provides the parallel practicum experience for SOWK 678. Students placed at practicum sites, as determined by the program director of field education. Students' successful completion of this one quarter (200 hours) of integrative practicum experience viewed as further evidence of their appropriateness to receive the advanced standing designation and to progress to SOWK 687.

SOWK 678 Integrative Generic Practice and Seminar (2)
Required of students with advanced standing. Designed to provide a bridge quarter to integrate the B.S.W. degree experience with the second year of the M.S.W. degree program. Emphasizes reviewing the knowledge, values, and skills of generic social work practice; and defines the additional competencies required for advanced practice. Assists instructor and students in identifying and addressing individualized needs for further development—including application of professional ethics and judgment, use of self as a therapeutic tool, and self-awareness. At the culmination of this course, students also formulate conceptual and experiential learning objectives for their second year of study.

SOWK 680 Children and Families Policies and Services (2)
Designed to provide students with an understanding of the major social-policy issues affecting the current organization and delivery of human services for children and families. Analysis of current debates about the tensions between social policy and the doctrine of family privacy, with attention to the legal basis of state interventions and judicial decisions affecting family relationships, including parent to parent and child to parent.

SOWK 681 Health and Mental Health Policy and Services (2)
Provides a conceptual understanding of the development and organization of the health and mental health systems within institutional and community-based settings as they stem from national and local policy perspectives. Consideration of major issues dealing with the economics of health, health planning, and health legislation. Review of health and mental health programs based on selected cross-national comparisons.

SOWK 682 Legal/Ethical Aspects in Health/Mental Health (3)
Focus on those instances when legal mandates or concerns interact with and affect the practice of social work. Overview of the sources of legal authority, the judicial system, and the legal standards applicable to particular proceedings. Examines the legal implications of the social worker/client relationship. Specific emphasis placed on consent to treatment. Examines the statutes and judicial decisions that govern the confidentiality implicit in a social worker/client relationship. Examines the statutes and judicial decisions that permit or place an obligation on social workers to breach client confidentiality. Course content explored in the context of common and high-risk situations.

SOWK 683 Advanced Policy Analysis (3)
Deepens students' understanding of both the conceptual and analytical requirements of policy analysis through the integration of behavioral, political, economic, and sociometric frameworks for understanding human conditions. Students gain experience in structuring and defining policy problems, establishing criteria for policy choices, mapping alternative strategies, and applying appropriate analytical and research methods to policy questions. Use of cost-benefit analysis, cost-effectiveness analysis, and decision analysis as means toward developing formal augmentation toward sustained change.

Prerequisite: Pass qualifying examination, or permission of the Academic Standards Committee.

SOWK 684 Advanced Policy Projects (2)
Understanding of the interconnections between politics, policy-making, and policy analysis enhanced through first-hand participation in a political-action campaign. Choices for projects may focus on local initiatives or those coordinated annually through the California chapter of NASW.

SOWK 685 International Environment of Social Welfare (2)
Explores the social, cultural (including religious), political, and economic factors impacting social-welfare policies and the delivery of services in Third-World, developing, industrial, and postindustrial societies. Explores models for conceptualizing the differences and commonalities of infrastructure development in these various settings to enhance students' appreciation for creating and implementing policies and programs that are sensitive to the unique characteristics of the host environment.

SOWK 687A, B, C Advanced Practicum and Seminar (200, 200, 200)
Provides students with advanced social work experience in their selected concentration. Advanced practicums are assigned by the program's director of field education. Students complete 200 hours for each of three consecutive quarters. Note: Students spend 20 hours of each quarter's practicum time in a required concurrent seminar designed to intensify students' acquisition of skills and their professional development.

Prerequisite: Successful completion of SOWK 578; SOWK 587A, B, C (SOWK 676, 677 for advanced-standing students).

SOWK 695A, B, C Advanced Research Methods (2, 2, 2)
A three-quarter, sequential course that supports students choosing to advance their knowledge through the examination and application of a broad spectrum of research methods used in professional-practice settings. Course work combines didactic course work with laboratory experiences integrated into the student's advanced practi-cum, in which the student makes use of the identified research designs and techniques. Emphasis placed on developing student's ability to differentiate and apply the most appropriate and widely used research designs and methods at the micro, mezzo, and macro levels of practice, i.e., qualitative versus quantitative or combined formats. At each level, attention is given to preparing the student to work with the increasing federal and state requirements for demonstrating intervention effectiveness.

SOWK 697 Applied Research (2, 2)
Course supports students' choosing to complete the thesis option. Provides research matriculation in the collection and analysis of data for the thesis. Students required to register for two quarters, or a total of 4 units.

SOWK 698 Thesis (2)
Thesis represents the culminating work of the students' independent research. Students register for thesis during the quarter in which they defend their research and submit their final document to the department and Graduate School. As with all other components of the research process, students receive direction through this process from their research adviser.

SPOL 614 Social Science Concepts and Theories (4)
Team-taught course covering key theoretical concepts in the social sciences from the perspectives of economics, political science, anthropology and sociology. Students read and discuss primary sources. Key concepts studied include: ideology, power and authority, democracy and bureaucracy, equality and inequality, alienation and anomie, language and culture, exchange and markets, conflict and control.

SPOL 615 Economic Theory and Social Policy (4)
Presents the basic ideas and concepts of macroeconomic theory and applies them to understanding current and recent developments in social policy. The goal of the course is to understand how to evaluate macroeconomic conditions—such as unemployment, inflation, growth wages, and income distribution—and to understand how they impact the provision of health and human services.

SPOL 624 Nature/Society Thought and Social Policy (4)
Explores fundamental integrative theories and ideas that explore nature/society interactions and change—including key contributions from systems science, economics, sociology, demography, political science; as well as political, social, and cultural ecology. Focuses on learning how to assess the complex interactions between natural and built environments, technology, institutions, social groups and individuals, and value/ ethical systems that shape the context for social- policy analysis and decision-making in a rapidly changing world. Emphasizes integrative habits of thought and practice that promote sustainable development both at the community and national/international levels from a Christian perspective. Considers a wide range of issues such as population growth, food production, natural resources management, globalization and technology, energy policy, and socio-economic restructuring and sustainable development planning.

SPOL 654 Qualitative Research Methods (4)
Advanced qualitative research methods. Key topics include: epistemology; conceptualization and theory building; research design—including case study, comparative case study, ethnography; data gathering—including interviewing, observation, archival and historical research; and data analysis and writing. Various coding and interpretive techniques—such as ethnomethodology as well as contextual and discourse analysis.

SPOL 655 Quantitative Research Methods (4)
Advanced quantitative research methods. Emphasizes survey research design and data analysis, and experimental and quasi-experimental design. Topics include questionnaire and item design, measurement, sampling designs, planning and management of a survey, logic of analysis, and problems of statistical interpretation. Introduction to estimating techniques, social forecasting, analysis of time series data, and structural equation modeling.

SPOL 664 Applied Research for Social Policy (2)
Provides students with a series of formal exercises simulating primary applied social research strategies used in the development of social policy. Explores the contributions of social-research to social policy through studies of public records and data bases; clinical contexts; social experimentation; program planning, development, and evaluation; and action research.

SPOL 665 Information Technology and Social Policy (2)
Explores ways in which information technology is used in health and human service organizations for evaluation and outcomes research. Introduced key technology areas that impact social policy, including: decision support systems, geographic-information systems, data-base systems, data warehouses, client-server and other network technologies, the internet, and information-systems management.

SPOL 671 Research Orientation Seminar Series I (2)
First quarter of a three-quarter sequence designed to introduce doctoral students to the research process, with emphasis on research-problem identification and formulation. This quarter introduces student to the process of literature review using library tools for searching literature databases and other library skills. Students required to carry out a thorough literature review on a research question.

SPOL 672 Research Orientation Seminar Series II (2)
Introduces doctoral students to the research process, with emphasis on research problem identification and formulation. Students continue their orientation with the study of theoretical models and conceptual frameworks. Students complete a series of required readings on the epistemology of theory construction in the social sciences and prepare a conceptual framework or theoretical model.

Prerequisite: SPOL 671.

SPOL 673 Research Orientation Seminar Series III (3)
Introduces doctoral students to the research process with an emphasis on research problem identification and formulation. Students focus on writing and presenting a competent theory paper to seminar participants and doctoral program faculty. This paper includes a review of literature, a theoretical framework and a clearly described research problem. Satisfactory completion of this paper meets the theory paper requirement of the comprehensive examination.

Prerequisite: SPOL 671, 672.

SPOL 681 Research Seminar Series I (2)
First quarter of a three-quarter sequence. Introduces a wide variety of current research models and methodologies. Faculty and guest lecturers give students depth in various specialized research projects. Students prepare written responses to each lecture and present to the faculty the research problem and design for their research paper. The paper is a requirement of the comprehensive examination.

SPOL 682 Research Seminar Series II (2)
The steps of the research design. Focuses on data analysis, presentation, and interpretation. Students present the findings of their research to seminar participants and the doctoral program faculty.

Prerequisite: SPOL 681.

SPOL 683 Research Seminar Series III (2)
Focuses on writing and presenting a competent research paper to seminar participants and doctoral program faculty. Paper demonstrates competence in articulating a research question, formulating relevant hypotheses, identifying an appropriate research design, conducting analysis of the data, and presenting and discussing the findings. Satisfactory completion of this paper meets the research paper requirement of the comprehensive examination.

Prerequisite: SPOL 681, 682.

SPOL 697 Research (4, 8)
Credit for dissertation research. Total of 24 credits required. May be repeated for credit.

SPOL 699 Dissertation (12)
Credit for the doctoral dissertation. Should be taken during the last quarter of registration prior to completion and defense.

SPEECH-LANGUAGE PATHOLOGY

JEAN B. LOWRY, Ph.D. Kent State University 1973
Program Coordinator; Professor of Speech-Language Pathology and Audiology
Phonology, fluency disorders

The purposes of this graduate Speech-Language Pathology Program are to offer preparation for careers in the professional practice of speech-language pathology, to provide a basis for graduate study and research at a more advanced level, and to encourage the development of capacity for independent growth. The courses are designed to increase understanding in the basic sciences of communication; to develop competence in the practice of speech-language pathology and audiology; and to promote a sense of responsibility toward the speech, language, and hearing handicapped and toward the community.

The clinical services of the Department of Speech-Language Pathology and Audiology, Loma Linda University Medical Center, and affiliated facilities provide opportunity to obtain breadth of experience in a variety of settings. Study in related disciplines at the advanced level is available through course offerings in the professional schools of the University and in the Graduate School.

FACULTY

KEIKO I. KHOO, M.S. Loma Linda University GS 1979; M.A. University of California at Los Angeles 1997
Associate Professor of Speech-Language Pathology and Audiology
Diagnostic and rehabilitative audiology

PAIGE S. SHAUGHNESSY, Ph.D. University of Utah 1985
Associate Professor of Speech-Language Pathology and Audiology
Neurogenic communication disorders, counseling, profession aspects

YOOMI KIM, M.S. Loma Linda University GS 1995
Assistant Professor of Speech-Language Pathology and Audiology
Clinical methods, pediatric neurogenic communication disorders, dysphagia

KAREN J. MAINESS, M.Phil., Teachers College, Columbia University, 1995
Assistant Professor of Speech-Language Pathology and Audiology
Child language disorders, multicultural studies

JAN B. MCFARLAND, M.S., Loma Linda University GS 1995
Assistant Professor of Speech-Language Pathology and Audiology
Neurogenic communication disorders, sysphagia voice

SUSAN A. STEFFANI, PH.D. University of Oregon 1992
Associate Professor of Speech-Language Pathology and Audiology
Child language disorders, multicultural studies, research, clinical methods

CLINICAL FACULTY

MELISSA K. BACKSTROM GONZALES, M.S. University of Redlands 1987
Clinical Instructor in Speech-Language Pathology and Audiology
Adult rehabilitation

GARY A. LUCAS, M.S. Vanderbilt University 1974
Clinical Instructor in Speech-Language Pathology and Audiology
Adult rehabilitation, voice

DAVID G. MCGANN, M.S. Colorado State University
Instructor in Speech-Language Pathology and Audiology and in Surgery
Diagnostic audiology

JULI A. SPILLER, M.S. University of Redlands 1976
Clinical Instructor in Speech-Language Pathology and Audiology
Adult out-patient rehabilitation, laryngectomy

SPEECH-LANGUAGE PATHOLOGY

Admission

Acceptable undergraduate preparation includes a bachelor's degree in speech-language pathology and audiology or in communicative disorders. Applicants having an undergraduate degree in another discipline are admitted for the first year of prerequisites through the School of Allied Health Professions.

Graduate study in speech-language pathology leads to the Master of Science degree. The program provides opportunity for the graduate (a) to satisfy all academic and clinical requirements for the Certificate of Clinical Competence and the California License in Speech-Language Pathology, or (b) to prepare for doctoral study or careers in related fields.

The program does not offer a master's degree in audiology. Courses and clinical practicums are available for students wishing to increase their breadth of knowledge and experience in audiology.

The speech-language pathology program is accredited by the Council on Academic Accreditation of The American Speech-Language and Hearing Association. The program is approved by the Commission for Teacher Credentialing to prepare students for the California Clinical Rehabilitative Services Credential in Language, Speech, and Hearing. This credential is a requirement for working as a speech, language, and hearing specialist in California public schools. Course requirements for the credential vary from those listed for the degree. Credential requirements may be obtained by contact in the department. The student's undergraduate course work must be evaluated in accordance with state of California credential requirements.

The program of study consists of completing (a) required graduate-level courses, (b) supervised clinical practice, and (c) research or comprehensive examinations.

Students completing both the degree and requirements for the California Clinical Rehabilitative Services Credential will complete 48 academic units and 6 units of student teaching.

DEGREE REQUIREMENTS

The following are requirements for the Master of Science degree specific to this program:

1. A minimum of one quarter in residence as a graduate student.
2. A minimum of 48 quarter units of graduate credit, including: SPPA 523, 525, 535, 554, 564, 575, 585, 587, 598, 679, 682, 684, 685 and 687 (minimum of three units), 688, 697 (minimum of one unit) and religion (3 units).
3. Evidence that the student has completed 350 clock hours of supervised clinical practice, including 250 clock hours at the graduate level. Transfer students who have met the clinical experience requirements for certification must complete an additional 50 clock hours of practicum.
4. Master's thesis/project or comprehensive examinations.
5. For thesis or project, demonstrated working knowledge of statistics or successful completion of a graduate statistics course.

Option A: Thesis

Option A requires completion of 2 units of SPPA 697 Research, 1 unit of SPPA 698 Thesis, and an oral examination.

Option B: Comprehensive examinations

Option B requires completion of written comprehensive examinations.

GENERAL REQUIREMENTS

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations section of the Graduate School BULLETIN.

COURSES

SPPA 523 Early-Childhood Language Disorders (3)
Lectures and discussions dealing with principles and procedures in assessment and interventions of language disorders in children. Specific emphasis placed on early-language learners (birth to three years). Conferencing, report writing, and goal writing.

SPPA 525 Preschool and School-Age Child Language Disorders (3)
Lectures and discussions dealing with principles and procedures of assessment and intervention of preschool primary, and adolescent school-age child with language disorders. Specific emphasis placed on school-age learning in the areas of semantics, syntax, pragmatics, narrative, and phonological awareness. Language disorders in autism and mental retardation addressed.

SPPA 535 Voice Disorders (3)
Discussion of diagnosis and intervention techniques used with children and adults displaying a variety of voice disorders. Includes demonstration and operation of instrumentation used for physiological and acoustic analysis of abnormal voice production.

SPPA 554 Swallowing Disorders (3)
Lecture and discussion of the speech-language pathologist's role in the diagnosis and treatment of swallowing disorders in children and adults. Ethical and cultural issues also addressed. Emphasis on analysis of current literature and clinical applications. Selected laboratory experiences.

SPPA 564 Aural Rehabilitation and Hearing Aids (3)
Study of the mechanisms for achieving hearing rehabilitation—including amplification, speech reading, auditory training, hearing-aid orientation, and speech conservation. Consideration given to hearing-aid function and philosophies of rehabilitation for the hearing impaired (e.g., auditory, aural, manual, and total communication).

SPPA 567 Clinical Practice in Speech-Language Pathology and Audiology, Advanced (1-6)
Supervised practice in diagnosis and therapy. Thirty clock hours required for each unit of credit. Maximum of 6 units of clinical practicum apply toward a major in speech-language pathology and audiology.

Prerequisite: Consent of the supervisor.

SPPA 568 Clinical Practice in Speech-Language Pathology Diagnostics (1-3)
Supervised practice in diagnostics. Study of the principles of diagnostics applicable to communication.

SPPA 575 Instrumentation in Communication Disorders (1)
Lecture, discussion, and laboratory experience in the areas of speech acoustics, speech production and perception, psychoacoustics, and speech and hearing physiology.

SPPA 585 Professional Aspects of Speech-Language Pathology and Audiology (2)
Study of the ethical, business, and legal considerations in organizing and administering programs: accountability; record keeping; case selection; case load; supervision; staffing; budgeting; and inter-agency cooperation in schools, clinics, and private practice.

SPPA 587 Counseling in Communication Disorders (2)
Explores the counseling role of the speech-language pathologist and identifies clinician responsibilities in working with individuals of different cultures, ethnicity, gender, age, and belief systems.

SPPA 588 Directed Teaching in Speech- Language Pathology (3-6)
Supervised therapy on the elementary and/or secondary level and/or in a classroom for the severely language-handicapped child. (No more than 6 units of clinical practicum applicable toward the master's degree, including directed teaching.)

SPPA 596 Workshop in Speech-Language Pathology/ Audiology (1-4)
(May be repeated with new content for additional credit.)

SPPA 598 Research Methods and Professional Literature in Speech-Language Pathology (2)
Lecture and discussion designed to facilitate the student's ability to read and interpret professional literature, develop research ideas, and develop professional writing skills.

SEMINARS

The following seminars will analyze the current literature relating to theory, research, and applications within the area of consideration.

Prerequisite: A content course in which the area of consideration has been studied, or consent of the instructor.

SPPA	679	Seminar: Motor Speech Disorders/ Augmentative Communication	(3)
SPPA	682	Seminar: Traumatic Brain Injury	(3)
SPPA	684	Seminar: Adult Language Disorders	(3)
SPPA	685	Seminar: Stuttering	(3)
SPPA	687	Seminar: Open Seminar (May be repeated with new content for additional credit.)	(1-3)
SPPA	688	Seminar: Articulation	(3)
SPPA	697	Research	(1-4)
SPPA	698	Thesis	(1-6)
SPPA	699	Directed Study	(1-3)

Independent study on a research project selected in consultation with the adviser. For advanced students. May be repeated once. Student's transcript will show specific area of study, for example: SPPA 699 Directed Study—Adult Language Disorders.

IV

FACULTY OF RELIGION

Statement of Mission
Faculty
Courses

FACULTY OF RELIGION

GERALD R. WINSLOW, Ph.D. Graduate Theological Union, University of California at Berkeley 1979; M.A. Andrews University 1968;
Dean; Professor of Christian Ethics
Christian Ethics

DAVID L. TAYLOR, 1995. M.A. Andrews University 1961; D.Min. Vanderbilt University 1977
Associate Dean; Professor of Religion
American religious history and theology

STATEMENT OF MISSION

The Faculty of Religion is committed to the following four tasks as informed by the teachings and practice of the Seventh-day Adventist heritage and mission:

1. To promote Christian wholeness for faculty and students in their personal and professional lives and witness.
2. To provide a religion curriculum with the following emphases:
   - Foundational Studies (biblical, theological, historical, and mission).
   - Ethical Studies (personal, professional, and social).
   - Relational Studies (applied theology, clinical ministry, and psychology of religion).
3. To foster and support research in the foundational, ethical, and relational disciplines.
4. To serve the University, the church, and the larger world community by personal involvement in fostering deeper spirituality, theological integrity, and social justice.

FULL-TIME FACULTY

IVAN T. BLAZEN, 1993. M.A. Andrews University 1958; M.Div. Andrews University 1962; Ph.D. Princeton Theological Seminary 1979
Professor of Religion
Biblical interpretation and theology

MARK F. CARR, 1997. M.A. Andrews University 1990; Ph.D. University of Virginia 1998
Associate Professor of Religion
Christian ethics

CARLA G. GOBER, 1997. M.P.H., M.S. Loma Linda University PH 1985, GS 1994
Assistant Professor of Religion
Clinical ministry

DAVID R. LARSON, 1974. D. Min. Claremont School of Theology 1973; Ph.D. Claremont Graduate University 1982
Professor of Religion
Christian ethics

JOHNNY RAMÍREZ, 1994. M.A. Andrews University 1979; M.Ed., Ed.D. Harvard University 1988, 1993
Professor of Religion
Theology, psychology, and culture

RICHARD RICE, 1998. M.Div. Andrews University 1969; M.A., Ph.D. University of Chicago Divinity School 1972, 1974
Professor of religion
Theology and philosophy of religion

SIROJ SORAJJAKOOL. M.A. Andrews University 1987; M.A.T.S., Ph.D. Claremont School of Theology 1998, 1999
Associate Professor
Pastoral psychology

LOUIS VENDEN, 1996. M.A. Potomac University 1958; M.Div. Andrews University 1966; Ph.D. Princeton Theological Seminary 1979
Professor of Religion
Theology and ministry

JAMES W. WALTERS, 1980. M.Div. Andrews University 1970; Ph.D. Claremont Graduate University 1979
Professor of Religion
Christian ethics

EMERITUS FACULTY

DALTON D. BALDWIN, 1963. M.Th. Princeton Theological Seminary 1963; Ph.D. Claremont Graduate University 1975
Emeritus Professor of Theology and Philosophy of Religion

A. GRAHAM MAXWELL, 1961. Ph.D. University of Chicago Divinity School 1959
Emeritus Professor of New Testament

JACK W. PROVONSHA, 1958. M.D. Loma Linda University SM 1953; Ph.D. Claremont Graduate University 1967
Emeritus Professor of Philosophy of Religion and Christian Ethics

AUXILIARY FACULTY

D. LEIGH AVELING. M.A. Loma Linda University GS 1988; M.A. United States International University 1991; D.Min. Claremont School of Theology 1996
Adjunct Assistant Professor of Religion
Clinical ministry

LISA M. BEARDSLEY, B.Th. SDA Theological Seminary 1980; M.P.H. Loma Linda University 1983; Ph.D. University of Hawaii 1989
Assistant Professor of Religion
Christian ministry

MERLIN D. BURT. M.Div. Andrews University 1989
Assistant Professor of Religion
American religious history

LARRY D. CHRISTOFFEL. M.Div. Andrews University 1967
Adjunct Assistant Professor of Religion
Christian theology

M. JERRY DAVIS. M.A. Andrews University 1962; Rel.D. Claremont School of Theology 1967
Adjunct Professor of Religion
Clinical ministry

JAMES GREEK. M.Div. Andrews University 1975; D.Min. Fuller Theological Seminary 1985
Adjunct Assistant Professor of Religion
Clinical ministry

FRED C. KASISCHKE. M.Div. Andrews University 1970; D.Min. Fuller Theological Seminary 1988
Assistant Professor of Religion
Clinical ministry and theology

HENRY H. LAMBERTON. M.Div. Andrews University 1974; Psy.D. Fuller Theological Seminary 1992
Associate Professor of Religion
Clinical ministry

WILLIAM A. LOVELESS. M.A. Andrews University 1953; Ed.D. University of Maryland 1964
Adjunct Professor of Religion
Christian ministry

LYNN J. MARTELL. M.A., M.Div. Andrews University 1967; D. Min. McCormick Theological Seminary 1990
Assistant Professor of Religion
Christian ministry

LESLIE N. POLLARD. M.Div. Andrews University 1983; D. Min. Claremont School of Theology 1992
Associate Professor of Religion
Biblical studies

RANDALL L. ROBERTS, 1994. M.Div. Andrews University 1985; M.A. United States International University 1991; D.Min. Fuller Theological Seminary 1996
Assistant Professor of Religion
Theology and ministry

RANDALL SKORETZ. M.Div. Andrews University 1983; D. Min. Claremont School of Theology 1996
Adjunct Assistant Professor of Religion
Christian theology and ethics

GRAHAM D. STACEY. M.S., M.A., M.A., Ph.D. Loma Linda University 1986, 1996, 1998, 1999
Adjunct Assistant Professor of Religion
Christian ministry

TERRY R. SWENSON. M.Div. Andrews University 1987
Assistant Professor of Religion
Christian ministry

BERNARD A. TAYLOR. M.A. Andrews University 1979; M.Phil., Ph.D. Hebrew Union College 1987, 1989
Adjunct Professor of Religion
Theology and biblical studies

CHARLES W. TEEL. M.A. Andrews University 1965; M.Th. Harvard University 1970; Ph.D. Boston University 1972
Adjunct Professor
Christian ethics, Christian social ethics, sociology of religion

HYVETH B. WILLIAMS. M.Div. Andrews University 1989; D.Min. Boston University 1998
Adjunct Assistant Professor of Religion
Christian ministry

JOHN WONG. M.D. Loma Linda University 1960; J.D. Western Sierra Law School of Western State University 1990; Ph.D. Fuller Theological Seminary 1998
Adjunct Associate Professor of Religion
Theology in ethics

COURSES

FOUNDATIONAL STUDIES

BIBLICAL STUDIES

RELF 404 New Testament Writings (2-3)
Interpretation of selected letters and passages of the New Testament, with a view to their theological and practical significance for today.
Additional project required for third unit.

RELF 419 Gospel of John (2-3)
Key passages and themes in John, with an exploration of its message for today.
Additional project required for third unit.

RELF 424 Biblical Prophets (2-3)
Selected books, passages, and themes in the Old Testament prophets, with an exploration of their theological and practical significance for today.
Additional project required for third unit.

RELF 426 Jesus (2-3)
Study of Jesus as healer and teacher, prophet and reformer, Son of God and Savior.
Additional project required for third unit.

RELF 428 Gospel of Mark (2-3)
Key passages and themes in Mark, with an exploration of its message for today.
Additional project required for third unit.

RELF 429 Gospel of Luke (2-3)
Key passages and themes in Luke, with an exploration of its message for today.
Additional project required for third unit.

RELF 439 Gospel of Matthew (2-3)
Key passages and themes in Matthew, with an exploration of its message for today.
Additional project required for third unit.

RELF 464 Paul's Message in Romans (2-3)
Chapter-by-chapter interpretation of Paul's most influential letter, in which the good news of God's salvation is applied to the issues of Christian life and community.
Additional project required for third unit.

RELF 468 Daniel (2-3)
Nature, purpose, and message of the apocalyptic book of Daniel.
Additional project required for third unit.

RELF 469 Revelation (2-3)
Nature, purpose, and message of the apocalyptic book of Revelation.
Additional project required for third unit.

RELF 474 Love and Sex in the Bible (2-3)
Study of Scripture on the reality, nature, and challenges of love, both divine and human; and of key biblical passages on the goodness, meaning, and distortions of human sexuality.
Additional project required for third unit.

RELF 475 Spirituality and the Contemporary Christian (2-3)
Exploration of the meaning of spirituality in the light of Scripture and Christian thought, and study of practices and disciplines that form and mature an individual's spiritual life.
Additional project required for third unit.

RELF 476 The Bible and Ethics (2-3)
Ways in which the Bible and ethics are related. Major ethical themes in biblical teaching.
Additional project required for third unit.

RELF 499 Directed Study (1-3)
Prerequisite: Consent of the instructor.

RELF 558 Old Testament Thought (3-4)
Introduction to the literature and key theological themes of the Old Testament.
Additional project required for fourth unit.

RELF 559 New Testament Thought (3-4)
Introduction to the literature and key theological themes of the New Testament.
Additional project required for fourth unit.

RELF 699 Directed Study (1-6)
Prerequisite: Consent of the instructor.

RELF 726 Jesus (2)
Study of Jesus as healer and teacher, prophet and reformer, Son of God and Savior.

RELF 727 Love and Sex in the Bible (2)
Study of Scripture on the reality, nature, and challenges of love, both divine and human; and of key biblical passages on the goodness, meaning, and distortions of human sexuality.

RELF 764 Paul's Message in Romans (2)
Chapter-by-chapter interpretation of Paul's most influential letter, in which the good news of God's salvation is applied to the issues of Christian life and community.

THEOLOGICAL STUDIES

RELF 406 Adventist Beliefs and Life (2-3)
Fundamental tenets of Seventh-day Adventist faith and the lifestyle that such faith engenders.
Additional project required for third unit.

RELF 415 Philosophy of Religion (2-3)
Philosophical study of religion, including the nature and function of religious language, evidence for the existence of God, the problem of evil, and religious diversity.
Additional project required for third unit.

RELF 416 God and Human Suffering (2-3)
Suffering and evil in relation to the creative and redemptive purposes of God for this world.
Additional project required for third unit.

RELF 437 Current Issues in Adventism (2-3)
Selected theological, ethical, and organizational questions of current interest in Adventism, with the goal of preparation for active involvement in the life of the Seventh-day Adventist church. Recommended for students with a Seventh-day Adventist background.
Additional project required for third unit.

RELF 526 Creation and Cosmology (3-4)
Exploration of the similarities and contrasts between biblical and scientific views of the world, with special attention to biblical Creation accounts in their historical context.
Additional project required for fourth unit.

RELF 539 Christian Understanding of God and Humanity (3-4)
Study of the nature and attributes of God, with special emphasis on God's relation to the world; and the essential dynamic of human existence in light of the central biblical motifs of creature, image of God, and sin.
Additional project required for fourth unit.

RELF 557 Theology of Human Suffering (3-4)
Suffering and evil in relation to the creative and redemptive purposes of God for this world. Focus on formation of student's theology of human suffering.
Additional project required for fourth unit.

RELF 615 Seminar in Philosophy of Religion (3-4)
Examination of the concept of God, arguments for the existence of God, the relationship of faith and reason, and the nature of religious language.
Additional project required for fourth unit.

RELF 617 Seminar in Religion and the Sciences (3-4)
Exploration of the interface between religion and the sciences—with attention to the religious origins of modern science, the similarities and contrasts between scientific and religious inquiry, and the particular challenges that the sciences pose for religious belief.
Additional project required for fourth unit.

RELF 706 Adventist Beliefs and Life (2)
Fundamental tenets of Seventh-day Adventist faith, and the lifestyle which such faith engenders.

RELF 707 Medicine, Humanity, and God (2)
Role of the practitioner of medicine as a co-worker with God in the healing of humankind.

RELF 713 Christian Spirituality (2)
Study of Scripture and Christian thought on how a person's spiritual life is formed and matured.

RELF 716 God and Human Suffering (2)
Suffering and evil in relation to the creative and redemptive purposes of God for this world.

RELF 717 Christian Beliefs and Life (2)
Introduction to basic Christian beliefs and life.

PHIL 616 Seminar in the Philosophy of Science (3-4)
Exploration of the meaning(s) of scientific facts, laws, and theories—with special attention to the development of scientific thought, the nature of scientific discovery, contrasting interpretations of scientific inquiry, and the ethical ramifications of scientific discovery.
Additional project required for fourth unit.

HISTORICAL STUDIES

RELF 423 Loma Linda Perspectives (2-3)
History and philosophy of Loma Linda University as a Christian health-sciences institution that fosters human wholeness.
Additional project required for third unit.

RELF 425 Contemporary Religious Issues (2-3)
Analysis of prominent topics in religion discussed in contemporary journals.
Additional project required for third unit.

RELF 436 Adventist Heritage and Health (2-3)
Origin and development of Seventh–day Adventist interest in health, from the background of nineteenth–century medicine and health reform to the present.
Additional project required for third unit.

RELF 440 World Religions (2-3)
Survey of the origins, beliefs, and contemporary practices of the world's major religious systems. Attention to the interaction between specific religions and their cultures and to similarities, differences, and potential for understanding among the religions.
Additional project required for third unit.

RELF 555 The Adventist Experience (3-4)
Introduction to the beliefs and values that shape the Seventh-day Adventist community.
Additional project required for fourth unit.

RELF 718 Adventist Heritage and Health (2)
Study of the fundamental beliefs and values that led Seventh-day Adventists to become involved in health care, with particular emphasis on the spiritual story and principles leading to the founding of Loma Linda University.

MISSION STUDIES

RELF 444 Christian Mission (2-3)
Biblical theology applied to defining the concerns, structures, and methods of Christian mission. Concept of the Church, the definition of missionary, and the priorities of mission.
Additional project required for third unit.

RELF 447 Cross-Cultural Ministry (2-3)
Study of the challenges of serving cross-cultural situations from a Christian mission perspective, using the insights of missiology and cultural anthropology as they relate to personal and professional growth, social change, and effective intercultural communication and service.
Additional project required for third unit.

RELF 534 Anthropology of Mission (3-4)
Study of Christian mission, applying the findings of anthropology as they relate to cultural change. Processes of religious development, means of diffusion, factors affecting religious acculturation, and analysis of programs intended to effect changes in religion.
Additional project required for fourth unit.

ETHICAL STUDIES

RELE 448 Christian Business Ethics (2-3)
Christian and other perspectives on ethical issues in business, and their pertinence to health care delivery and administration.
Additional project required for third unit.

RELE 455 Christian Understanding of Sexuality (2-3)
Interpretations of human sexuality in ancient, medieval, and modern Christian thought, with emphasis on contemporary issues such as marriage, divorce, homosexuality, and artificial human procreation.
Additional project required for third unit.

RELE 456 Professional Ethics (2-3)
The foundations, norms, and patterns of personal integrity and professional responsibility.
Additional project required for third unit.

RELE 505 Clinical Ethics (3-4)
Case-based analysis of bioethics, with emphasis on clinical applications. Conceptual and historical readings in bioethics.
Additional project required for fourth unit.

RELE 522 Bioethical Issues in Social Work (3-4)
Theoretical and practical dilemmas in bioethics. Contributions of social workers to these issues.
Additional project required for fourth unit.

RELE 524 Christian Bioethics (3-4)
Christian perspectives on ethical issues in health care.
Additional project required for fourth unit.

RELE 525 Ethics for Scientists (3-4)
Ethical aspects of scientific research, with emphasis on Christian contributions.
Additional project required for fourth unit.

RELE 534 Ethical Issues in Public Health (3-4)
Ethical issues encountered by public health administrators, educators, and investigators.
Additional project required for fourth unit.

RELE 548 Christian Social Ethics (3-4)
Relationships between Christian beliefs and social theory and practice.
Additional project required for fourth unit.

RELE 554 Clinical Ethics Practicum I (4)
Theories and applications of ethics in the clinical setting.

RELE 555 Clinical Ethics Practicum II (4)
Theories and applications of ethics in the clinical setting.
Prerequisite: RELE 554.

RELE 577 Theological Ethics (3-4)
Ethical implications of the primary theological legacies of Western culture.
Additional project required for fourth unit.

RELE 588 Philosophical Ethics (3-4)
Ethical themes and significant theorists in Western philosophy.
Additional project required for fourth unit.

RELE 624 Seminar in Christian Ethics (3-4)
Advanced study of selected topics in Christian ethics.
Prerequisite: Consent of the instructor.
Additional project required for fourth unit.

RELE 699 Directed Study (1-6)
Prerequisite: Consent of the instructor.

RELATIONAL STUDIES

APPLIED THEOLOGY

RELR 404 Christian Service (1-2)
Participation in approved service learning with written reflection on Christian reasons for service.
Additional project required for second unit.

RELR 448 Church and Community Leadership (2-3)
Theology and practice of lay church involvement and leadership by health care professionals.
Additional project required for third unit.

RELR 567 Introduction to Pastoral Counseling (3-4)
Overview of theology, history, theory, and practice of pastoral counseling.
Additional project required for fourth unit.

RELR 574 Introduction to Preaching (3-4)
Exploration of the why, what, where, and how of Christian proclamation, with emphasis on the development of basic skills for the preparation and delivery of Biblical messages in a variety of settings.
Additional project required for fourth unit.

CLINICAL MINISTRY

RELR 524 Clinical Pastoral Education (6-12)
Twelve-week course including supervised experience with patients, lectures by hospital staff, hospital rounds with physicians, seminars and conferences. Five eight-hour days per week. [Limited enrollment. Credit earned in this course is recognized by the Association for Clinical Pastoral Education, Incorporated.]

RELR 525 Health Care and the Dynamics of Christian Leadership (3-4)
Focus on the components of leadership principles in the practice of health care. Exploration of the imperative of moral leadership in the community, administrative, and clinical setting.
Additional project required for fourth unit.

RELR 527 Crisis Counseling (3-4)
Crisis phenomena, current crisis theory, a Christian model of crisis care, and the dynamics and practices of crisis care.
Additional project required for fourth unit.

RELR 568 Care of the Dying and Bereaved (3-4)
Study of the biblical, theological, cultural, religious, relational, and psychological aspects of dying and death.
Additional project required for fourth unit.

RELR 575 The Art of Integrative Care (3-4)
Examination of the attitudes and actions of the health care professional relative to personal spirituality and patient witnessing. Facilitates integration of a balanced approach to providing spiritual nurture and witness to patients.
Additional project required for fourth unit.

RELR 694 Seminar in Clinical Ministry (3-4)
Principles and practice of effective interaction with patients, parishioners, inmates, and other populations.
Additional project required for fourth unit.

PSYCHOLOGY OF RELIGION

RELR 415 Christian Theology and Popular Culture (2-3)
Concepts and practices in popular culture, examined from a Christian perspective.
Additional project required for third unit.

RELR 564 Religion, Marriage, and the Family (3-4)
The family in theological, historical, and ethical perspectives with a Christian assessment of contemporary theories regarding the family.
Additional project required for fourth unit.

RELR 584 Psychology of Religion (3-4)
Introduction to the major contours of Western culture as they relate to various schools of psychological thought and the influence of religious beliefs.
Additional project required for fourth unit.

RELR 585 Psychological Study of Religion (3-4)
Psychological research of religion from an eclectic approach. Faith development, ethnographic varieties of religious experiences, narrative analysis, and cross-cultural religious experiences.
Additional project required for fourth unit.

RELR 586 Psychology of Moral and Faith Development (3-4)
Study of logical, moral, and faith reasoning from a cognitive–developmental perspective.
Additional project required for fourth unit.

GENERAL RELIGIOUS STUDIES

RELG 504 Research Methods (3-4)
Examination of the presuppositions and procedures for graduate research in religious studies. Use of libraries and research centers. Ways and means of preparing and presenting term papers, theses, and scholarly articles.
Additional project required for fourth unit.

RELG 674 Reading Tutorial (3-4)
Reading course for graduate students in religious studies. Topics vary depending on student and instructor interests.
Prerequisite: Consent of the instructor.
Additional project required for fourth unit.

RELG 695 Clinical Internship (0)
Supervised clinical internship. At least one hour of individual supervision per week and a final evaluation by the supervisor at the completion of 400 hours of clinical internship.

RELG 696 Project (1-4)
Prerequisite: Consent of the instructor and of student's adviser.

RELG 697 Independent Research (1-8)
Prerequisite: Consent of the instructor and of student's adviser.

RELG 698 Thesis (1-4)
Prerequisite: Consent of the instructor and of student's adviser.

V

UNDERGRADUATE PROGRAM

Geology–Bachelor of Science

GEOLOGY—B. S. Degree Program

ROBERT A. CUSHMAN, Jr., Ph.D. Colorado School of Mines 1994
Undergraduate Geology Coordinator; Assistant Professor of Geology
Biostratigraphy, paleopalynology, invertebrate paleontology

The Department of Natural Sciences offers a program leading to the Bachelor of Science degree in geology. This program provides the student with a field-oriented education, emphasizing the application of geological principles in interpreting data. Sedimentary geology, paleontology, and environmental geology are areas of emphasis within the department.

FACULTY

LEONARD R. BRAND, Ph.D. Cornell University 1970
Professor of Biology and of Paleontology
Vertebrate paleontology, taphonomy

H. PAUL BUCHHEIM, Ph.D. University of Wyoming 1978
Professor of Geology
Sedimentology, stratigraphy, limnogeology

KEVIN E. NICK, Ph.D. University of Oklahoma 1990
Assistant Professor of Geology
Sedimentology, paleomagnetics

ASSOCIATE FACULTY

LEROY LEGGITT, M.S., D.D.S. Loma Linda University SD 1996
Instructor in Geology
Paleontology, geology field methods

ADJUNCT FACULTY

H. THOMAS GOODWIN, Ph.D. University of Kansas 1990
Adjunct Associate Professor of Paleobiology, Andrews University
Vertebrate paleontology, biogeography

DOUGLAS R. BRITTON, Ph.D. University of Wyoming 1998
Adjunct Assistant Professor of Geology, Earth Tech, Inc.
Hydrogeology, environmental geology, organic geochemistry

BENJAMIN L. CLAUSEN, Ph.D. University of Colorado 1987
Adjunct Assistant Professor of Geophysics
Nuclear physics, geophysics

ELAINE KENNEDY, Ph.D. University of Southern California 1991
Adjunct Assistant Professor of Geology
Sedimentology, limnogeology

JAMES L. GIBSON, Ph.D. Loma Linda University GS 1984
Adjunct Assistant Professor of Biology
Biogeography

THE DEPARTMENTAL PROGRAMS

The Geology Program leading to the Bachelor of Science degree is administered by the Department of Natural Sciences. The department administers programs leading to the following degrees or combined degrees:

- M.S. and Ph.D. in biology
- M.D./M.S. in biology, D.D.S./M.S. in biology; M.D./Ph.D. in biology, D.D.S./Ph.D in biology
- M. S. in geology (paleontology, sedimentary geology, or environmental geology)
- B.S. in geology

Intercollege program

A student in the Bachelor of Science degree in the Geology Program will take the first two years of general education and science course work at any accredited community college, college, or university; and the last two years of geology curriculum at Loma Linda University. Admission requirements for the B.S. degree in the Geology Program are a 2.5 G.P.A. during the first two years of course work and letters of recommendation from two faculty at the institutions previously attended. The degree requirements below include a list of the courses that should be taken during the first two years, as preparation for the geology curriculum at Loma Linda University.

Objectives

The Geology Program focuses on field-oriented geology, particularly sedimentology, stratigraphy, and paleontology. The integrated core course sequence of the geology degree provides students with a general

background in geology as preparation for advanced courses in stratigraphy, sedimentology, paleontology, and environmental geology.

Field work is emphasized because it provides the student with unique opportunities to examine geological phenomena beyond the classroom and laboratory. Throughout the geology curriculum, students are taught to apply the scientific method to resolve geologic problems. Students are encouraged to consider multiple working hypotheses during this process.

Employment

A baccalaureate degree in geology prepares a student to enter graduate programs in geology or paleontology, or for employment in environmental and energy-related industries; or (with the necessary education courses) for teaching in secondary schools. Most employment opportunities in industry, research, or college teaching require a graduate degree.

Preparation for teaching

A student preparing to teach at the elementary or secondary level will need to complete the requirements for a teaching credential, in addition to the geology major. Consult the geology undergraduate coordinator for further information. General elective units can be used for education courses.

Graduate programs

The Department of Natural Sciences offers a Master of Science degree in geology. Emphases available in this program are sedimentary geology, paleontology, and environmental geology. A Master of Science degree in biology and a Doctor of Philosophy degree in biology with emphasis in paleontology are also available.

GENERAL STUDIES REQUIREMENTS (68 quarter units)

DOMAIN 1: SPIRITUAL AND CULTURAL HERITAGE (28-32 **quarter units)**

Spiritual Heritage (16)

A minimum of 4 units for each year the student is enrolled in a Christian college.

Cultural Heritage (12-16)

Must include one course dealing with human diversity among peers (e.g., cultural anthropology). Other courses to be selected from civilization/history, fine arts, literature, modern language, performing/visual arts (2 quarter units maximum), or philosophy.

DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS (24-32 **quarter units**)

Natural Sciences (16)

Met by the geology degree requirements.

Social Sciences (12-16)

Two or more of the following required:

anthropology, economics, geography, political science, psychology, and sociology.

DOMAIN 3: COMMUNICATION (9-13 **quarter units**)

Must include a full sequence in freshman English that meets the baccalaureate degree requirements at an accredited college or university. Also may include courses in computer-information systems, critical thinking, and public speaking.

DOMAIN 4: HEALTH AND WELLNESS (2-6 **quarter units**)

Must include two physical activities totaling at least 1 unit, and one course in personal health or nutrition.

DOMAIN 5: ELECTIVES

Electives from the foregoing subjects may be chosen to complete the 68 units.

GEOLOGY—BACHELOR OF SCIENCE

First- and second-year pre-geology requirements, to be taken at any college (96 quarter units)

Required cognate courses

General chemistry	12
Physics	12
Math, including calculus	8-12
*Genetics	4
and	
*Ecology	4

*8 hours of general biology may substitute

Optional courses for geology major

**Physical geology	4
**Geology elective	4

**Can be taken at Loma Linda University

General studies

Freshman English	9-12
Religion	8
History or language	8
Personal health or nutrition	2
Physical education activities	1
Other general studies	5-16

Third- and fourth-year courses taken at Loma Linda University (96 quarter units)

Geology major (58 units, including electives)

GEOL 304	Physical Geology (if not already taken)	4
GEOL 316	Mineralogy	4
GEOL 317	Optical Mineralogy and Petrology	4
GEOL 424	Structural Geology	4
GEOL 425	Field Methods of Geologic Mapping	4
GEOL 431	Geochemistry	4
GEOL 441	Sedimentology	4
GEOL 442	Stratigraphy	4
GEOL 443	Historical Geology	4
GEOL 454	Sedimentary Petrology	4

GEOL	475	Philosophy of Science	4
GEOL	485	Seminar (1/2 unit per quarter, 4 quarters; and 1 unit per quarter, 2 quarters)	4
GEOL	486	Research Methods I	1

Geology electives (4)

Must include one paleontology course

Cognates (12)

STAT	414	Introduction to Biostatistics	3
STAT	415	Computer Applications in Biostatistics	1

General electives (14-18)

General studies (12-20)

Religion	8
Other general studies	4-8

TOTAL UNITS:

Bachelor of Science degree in geology	192

COURSES

BIOL 310 Genetics and Speciation (4)
Introduction to genetic mechanisms of biological change. Processes of inheritance through time evaluated in their ecological context.

BIOL 314 Genetics and Speciation (4)
Introduction to genetic mechanisms of biological change. Processes of inheritance through time evaluated in their ecological context.

BIOL 315 Ecology (4)
Principles of terrestrial, aquatic, and marine ecology, with a focus on individual, population, community, and ecosystem levels of organization. Laboratory work includes field studies designed to examine ecological principles. Three class hours and one three-hour laboratory per week

Prerequisite: BIOL 314.

GEOL 304 Physical Geology (4)
Introductory geology course providing the student with a broad picture of geological processes operating on and within the earth. Introduction to minerals, sedimentary and igneous rocks, and fossils. Weathering, earthquakes, volcanism, erosion and sedimentation, and plate tectonics. Three class hours, one three-hour laboratory or field trip per week.

GEOL 316 Mineralogy (4)
Composition, physical properties, structure, crystallography, identification, and origin of minerals. Three class hours, one three-hour laboratory or field trip per week.

GEOL 317 Optical Mineralogy and Petrology (4)
Principles of optical theory and the use of the petrographic microscope. Application of optical microscopy to the identification of igneous, metamorphic, and sedimentary rocks. Three class hours, one three-hour laboratory per week

Prerequisite: GEOL 316.

GEOL 325 Rocky Mountain Field Geology (1-6)
Geological and/or paleontological studies at selected localities in the Rocky Mountains. One unit credit per week of field activity. Additional credit may be given for optional projects completed after the field activity.

GEOL 326 Geology of Southern California (3-4)
Study of the geology of southern California, with emphasis on local areas of geologic interest, including the Loma Linda area, Mojave Desert, Anza Borrego Desert, and the coastal area. Introductory geological principles, earthquakes and faults, and geology and paleontology of regional areas. Student registers for lectures only (3 units) or for lectures and field trips (4 units).

GEOL 327 Geology of Death Valley (3-4)
General geology of Death Valley, including study of origin and structure, history of geological processes and life (fossils), ancient lakes, salt deposits, modern and ancient erosional processes, tectonics, and paleoclimate.

GEOL 328 Geology of Anza Borrego (3-4)
Overview of the geology of Anza Borrego Desert area—including historical geology, paleontology, sedimentology, and tectonics—primarily through field trips to the area.

GEOL 329 Earthquakes and Volcanos (4)
Origins, processes, and products of volcanic and earthquake activity explored, with emphasis on earthquakes and volcanos of southern California. The science of earthquake and volcano prediction and potential for occurrence in southern California. The geologic record produced by tectonic and volcanic activity discussed in the classroom and studied in the field. Includes several two-day field trips.

GEOL 341 The Natural History of Fossils (3-4)
Introduction to fossils; their preservation, ecology, and occurrence in the geologic record. Includes invertebrate, vertebrate, and plant fossils from a variety of localities worldwide.

GEOL 384 Paleobotany (4)
Fossil plants; their morphology, paleoecology, taphonomy, classification, and stratigraphic distribution. Analysis of floral trends in the fossil record. Three class hours, one three-hour laboratory or field trip per week.

Prerequisite: GEOL 304; BIOL 314, 315.

GEOL 386 Invertebrate Paleontology (4)
Structure, classification, ecology, and distribution of selected fossil invertebrate groups. Principles and methods involved in the study and analysis of invertebrate fossils. Three class hours and one three-hour laboratory per week.

Prerequisite: GEOL 304; BIOL 314, 315.

GEOL 387 Vertebrate Paleontology (4)
Fossil vertebrates, with emphasis on the origins of major groups. Systematics, biology, and biogeography of ancient vertebrates. Three class hours and one three-hour laboratory per week.

Prerequisite: GEOL 304; BIOL 314, 315.

GEOL 424 Structural Geology (4)
Theory of stress and strain and examination of rock deformation in a framework of plate tectonics. Includes problems and applications. Three class hours per week, with required full-day and half-day field trips. Three class hours, one three-hour laboratory or field trip per week.

Prerequisite: GEOL 304.

GEOL 425 Field Methods of Geologic Mapping (4)
Advanced geologic mapping of complex areas, with interpretation of their history; includes mapping of igneous, metamorphic, and sedimentary rocks. Experience in preparation of geologic reports of each mapped locality.

Prerequisite: GEOL 424, 442.

GEOL 431 Geochemistry (4)
Chemical concepts and their geochemical applications in areas of interest in elementary geology.

Prerequisite: College chemistry; GEOL 304 or consent of the instructor.

GEOL 437 Geophysics (4)
Application of classical physics to the study of the earth. The earth's gravitational, geomagnetic, geothermal, and seismic characteristics studied; as well as the dynamics of the earth's crust, plate tectonics, and radioactive dating.

Prerequisite: GEOL 304, physics, and college mathematics.

GEOL 441 Sedimentology (4)
Sediments, sedimentary rocks, and their stratigraphic context. Emphasis on sedimentary processes, primary sedimentary structures, and environments of deposition. Includes description, classification, origin, and interpretation of sediments and sedimentary rocks, with lithofacies, analysis and other stratigraphic techniques. Three class hours, one three-hour laboratory or field trip per week. Includes several weekend field trips.

Prerequisite: GEOL 304, 316.

GEOL 442 Stratigraphy (4)
Principles of litho-, bio-, and chronostratigraphy; methods of correlation of sedimentary rocks; and introduction to facies-analysis methods. Three class hours, one laboratory or field trip per week.

Prerequisite: GEOL 441.

GEOL 443 Historical Geology (4)
Introduction to earth history with in-depth examination of the stratigraphic record of rocks and fossils. Three class hours and one three-hour laboratory per week.

Prerequisite: GEOL 304, 441, 442; BIOL 314, 315.

GEOL 448 Field Seminar in Historical Geology (4)
Field analysis of the stratigraphic and fossil record, with emphasis on interpretation and discussion of models of deposition. Includes one week of lecture and a two-week field trip to specific sites in the western United States. Summer only.

Prerequisite: GEOL 304, 441, 442, 443; or consent the of instructor.

GEOL 454 Sedimentary Petrology (4)
Origin, diagenesis, and classification of sedimentary rocks. Includes use of the petrographic microscope in the study of sedimentary rock-forming minerals, cements, textures, and fabrics. Three class hours, one three-hour laboratory or field trip per week.

Prerequisite: GEOL 3316, 441; or consent of the instructor.

GEOL 464 Environmental Geology (3)
Geological and hydrogeological principles that apply to subsurface waste and contaminant characterization. Review of remediation techniques and hazardous-waste disposal alternatives. Three class hours per week.

Prerequisite: GEOL 304 required; GEOL 441, 442 recommended.

GEOL 465 Hydrogeology (4)
Theory and geology of groundwater occurrence and flow, the relation of groundwater to surface water, and the potential distribution of groundwater by graphical and analytical methods. Three class hours, one three-hour laboratory per week.

Prerequisite: GEOL 441, 442; or consent of the instructor.

GEOL 475 Philosophy of Science (4)
Concepts in the history and philosophy of science, and the application of these principles in analyzing current scientific trends.

Prerequisite: GEOL 443 or consent of the instructor.

GEOL 484 Readings in Geology (1-4)
Review of the literature in a specific area of geology. Students make presentations from the literature and submit current papers dealing with the assigned topic.

GEOL 485 Seminar (.5-1)
Selected topics dealing with recent developments. Student attends seminar for 0.5 units; presentation required for 1 unit.

GEOL 486 Research Methods I (1)
Concepts, methods, and tools of research, including experimental design and data analysis.

GEOL 487 Field Geology Studies (1-6)
Special field study trips lasting one or more weeks. Student involvement required—including field presentations and field work assignments, such as the measurement and analysis of sedimentary sections, facies profiling, paleontologic excavation, mapping, or other geological or paleontology field activity. One unit of credit per week. May be repeated for additional credit.

GEOL 488 Topics in Geology (1-4)
Review of current knowledge in specified areas of the earth sciences. Registration should indicate the specific topic to be studied. May be repeated for additional credit. Offered on demand.

Prerequisite: Consent of the instructor.

GEOL 489 Readings in Paleontology (1-4)
Review of the literature in a specific area of paleontology. Students make presentations from the literature and submit current papers dealing with the assigned topic.

GEOL 495 Special Projects in Geology (1-4)
Special project in the field, laboratory, museum, or library under the direction of a faculty member. Registration indicates the specific field of the project.

Prerequisite: Consent of the instructor.

GEOL 496 Workshops in the Earth Sciences (1-4)
Concentrated participation-oriented study sessions for professional geologists, teachers, and students. Topics emphasize current subjects relevant to professional geology or teaching earth science.

GEOL 497 Undergraduate Research (1-4)
Original investigation and/or literature study pursued under the direction of a faculty member. May be repeated for additional credit.

Prerequisite: Consent of the instructor.

GEOL 499 Directed Study (1-4)
Experimental, field, or library study of a problem of restricted scope, under the direction of a staff member. May be repeated for additional credit.

Prerequisite: Consent of the instructor.

Courses in other programs or departments, applicable to the Bachelor of Science degree in geology

Course descriptions for the following courses can be found in the appropriate section of this BULLETIN or of the School of Public Health BULLETIN.

UNDERGRADUATE COURSES

STAT	414	Introduction to Biostatistics	(3)
STAT	415	Computer Applications in Biostatistics	(1)

GRADUATE COURSES

With consent of the student's adviser and the course instructor, some graduate courses may be applicable to the undergraduate geology program. Course descriptions for the following courses can be found in the appropriate section of this BULLETIN.

GEOL	525	Paleopalynology	(4)
GEOL	545	Taphonomy	(3)
GEOL	546	Ichnology	(2)
GEOL	554	Limnogeology	(4)
GEOL	556	Paleoenvironments	(4)
GEOL	569	Tectonics and Sedimentation	(4)
GEOL	595	Lacustrine Readings	(1)
BIOL	409	Mammalogy	(4)
BIOL	504	Biology of Marine Invertebrates	(4)
BIOL	515	Biogeography	(3)
ENVH	509	Principles of Environmental Health	(3)
ENVH	557	Geographical Techniques for Health and Environmental Analysis	(3)
ENVH	567	Hazardous-Materials and Solid-Waste Management	(3)
ENVH	568	Water-Quality Assurance	(5)
ENVH	586	Environmental Health Administration	(3)
ENVH	589	Environmental Risk Assessment	(3)

Rosario Beach summer courses

In cooperation with the Walla Walla College Marine Station in Anacortes, Washington, facilities are available for marine courses and research by graduate students of this department. Some of the available courses are listed below.

BIOL	459	Marine Invertebrates	(5)
BIOL	460	Marine Ecology	(5)
BIOL	462	Ichthyology	(5)
BIOL	463	Marine Botany	(5)

VI

DIVISION OF GENERAL STUDIES

LLU Philosophy of General Education

LLU Criteria for General Education Courses

LLU General Education Requirements

LLU General Education Courses Offered Through the School

LLU General Education Courses Booklet

Division of General Studies

The Division of General Studies, directed by the Dean of the Graduate School, offers General Education courses that contribute to the fulfillment of requirements that apply to the Bachelor of Science degree programs in the Graduate School and the Schools of Allied Health Professions, Dentistry, Nursing, and Public Health. In addition, these schools offer a variety of General Education courses that are open to students across all schools. The Division of General Studies also provides oversight for courses that may be selected to enrich a student's academic experience but which do not fulfill Loma Linda University General Education requirements.

LOMA LINDA UNIVERSITY PHILOSOPHY OF GENERAL EDUCATION

As a Seventh-day Adventist health-sciences institution, Loma Linda University seeks to exemplify a life of service and sensitivity beyond the requirements of academic excellence within a professional discipline. With its rich spiritual heritage, the University places special emphasis on educating its students for a life of service in a global community.

General education at Loma Linda University consists of courses, lectures, programs and activities coordinated with the intent to integrate faith and learning. In addition to the basics of cultural heritage and diversity, scientific inquiry and analysis, communication, and wellness, the curriculum emphasizes the University's spiritual heritage as well as moral and ethical decision-making that is grounded in Christian principles.

Thus, a general education is considered to be the cornerstone upon which students begin cultivating their abilities to:

1. Understand the fundamental Christian principles and Adventist heritage that undergird Loma Linda University.
2. Make informed moral and ethical decisions.
3. Incorporate critical thinking skills into personal and professional experience.
4. Value individuals with diverse capabilities and ideological, ethnic, gender, and generational perspectives.
5. Communicate effectively.
6. Undertake scientific inquiry and analysis.
7. Appreciate the contributions of the arts and humanities to society.
8. Examine the historical basis of the health sciences professions.
9. Develop self-awareness through balance of mental, physical, social, and spiritual aspects of daily living.
10. Model servant-leadership in health care as exemplified by Jesus of Nazareth.

The Loma Linda University philosophy of general education creates a unique learning environment committed to the concept of human wholeness. Faculty are selected who embrace the spirit as well as the specifics of general education and who purpose to extend its goals into all aspects of university life—from the residence hall programs to the core of professional studies—thus adding an invisible curriculum to the required course offerings. It is this spirit in tandem with the specifics of a liberal arts education that inspires students to achieve academic excellence, value diversity, pursue lifelong learning, and live to bless others.

LLU CRITERIA FOR GENERAL EDUCATION COURSES

1. The course assists the health-sciences student in cultivating abilities in one or more of the ten aspects described in the Loma Linda University Philosophy of General Education for B. S. degrees.
2. The primary focus of the course deals with the knowledge and understanding of a subject area within one of the following domains described in the Loma Linda University General Education requirements for B.S. degrees.
3. The course is based on appropriate prerequisites, particularly when offered at the upper-division level.
4. The course must be open to all appropriately prepared B.S. degree students of Loma Linda University for General Education credit.
5. Courses transferred to Loma Linda University for General Education credit from another accredited institution must fall within one of the domains described in Loma Linda University's General Education requirements for the B.S. degree.

LLU GENERAL EDUCATION REQUIREMENTS (68 quarter credits)

In harmony with its commitment to wholeness, Loma Linda University requires all students graduating with a baccalaureate degree to complete a minimum of 68 quarter credits of General Education, which are integrated into the entire undergraduate program. Requirements are organized into five domains, as outlined in the following pages.

DOMAIN 1: SPIRITUAL AND CULTURAL HERITAGE (28-32 quarter credits)

Study of spiritual heritage must include a minimum of 4 credits in religious studies per year of full-time

course work (or the equivalent) while attending a Seventh-day Adventist college or university and must include a religion course dealing with the spiritual heritage of the philosophy and mission of Loma Linda University. Four of the units in religious studies may include a course dealing specifically with the religious, moral, and ethical questions of health care. Other courses may be selected from such content areas as Christian ethics; clinical ministry; comparative religions; and doctrinal, historical, and systematic theology. Required credits in spiritual heritage must be earned from the Seventh-day Adventist institution.

The study of cultural heritage must include a minimum of 12 credits. The credits in cultural heritage must be selected from two of the following content areas: civilization/history, fine arts, literature, modern language, performing/visual arts (not to exceed 2 quarter credits), or philosophy.

DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS (24-32 quarter credits)

Scientific inquiry and analysis encompasses both the natural and social sciences. Content areas from which students must choose 12-16 credits within the natural sciences include biology, chemistry, geology, mathematics, physics, and statistics. No more than 6 credits in any one area may count toward the natural sciences requirements.

The study of social sciences must include one course (or components integrated into several courses) dealing specifically with issues of human diversity among peers. The remainder of credits in the social sciences must be selected from the following content areas: anthropology, economics, geography, political science, psychology, and sociology.

DOMAIN 3: COMMUNICATION (9-13 quarter credits)

Course work in communication must include a complete sequence in freshman English which meets the baccalaureate degree requirements of a four-year college or university. Other areas of study in communication may include courses in computer information systems, critical thinking, and public speaking.

DOMAIN 4: HEALTH AND WELLNESS (2-6 quarter credits)

To encourage the pursuit of lifelong leisure activities and wellness, the study of health and wellness must include at least two different physical activities totaling a minimum of 1 quarter credit, and one course in personal health or nutrition. Additional credits may include other areas of health, nutrition, and physical fitness.

DOMAIN 5: ELECTIVES

Electives from the previous four domains may be selected to complete the General Education minimum requirements of 68 quarter credits.

LLU GENERAL EDUCATION COURSES OFFERED THROUGH THE GRADUATE SCHOOL

General Education courses taught through the Graduate School are listed below in Domains 1-5.

DOMAIN 1: CULTURAL AND SPIRITUAL HERITAGE (28-32 quarter credits)

Cultural Heritage

ARTA 205 The Language of Art (2-4)
Basic concepts, materials, and history of the visual arts that will enable the nonart major to develop an art vocabulary and gain insight into the creative process.

ENGL 111, 112, 113 Freshman English (3, 3, 3)
Reading skills and techniques; practice of written communications, with emphasis on expository, critical, argumentative, and research writing. (**Available only at international program sites.**)

Prerequisite: Grade of C or better in ESL courses, or satisfactory performance on a placement test.

ENGL 206 Introduction to Literature (4)
Introduces reading and analysis of major literary genres: poetry, drama, short story, and essay.

ENGL 246 Literary Forms and Ideas (4)
Varied content from quarter to quarter, with specific areas listed in the class schedule (such as drama, the short story, contemporary literature, women in literature, C. S. Lewis). May be repeated with new content for additional credit.

ENGL 445 Bible Literature Discourse Analysis (4)
Specific books of the Bible studied in depth, using "discourse analysis"—a textual analytical tool developed by linguists.

ENGL 478 Theory and Applications of Linguistics (3)
Introduces general linguistics. Covers the core linguistic areas of syntax, phonetics, phonology, morphology, and semantics; also peripheral linguistic areas such as sociolinguistics, pragmatics, and psycholinguistics.

ENSL 177 English as a Second Language (2-12)
Enables University students to improve their proficiency in speaking and in understanding spoken, academic American English. Special emphasis placed on appropriate listening and conversation skills, as well as attention to problems arising from the student's native language.

MUHL 205 Introduction to Music (4)
Basic music literature, with some attention to other arts.

SPAN 424 Advanced Spanish (medical and general) (3)
Enables students and professionals (including medical students and health care professionals) to communicate in the Spanish language with Spanish-speaking patients in settings such as hospitals, clinics, and offices. Covers beginning- to advanced-level grammar, as needed, for basic understanding of the language. Focuses on conversation skills rather than on the conventional study of grammar.

Spiritual Heritage

A complete listing of 400-level religion courses—the General Education courses that fulfill the requirements for Spiritual Heritage—are listed in the Faculty of Religion section of this BULLETIN (see section IV).

DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS (24-32 quarter credits)

Natural Sciences

BIOL 107 Human Biology (4)
The human being as an integrated organism; systems of the body; the basis of healthful living. Four class hours per week.

Social Sciences

ANTH 304 Biocultural Anthropology (4)
(meets Diversity requirement)
Explores the interaction between biology and culture in producing the variations in physical traits currently found worldwide. Examines processes of change resulting from heredity, ecological adaptation, dietary differences, mate selection, disease, and other factors. Examines the problems of paleo-pathology (disease in ancient populations), human-kind in the fossil record, and the place of biological and ecological factors in the fall of ancient civilizations. Detailed consideration of scientific and social bases for popular conceptions of "race."

ANTH 306 Language and Culture (4)
(meets Diversity requirement)
Surveys anthropological linguistics and sociolinguistics. Considers the place of language and communication in social interaction. Introduces descriptive and structural linguistics and discourse analysis. Examines linguistic pluralism in the United States. Contrasts language of health care givers with the language styles of people they serve. Language productions such as folklore, humor and other forms of "word play," curses and blessings, and glossalalia.

ANTH 315 Cultural Anthropology (4)
(meets Diversity requirement)
Advanced course in ethnology and social organization. Explores the nature of culture, giving special attention 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. Presents a wide array of examples from societies around the world.

ANTH 316 Archaeology (4)
Studies principles of archaeological research and the discoveries of centers of civilization in the Middle East, the Mediterranean, the New World, the Far East, Africa, and other parts of the world—particularly recent discoveries. Also covers the main features of biblical archaeology. Some attention given to research into prehistoric cultures.

ANTH 436 Cultural Contexts of Religion (4)
Anthropological approach to the study of religious beliefs and practices, focusing on the diversity of religious expressions that can give us insight into what makes us human and how we can battle the frailties of humanity. Promotes empathy with people from cultural and religious traditions other than one's own, as well as tolerance and even respect for their differences.

ANTH 448 Medical Anthropology (4)
(meets Diversity requirement)
Studies sickness and health as universal factors in the human condition. Examines world view as an explanatory system for human behavior, giving ethnographic examples of curing systems and coping mechanisms. Deals with cross-cultural communication of health principles and practices.

PSYC 224 Developmental Psychology: Childhood/Adolescence (3-4)
Physical, mental, emotional, social, and religious/moral development that occurs within the family context during the interim from conception through adolescence. Observations and/or laboratory experience.

PSYC 225 Developmental Psychology: Adulthood and Aging (3-4)
Physical, mental, emotional, social, and religious/moral development of adults that occurs within the family and social context. Changes that occur from young adulthood through middle age, old age, and death. Observations and/or laboratory experience.

PSYC 226 Life-Span Development (4)
Life-span course emphasizing the physical, mental, emotional, social, and religious/moral development from conception through adulthood, aging, and death.

PSYC 305 Psychological Foundations of Education (4)
Studies psychological development as it relates to the learning process and to evaluation techniques for learners in the elementary and secondary schools.
Prerequisite: General psychology.

PSYC 404 Psychological Tests and Measurements (3)
Develops competencies and understandings for selecting, administering, and interpreting the major types of standardized tests and inventories used in psychology and education. Presents theoretical principles and issues together with hands-on applications. Practicum required.

PSYC 405 Psychology of Human Relations (3)
Human relations for career and personal success. Topics include the effective use of human resources, communication, leadership skills, decision making, stress management, assertiveness training, managing conflicts, career development, and achieving balance.

PSYC 414 Interviewing and Counseling (4)
Procedures, methods, and problems of collecting personal data in a professional interview situation. Theories and techniques of academic, vocational, and therapeutic counseling in various settings designed to improve intra- and interpersonal behavioral patterns for more effective living. Consideration of clinical, educational, and crisis-intervention counseling application.

PSYC 460 The Exceptional Individual (3)
Study of the determinants, characteristics, problems, and adjustments of individuals who deviate markedly from the norm in their mental, physical, emotional, or social aptitudes, traits, and tendencies. Emphasis on education and career planning. Open to upper-division graduate and postgraduate students only.

PSYC 479 Human Neuropsychology (4)
Introduction to brain-behavior relationships, including cerebral asymmetry, disconnection syndromes, disorders of memory and language, biological substrates of affective behavior, motor and perceptual dysfunction, and drug actions.

SOCI 104 Introduction to Sociology (4)
Introduces the scientific study of human society and behavior in social settings. Course topics include: sociological theory and research, culture and social structure, socialization, groups and organizations, social problems, social institutions, and social change. Assists the student in achieving a greater understanding of self and society, and preparing for successful personal and professional life.

SOCI 414 Sociology of the Family (4)
Study of the structure, function, and changing patterns of families in society; the relationships between family problems and changes in society, and their impact on children.

DOMAIN 3: COMMUNICATION (9-13 quarter credits)

RDNG 177 Reading Techniques (ABLE II) (2)
Advanced reading course to enhance success in academic programs. Causes and effects of academic stress; ways of handling stress. Memory techniques, test-taking strategies, skills for dynamic information processing, and more efficient reading comprehension.

RDNG 277 Advanced Reading and Comprehension Skills (ABLE III) (2)
Advanced reading course to increasing student's rate of reading by developing cognitive organizational strategies such as: special techniques for processing information while reading textbooks; previewing, skimming, and scanning techniques; advanced skills for improving memory, taking tests, and reducing anxiety.

WRIT 117 Writing I (2)
Basic writing techniques essential for academic success, developed in three major areas: understanding of concepts within writing; understanding and following the overall writing process; and building specific grammar skills on a conceptual framework of language structure. Course develops specific skills: building vocabulary; spelling; understanding the special and peculiar words, idioms, and expressions of American culture; building sentences; structuring paragraphs; organizing content; creating logical arguments; and clarifying thoughts (writing what the student means to express). Emphasizes correct use of punctuation, capitalization, and the general mechanics of writing.

WRIT 317 Writing II (2)
Advanced writing. Combines creative and affective procedures (visualization skills, music, the visual arts) in a proactive, lateral-thinking process to enrich traditional academic/logical/cognitive learning approaches and to develop highly conceptual, high-level critical-thinking/cognitive skills essential for successful academic writing. Skills include: preplanning techniques; organizing, prioritizing, and structuring ideas; revising and editing; using a consistent personal style; citing sources with correct footnote and bibliographic content and format; applying metalingual understanding to grammar, English language concepts, and English metaphors. Applies these skills to quality writing of expository compositions, assignments, projects, clinical reports, observation reports, and case studies.

WRIT 417 Writing III (2)
Advanced technical writing. Provides advanced skills for technical/scientific writing of research assignments, major projects, clinical reports, observation reports, case studies, etc. Highly conceptual writing combines technical skills with creative/critical-thinking skills. Combines traditional cognitive learning with enriching affective learning styles and methods. Specific skills include: prewriting techniques; organizing, prioritizing, and structuring of ideas; revising and editing; correct annotation style (e.g., APA, MLA, etc.); and applying metalingual understanding to grammar and to English language concepts.

DOMAIN 4: HEALTH AND WELLNESS (2-6 quarter credits)

PEAC 110 Independent Activities (.5-1)

DOMAIN 5: ELECTIVES

Electives from Domains 1-4 may be selected to complete the General Education minimum requirements of 68 quarter credits.

LLU GENERAL EDUCATION COURSES BOOKLET

A complete listing of courses offered at this University to meet General Education domain requirements is included in the *Loma Linda University General Education Philosophy, Requirements, and Courses* booklet. For access to the booklet and its description of each General Education course, the student should consult his/her academic adviser.

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*emeritus

THE GRADUATE SCHOOL

W. Barton Rippon, Ph.D., Dean

The dean, the chief administrative officer of the Graduate School, presides over the Graduate School faculty and the Graduate Council.

The Graduate Council give continuing study to the effectiveness of graduate program; ways to strengthen the offerings and curricula; maintaining standards; evaluating and initiating, when advisable, appropriate actions on such items or proposals as occur to them or as may be referred to them; and bringing to the dean items that involve organization and expansion or addition to the faculty, with recommendations for action. Proposals that affect budgets or overall University policy are subject to review by the Administrative Committee.

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THE FACULTY, ASSOCIATE FACULTY, AND CLINICAL FACULTY

Faculty, associate faculty, and clinical faculty are listed below. Code letters are shown after each name, indicating program(s) of appointment.

ANAT	Anatomy
BCHM	Biochemistry
BIOL	Biology
BMCE	Biomedical and Clinical Ethics
BMSC	Biomedical Sciences
CMGT	Case Management
CLMD	Clinical Mediation
CMIN	Clinical Ministry
DACC	Drug and Alcohol Counseling
DENT	Dentistry
FMCO	Family Counseling
FMST	Family Studies
GEOL	Geology
GRPC	Group Counseling
MFAM	Marital and Family Therapy
MICR	Microbiology and Molecular Genetics
MSTP	Medical Scientist Training Program
NRSG	Nursing
NUTR	Nutrition
PHRM	Pharmacology
PHSL	Physiology
PSYC	Psychology
RESC	Rehabilitation Science
RLSC	Religion and the Sciences
SCHC	School Counseling
SOWK	Social Work
SPOL	Social Policy and Social Research
SPPA	Speech-Language Pathology

Alexander, Wil	CMIN
Anderson, David	DENT
Andrews, Jennifer	MFAM
Archambeau, John O.	ANAT
Atkins, Gordon J.	BIOL
Austin, Kenneth M.	MFAM, DACC
Aveling, D. Leigh	CMIN
Bakland, Leif K.	DENT
Bass, Robert L.	DENT
Baugh, Jr., Wilson B.	DENT
Baylink, David J.	BCHM
Beltz, Richard E.	BCHM
Benjamin, John Anthony	PSYC
Betancourt, Hector	PSYC
Blaseio, Gunther	DENT
Blazen, Ivan	BMCE, CMIN
Bogle, Gary C.	DENT
Bonyanpoor, Shahnaz	DENT
Boskovic, Milos	DENT
Bossert, Elizabeth A.	NRSG
Boyd, Kendal C.	PSYC
Boyne, Philip J.	DENT
Brand, Leonard R.	BIOL, GEOL
Branson, Roy	BMCE
Brinckhaus, Loida	NRSG
Buchheim, H. Paul	BIOL, GEOL

Buchholz, John N. PHRM
Buckles, Beverly J. CMGT, SOWK
Burke, Kenneth I. NUTR
Burley, Todd PSYC
Burns, Margaret A. NRSG

Campagni, Wayne V. DENT
Cantin, Edouard M. MICR
Carr, Mark BMCE
Carter, Ronald L. BIOL, GEOL
Caruso, Joseph M. DENT
Casiano, Carlos A. MICR
Castanotto, Daniela MICR
Chand, Ian P. CLMD, FMST, MFAM, DACC, FMCO
Chavez, David V. PSYC
Chen, Shin-Tai BCHM
Clausen, Ben GEOL
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Corey, Marianne GRPC
Corselli, Johannah ANAT
Cowan, Gloria PSYC
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Cress, C. Raymond PHRM
Crigger, Max DENT
Cushman, Robert A. BIOL, GEOL
Cutler, Ralph E. PHRM

Daher, Tony DENT
Dasgupta, Chiranjib BCHM
Davis, M. Jerry MFAM, CMIN
Davis, W. Howard DENT
De León, Daisy PHSL
De León, Marino ANAT, PHSL
deLeón, Dennis BMCE
Drake-Hurst, Elaine PSYC
Drieberg, Keith L. PSYC
Duckles, Sue Piper PHRM
Ducsay, Charles A. PHSL
Duerksen-Hughes, Penelope BCHM
Dus, Ivan DENT
Dyer, James F., Jr. SOWK

Earl, Joyce PSYC
Earll, Art CMIN
Ebbe, Christopher PSYC
Ellins, Stuart PSYC
Engen, Paul C. ANAT
Escobar-Poni, Bertha C. ANAT
Escher, Alan P. MICR

Farley, John R. BCHM

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Fillman, Michael J. DENT
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Fletcher, William H. ANAT, PHSL
Flora-Tostado, John PSYC
Fodor, Istvan MICR
Forrester, Terrence, J. SOWK
Fox, Curtis A. FMST, MFAM
Fox, Michael E. DENT
Frank, Beverly, B. PSYC
Frank, Robert J. DENT
Fraser, Ian M. PHRM
Freier, Mary-Catherin (Kiti) PSYC
Fuentes, Paul J. DENT

Gackle, Elaine M. NRSG
Galbraith, Michael C. NRSG, PSYC
Gardner, Robert W. SOWK
Gantes, Bernard G. DENT
Gibson, James L. GEOL
Gilbert, Raymond D. PHSL
Gober, Carla CMIN
Goldstein, Michael PSYC
Gonzales, Melissa K. Backstrom SPPA
Gonzalez, Ramon R., Jr. BMSC, PHRM, PHSL
Goodacre, Charles J. DENT
Goodwin, H. Thomas BIOL, GEOL
Greek, James CMIN
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Gridley, Daila S. BCHM, MICR

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Hilliker, Sandra MICR
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Hubbard, Doris MFAM, FMCO
Hubbard, Richard W. BCHM
Huenergardt, Douglas MFAM
Hughes, William W. RESC
Hurst, Elaine PSYC

Jackson, Craig R.	SOWK
Jackson, G. Victoria	SOWK
Javor, George T.	BCHM, MICR
Jenkins, Louis	PSYC
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Johnston, Patricia K.	NUTR
Jones, Patricia S.	NRSG
Jouline, Igor B.	MICR
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Khoo, Keiko I.	SPPA
Kiger, Robert	BMCE
Kilbourne, Brock	PSYC
Kim, Yoomi	SPPA
King, Helen	NRSG
Kirby, Michael A.	ANAT, BIOL, PHSL
Kirsch, Wolff M.	BCHM
Knudson-Martin, Carmen	MFAM
Kootsey, Mailen	PHSL, PHRM
Kosch, Cindy	NUTR
Kunihira, Daniel	DENT
Lambdin, Craig	MFAM, FMCO
Lamberton, Henry H.	CMIN
Langridge, William H. R.	BCHM, MICR
Larson, David R.	BMCE, CMIN
Lau, Benjamin H. S.	BIOL, MICR
Lau, Kin-Hing William	BCHM
Lee, Jerry W.	PSYC
Lee, Michael B.	DENT
Leggitt, V. Leroy	DENT, GEOL
Leonora, John	PHSL
Lessard, George M.	BCHM
Lewin, Michael R.	PSYC
Lewis, John E.	MICR
Lier, Anthony B.	DENT
Lilly, Michael B.	MICR
Linkhart, Thomas A.	BCHM
Li, Yiming	MICR
Lin, Ren-Jang	MICR
Lindsey, Viola	SOWK
Liwnicz, Boleslaw H.	ANAT
Longo, Lawrence D.	PHSL
Loveless, William	CMIN
Lowry, Jean B.	SPPA
Lozada, Jaime L.	DENT
Lucas, Gary A.	SPPA
Maeda, George	PHSL
Mainess, Karen J.	SPPA
Marshak, Helen Hopp	PSYC
Maskin, Michael	PSYC
McClure, Faith	PSYC
McCluskey, Elwood S.	PHSL
McGann, David G.	SPPA
McMillan, Paul J.	ANAT
Mihram, William L.	DENT
Miller, Eva G.	NRSG
Miller, Frances P.	NRSG
Mitchell, Daniel A., Jr.	ANAT
Mitchell, Robert D.	DENT
Miyashiro, Clifford M.	PSYC
Mohan, Subburaman	BCHM, PHSL
Molinaro, Giuseppe A.	MICR
Moline, Mary E.	CLMD, DACC, FMCO, FMST, GRPC, MFAM, SCHC
Morrow, Steven G.	DENT
Morton, Kelly R.	PSYC
Muir, Craig A.	PSYC
Nava, Pedro B.	ANAT
Nehlsen-Cannarella, Sandra L.	BIOL, MICR, PHSL
Newton, Frederick	PSYC
Nick, Kevin E.	GEOL
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Piedra, Isabella	DENT
Power, Gordon G.	PHSL
Provonsha, Jack W.	BMCE
Rajaram, Sujatha	NUTR
Ramirez, Johnny	CMIN, PSYC
Rathbun, W. Eugene	DENT
Rice, Richard	BMCE, CMIN, RLSC
Rick, Gordon M.	DENT
Ricketts, Robert M.	DENT
Riggs, Matt	PSYC
Rippon, W. Barton	BCHM, MSTP
Roberts, Randall L.	CMIN, FMCO, MFAM
Roberts, Walter H. B.	ANAT
Robertson, Thomas L.	DENT
Roos, Philip J.	PHSL
Rosenberg, Jeffrey I.	DENT
Rossi, John J.	BCHM, MICR, PHSL
Roth, Ariel A.	BIOL
Rynearson, R. David	DENT
Ryu, Junichi	BIOL, MICR
Sabaté, Joan	NUTR
Sandberg, Lawrence B.	BCHM
Schlenker, Willis L.	DENT
Schultz, Robert L.	ANAT

Selvig, Knut A.	DENT
Shaughnessy, Paige S.	SPPA
Sheu, Maria	DENT
Sigurdsson, Thorarinn J.	DENT
Simon, Dianna	SOWK
Simon, James H.	DENT
Simpson, Cheryl J.	MFAM, FMST
Slattery, Charles W.	BCHM
Smith, Robert Stephen	PSYC
Smith-Herrick, Donna	CMIN
Sonne, Janet	PSYC
Sood, Satish M.	BCHM
Sorajjakool, Siroj	CMIN
Sowers, Lawrence C.	BCHM, MICR
Spiller, Juli A.	SPPA
Steffani, Susan A.	SPPA
Stour, John F.	BIOL
Straatmeyer, Alvin J.	PSYC
Strong, Donna D.	BCHM, MICR
Strother, Allen	PHRM
Stout, John F.	BIOL
Stucki-McCormick, Suzanne U.	DENT
Sugiyama, Raymond M.	DENT
Szalay, Aladar A.	BCHM, MICR
Tanaka, Wayne K.	DENT
Tatakis, Dimitris N.	DENT
Taylor, Barry L.	BCHM, MICR
Taylor, Bernard	CMIN
Taylor, David L.	CMIN
Taylor, Guy D.	DENT
Teel, Charles W.	BMCE
Teel, Robert W.	BIOL, PHRM, PHSL
Teyber, Edward	PSYC
Thorington, Glyne	PHRM
Tieche, Jean-Marc	PHSL
Tilton, Bernard	PHRM
Torabinejad, Mahmoud	DENT
Turek, Jacqueline Kurch	PSYC
Van Cleve, Lois	BMCE, NRSG
Venden, Louis	CMIN
Wagner, William	ANAT
Walker, Randall	DACC, MFAM
Walters, James W.	BMCE, CMIN
Weber, Ruth S.	NRSG
Weiss, Michael	PSYC
Wergedal, Jon E.	BCHM
Whittaker, John	DENT
Whitten, Crystal	NUTR
Wilcox, R. Bruce	BCHM, BIOL
Williams, Hyveth	CMIN
Wilson, Colwick	MFAM
Wilson, James R.	BIOL
Winslow, Betty	NRSG
Winslow, Gerald R.	BMCE, CMIN, RLSC
Wise, James R.	DENT
Wohrle, Peter S.	DENT
Wright, Kenneth	ANAT
Wyatt, Melva S.	DENT
Yacoub, Ignatius I.	SOWK
Yellon, Steven M.	ANAT, PHSL
Zalsman, Harvey	DENT
Zhang, Lubo	PHRM

ACCREDITATION STATUS

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 WASC (Western Association of Schools and Colleges) (prior to January 1962, Western College Association) February 24, 1960. Became Loma Linda University July 1, 1961. Professional curricula started and approved as indicated.

THE GRADUATE SCHOOL: Started in 1954. Accredited through University accreditation.

THE PROFESSIONS

CLINICAL LABORATORY SCIENCE (FORMERLY: MEDICAL TECHNOLOGY): Started in 1937. Approved by the Council on Medical Education of the American Medical Association since August 28, 1937. Currently approved by the Commission on Accreditation of Allied Health Education Programs in collaboration with the National Accrediting Agency for Clinical Laboratory Sciences.

CYTOTECHNOLOGY: Started in 1982. Initial approval by the Commission on Accreditation of Allied Health Education Programs in collaboration with the Cytotechnology Programs Review Committee January 20, 1983.

DENTAL HYGIENE: Started in 1959. Approved by the Commission on Dental Accreditation of the American Dental Association since September 7, 1961.

DENTISTRY: Started in 1953. Approved by the Commission on Dental Accreditation of the American Dental Association since May 23, 1957.

DIAGNOSTIC MEDICAL SONOGRAPHY: Started in 1976 as diagnostic medical sonography. Approved by the Joint Review Committee on Education in Diagnostic Medical Sonography October 24, 1985.

DIETETIC TECHNOLOGY: Started in 1988. The Dietetics Technology Program is currently granted accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetics Association April 25, 1988.

EMERGENCY MEDICAL CARE: Started in 1993 as a baccalaureate degree program for paramedics, respiratory therapists, and other allied health professionals desiring education, science, or management credentials in emergency medical services.

ENDODONTICS: Started in 1967. Approved by the Commission on Dental Accreditation of the American Dental Association since December 1969.

HEALTH INFORMATION MANAGEMENT: Started as medical record administration in 1963. Approved by the Council on Medical Education of the American Medical Association since December 1, 1963. Currently approved by the Commission on Accreditation of Allied Health Education Programs in collaboration with the American Health Information Management Association.

MEDICAL RADIOGRAPHY: Started in 1941 as radiological technology. Approved by the Council on Medical Education of the American Medical Association November 19, 1944. Currently approved by the Joint Review Committee on Education in Radiologic Technology and the California State Department of Health Services.

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 school started at Loma Linda in 1905. Hospital school added at Los Angeles in 1924. Degree school organized in 1948. Accredited by the National Nursing Accrediting Service December 10, 1951, with approval continuing under the National League for Nursing. Initial 1917 approval of the California State Board of Health extended until college program approved July 1, 1952, by the California Board of Registered Nursing. California Board of Registered Nursing approval since 1952. Public health nursing preparation recognized, 1959.

NUTRITION AND DIETETICS: Started in 1922 as a certificate program; baccalaureate degree conferred 1932-54; graduate program offered since 1954. Internship program continuously approved by The American Dietetic Association from 1957 through 1974; reestablishment of baccalaureate degree program authorized October 1971. Since 1974 the Coordinated Program in Dietetics has been granted accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetics Association.

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

OCCUPATIONAL THERAPY ASSISTANT: Started in 1988. Approved by the Commission on Accreditation of Allied Health Education Programs in collaboration with The American Occupational Therapy Association (AOTA) April 13, 1989. Currently accredited by the Accreditation Council for Occupational Therapy Education of the AOTA.

ORAL AND MAXILLOFACIAL SURGERY: Started in 1978. Approved by the Commission on Dental Accreditation of the American Dental Association since 1981.

ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS: Started in 1960. Approved by the Commission on Dental Accreditation of the American Dental Association since May 1965.

PEDIATRIC DENTISTRY: Started in 1993. Approved by the Commission on Dental Accreditation of the American Dental Association since December 1972.

PERIODONTICS: Started in 1979. Approved by the Commission on Dental Accreditation of the American Dental Association since December 1972.

PHLEBOTOMY: Started in 1994. Accredited/approved April 1997 by the California Department of Health, Laboratory Field Services; and by the National Accrediting Agency for Clinical Laboratory Science (NAACLS).

PHYSICAL THERAPIST ASSISTANT: Started in 1989. Approved by the American Physical Therapy Association April 4, 1990.

PHYSICAL THERAPY: Started in 1941. Initial approval by the Council on Medical Education of the American Medical Association June 6, 1942. Currently approved by the American Physical Therapy Association.

PHYSICIAN ASSISTANT: Started in 2000. Provisional Accreditation granted October 20, 2000, by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Effective January 1, 2001, CAAHEP was succeeded by the Accreditation Review Commission on Education for Physician Assistant (ARC-PA).

PROSTHODONTICS: Started in 1993. Approved by the Commission on Dental Accreditation of the American Dental Association since February 1995.

PUBLIC HEALTH: Started in 1948; reorganized in 1964. Approved by the American Public Health Association June 23, 1967. Currently approved by the Council on Education for Public Health.

RADIATION THERAPY: Approved by the Council on Medical Education of the American Medical Association December 1, 1974. Currently approved by the Joint Review Committee on Education in Radiologic Technology.

RESPIRATORY CARE: Started in 1971. Initial approval by the Council on Medical Education of the American Medical Association September 1972. Full approval June 1973. Currently approved by the Commission on Accreditation of Allied Health Education Programs in collaboration with the Joint Committee on Accreditation for Respiratory Care Education.

SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY: Approved by the American Speech-Language-Hearing Association June 1, 1991.

SURGICAL TECHNOLOGY: Started in 1995. Approval by the Council on Medical Education of the American Medical Association December 1972. Currently approved by the Commission on Accreditation of Allied Health Education Programs in collaboration with the Accreditation Review Committee on Education in Surgical Technology.

ACCREDITING AGENCIES

THE UNIVERSITY

Loma Linda University is accredited by WASC.

Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges
985 Atlantic Avenue, Suite 100
Alameda, CA 94501
Phone: 510 / 748-9001
FAX: 510 / 748-9797
Web site: www.wascweb.org
Email: wascsr@wascsenior.org

WASC is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Commission on Recognition of Postsecondary Accreditation.

In addition to WASC, the following agencies accredit specific University schools or programs*:

GRADUATE SCHOOL

Drug and Alcohol Counseling

California Association of Alcoholism and Drug Abuse Counselors (CAADAC)
3400 Bradshaw Road, Suite A5
Sacramento, CA 95827
Phone: 916 / 368-9412
FAX: 916 / 368-9424
Web site: www.caadac.org
Email: caadac@jps.net

Marital and Family Therapy

Commission on Accreditation for Marriage and Family Therapy Education of the American Association for Marriage and Family Therapy
1133 15th Street, NW, Suite 300
Washington, DC 20005-2710
Phone: 202 / 467-5111 or 452-0109
FAX: 202 / 223-2329
Web site: www.aamft.org
Email: coamfte@aamft.org

Psychology

American Psychological Association
750 First Street N. E.
Washington, DC 20002-4242
Phone: 202 / 336-5500
FAX: 202 / 336-5978
Web site: www.apa.org
Email: education@apa.org

Social Work

Council on Social Work Education
Division of Standards and Accreditation
1600 Duke Street, Suite 500
Alexandria, Virginia 22314-3457
Phone: 703 /683-8080
FAX: 703 / 683-8099
Web site: www.cswe.org
Email: info@cswe.org

Speech-Language Pathology

Speech-Language Pathology Educational Standards Board
American Speech-Language-Hearing Association
10801 Rockville Pike
Rockville, MD 20852
Phone: 301 / 897-5700
FAX: 301 / 571-0457
Web site: www.asha.org
Email: accreditation@asha.org

SCHOOL OF ALLIED HEALTH PROFESSIONS

Cardiopulmonary Sciences

Respiratory Care

Committee on Accreditation for Respiratory Care
1248 Harwood Road
Bedford, TX 76021-4244
Phone: 800 / 874-5615 or 817 / 283-2835
FAX: 817 / 354-8519 or 817 / 252-0773
Web site: www.coarc.com
Email: richwalker@coarc.com

Physician Assistant

Accreditation Review Commission on Education for the Physician Assistant (ARC-PA)
Medical Education Department 1R6
1000 North Oak Avenue
Marshfield, WI 54449-5778
Phone: 715 / 389-3785
FAX: 715 / 387-5163
Web site: www.arc-pa.org
Email: mccartyj@mfldclin.edu

Surgical Technology

Accreditation Review Committee on Education in Surgical Technology (ARC-ST)
7108-C South Alton Way
Englewood, CO 80112-2106
Phone: 303 / 694-9262
FAX: 303 / 741-3655
Web site: www.arcst.org
Email: coa@ast.org

Clinical Laboratory Science

Phlebotomy Certificate

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
8410 West Bryn Mawr Avenue, Suite 670
Chicago, IL 60631-3415
Phone: 773 / 714-8880
FAX: 773 / 714-8886
Web site: www.naacls.org
Email: naaclsinfo@naacls.org

Clinical Laboratory Science (formerly Medical Technology)

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
8410 West Bryn Mawr Avenue, Suite 670
Chicago, IL 60631-3415
Phone: 773 / 714-8880
FAX: 773 / 714-8886
Web site: www.naacls.org
Email: naaclsinfo@naacls.org

Cytotechnology

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
35 East Wacker Drive, Suite 1970
Chicago, IL 60601-2208
Phone: 312 / 553-9355
FAX: 312 / 553-9616
Web site: www.caahep.org
Email: caahep@caahep.org

Health Information Management

Health Information Administration

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
35 East Wacker Drive, Suite 1970
Chicago, IL 60601-2208
Phone: 312 / 553-9355
FAX: 312 / 553-9616
Web site: www.caahep.org
Email: caahep@caahep.org

Nutrition and Dietetics

Dietetic Technician Program—A.S.

Nutrition and Dietetics Program—B.S.

Commission on Accreditation for Dietetics Education (CADE)
The American Dietetic Association
216 West Jackson Boulevard, 7th floor
Chicago, IL 60606-6995
Phone: 800 / 877-1600
FAX: 312 / 899-4899 or 899-4817
Web site: www.eatright.org/cade
Email: education@eatright.org

Occupational Therapy

The Accreditation Council for Occupational Therapy Education (ACOTE)
American Occupational Therapy Association, Inc. (AOTA)
P.O. Box 31220
Bethesda, MD 20824-1220
Phone: 301 / 652-2682
or toll free 800 / 377-8555
FAX: 301 / 652-7711
Web site: www.aota.org
Email: accred@aota.org

Physical Therapy

Commission on Accreditation in Physical Therapy Education
American Physical Therapy Association (APTA)
1111 North Fairfax Street
Alexandria, VA 22314
Phone: 703 / 706-3245
FAX: 703 / 838-8910
Web site: www.apta.org
Email: see Web site

Radiation Technology

Medical Radiography—A.S.

Radiation Therapy Technology—certificate

Joint Review Committee on Education in Radiologic Technology
20 North Wacker Drive, Suite 900
Chicago, IL 60606-2901
Phone: 312 / 704-5300
FAX: 312 / 704-5304
Web site: www.jrcert.org
Email: mail@jrcert.org

[Diagnostic] Medical Sonography—certificate

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
35 East Wacker Drive, Suite 1970
Chicago, IL 60601-2208
Web site: www.caahep.org
Email: sharonworthing@coarc.com

Joint Review Committee on Education in Diagnostic Medical Sonography (JRCE-DMS)
1248 Harwood Road
Bedford, TX 76021-4244
Phone: 817 / 685-6629
FAX: 817 / 354-8519
Web site: www.jrcdms.org
Email: sharonworthing@coarc.com

Nuclear Medicine Technology—Certificate

California Department of Health Services Radiologic Health Branch
P. O. Box 942732
Sacramento, CA 94234-7320
Phone: 916/322-5096
FAX: 916/324-3610
Web site: www.csrt.org
Email: RKubiak@dhs.ca.gov

Speech-Language Pathology and Audiology

American Speech-Language-Hearing Association
10801 Rockville Pike
Rockville, MD 20852
Phone: 301 / 897-5700
FAX: 301 / 571-0481
Web site: www.asha.org
Email: accreditation@asha.org

SCHOOL OF DENTISTRY

Commission on Dental Accreditation
of the American Dental Association
211 East Chicago Avenue
Chicago, IL 60611
Phone: 800 / 621-8099
FAX: 312 / 440-2915
Web site: www.ada.org
Email: licarif@ada.org

SCHOOL OF MEDICINE

Liaison Committee on Medical Education
Association of American Medical Colleges
2450 N Street NW
Washington, DC 30037
Phone: 202 / 828-0596
FAX: 202 / 828-1125
Web Sites: www.lcme.org; www.aamc.org
Email: lcme@aamc.org

SCHOOL OF NURSING

National League for Nursing
Accrediting Commission
61 Broadway
New York, NY 10006
Phone: 212 / 363-5555, ext. 153
or toll free 800 / 669-1656
FAX: 212 / 812-0390
Web site: www.nln.org
Email: Gfelton@nlnac.org

Board of Registered Nursing
400 R Street, Suite 4030
P. O. Box 944210
Sacramento, CA 94244-2100
Phone: 916 / 322-3350
FAX: 916 / 327-4402
Web site: www.rn.ca.gov

Commission on Collegiate Nursing Education
(CCNE)
One Dupont Circle NW, Suite 530
Washington, DC 20036-1120
Phone: 202 / 887-6791
FAX: 202 / 887-8476
Web site: www.aacn.nche.edu/accreditation
Email: jbutlin@accn.nche.edu

SCHOOL OF PUBLIC HEALTH

Council on Education for Public Health
800 Eye St. NW, Suite 202
Washington, DC 20001-1397
Phone: 202 / 789-1050
FAX: 202 / 789-1895
Web site: www.ceph.org
Email: jconklin@ceph.org

Certified Health Education Specialist (CHES)

National Commission for Health Education
Credentialing, Inc.
944 Marcon Boulevard, Suite 310
Allentown, PA 18109
Phone: toll free 888 / 624-3248 or 673-5445
FAX: 800 / 813-0727
Web site: www.nchec.org
Email: nchec@fast.net

Registered Environmental Health Specialist

State of California
Environmental Health Specialist
Registration Program
601 North 7th Street, MS 396
P.O. Box 942732
Sacramento, CA 94234-7320
Phone: 916 / 324-8819
FAX: 916 / 323-9869
Web site: www.dhs.ca.gov
or www.dhs.cahwnet.gov
Email: rhook1@dhs.ca.gov

Public Health Nutrition and Dietetics

Commission on Accreditation for
Dietetics Education (CADE)
The American Dietetic Association
216 West Jackson Boulevard, 7th floor
Chicago, IL 60606-6995
Phone: 800 / 877-1600
FAX: 312 / 899-4899
Web site: www.eatright.org/cade
Email: education@eatright.org

***All entry-level degrees are accredited by their respective professional accrediting associations.**

THE UNIVERSITY LIBRARIES

Major library resources

Four major library resources on campus support the University's academic programs. These are:

- the Del E. Webb Memorial Library,
- the Jorgensen Learning Resources Center,
- the Jesse Medical Library and Information Center, and
- the Veterans Administration Library Services.

In addition to these facilities, specialized libraries are located in various medical and school departments on campus.

Central library

The Del E. Webb Memorial Library is the central library of Loma Linda University. Its historical roots go back to 1907, when a small library collection was started in a room of the old Loma Linda Sanitarium. In 1953 the growing collection was moved to its own building on the Loma Linda campus. Then in 1981, a new library building was built from a grant by the Del E. Webb Foundation, giving the library a total floor space of 87,670 square feet. This structure now houses the main library, while the old structure is now shared between the Department of Archives and Special Collections and the bound retrospective journals. As of June 2001, the library has a total collection of 410,807 books, bound and current journals/periodicals, and media items (197,303 books; 125,577 bound journals, 1,420 current periodical subscriptions, 349 nonsubscription periodicals; and 84,158 media items).

Library mission

The mission of the Library is to stimulate and support the information needs of the University's instructional, research, and service programs. To this end the Library provides a full range of information support services, including, but not limited to, reference, circulation, reserve, access to the internet, and hundreds of online databases, e.g., full-text, automatic, selective dissemination of information (SDI) services; database end-user training programs; library orientations; interlibrary loans; photocopy and pull services; a microcomputer laboratory; a learning service resource center; class-integrated library instruction programs; and services that support distance education and University outreach programs.

Worldwide access

The Library provides access to other collections worldwide using internet technologies. It also participates in a number of national and regional networks. One of these is the National Network of the Libraries of Medicine, founded by the National Library of Medicine. This structure is divided into eight regional sections, one of which is the Pacific Southwest Region. The Del E. Webb Memorial Library belongs to this region and is the designated medical resource library for San Bernardino and Riverside counties. Local library cooperatives include the IEALC (Inland Empire Academic Library Cooperative) and SIRCULS (San Bernardino, Inyo, Riverside Counties United Library Services). Membership in these cooperatives gives our students, faculty, and staff access to the collections of these libraries.Archives and special collections

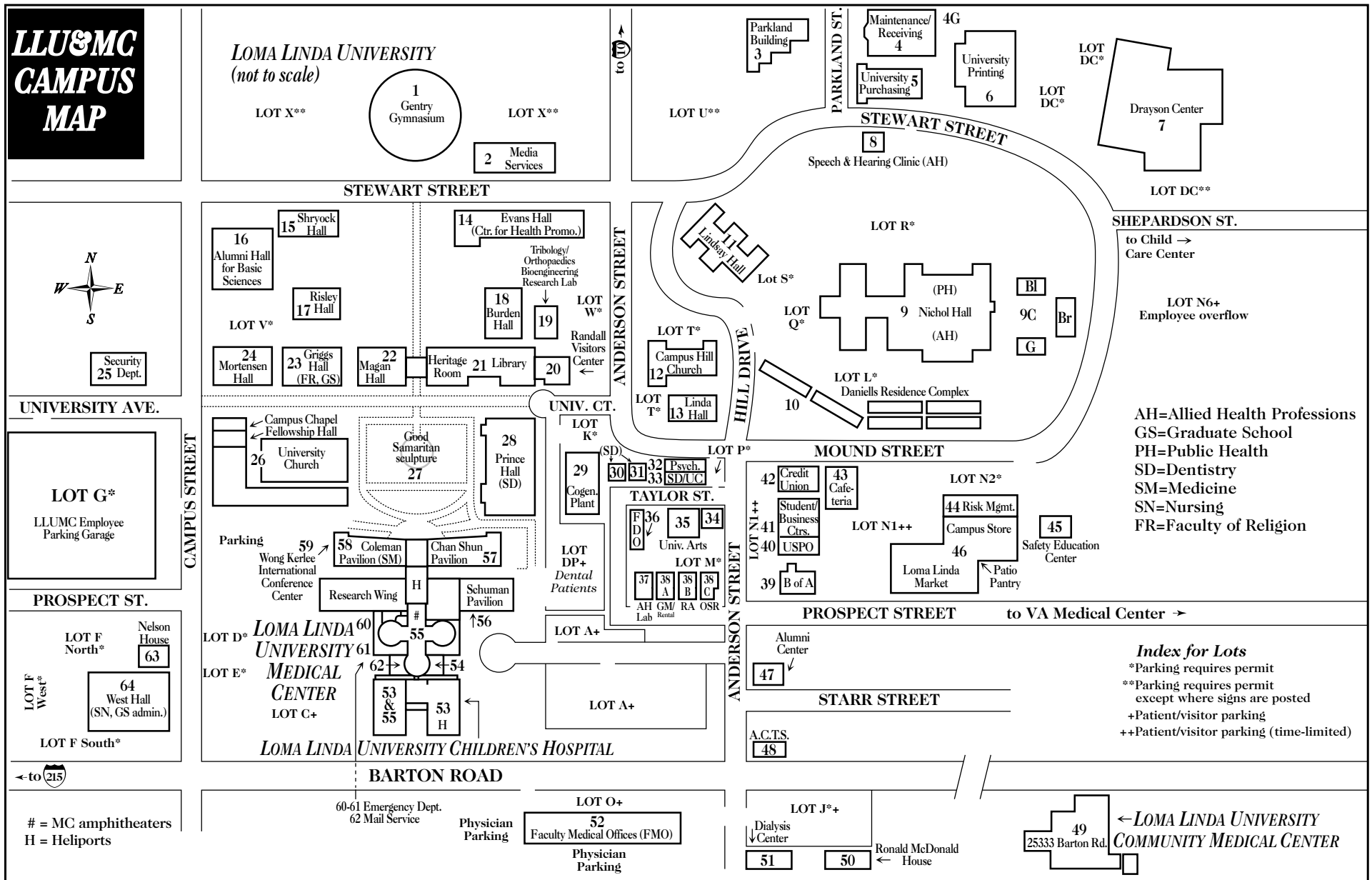
Archives and special collections

The Department of Archives and Special Collections is the central repository of information on the history of Loma Linda University, the health sciences, and major collections on Adventism. In addition to print materials which include rare books, theses, and dissertations, there are microforms, sound recordings, and several thousand photographs. Searchable digitized indexes for various document files are also available via the Library's web site. The collection also includes 14,000 linear feet of archival materials, which include papers of various denominational and University officials, as well as the congressional papers of the Honorable Jerry and Shirley Pettis.

ELLEN G. WHITE ESTATE LOMA LINDA BRANCH OFFICE

Also located in the Library is a branch office of the Ellen G. White Estate. It contains 60,000 typewritten pages of Ellen G. White's letters and manuscripts; 4,600 of her published articles; and several different files of materials pertaining to various aspects of her life and ministry. A computerized concordance to her published writings is available to researchers. A link to a bibliography of the different variant editions of her works is available on the Library's home page.

LLU&MC CAMPUS MAP



Key to abbreviations and symbols
(See also key to Schools on Campus Map)

X = Nearest cross street
> = See Area Map
LLUAHSC = Loma Linda University Adventist Health Sciences Center
LLU= Loma Linda University:
LLUBMC = Behavioral Medicine Center
LLUCH = Children's Hospital
LLUCMC = Community Medical Center
LLUMC = Medical Center

Campus Map (numerical)

1. Gentry Gymnasium
2. Media Services (University, MC)
3. Housekeeping (University); Radiation / Hazardous Materials Safety
4. Campus Engineering (maintenance shops); Lock and Key; Campus Receiving (University); 4G=Garage buildings
5. Purchasing (University); Campus Engineering, Machine Shop
6. University Printing Services and Design Department; Construction; Architectural Services; Warehouse
7. Drayson Center: volleyball/basketball gym, intramurals, tennis, badminton, raquetball, cardio and weight rooms, aerobics studios, tracks, pools, arts and crafts; chaplain's office; Superfield; Student Union; Student Association
8. Speech and Hearing Clinic (AH)
9. Nichol Hall: School of Public Health, Centers for Health Research and for Health and Development; School of Allied Health Professions; 9C = Cottages: #60 ("Blue")—Marketing and Retention (AH); #70 ("Brown)—OT Field Work Office; #80 ("Green") — SIMS, Center for Health and Development (PH)
10. Daniells Residence Complex (men; graduate women)
11. Lindsay Hall (women's residence)
12. Campus Hill SDA Church
13. Linda Hall (Campus Hill SDA Church)
14. Evans Hall: Center for Health Promotion; Cutler Amphitheater; Student Health Service
15. Shryock Hall: Anatomy; Embryology Museum
16. Alumni Hall for Basic Sciences: Microbiology; Pathology; Courville Museum (pathology)
17. Risley Hall: Physiology; Pharmacology; Kellogg Amphitheater
18. Burden Hall: Academic Publications; University Relations; Physical therapy lab (AH)
19. Block Building: Orthopaedic Bioengineering Research labs; Tribology lab
20. Randall Visitors Center: Amphitheater; Jorgensen Learning Center
21. University Library, Del E. Webb Memorial: Main library; Ellen G. White Estate Loma Linda Branch Office; Heritage Room; Micro-Systems Support
22. Magan Hall: Administration, LOMA LINDA UNIVERSITY; Faculty Records; Gift Records; Vice chancellors for academic affairs, advancement, financial affairs, public affairs; Special assistants to the chancellor—diversity, global outreach
23. Griggs Hall: Faculty of Religion; Graduate School Departments of Biology, Geology, Marital and Family Therapy, and Social Work
24. Mortensen Hall: Biochemistry; Center for Molecular Biology and Gene Therapy
25. Campus Security; Rideshare
26. University Church; Fellowship Hall; Campus Chapel
27. Good Samaritan sculpture
28. Prince Hall: School of Dentistry
29. Cogeneration Plant (power plant)
30. Advanced Periodontics Education; Dentistry faculty endodontics*
31. Educational Support Services (SD)
32. Central Building: Psychology (GS)
33. Center for Dental Research; Administrative Information Systems (University), Rm. 208
34. Carlson Wagonlit Travel—University Travel
35. University Arts: Human Resource Management (personnel, payroll, benefits, employee training and orientation); Purchasing (MC); Advanced Life Support Education; Dentistry*
36. Faculty Dental Offices*
37. Occupational therapy lab (AH)

38A. Grants Management (postaward, University); LLU Foundation Rental Office
38B. Research affairs, vice chancellor for
38C. Office of Sponsored Research (preaward)

39. Bank of America
40. U. S. Post Office
41. **Upper level:** Business offices; Accounting; Foundation; **Lower level:** Student Services Center—Student Affairs (student life, international student services, off-campus housing, dean of students); Financial Aid; Student Finance / Accounting; Loan Collections; University Records ; Administrative Information Systems (University), Rm. 115
42. La Loma Credit Union
43. Campus Cafeteria
44. Risk Management
45. Safety Education Center
46. Campus Store (bookstore, camera shop, Apple computer sales and service); Loma Linda Market (Campus Pharmacy, bakery, natural foods); Patio Pantry
47. Alumni Center: Alumni offices; Staff Development; Planned Giving; General Conference liaison
48. A.C.T.S. (emergency relief)
49. LLU COMMUNITY MEDICAL CENTER
50. Ronald McDonald House
51. University Kidney Center (dialysis)
52. Faculty Medical Offices (FMO* and SM)
53. LLU CHILDREN'S HOSPITAL: Heliport, H South; Cafeteria; Central Computing (MC) B-737, B-724
54. Proton Treatment Center
55. LLU MEDICAL CENTER: School of Medicine; Heliport, H North; Lost and Found, B-404; Cafeteria; Amphitheaters: Lobby-1506, A-512; Transplantation Institute; Employee immunizations, LLUMC, Rm. A-350;
56. Schuman Pavilion: International Heart Institute
57. Chan Shun Pavilion: Cancer Research Institute
58. Coleman Pavilion: School of Medicine; Medical Affairs (LLUAHSC); Center for Christian Bioethics; Center for Spiritual Life and Wholeness, special assistant to the chancellor—spiritual life and wholeness
59. Wong Kerlee International Conference Center

60.-61. Emergency Department. LLUMC

62. Mail Service (University, MC)
63. Nelson House: Decision Support Services (MC)
64. West Hall: School of Nursing; Graduate School administration; Teaching Learning Center

Area Map (numerical)

65. Material Supply and Distribution Support Services Center (Receiving, Mercantile, etc.) (MC), 1269 E. San Bernardino Ave., SB (X Tippecanoe)
66. Loma Linda Children's Center, 25228 Shepardson Dr.
67. Veterans Medical Center, Jerry L. Pettis Memorial (VA Hospital), 11201 Benton St. (X Barton Rd.)
68. Mountain View Plaza (X Barton Rd.): Diabetes Treatment Center (MC); Osteoporosis Research Center, LLU administrative office; Radiology Medical Group, administrative office; Hospice (MC); LL Medical Supply (MC); Home Care Services (respiratory, family) (MC); Judkins Library (MC); LLUMC Managed Care Finance; Health Care Patient Business Office (FMO billing); Adventist Health Managed Care
69. Loma Linda Health Center *("Cape Cod" buildings),* Mountain View Ave. (X Barton Rd.):
    A –11306 *Providence:* LL Community Medical Group*
    B –11314 *Cambridge:* Psychiatry and Behavioral Medicine (SM)
    C –11320 *Gloucester:* Psychiatry conference rooms; Medical staff administration (BMC, CH, CMC, MC)
    D –11326 *Worcester:* Special Projects (MC); Physician Referral and Circle of Care
    E –11332 *Westerly:* Medical*
    F –11354 *Walden:* Medical*
    G –11360 *Hartford:* LLU Cancer Institute: Cancer Data Center; Administration; Clinical oncology research
    H –11346 *Concord:* Marketing (MC); Medical*
    I –11368 *Springfield:* LLU Cancer Institute: Region 5 Cancer Surveillance Program; Pharmaceutical research
    J –11374 *Dover:* see Counseling, below, 69J>
    K –11382 *Danbury:* Loma Linda Health Pharmacy; Dental*
    L –11340 *Bridgeport:* LLU Cancer Institute: Cancer Information

69-72: Counseling and chemical dependency treatment centers (students, employees):

69. B –11314 *Cambridge:* Student counseling; Psychiatry (SM)
    G –11360 *Hartford,* Suite A: Employee Assistance Program
    J –11374 *Dover:* Student psychological counseling services (MC); Medical faculty*
70. LLU BEHAVIORAL MEDICINE CENTER, 1710 Barton Road (X Terracina Blvd.): Crisis hotline; Partial hospitalization (days only); Inpatient
71. Marriage and Family Therapy Clinic, 164 W. Hospitality Ln., Suite 15, (X Hunt's Lane in SB)
72. Professional Plaza, 25455 Barton Frontage Rd. (X Loma Linda Dr.; X Benton St.): Neurosurgery Clinic (MC), Suite 108A; Loma Linda Pharmacy; MC / SM teaching, administrative, and private practice offices; Occupational Health (work-related health/injury) Suite 106A; dental*
73. SACHS Norton clinic (E. 3rd St. off Tippecanoe)
74. Geoscience Research Institute [of the General Conference of Seventh-day Adventists] (Ortner Building)

Campus and Area maps (alphabetical)

Academic Publications, 18
Accounting (University) 41; Student finance, 41
A.C.T.S. (emergency relief), 48
Administration, campus business, 41
Administration, LOMA LINDA UNIVERSITY, 22
Admissions, see Schools: 9, 23, 28, 58, 64
Advancement, Office of, 22
Aid, student, 41
Allied Health Professions, School of, 9
Alumni Associations: Allied Health Professions, 9; Dentistry, 47; Medicine, 47; Nursing, 64; Public Health, 9
Alumni Center, 47
Alumni Hall for Basic Sciences, 16
Amphitheaters: Barnes , 55, A-512; Cutler, 14; Macpherson, 55, lobby-1506; Kellogg, 17; Randall Visitors Center, 20
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To update information on maps or legends, please contact Academic Publications, ext. 4-4525.

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69 – Loma Linda Health Center
70 – LLU Behavioral Medicine Center
71 – Marriage and Family Therapy Clinic
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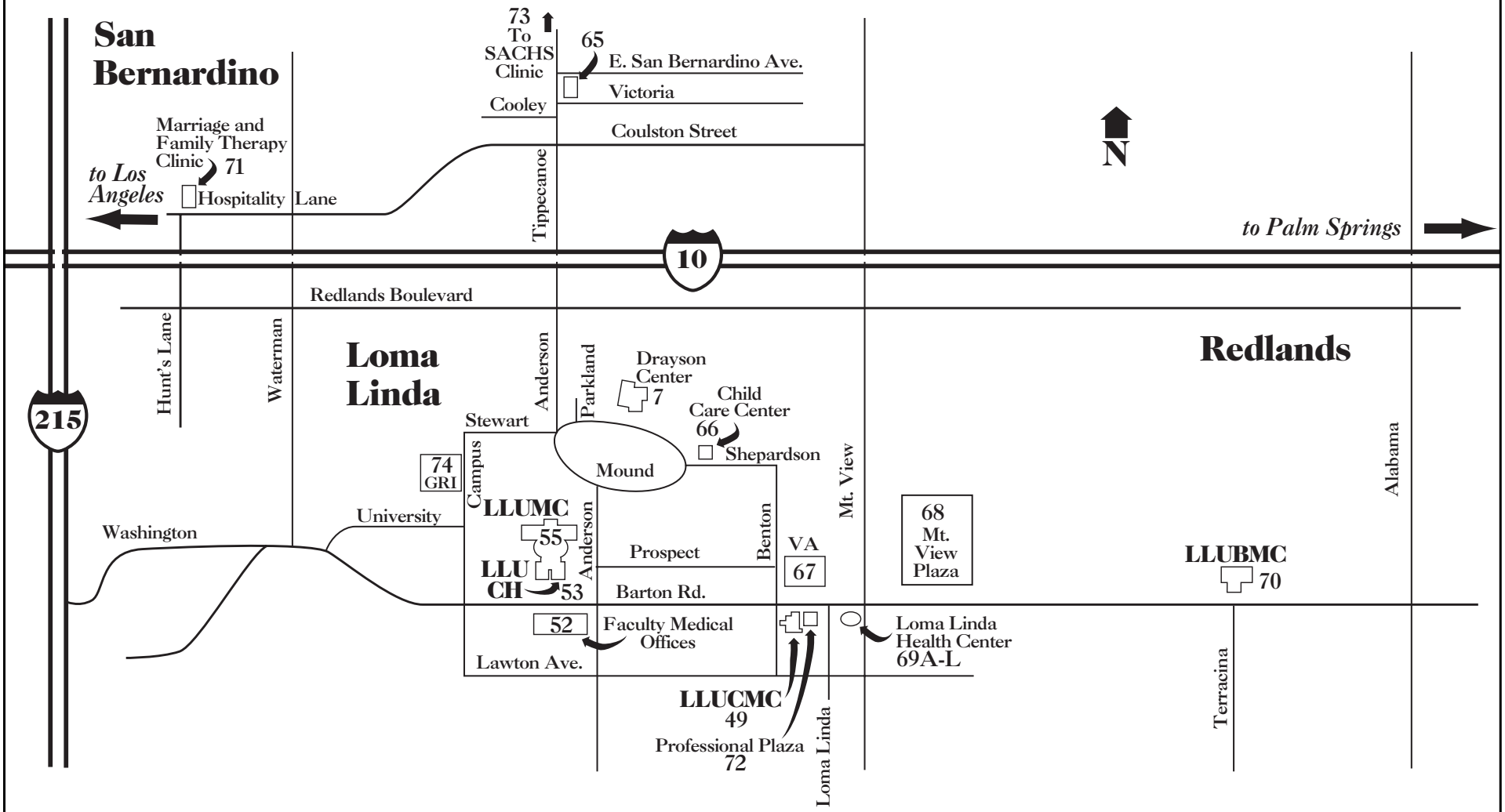
73 – SACHS Norton Clinic
74 – Geoscience Research Institute



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1 In addition to this School of Dentistry certificate program, the student may apply to a Graduate School master's degree program.

2 Students may register on the Loma Linda University (LLU) or Canadian Union College (CaUC) campus.

TO COMMUNICATE WITH LLU . . .

MAIL: **Loma Linda University**
11060 Anderson Street
Loma Linda, CA 92350

WORLDWIDE WEB: http://www.llu.edu

PHONE:
For information about LLU 1/800-422-4LLU
dialing from Canada 1/800-548-7114

Area Code: 909 /

Switchboard: 558-1000, 558-4300

Off-campus PHONE:	On-campus PHONE:		Off-campus FAX:	On-campus FAX:
558-4540	44540	**Chancellor**	558-0242	80242
558-4787	44787	**Diversity**	558-0140	80140
558-4510	44510	**Student Affairs**	558-4879	44879
		Student welfare, housing, visas...		
558-4955	44955	**International Student Services**	558-4879	44879
558-4520	44520	**Student Finance**	558-4879	44879
558-4509	44509	**Student Financial Aid**	558-4879	44879
558-4508	44508	**University Records**	558-4879	44879
558-8770	88770	**Student Health Service**	558-0433	80433
558-6028	66028	**Student Counseling**	558-6090	66090
558-8625	88625	**Teaching Learning Center**	558-0179	80179
558-6050	66050	**Student Assistance Program**	558-6051	66051
558-4570	44570	**Spiritual Counseling**	558-4186	44186
335-4275	34275	**Crisis Hotline**	1-800-752-5999	
793-9333	34008	Behavioral Medicine Center	558-9262	34262
558-4536	44536	**Faculty of Religion**	558-4856	44856
558-8434	88434	Dean	558-4856	44856
558-4956	44956	Biomedical and Clinical Ethics	558-0336	80336
558-4956	44956	Center for Christian Bioethics	558-0336	80336
558-8433	88433	Clinical Ministry	558-4856	44856
558-1000	ext. 43983	Center for Spiritual Life and Wholeness	558-0336	80336
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		Allied Health Professions		
558-4599	44599	Admissions	558-4291	44291-attn. Admissions
558-4545	44545	Dean	558-4291	44291-attn. Dean
558-4932	44932	Cardiopulmonary Sciences	558-4701	44701-attn. CPSC
558-4966	44966	Clinical Laboratory Science	558-0458	80458-attn. CLSC
558-4976	44976	Health Information Management	558-0404	80404-attn. HLIN
558-4593	44593	Nutrition and Dietetics	558-4291	44291-attn. DTCS
558-4628	44628	Occupational Therapy	558-0239	84239-attn. OCTH
558-4948	44948	Occupational Therapy Assistant	558-0239	84239-attn. OCTA
558-4632	44632	Physical Therapy	558-4291	44291-attn. PHTH
558-4634	44634	Physical Therapist Assistant	558-4291	44291-attn. PAST
558-4931	44931	Radiation Technology	558-4291	44291-attn. RTCH
558-4998	44998	Speech-Language Pathology/Audiology	558-4291	44291-attn. SPPA

Off-campus PHONE:	On-campus PHONE:		Off-campus FAX:	On-campus FAX:
558-4222	1616	**Dentistry**		
558-4621	44621	Admissions	558-4211	44211
558-4683	44683	Dean	558-0483	80483
558-8624	88624	Advanced Programs	558-0122	80122
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558-4529	44529	Admissions	558-4859	44859
558-4528	44528	Dean	558-0441	80441
558-4546	44546	**Public Health**	558-4087	44087
558-4694	44694	Admissions/Academic Records	558-4087	44087 attn. Admissions
558-4578	44578	Dean	558-4087	44087 attn. Dean
558-8750	88750	Environmental and Occupational Health	558-0493	84493 attn. ENVH
558-8750	44590	Epidemiology and Biostatistics	558-0126	80126 attn. EPDM/STAT
558-4573	44573	Health Administration	558-0469	80469 attn. HADM
558-4575	44575	Health Promotion and Education	558-0471	80471 attn. HPRO
558-4902	44902	International Health	558-0389	80389 attn. INTH
558-4575	44575	Maternal and Child Health	558-0471	80471 attn. MCH
558-4598	44598	Nutrition	558-4095	44095 attn. NUTR
558-4918	44918	Preventive Medicine Residency		

	WEB SITE:	EMAIL:
Student Services	www.llu.edu/ssweb	
Teaching Learning Center	www.llu.edu/llu/tlc	
University Records		registrar@univ.llu.edu
The Faculty of Religion	http://www.llu.edu/llu/fr/	
Dean		gwinslow@rel.llu.edu
Center for Christian Bioethics	http://bioethics.llu.edu	hmorrison@ethicscenter.llu.edu
Center for Spiritual Life and Wholeness	http://www.llu.edu/llu/wholeness/	innerweave@som.llu.edu

The Schools:

Allied Health Professions	http://www.llu.edu/llu/sahp/	
Admissions		admissions@sahp.llu.edu attn. admissions
Cardiopulmonary Sciences		admissions@sahp.llu.edu attn. CPSC
Clinical Laboratory Science		admissions@sahp.llu.edu attn. CLSC
Health Information Management		admissions@sahp.llu.edu attn. HLIN
Nutrition and Dietetics		admissions@sahp.llu.edu attn. DTCS
Occupational Therapy		admissions@sahp.llu.edu attn. OCTH
Physical Therapy		admissions@sahp.llu.edu attn. PHTH
Radiation Technology		admissions@sahp.llu.edu attn. RTCH
Speech-Language Pathology/ Audiology		admissions@sahp.llu.edu attn. SPPA
Dentistry	http://www.llu.edu/llu/dentistry/	DentAO@sd.llu.edu
Admissions	http://www.llu.edu/llu/dentistry/	sDavis@sd.llu.edu
Graduate	http://www.llu.edu/llu/grad/	brippon@univ.llu.edu
Admissions	http://www.llu.edu/llu/grad/	gradschool@univ.llu.edu
Medicine	http://www.llu.edu/llu/medicine/	ledwards@som.llu.edu
Nursing	http://www.llu.edu/llu/nursing/	dsalinas@sn.llu.edu
Public Health	http://www.llu.edu/llu/sph/	
Recruitment and on-line application for admission and information	http://www.llu.edu/llu/sph/	sphinfo@sph.llu.edu