

Catalog of  
**Loma Linda  
University**  
2009–2010

This is a one-year CATALOG,  
effective beginning Summer Quarter 2009.



LOMA LINDA  
UNIVERSITY

Loma Linda, CA 92350

<http://www.llu.edu>

a health sciences university

CATALOG OF  
LOMA LINDA UNIVERSITY

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## Legal Notice

This Catalog is the definitive statement of Loma Linda University on the requirements for admission, enrollment, curriculum, and graduation. The University reserves the right to change the requirements and policies set forth in this Catalog at any time upon reasonable notice. In the event of conflict between the statements of this Catalog and any other statements by faculty or administration, the provisions of this Catalog shall control, unless express notice is given that the Catalog is being modified.

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

This Catalog contains the operating policy statements for Loma Linda University's educational programs. Any deviation from these policies must be approved by University administration.

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# I

## INTRODUCTION

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**Accreditation Overview**  
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**The Academic Calendar—2009-2010**





## President's Welcome

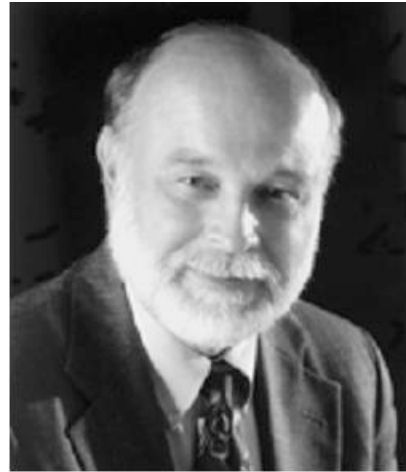
It is a privilege to welcome you to Loma Linda University. This is a very unique place—one that balances on the twin foundations of Faith and Science. We believe we have a divinely ordained mission to push these boundaries into increasing avenues of service and discovery.

Being a student here will expose you to a group of faculty and staff who have chosen to be part of this experience we call Loma Linda. They have chosen to work here because they share in the belief that this is a special place.

We have chosen to concentrate on what we call Mission-Focused Learning. This means that all we seek to offer here at Loma Linda is centered on a much greater theme than producing knowledgeable professionals, because we believe that who you are is even more important than what you know. To assist in this lifelong process, we are encouraging the enculturation of our seven core values, known by the acronym of JCHIEFS. These are Justice, Compassion, Humility, Integrity, Excellence, Freedom, and Self-Control/Purity. I encourage each of you to search your own heart and find ways to strengthen these virtues in everything you do.

You also will find here an incredible mixture of cultural diversity. Revel in our differences and use each exposure to help you understand the issues that separate us. With understanding comes acceptance. And with acceptance come peace and fellowship. So use your time at Loma Linda to seek out those from other countries and cultures from whom you can learn and gain greater understanding. We will all be better as we tear down those barriers that often separate us.

All this uniqueness is centered on the profound belief that God is here, active in the lives and experiences of each of us. Through our weekly Campus Worship, the prayers of faculty in class, and the daily interchanges across campus, I invite you to join me in getting to know Him better. Place your future in His hands. Have confidence in His leading. Seek out opportunities to fellowship and grow in His love.



Thank you for joining our campus family. I hope it will become as special to you as it has for so many of our 25,000 alumni.

Cordially yours,

A handwritten signature in black ink that reads "Richard H. Hart". The signature is written in a cursive, flowing style.

Richard H. Hart, M.D., Dr.P.H.  
President  
Loma Linda University

## Programs, Degrees, and Certificates

The degree and certificate curricula at Loma Linda University are under continuous review and are, therefore, subject to change and improvement without prior notice, as the need occurs. The University also offers nondegree and short courses throughout the United States and globally to meet the continuing-education and extension-program needs of alumni, health professionals, and lay persons in the church and in the community. Most degree courses are approved for continuing-education credit.

The Faculty of Graduate Studies oversees Ph.D. and research master's degrees, as well as combined-degrees programs.

### KEY TO CODES

AH	School of Allied Health Professions	UG	Undergraduate
PH	School of Public Health	PB	Postbaccalaureate
SD	School of Dentistry	PD	Post-D.D.S. or Post-D.D.M.
SM	School of Medicine	PM	Post-master's
SN	School of Nursing	PMD	Post-M.D.
SP	School of Pharmacy	PP	Postprofessional
ST	School of Science and Technology	*	off-campus, Canada
SR	School of Religion	**	off-campus, South Africa and Thailand
FGS	Faculty of Graduate Studies	***	off-campus, Guam and Hawaii
IS	Interdisciplinary Studies (LLU diploma, across schools / faculties)	****	off-campus, Saudi Arabia
		++	off-campus, Chile
		+++	off-campus, Peru
		++++	off-campus, Russia

Program	School	Degrees/Certificates Offered
Anatomy	SM	M.S., Ph.D.
Biochemistry	SM	M.S., Ph.D.
Biology	ST	M.S., Ph.D.
Biomedical and Clinical Ethics	SR	M.A., PB certificate
Biomedical Sciences	SM	PB certificate
Biostatistics	PH	M.P.H., M.S.P.H., PB certificate (basic, advanced)
Business Administration	PH	M.B.A.***
Case Management	ST	PB certificate
Child Life Specialist	ST	M.S., PB certificate
Child Life Specialist	ST	M.S.
Clinical Mediation	ST	PB certificate
Clinical Ministry	SR	M.A., PB certificate
Clinical Laboratory Science	AH	B.S. (formerly: Medical Technology)
Coding Specialist	AH	Certificate
Communication Sciences and Disorders	AH	B.S., M.S., Transitional M.S. (formerly: Speech-Language Pathology and Audiology)
Counseling	ST	M.S.
Counseling, Family	ST	PB certificate (See: Family Counseling)
Counseling, School	ST	PB certificate (See: School Counseling)
Criminal Justice	ST	M.S.
Cytotechnology	AH	Certificate, B.S.
Dental Anesthesiology, Advanced	SD	M.S.D., PD certificate
Dental Hygiene	SD	B.S.
Dentistry, General	SD	D.D.S.
Dentist Program, International	SD	D.D.S.
Diagnostic Medical Sonography	AH	Certificate

Dietetic Technology	AH	A.S., PB certificate
Drug and Alcohol Counseling	ST	PB certificate
Earth Science	ST	Ph.D.
Emergency Medical Care	AH	B.S.
Emergency Preparedness and Response	PH	PB certificate
Endodontics, Advanced	SD	M.S., M.S.D., PD certificate
Environmental and Occupational Health	PH	M.P.H.
Environmental Sciences	ST	B.S.
Epidemiological Research Methods	PH	PB certificate
Epidemiology	PH	M.P.H., Dr.P.H, PB certificate (basic, advanced)
Family Counseling	ST	PB certificate
Family Life Education	ST	PB certificate
Family Studies	ST	M.A.
Family Studies	ST	Ph.D.
Forensic Science	ST	PB certificate
Geographic Information Systems for Global Health and Development	PH	M.P.H.
Geology	ST	B.S., M.S.
Gerontology	ST	M.S.
Global Epidemiology	PH	M.P.H.
Global Health	PH	M.P.H., Dr.P.H., certificate
Global Health/Maternal-Child Health	PH	Combined M.P.H.
Health Policy and Leadership	PH	M.P.H.
Health Care Administration	PH	M.B.A., M.B.A. with GIS certificate
Health Care Administration	PH	B.S.P.H.
Health Education	PH	M.P.H., Dr.P.H.
Health Geographics and Biomedical and Data Management	PH	B.S.P.H.
Health Geoinformatics	PH	Certificate
Health Information Administration	AH	B.S., PB certificate
Health Policy and Leadership	PH	M.P.H.
Health Professions Education	ST	PB certificate
Health Promotion and Education	PH	(See: Health Education)
Health Services Research	PH	(See: Health Administration)
Health Science	IS	B.S.
Implant Dentistry, Advanced	SD	M.S. option, PD certificate
International Dentist Program	SD	(See: Dentist Program, International)
Lifestyle Intervention	PH	PB certificate
Lifestyle Medicine	PH	M.P.H.
Marital and Family Therapy	ST	M.S.*
Marital and Family Therapy	ST	D.M.F.T.
Marital and Family Therapy	ST	Ph.D.
Master of Science in Dentistry	SD	M.S.D.
Maternal and Child Health	PH	M.P.H.++/+++
Medical Dosimetry	AH	Certificate
Medical Radiography	AH	A.S.
Medical Scientist	SM	M.D./Ph.D
Medicine	SM	M.D.
Microbiology and Molecular Genetics	SM	M.S., Ph.D.
Natural Sciences	ST	M.S.
Nuclear Medicine Technology	AH	Certificate
Nursing	SN	A.S., B.S., M.S.**, PM advanced certificates, Ph.D.
Nutrition	PH	M.P.H., M.S., Dr.P.H.
Nutrition and Dietetics	AH	B.S., M.S.

Nutrition Care Management	AH	M.S. (online)
Occupational Therapy	AH	M.O.T., O.T.D.
Occupational Therapy Assistant	AH	A.A.
Online Executive M.P.H	PH	M.P.H.
Online Health Education M.P.H.	PH	M.P.H.
Oral and Maxillofacial Surgery, Advanced	SD	M.S., M.S.D., PD certificate
Orthodontics and Dentofacial Orthopedics, Advanced	SD	M.S., PD certificate
Orthotics and Prosthetics	AH	M.S.
Peace Corps Master's International Program/Master of Public Health	PH	M.P.H.
Pediatric Dentistry, Advanced	SD	M.S., M.S.D., PD certificate
Periodontics, Advanced	SD	M.S., M.S.D., PD certificate
Pharmacology	SM	M.S., Ph.D.
Pharmacy	SP	Pharm.D.
Phlebotomy	AH	Certificate
Physical Therapist Assistant	AH	A.S.
Physical Therapy	AH	M.P.T., D.P.T., D.Sc.
Physician Assistant Sciences	AH	M.P.A.
Physiology	SM	M.S., Ph.D.
Preventive Care	PH	Dr.P.H.
Program Evaluation and Research	ST	PB certificate
Prosthodontics, Advanced	SD	M.S. option, PD certificate
Psychology, General	ST	M.A.
Psychology, Clinical	ST	Psy.D., Ph.D.
Public Administration	ST	D.P.A.
Public Health	PH	(See: Online Executive M.P.H.)
Public Health Practice	PH	M.P.H. ++/+++ /++++
Radiation Sciences	AH	B.S., M.S.
Radiation Therapy Technology	AH	Certificate
Radiologist Assistant	AH	M.S.
Rehabilitation Science	AH	Ph.D.
Religion and the Sciences	SR	M.A.
Reproductive Health	PH	PB certificate
Respiratory Care	AH	B.S.***, PP B.S., certificate
School Counseling	ST	PM certificate, PPS credential
Social Policy and Social Research	ST	Ph.D.
Social Work	ST	M.S.W.
Social Work, Clinical	ST	Ph.D.
Spanish Studies for Health Care Professionals	ST	Certificate
Speech-Language Pathology and Audiology	AH	(See: Communication Sciences and Disorders)
Tobacco-Control Methods	PH	PB certificate

## DISTANCE LEARNING PROGRAMS OFFERED AT LOMA LINDA UNIVERSITY

### School of Allied Health Professions

Health Information Administration (B.S.)  
Imaging Informatics (Certificate)  
Occupational Therapy (O.T.D.)  
Nuclear Medicine Technology (Certificate)  
Nutrition Care Management (M.S.)  
Radiation Sciences (B.S./M.S.)  
Radiation Therapy Technology (Certificate)  
Radiologist Assistant (M.S.)  
Respiratory Care (Blended)

### School of Dentistry

Dental Hygiene Completion Program (B.S.)

### School of Public Health

Online Executive Master's in Public Health (M.P.H.)  
Health Education (M.P.H., Dr.P.H.)

# Accreditation Overview

The University is accredited as a degree-granting institution by the Western Association of Schools and Colleges (WASC). The programs of the schools are accredited by the appropriate accrediting agencies, and graduates are eligible to take the qualifying examinations of the respective state and national licensing or registration bodies and to join professional organizations. Details of accreditations are given in the individual programs and in Section VI of this CATALOG.

Founded as College of Evangelists in 1905-06, the University was chartered as College of Medical Evangelists by the state of California December 13, 1909, and was 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, it became Loma Linda University July 1, 1961.

## ACCREDITING AGENCIES

Loma Linda University is fully accredited by the Western Association of Schools and Colleges (WASC), which may be contacted at:

Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC)  
985 Atlantic Avenue, Suite 100  
Alameda, CA 94501  
Phone: 510/748-9001  
FAX: 510/748-9797  
Web site: <[www.wascweb.org](http://www.wascweb.org)>  
Email: <[wascsr@wascsenior.org](mailto: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 organizations accredit specific University schools or programs:

Accreditation Council for Occupational Therapy Education (ACOTE), American Occupational Therapy Association, Inc. (AOTA)

Accreditation Council for Pharmacy Education (ACPE)

Accreditation Review Commission on Education for the Physician Assistant (ARC-PA), Medical Education Department 1R6

Adventist Accrediting Association

American Physical Therapy Association

American Psychological Association

American Speech-Language-Hearing Association

Approval Committee for Certificate Programs, a Joint Committee of the Association for Healthcare Documentation Integrity and the American Health Information Management Association

Association of American Medical Colleges

California Association of Alcoholism and Drug Abuse Counselors (CAADAC)

California Board of Registered Nursing

California Commission on Teacher Credentialing

California Department of Public Health, Radiologic Health Branch

California Department of Public Health, Laboratory Field Services

Commission on Accreditation for Dietetics Education (CADE) of the American Dietetic Association

Commission on Accreditation for Health Information Management Education

Commission on Accreditation for Marriage and Family Therapy Education of the American Association for Marriage and Family Therapy

Commission on Accreditation in Physical Therapy Education, American Physical Therapy Association (APTA)

Commission on Accreditation of Allied Health Education Programs (CAAHEP)

Commission on Collegiate Nursing Education (CCNE)

Commission on Dental Accreditation of the American Dental Association (CODA)

Committee on Accreditation for Respiratory Care

Council on Education for Public Health

Council on Medical Education of the American Medical Association

Council on Social Work Education, Division of Standards and Accreditation

Cytotechnology Programs Review Committee

Joint Committee on Accreditation for Respiratory Care Education

Joint Review Committee on Education in Diagnostic Medical Sonography (JRCE-DMS)

Joint Review Committee on Education in Radiologic Technology (JRCERT)

Joint Review Committee on Educational Programs in Nuclear Medicine Technology

Liaison Committee on Medical Education, Association of American Medical Colleges

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

National Commission for Health Education Credentialing, Inc.

Speech-Language Pathology Educational Standards Board, American Speech-Language-Hearing Association

State of California, Environmental Health Specialist Registration Program

For a current list of accrediting agencies, please contact the University's Office of Academic Affairs.

## Affirmative Action

The University routinely monitors its educational and employment practices regarding women, minorities, and the disabled 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 disability. 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.



## Accommodation for Disability

Loma Linda University is in compliance with the Americans with Disabilities Act, Sec. 504 of the Rehabilitation Act, as well as with local and state requirements. The University is committed to providing education—including support services and reasonable accommodations for disabilities—to qualified applicants for whom such accommodation does not fundamentally alter the chosen program or create an undue burden.

For information regarding accommodation for disability, the student should consult the office of the dean of the school to which application for admission is being made.



Following acceptance, the student may be asked if he or she has a disability requiring accommodation. A student who desires accommodation for a disability (e.g., physical, learning, or psychological) identified after acceptance should consult the office of the dean regarding a request for accommodation. The accommodation request must be submitted in writing on the designated form. The completed form and the required supporting documentation will be evaluated by appropriate University entities to determine whether or not the applicant can be expected to perform the essential functions of the program. All discussions will remain confidential.

## Nondiscrimination Policy

Loma Linda University was established by the Seventh-day Adventist Church as an integral part of its teaching ministry. The University affirms that Christian principles are incompatible with various forms of discrimination that have divided societies, and that all persons are of equal worth in the sight of God and should be so regarded by all His people. Therefore, the University is committed to equal education and employment opportunities for men and women of all races; and does not discriminate on the basis of handicap, 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 is 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 U.S.C. Secs. 2000e-1, 2000e-2; Sec. 6-15 of Federal Executive Order 11246; 41 CFR Sec. 60-1.5(5); 20 U.S.C. 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 1, 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.

# The Academic Calendar

Academic dates for Faculty of Graduate Studies (FGS) and the Schools of:

- |    |                           |    |                        |
|----|---------------------------|----|------------------------|
| AH | Allied Health Professions | SN | Nursing                |
| PH | Public Health             | SP | Pharmacy               |
| SD | Dentistry                 | SR | Religion               |
| SM | Medicine                  | ST | Science and Technology |

2009

<b>January</b> <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr> <tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr> <tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr> </table>	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	<b>February</b> <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr> <tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr> <tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr> </table>	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	<b>March</b> <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr> <tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr> <tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr> <tr><td>29</td><td>30</td><td>31</td><td></td><td></td><td></td><td></td></tr> </table>	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					<b>April</b> <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr> <tr><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr> <tr><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td></tr> <tr><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td></td><td></td></tr> </table>	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																						
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**2009**

**SUMMER SESSIONS 2009**

**MAY**

5	U	Compassion in Action series
12	U	Compassion in Action series
13	U	Health and Faith Forum
19-Jun 13	SD	Registration for Summer Quarter
19	U	Compassion in Action series
21	U	Awards Chapel
23	SM, SP, SD	Baccalaureate service
24	SM, SP, SD	Commencement ceremonies
25	U	Memorial Day recess
25	U	Last day to submit S/U petitions
25	U	Last day to drop with a "W"
27	U	Health and Faith Forum
28	U	Health and Faith Forum (formerly Bioethics and Wholeness Grand Rounds)
	U	Celebration Chapel

**JUNE**

9-12	SD	Final examinations
12	SD	Predoctoral and Dental Hygiene Program Spring Quarter ends
	SD	Advanced Dental Education Programs didactic Spring Quarter ends
	SD	California Board Law and Ethics Examination
	U	Spring Quarter ends
13	AH, SN, PH, SR, ST	Focus on Graduates (Vesper service)
13-18	SD	Western Regional Board Examination
13	AH, SN, PH, SR, ST	Baccalaureate service
14	AH, PH, SN, SR, ST	Commencement ceremonies
16	SD	D1 comprehensive examination
	SD	D2 National Board qualifying examination
16-Jul 7	SD	Predoctoral and Dental Hygiene Program summer recess
17	SD	Instruction begins for didactic remediation session
18	U	Grades due from faculty
	SP	PY 1-3 end-of-year assessment
22-Aug 7	SN	Summer-only Ph.D.-degree Nursing Program
22	U	Summer Quarter begin date
29-Jul 3	SM	Junior orientation
30	SD	Advanced Dental Education Programs orientation Advanced Dental Education Program in Orthodontics term begins

<b>JULY</b>			
2	AH		Commencement exercises for Saudi Arabia Respiratory Care Program
4	U		Independence Day recess
7	SD		Instruction begins for DDS, Dental Hygiene, and IDP programs
7	SM		SM senior orientation
15	SD		Dental Hygiene Program National Board Examination
18	SD		D3 summer mock board
29	U		First 5-week summer session ends
30	U		Second 5-week summer session begins
<b>AUGUST</b>			
5	U		CHDMM 9 <sup>th</sup> Annual Summer Research Symposium
6-7	SM		Orientation (First Year)
6	SM		White-coat ceremony
7-8	SM		Freshman orientation
8	SM		Orientation (Second Year)
17	SP		PY 4 APPE begins
26	SD		UIC NBII mock board
<b>POST-SUMMER SESSIONS 2009</b>			
<b>SEPTEMBER</b>			
7	U		Labor Day recess
4	U		Summer Quarter ends
8	SM		Sophomore orientation
10	U		Grades due from faculty
11	SD		Advanced Dental Education Programs didactic Summer Quarter ends Advanced Dental Education Program in Orthodontics ends (second year only)
15-18	SD		Final examinations
19	SD		Predoctoral and Dental Hygiene Program Summer Quarter ends Advanced Dental Education Programs clinical Summer Quarter ends End of term for specific programs
24	U		Faculty colloquium
25-27	SM		Pine Springs Retreat
19-28	SD		Predoctoral and Dental Hygiene Program summer recess
<b>FALL QUARTER 2009</b>			
21-25	SP		PY 1 orientation
25-27	SM		Pine Springs Ranch retreat
26	SD		Advanced Dental Education Program in Endodontics ends (third year only)
28	U		Fall Quarter begins
<b>OCTOBER</b>			
6	U		Health and Faith Forum (formerly Bioethics and Wholeness Grand Rounds)
<b>NOVEMBER</b>			
4	U		Health and Faith Forum (formerly Bioethics and Wholeness Grand Rounds)
25-27	U		Thanksgiving recess
<b>DECEMBER</b>			
9	U		Health and Faith Forum (formerly Bioethics and Wholeness Grand Rounds)
18	U		Fall Quarter ends
19-Jan 3	U		Christmas recess

<b>2010</b>		
<b>JANUARY</b>		
4	U	Winter Quarter begins
13	U	Health and Faith Forum
18	U	Martin Luther King, Jr., Day
27	U	Health and Faith Forum
<b>FEBRUARY</b>		
10	U	Health and Faith Forum
12	SM	Family Day and Freshman Dedication Service
15	U	Presidents' Day
24	U	Health and Faith Forum
<b>MARCH</b>		
18	SM	Senior Match Day
19	U	Winter Quarter ends
20-28	U	Spring recess
29	U	Spring Quarter begins
<b>APRIL</b>		
7	U	Health and Faith Forum
28	U	Health and Faith Forum
<b>MAY</b>		
12	U	Health and Faith Forum
28	SP	Hooding ceremony
	SM	Consecration and Hooding Ceremony
29	SM,SP, SD	Baccalaureate services
30	SM, SP, SD	Commencement services
<b>JUNE</b>		
11	U	Spring Quarter ends
11	U	Focus on Graduates Vesper service
12	SAHP, SN, SST	Baccalaureate services
13	SAHP, SN, SST	Commencement services
21	U	Summer Quarter begins
<b>JULY</b>		
5	U	Independence Day recess
<b>AUGUST</b>		
<b>SEPTEMBER</b>		
3	U	Summer Quarter ends



# II

## ABOUT THE UNIVERSITY

### **University Vision and Mission**

### **University Philosophy**

### **Core Values**

### **Student Learning Outcomes**

### **University Mace, Coat of Arms, and Seal**

### **University Foundations**

- History
- A century of service

### **A Unique University**

- Seventh-day Adventist heritage
- Our unique features

### **Spiritual Life**

- Chapel services
- Religion classes

### **Learning Environment**

- University student mission-focused learning opportunities
- University libraries
- Learning resources

### **Admission Policies and Information**

- Personal qualities
- Application and admissions
- Transcripts
- Continuous enrollment
- Study deferral
- Re-entrance
- Pre-entrance examinations
- Transfer credit
- Health/Immunizations
- Combined degrees programs
- Admissions classifications
- Advisement
- International students
- English proficiency
- Pre-entrance examination results
- International evaluations
- Finance and employment

- Visas
- Transfer students
- Study load
- Employment for international students

### **Division of General Studies**

- General education requirements
- Loma Linda University philosophy of general education
- Loma Linda University criteria for general education courses
- Loma Linda University general education requirements

### **Student Life**

- From university to student
- Whole-person health
- Recreation/Wellness: The Drayson Center
- Student health service
- Loma Linda University Student health plan
- Malpractice coverage
- Disability insurance
- Counseling and health services
- Governing practices
- Academic authority
- Academic integrity
- Conduct
- Grievance procedure
- Copyright violations
- Communication devices

### **Academic Policies and Information**

- Registration
- Background checks
- Student level
- Course numbers
- Unit of credit
- Attendance
- CLEP
- Credit by examination
- Course waiver
- Independent study
- Correspondence course
- Extension study
- Scholastic standing
- Academic standing
- Veterans' benefits
- Privacy rights of students in academic records

Grade change  
Repeating a course  
Personal leave of absence  
Withdrawal  
Administrative withdrawal  
Facilitating the transfer of currently registered students  
Academic residence  
Catalog in effect for degree requirements  
Graduation  
Commencement exercises  
Diplomas

## **Financial Policies and Information**

Student fees  
General practices  
Deposits  
Housing  
International students  
Health service  
Student aid  
Veterans' benefits  
WICHE

# Vision—"Transforming Lives"

## 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.

*A Seventh-day Adventist health sciences institution*

## University Philosophy

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

God is the Creator and Sustainer of the universe.

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

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

"Wholeness means the lifelong, harmonious development of the physical, intellectual, emotional, relational, cultural and spiritual dimensions of a person's life, unified through a loving relationship with God and expressed in generous service to others."

*Quoted in "The Grace of Wholeness" by Gerald R. Winslow, Ph.D., SCOPE, Spring 1999. Also quoted as the adopted definition of wholeness in the Loma Linda University Wholeness Inventory.*



## Core Values

The University affirms these values as central to its view of education:

**COMPASSION**—The sympathetic willingness to be engaged with the needs and sufferings of others. Among the most memorable depictions of compassion in Scripture is the story of the Good Samaritan, which Loma Linda University has taken as a central symbol of its work.

**INTEGRITY**—The quality of living a unified life in which one's convictions are well-considered and match one's actions. Integrity encompasses honesty, authenticity, and trustworthiness.

**EXCELLENCE**—The commitment to exceed minimum standards and expectations.

**FREEDOM**—The competency and privilege to make informed and accountable choices and to respect the freedom of others. God has called us not to slavery but to freedom.

**JUSTICE**—The commitment to equality and to treat others fairly, renouncing all forms of unfair discrimination. The God of the Bible is One who calls people continually to justice. According to the prophets, religious faith could be genuine only when it led the believers to "seek justice, rescue the oppressed, defend the orphans, [and] plead for the widow."

**PURITY/SELF-CONTROL**—The commitment to be morally upright and moderate in all things, with complete control over one's emotions, desires, and actions.

**HUMILITY**—The willingness to serve others in a sacrificial manner, and the self-respect that renounces haughtiness or arrogance.



## Student Learning Outcomes

Loma Linda University's student learning outcomes are in the process of being implemented throughout all degree programs within the University. The Office of Assessment and Institutional Learning is working with programs to guide the assessment of these outcomes. All degree programs have articulated their learning outcomes, which will also reflect the University's value of educational effectiveness.

- Outcome 1** Students understand and apply the University philosophy of wholeness in their personal and professional lives.
- Outcome 2** Students understand the importance of integrating the University's Christ-centered values in their personal and professional lives.
- Outcome 3** Students demonstrate critical thinking.
- Outcome 4** Students develop a commitment to discovery and lifelong learning.
- Outcome 5** Students demonstrate effective communication skills in English.
- Outcome 6** Students demonstrate effective use of technology appropriate to the discipline.
- Outcome 7** Students understand the importance of embracing and serving a diverse world.
- Outcome 8** Students demonstrate the importance of collaborating with others within and across disciplines.

## University Mace, Coat of Arms, and Seal

Traditionally the ceremonial mace represents the authority vested in the highest officer of a governing body. In an educational institution, the authority symbolized by the mace derives from respect for the authority of knowledge and for the rights and value of the individual. Thus the leader of an academic community assumes the obligation and challenge to ensure for its members a climate conducive to growth in knowledge and grace.

The construction of the ceremonial mace of Loma Linda University evokes further ideas. Its two metals, bronze and aluminum, suggest the value of lessons both ancient and contemporary. Rather than lying prone, an instrument to be wielded, this mace stands upright in celebration of the human spirit. Its open construction implies free exposure to questions, ideas, and conflict. The eight vertical supporting elements (at three points bound together as for strength and stability in unity) uphold a graceful oval that points outward to the universe, the province of inquiry.

Within the oval, the University seal appears to float unfettered. The basic design of the coat of arms and the seal of Loma Linda University—established in 1905 as the College of Medical Evangelists—is a contemporary modification of the shield, a heraldic device.

Within the seal, the Christian cross—a universal symbol—acknowledges the role of Jesus Christ as Savior and Redeemer.

The lighted torch—part of our logo since 1959—suggests the illuminating power of knowledge and the central role of the Holy Spirit in teaching and healing. It also references the institution's call to serve as a light to the world.

The ancient staff of Aesculapius, long associated with medicine—and part of our logo since the 1920s—represents in the modern and broad sense the combined services of all the healing arts and sciences.

Across the base of the shield, the open book symbolizes the Word of God—the foundation of all truth, the source of the Christ-centered commission, the inspiration for all endeavor of humanity for humanity.

Framing the shield are, at the left, the branch of oak leaves and acorns, presented in ancient times to honor the civic contribution of one who had saved his brother-citizen's life; and, at the right, the laurel branch, presented to honor personal achievement. Shown together, the oak and laurel branches form a wreath—suggesting that the life-saving and life-enhancing work of the health sciences brings with it

an obligation to act honorably, courageously, and selflessly.

The emblems of the seal imply that one who has the privilege of learning also has the obligation of valor and honor. On the scroll below the shield is the motto—adopted in 1955 on the occasion of the fiftieth anniversary of this institution—"To Make Man Whole."



## University Foundations

### HISTORY

Loma Linda University is part of the Seventh-day Adventist system of higher education. In 1905, the University (formerly College of Medical Evangelists) was founded—through a series of divine providences—at Loma Linda, California, by the Seventh-day Adventist Church. The School of Nursing began in 1905. In 1909, the College of Medical Evangelists received its charter as a medical school with the express purpose of preparing physicians who could meet the needs of the whole person. Both schools emphasized the need for healthful living as a part of medical care, a revolutionary concept in 1905.

The University was designated by the Seventh-day Adventist Church as a center for educating health professionals. The original schools—Nursing and Medicine—have been joined by Allied Health Professions, Dentistry, Pharmacy, Public Health, Science and Technology, and Religion; and the Faculty of Graduate Studies. The curricula of the University are approved by their respective professional organizations. From its small beginnings, the University has achieved widespread recognition, having sent more of its graduates into international service than has any other university. It remains committed to the vision of its founders and is sustained by its close association with the church.

From 1918 to 1962, the University operated within health facilities in two cities: Loma Linda and Los Angeles. In September 1962, all health-professional education was consolidated at Loma Linda. In 1967, Loma Linda University Medical Center opened in its new three-tower facility—a landmark cloverleaf structure. The medical center continues on the cutting edge of health care, providing excellent service for patients and expanding educational opportunities for students.

In 1990, the Board of Trustees designated Loma Linda University a health-sciences university—part of a complex comprised of Loma Linda University Medical Center, faculty-practice plans, and affiliated institutions. The University is a leader in the field of health-sciences education, research, and service.

The most current campus census figures (April 2009) indicate that the core of the combined faculties consists of 1,299 full-time teachers. Part-time and voluntary teachers (1,423—largely clinicians in the professional curricula) bring the total to 2,722. As of Spring Quarter 2009, 742 students from 112 countries outside the United States are represented in the enrollment of 4,114.



## A CENTURY OF SERVICE

Today the original 1905 property is part of an expanding health sciences campus, which includes:

- five medical facilities, licensed for approximately 940 beds—
  - Loma Linda University Medical Center (LLUMC), 1966;
  - Loma Linda University Children's Hospital (LLUCH), 1993;
  - Loma Linda University Medical Center East Campus Hospital (LLUECH), 2003; licensed under LLUMC as Loma Linda University Community Medical Center (LLUCMC), 1993—formerly known as Loma Linda Community Hospital;
  - Loma Linda University Heart & Surgical Hospital (LLUSHS), 2009;
  - an acute psychiatric care facility, licensed in 1991 for 89 beds—the Loma Linda University Behavioral Medicine Center (LLUBMC)
- nine Loma Linda University Adventist Health Sciences Center (LLUAHSC) institutes, three LLUAHSC-related research centers, and various school-related research centers (see Learning Resources);
- and Loma Linda University (on-campus, distance-education, and online-degree programs through the Schools of Allied Health Professions, Dentistry, Medicine, Nursing, Pharmacy, Public Health, and Religion; and the Faculty of Graduate Studies.

- 1905 School of Nursing
- 1909 School of Medicine, renamed the College of Medical Evangelists (CME)
- 1922 Department of Dietetics
- 1937 School of Medical Technology\*
- 1941 School of Physical Therapy\*
- 1945 Radiologic Technology Program\*
- 1948 School of Tropical and Preventive Medicine (reorganized as School of Public Health, 1964)
- 1953 School of Dentistry
- 1954 Graduate School (restructured as Faculty of Graduate Studies, 2005)
- 1958 Dental Hygiene Program
- 1959 Occupational Therapy Program\*
- 1963 Medical Records Administration Program\*
- 1966 Schools/Programs (see \* above) consolidated as the School of Allied Health Professions
- 1967 Loma Linda University campus merges with La Sierra College
- 1968 Loma Linda University Medical Center dedicated
- 1990 Loma Linda and La Sierra campuses become two separate universities
- 1991 Loma Linda University designated a health-sciences university
- 1997 Loma Linda University and Medical Center (corporately linked together through Loma Linda University Adventist Health Sciences Center—LLUAHSC)
- 2002 School of Pharmacy
- 2003 School of Science and Technology
- 2007 School of Religion

## A Unique University

Loma Linda University has always combined a devotion to academic excellence with a concern for spiritual values and a high sense of mission. The motto of the University, "To make man whole," illustrates the sense of destiny felt in the University community to act its part in God's ongoing plan for healing and restoring human beings to live with Him in wholeness, both now and in eternity.

While Loma Linda University has changed in many ways since its beginning in 1905, the biblical principles that provide its foundation have remained unchanged.

### SEVENTH-DAY ADVENTIST HERITAGE



Loma Linda University is owned and operated by the Seventh-day Adventist Church and has deep commitment to respecting the rich diversity of its student body. Students come from many different faiths, and respect and sensitivity for all people—regardless of their culture and ethnicity—are viewed as a part of true Christianity. This University has a tradition of religious liberty, and it highly respects students' religious values that differ from those of this academic community. The various perspectives of spiritually committed students are considered to be enriching to this campus and its' educational environment.

### OUR UNIQUE FEATURES

Two distinctive features of the Seventh-day Adventist Church, which are a part of the Loma Linda experience, become evident to first-time students. The first is the concept of the Sabbath rest, which reminds us of God as Creator. Adventists realize this in part by celebrating Saturday as the Sabbath from sundown Friday to sundown Saturday. During these hours, University offices, laboratories, libraries, study halls, and recreation facilities are closed to give time for physical and spiritual renewal and worship.

A second distinctive feature worth noting is the emphasis on health and wellness. Students will be able to exercise in our recreation and wellness center, a health-and-fitness complex that received a national award for excellence in utility and design. The cafeterias on campus feature well-prepared vegetarian meals. Note also that the University holds that a drug-, alcohol-, and tobacco-free lifestyle is essential for achieving the goal of "wholeness." This means that all students agree to refrain from the use of tobacco, alcohol, and other "recreational" drugs while enrolled at the University.

## Spiritual Life

Worship experiences represent a critical dimension of the educational experience at Loma Linda University and are available to the student many times throughout the week. In addition to regular Friday evening and Saturday services, many class, school, club, and University activities include a component of worship and praise to God.

### CHAPEL SERVICES

In keeping with the commitment of our mission, Loma Linda University students have special requirements, such as chapel service attendance each Wednesday morning in the University Church. The chapel programs provide a variety of opportunities to integrate faith and learning. Undergraduates who live in the residence halls are also expected to attend worships in the residence halls each week.

### RELIGION CLASSES

Classes in religion are part of the core curriculum in each of the University's schools and programs. These classes deal with the study of the Bible, ethics, clinical ministry (which concentrates on ways to understand and meet the spiritual needs of patients in a manner that is noninvasive and individually appropriate), and a variety of other issues related to the student's field of study and personal spiritual journey.

All students who choose Loma Linda as their university make a commitment to conduct their lives in a manner that reflects their sense of responsibility for the honor and integrity of the University and themselves as members of its community.

## Learning Environment

Loma Linda University is dedicated to creating a learning environment that promotes the lifelong pursuit of knowledge, wisdom, and skills used for selfless service to mankind. Through intentional educational strategies, Loma Linda University interweaves its vision, mission, and core values with its student learning outcomes. The University's mission of wholeness gives focus to the learning environment that balances mind, body, and spirit (psycho-social-physical-spiritual) and gives meaning to the motto of mission-focused learning. In this health care institution, critical and analytical thinking skills in the health, behavioral, and natural sciences are blended with a commitment to spiritual and moral development.



Loma Linda University pledges to students, staff, faculty, alumni, and the local and global communities its commitment to upholding integrity, valuing diversity, engaging with the community in service-learning scholarship, and honoring the process of ongoing self-assessment for the purpose of continuous quality improvement. The University and each of its schools, programs, and classes provide clearly defined student learning outcomes and measurable performance indicators to create a learning atmosphere that is clear and focused.

The University is engaged in systematic academic program review. Curricular maps are maintained for each program to assure alignment between student learning outcomes and planned academic activities. Program review follows carefully developed schedules as outlined in school-specific assessment matrices.

Loma Linda University is committed to using assessment data to guide academic and fiscal master planning for the University.

The total resources of the University offer a wealth of opportunity to the student with initiative and willingness to develop individual capacity to the fullest extent. The academic resources, affiliated clinical facilities, and community agencies constitute a

rich educational environment both in classroom instruction and in guided experience. Major facilities utilized for clinical affiliations and internships include the University Medical Center; the Jerry L. Pettis Memorial Veterans Medical Center; and numerous other hospitals and agencies located in the Redlands, San Bernardino, Riverside, and Los Angeles areas, as well as throughout the United States and abroad. In addition, students find varied opportunities for service and learning in the immediate University community, in clinical and research electives, and in diverse volunteer programs.

### UNIVERSITY STUDENT MISSION-FOCUSED LEARNING OPPORTUNITIES

#### Students for International Mission Service (SIMS)

Students for International Mission Service (SIMS)—a Loma Linda University program housed in the Global Health Institute—exemplifies the University's commitment to global service by incorporating international service opportunities into academic curriculums in order to prepare health professions students for a career of effective global service and to promote the health of global communities. SIMS' mission is to provide Loma Linda University students with high-quality service-learning opportunities that empower them to become caring, competent, and socially responsible health professionals who value service as a lifelong process. SIMS provides short- and long-term global service opportunities to students, from weekend trips to Mexico to month-long placements in mission hospitals abroad. For more information about SIMS, call 909/558-8089 or visit the SIMS Web site at [www.llu.edu/central/sims/index.page](http://www.llu.edu/central/sims/index.page).

#### SAC Health System (SACHS)

A 42,000-square-foot clinic located just three miles from campus at the former Norton Air Force Base serves as the hub for activities of the SAC Health System (SACHS). The SAC Health System provides low-cost health care to persons who have limited or no access to medical care in the traditional system. Satellite clinics serve populations at several locations. The clinics are staffed by a wide variety of health care professionals and provide an ideal setting for interdisciplinary training in today's changing health care climate. Student involvement includes developing nutrition and health-education programs; creating questionnaires for data collection; writing proposals for funding; and actual hands-on experience at the clinic, i.e., obtaining patient histories, assessing psychosocial problems, analyzing laboratory specimens, and providing nutrition and health-education counseling. For additional information, call 909/382-7100 or visit the SACHS Web site at [www.llu.edu/central/sachs/index.page](http://www.llu.edu/central/sachs/index.page).

#### Community-Academic Partners in Service (CAPS)

The mission of Community-Academic Partners in Service (CAPS) is to develop reciprocal and sustainable relationships between Loma Linda University students, faculty, and staff, and the local

community. Its vision is to put into practice Christ's mission of love and compassion through meaningful community engagement. The CAPS office is committed to raising awareness about existing local community-engagement activities being conducted through our schools and to connect students/faculty to these opportunities. It also serves to create and strengthen partnerships between Loma Linda University and the local community.

### UNIVERSITY LIBRARIES

#### Major library resources

Specialized libraries are located in various medical and school departments and in other entities on campus. Additionally, the following four major library resources on campus support the University's academic programs:

- the Del E. Webb Memorial Library,
- the Jesse Medical Library and Information Center,
- the Rehabilitation Library (East Campus), and
- the Veterans Administration Library Services.

#### The central library



The historical roots of the Del E. Webb Memorial Library, the central library of Loma Linda University, 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. In 1981, construction of a new library was funded by a Del E. Webb Foundation grant that increased the total floor space of the library to 87,670 square feet. This structure currently 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 2008, the Library had a total collection of 396,381 books and bound journals; 233,610 print and electronic books; and 112,564 current print and electronic journal titles.

For more detailed information consult <http://www.llu.edu/library/about/librarystats.page>.

**Library mission**

The mission of the Del E. Webb Memorial 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, and access to the Internet. The Library also provides online databases, some with full text; end-user training programs; interlibrary loans; photocopy and pull services; a computer laboratory; class-integrated, library-instruction programs; and services that support distance education and University outreach programs.

**Access to resources**

The Del E. Webb Memorial Library's catalog provides integrated access to all campus library collections. In addition to the collections of the Del E. Webb Memorial Library and of the Jesse Medical Library, there are Nursing Skills Lab, bioethics, East Campus, nutrition, occupational therapy, and Geoscience Research Center collections. The catalog also provides access to the combined collections of some thirty-nine libraries through Link Plus, a book-request service and union catalog of more than 8 million records. The Library's Web site provides access to all electronic journals, books, and databases.

The Library participates in national and regional networks—such as 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 Library belongs to this region and is the designated medical-resource library for San Bernardino and Riverside counties. Local library cooperatives include the Inland Empire Academic Library Cooperative (IEALC) and San Bernardino, Inyo, Riverside Counties United Library Services (SIRCULS). Membership in these cooperatives gives Loma Linda University 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. It includes print materials; rare books; theses; dissertations; microforms; sound recordings; several thousand photographs; and archival materials, including papers of various denominational and University officials, as well as the congressional papers of the Honorable Jerry and Shirley Pettis. Searchable digitized indexes for various document files are also available via the Library's Web site.

For additional information about school- or program-specific libraries/computer and research centers/learning resources, see the desired schools and programs in Section III of this CATALOG.

**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 variant editions of her works is available on the Library's Web site.

**LEARNING RESOURCES**

On the campus, many learning resources for the student offer various opportunities for academic study and research. Each school center is listed with its most closely affiliated school.

**LLUAHSC (Loma Linda University Adventist Health Sciences Center) institutes**

- Loma Linda International Heart Institute
- Cancer Center (Institute)
- Transplantation Institute
- Rehabilitation, Orthopaedics and Neurosurgery Institute
- Behavioral Health Institute
- Global Health Institute
- Institute for Community Partnerships
- Lifestyle Medicine Institute
- Perinatal Institute

**LLUAHSC centers**

- Center for Christian Bioethics
- Center for Spiritual Life and Wholeness
- James M. Slater, M.D., Proton Treatment and Research Center

**LLU school centers**

- Center for Dental Research (School of Dentistry)
- Center for Health Promotion (School of Public Health)
- Center for Health Research (School of Public Health)
- Center for Health Disparities and Molecular Medicine (School of Medicine)
- Center for Perinatal Biology (School of Medicine)
- Joint Replacement Center (School of Medicine)

# Admission Policies and Information

## PERSONAL QUALITIES

Loma Linda University was established to provide professional health education in a distinctively Christian environment that prepares well-qualified, dedicated Christian health-science professionals who are committed to fulfilling the mission of this University to serve humanity. Students at Loma Linda University are expected to uphold the Christian ethical and moral standards of this Seventh-day Adventist Church-related institution while on and off campus.

The University's emphasis on health and the health professions, as well as the practices of the supporting church, preclude admission of applicants who use tobacco, alcoholic beverages, or narcotics. The rights of the individual are recognized and respected; however, any conduct that is contrary to the principles governing a healthful and moral lifestyle is not acceptable for a Loma Linda University student. The prospective student has the freedom to accept or reject these principles and practices. However, once application is made to this University, it is assumed that the applicant has chosen to abide by them.

In selecting students for entrance to programs in the schools, the admissions committees look for evidence of personal integrity, academic achievement, healthy lifestyle, self-discipline, and self-direction. An applicant accepted to a school must possess capabilities to complete the full curriculum in the allotted time at the levels of competence required.

While preference is given to Seventh-day Adventist Church members, anyone interested in studying at Loma Linda University and willing to live by the institution's standards is encouraged to apply.

Some programs require an interview with the faculty. Acceptance of an applicant into any curriculum is contingent on the recommendation of the department conducting the program.

## APPLICATION AND ADMISSIONS

### Where to apply

It is important to know the specifics of the application process and to begin this process well in advance of the date of anticipated or desired entrance. Degree and program information and requirements can be found online at <[www.llu.edu](http://www.llu.edu)>. Application to a degree or certificate program is to be submitted online at <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)>. Exception: Some Loma Linda University programs use external application services, as noted on the Web page.

### Where to email, call, or write

For information about Loma Linda University:

Email <[ask@llu.edu](mailto:ask@llu.edu)> or to the school of choice, using the address listed on <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)>.

Telephone inquiries may be made at 800/422-4LLU. Dialing from Canada, please call 800/578-7114.

Correspondence regarding application and admission should be addressed to—

Office of Admissions  
(School of choice)  
Loma Linda University  
Loma Linda, CA 92350

### Procedure

The applicant should complete the following application requirements:

- Complete and submit the application forms online at <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)>, accompanied by the nonrefundable application fee. Some programs use external application services, as listed.
- Request letters of recommendation.
- Request that official transcripts of all postsecondary course work be sent directly to the Office of University Admissions. High school transcripts are required for application to undergraduate programs.
- Take the appropriate admissions tests, as noted in the school and program sections of this CATALOG, and request that the results be sent to the Office of University Admissions.

### Application-review process

All completed applications are reviewed by the appropriate admissions committee, which makes the final decision regarding acceptance.

### Acceptance

Upon receipt of the notice of acceptance, the applicant is expected to send a letter to confirm acceptance, along with the required nonrefundable deposit. This deposit is deducted from the tuition and fees due at the initial registration.

### Applicant's records

The application and all supporting records and documents become the property of the University.

## TRANSCRIPTS

### Incoming

Applicants not applying through an external application service must provide official transcripts of all postsecondary education prior to offers of admission. However, international applicants (non-



U.S. citizens and non-U.S. permanent residents) must meet all admission requirements for the chosen program before an offer of acceptance can be issued, whether or not the program uses an external application service. Official final transcripts documenting completion of all course work taken between the time of application and matriculation must be received within the first quarter of enrollment. Applicants expecting an associate's degree to be awarded before matriculation at Loma Linda University must provide documentation (e.g., letter from registrar, school dean, or designee) showing expected degree completion. Otherwise, a high school transcript will be required for acceptance. Applicants to programs that require a bachelor's degree must submit documentation (e.g., letter from registrar, school dean, or designee) of completion of bachelor's degree prior to matriculation. Subsequent enrollment is contingent upon the previous submission of all official final transcripts. Applicants are required to furnish evidence (transcripts, GED, CHSPE, or equivalent) of completion of high school in order to be granted admission to undergraduate programs of the University. The final transcript must include the date of graduation. Students who hold an associate degree from a regionally accredited college/university upon admission do not need to furnish a high school transcript, unless required to validate specific course work. The University accepts only official transcripts sent directly to Loma Linda University from the college, university, or high school issuing it. Transcripts submitted by the student are not considered official.

Applicants who have attended international schools are required to submit official transcripts (mark sheets) in the original language, which convey the grade and credits earned in each subject; and an English translation of their transcripts, if not already in English. In accordance with the United States immigration regulations, international applicants can be evaluated on the basis of a previewed unofficial copy of their transcripts, on the condition that the University receives official transcripts before the admission is finalized. Applicants to programs that require a bachelor's degree must submit documentation of completion of a bachelor's degree prior to matriculation.

Official education transcripts (or mark sheets), degrees earned from international institutions, or professional credentials must be sent to an evaluation center approved by Loma Linda University. The center reports the evaluation results directly to the Office of University Admissions.

Transcripts and evaluation results received by the University become the property of the University and will not be released to the student or forwarded to any other institution.

### **Outgoing**

The University provides transcripts to other institutions or to the student or graduate only upon written request of the student or graduate.

The University reserves the right to withhold all information concerning the record of any student who is in arrears in the payment of accounts or other charges, including student loans. No transcripts will be issued until all of the student's financial obligations to the University as defined in this CATALOG have been met.

### **CONTINUOUS ENROLLMENT**

A student who has not enrolled for any classes, or paid the continuous registration fee for courses still in progress from a previous term, will be inactivated at the beginning of the second quarter of nonenrollment, unless s/he is on an approved leave of absence (maximum of four academic quarters, including Summer Quarter). (Example: A student who enrolled for Autumn Quarter, but who does not enroll for Winter Quarter, will be inactivated at the close of registration [two weeks into the quarter] for the subsequent Spring Quarter).

Inactivated or formally withdrawn students who wish to return to complete their degree program are required to reapply with sufficient time for adequate review of any new transcript credits and advisement of any new program requirements.

The reapplication process also requires the submission of official transcripts from all colleges/universities attended since the student last attended this University. Official transcripts from colleges/universities the student attended while enrolled at this University must also be submitted if they were not submitted prior to inactivation.

Students who reapply to a program are subject to the program requirements published in the Catalog in effect at the time of re-entry. All graduates are expected to have documented current knowledge in their field of study as of the date of graduation (date on diploma).

Leave-of-absence status does not extend the student's five-year (master's) or seven-year (doctoral) time limit for completion of a degree program. If the re-applicant is within a year of his/her time limit at the time of reapplication, or if the time limit has expired and the re-applicant is requesting re-admission and a time extension, then s/he must submit a quarter-by-quarter plan for meeting all degree requirements. The re-admission request will be evaluated with the degree-completion time extension.

### **STUDY DEFERRAL**

Applicants are accepted for a specified entering date. If the applicant does not enter the program at the time stated for admission, the application will become

inactive unless the school receives a written request to hold the application. Not all programs permit an applicant to defer an application; however, for those programs for which this is permitted, an application may not be deferred for more than one year. After one year, a new application must be submitted. Accepted applicants who wish to reactivate their acceptance at a later date must apply to the school for reactivation. Previous acceptance does not guarantee acceptance at a later time. Individuals must meet admission and graduation requirements that are in effect for the school year during which they first register.

## RE-ENTRANCE

See Continuous Enrollment policy in this section of the CATALOG.

## PRE-ENTRANCE EXAMINATIONS

Official pre-entrance examination results, as required by each program, should be sent to the Office of University Admissions, except for the following programs:

- Applicants to the School of Medicine are required to take the Medical College Admission Test (MCAT) and have scores sent to the school's Office of Admissions through an application submitted to the American Medical College Admissions Service (AMCAS);
- Applicants to the School of Dentistry are required to take the Dental Admission Test (DAT) and have scores sent directly to the school's Office of Admissions.

## TRANSFER CREDIT

Applicants must file with the Office of University Admissions complete records of all studies taken on the college/university levels. Transfer credit is defined as credit completed at another U.S.A. college or university accredited by a regional association, or credit earned at an institution accredited by the Seventh-day Adventist educational system, or credit earned at an international institution recognized by its government. The University reserves the right to require an applicant to satisfactorily complete written and/or practical examinations in any course for which transfer credit is requested. Remedial, high school-level courses, and courses identified by the transfer institution's catalog as not applicable toward a baccalaureate degree are not accepted for transfer into an undergraduate program. Graduate transfer courses must be equivalent to courses appropriate to degree requirements.

### Junior colleges

A maximum total of 70 semester units or 105 quarter units of credit will be accepted from regionally accredited junior colleges. Subject and unit

requirements for admission to the respective programs are outlined in Section III.

### International

Credits submitted from a college outside the United States are evaluated on an individual basis by an evaluation center approved by Loma Linda University, which reports the evaluation results directly to the Office of University Admissions. It is the applicant's responsibility to contact an approved evaluation service and supply the required documents for evaluation.

### Professional schools

Credits earned in a professional school are accepted only from a school recognized by its regional or national accrediting association and only for a course that is essentially the equivalent of what is offered at this University or is substantially relevant to the curriculum.

### Military schools

Credit for studies taken at a military service school is granted to veterans according to recommendations in the *Guide of the American Council on Education*.

### Correspondence/distance course work

Course work taken at a regionally accredited school is ordinarily accepted. Home Study International, Silver Spring, Maryland, is the officially affiliated correspondence school for Loma Linda University.

## HEALTH/IMMUNIZATIONS

### Pre-entrance health requirements/immunizations

It is expected that necessary routine dental and medical care and elective surgery will have been attended to before the student registers.

New students are required to have certain immunizations and tests before registration. Forms for a student's personal physician to use in documenting the completion of immunization requirements are provided on the New-Student Portal. In order to avoid having a hold placed on the registration, the student is encouraged to return the documentation forms to Student Health Service no later than three weeks prior to the beginning of registration. The student must give evidence in the form of physician records or University health-service records for the items listed below before registration for the first academic quarter.

NOTE: Charges for immunizations and tests completed at Student Health Service will be billed to the student's account.

- Two MMRs—measles (rubeola), mumps, rubella (German measles)
- Immunizations must be current after 1980.
- PPD (TB) skin result or x-ray report

- If a returning student is assigned to a clinical facility that requires a tuberculosis skin test, then the student is required to have the test within the six months before the assignment begins. For School of Dentistry applicants only, this test must be repeated at least yearly while a student, and more frequently if required for placement at a clinical agency site.
- Tetanus/Diphtheria booster
- Booster must be current within ten years.
- Varicella (chicken pox) blood test and/or immunization
- If no known history of chicken pox, student will need to provide proof of a positive titer or of a completed series of two vaccinations.
- Hepatitis-B vaccination series
- Students who have had hepatitis-B in the past should employ extra protection when involved in direct patient care and may request a modified curriculum, if necessary. This series of three vaccinations may be completed at this University even if it was begun elsewhere.

For further information, consult the *Student Handbook*, University Policies: Communicable disease transmission-prevention policy; and the Student Health Service office, extension 88770.

### COMBINED DEGREES PROGRAMS

Information regarding combined degrees programs, their curricula, pre-entry requirements, distribution of instruction, graduation requirements, finances, etc., may be obtained from the schools and program directors responsible for the programs. See Section III of this CATALOG for combined-degrees program options.

### BACKGROUND CHECK

After students are accepted, they will receive a link on their New-Student Portal that will allow them to get a University-specific background check. Other background checks will not be accepted.

### ADMISSIONS CLASSIFICATIONS

Applicants are admitted under one of the following classifications and must be approved for acceptance by the department(s) in which they propose to do their major concentration. Acceptance into a specific program is required before any credit earned can be applied to a degree or certificate.

#### Regular

Regular status is given to a student who has met all entrance requirements and is registered for a standard

course of study leading toward a degree or certificate in one of the schools of the University.

#### Provisional

Provisional status may be given to a student who has been accepted for admission but has not yet received regular status, either because of qualitative or quantitative deficiencies in the academic record.

#### Nondegree

Nondegree status may be granted to a student who has not been admitted to a degree or certificate program but who is registered for selected courses in one of the schools of the University. Nondegree students are limited to a total of 12 units cumulative of courses that are applicable to a degree program at this University.

#### Continuing education (CE)

Continuing-education status is given to a student who is registered for a continuing-education course earning continuing-education units (CEUs).

### ADVISEMENT

Upon admission into a degree program, each student is assigned an academic advisor—a faculty member in the student's major department who serves as the student's first line of communication in addressing professional and personal successes and potential challenges.

Faculty advisors are prepared to discuss career opportunities, academic policies, academic problems, curriculum, and personal circumstances.

It is the student's responsibility to consult with his/her advisor in planning the program of study. Thereafter, advisees should schedule counseling sessions with their advisors to monitor progress and assure completion of degree requirements. When questions arise relating to curriculum or policy requirements, students should always refer first to the CATALOG and their own program curriculum outline. Next, they may seek counsel from their academic advisor. Questions arising after discussion with the advisor should be referred to the department chair or the academic dean.

Orientation and advisement sessions are scheduled for all new students. These sessions provide general guidance regarding student services, health care, library resources, safety and security, registration procedures, and academic policy.

### INTERNATIONAL STUDENTS

International applicants (non-U.S. citizens and non-U.S. permanent residents) must meet all admissions requirements for the chosen program before an offer of acceptance can be issued. This includes providing evidence of their ability to meet estimated living expenses and all financial obligations to the University that will occur during their program.

After acceptance into the chosen program, the office of International Student and Scholar Services will contact international applicants and guide them through the appropriate procedures. For questions, please contact International Student and Scholar Services at 909/558-4955.

### English proficiency

Regardless of nationality or citizenship, an applicant whose native language is not English or whose secondary education has been given outside the U.S. is required to pass an approved test of English proficiency. Additionally, any applicant whose English competency is uncertain in regards to their professional success at Loma Linda University may be required to pass a test of English proficiency. The minimum required score for IELTS is 6.5. The minimum required score on MELAB is 77. A minimum TOEFL score of 550 (paper-based) / 213 (computer-based) / 80 (Internet-based) is required. A Test of Spoken English (TSE) with a minimum score of 55 is required only for M.P.A., entry-level M.P.T., and D.P.T. degrees. TOEFL scores are valid for two years from the test date. If it has been more than two years since the examinee last took TOEFL, the test must be taken again to have the scores reported. Visit the TOEFL Web site at <[www.ets.org/toefl](http://www.ets.org/toefl)> for the most up-to-date information and examination registration.

### Pre-entrance examination results

All official pre-entrance test scores (e.g., TOEFL, GRE) as required by each program must be sent directly to the Office of University Admissions by the testing organization.

### International evaluations

All international (non-U.S.) transcripts, including high school, must be submitted to one of the LLU-approved evaluation services. See <[www.llu.edu/central/apply/intltrans.page](http://www.llu.edu/central/apply/intltrans.page)> for a list of the approved companies.

### Finances and employment

United States immigration regulations and Loma Linda University require that international students must be prepared to provide an advance deposit and must provide documentation that additional funds will be forthcoming to meet school expenses. The deposit will be held by the University during the program of study and will be applied to the last quarter's tuition charge. Alternatively, the deposit may be refunded, less any outstanding balance on the account, if the student is denied a visa or terminates his/her program.

Scholarships and assistantships for international students are scarce. Contact your program for availability and application information.

International students must obtain written authorization from International Student and Scholar Services before accepting any on-campus employment. Off-campus employment requires prior

issue of a work permit by the U.S. Citizenship and Immigration Services. F- and J-visa students must limit their employment to twenty hours or less per week while registered for courses and while classes are in session during three of four quarters in an academic year. Regulations allow full-time work (forty hours or less per week) during school breaks and summer vacations (if students' programs allow summer quarters off). For questions, please telephone International Student and Scholar Services at 909/558-4955.

## VISAS

### F-1 student visas

Loma Linda University is authorized by the United States Department of Homeland Security to issue F-1 visa applications (i.e., I-20 forms). The F-1 student visa is the visa of choice for most international students coming to Loma Linda University. This visa allows some nondegree study (e.g., certificates, preceptorships, and English-as-a-second-language studies). Degree-earning students are subject to study-load requirements and are allowed limited on-campus employment.

The I-20 is issued after a student:

1. has been accepted into a program and all official transcripts (mark sheets) have been received by the University,
2. has paid the advance deposit, and
3. has documented his/her financial plan for the chosen program.

International Student and Scholar Services can be contacted at 909/558-4955 for further information regarding F-1 student visas and the regulations governing this visa.

### J-visa exchange program

Loma Linda University has an Exchange Visitor Program that is approved by the U.S. Department of State. This J-visa exchange program is authorized to sponsor/host degree-earning students, nondegree (continuing education) students, short-term scholars, visiting professors, and research scholars. The J-visa form, DS-2019, is issued after an exchange visitor has been accepted into a program, scholar position, or professor position; and has documented his/her financial plan (including health insurance for J-1 and J-2 dependents).

Loma Linda University also hosts exchange visitors who are sponsored by other organizations (e.g., Fulbright scholars). As a hosting institution, Loma Linda University has limited authority over an exchange visitor since the authority resides in the sponsoring organization.

Under current exchange visitor regulations, J-2 dependents are allowed to enroll part or full time at

Loma Linda University. Also, their credits earned can be either degree or nondegree applicable.

J-1 exchange visitors are allowed to work; but employment guidelines differ, depending on the exchange category. Contact International Student and Scholar Services at 909/558-4955 for further information and regulations governing the Exchange Visitor Program.

#### **Other visas**

Internationals may enter the U.S. on a wide variety of visas. However, a visa may have to be changed before a student can commence academic studies at this University. For further information regarding regulations and study options for specific visa types, contact International Student and Scholar Services at 909/558-4955.

#### **Study load**

Both the F- and J-student-visa regulations require the successful completion of a full study load during each quarter of each academic year (as defined by each program). A minimum of 12 units per quarter is usually considered full time for an undergraduate program; 8 units per quarter is considered full time for a graduate program. In any quarter in which there will be a reduced study load, prior approval is needed from an international student adviser in International Student and Scholar Services.

#### **Transfer students**

International students currently attending other schools in the United States who have either an I-20 or a DS-2019 and who wish to attend Loma Linda University must do a school-to-school transfer. The timing of a transfer is critical in order to maintain visa status; therefore, it is important to consult with an international adviser at each school as soon as the acceptance letter is received.

#### **Study load**

Both the F- and J-student-visa regulations require the successful completion of a full study load during each quarter of every academic year (as defined by each program). A minimum of 12 units per quarter is usually considered full time for an undergraduate program; 8 units per quarter is considered full time for a graduate program. In any quarter in which there will be a reduced study load, prior approval is needed from an international student advisor in International Student and Scholar Services.

#### **Employment for international students**

International students must obtain written authorization from International Student and Scholar Services before accepting any on-campus employment. Off-campus employment requires prior issue of a work permit by the U.S. Citizenship and Immigration Services. F- and J-visa students must limit their employment to twenty hours or less per week while registered for courses and while classes are in session during three of four quarters in an academic year. Regulations allow full-time work

(forty hours or less per week) during school breaks and summer vacations (if students' programs allow summer quarters off). For questions, please telephone International Student and Scholar Services at 909/558-4955.

# Division of General Studies

## GENERAL EDUCATION REQUIREMENTS

The Division of General Studies offers general education courses that contribute to the fulfillment of requirements that apply to the Bachelor of Science degree programs in 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.

## LOMA LINDA UNIVERSITY CRITERIA FOR GENERAL EDUCATION COURSES

- The course assists the health-sciences student in cultivating abilities in one or more of the preceding ten aspects described in the Loma Linda University philosophy of general education for baccalaureate degrees.
- The primary focus of the course contributes to the relevant knowledge and understanding of a subject area within one of the following domains described in the Loma Linda University general education requirements for baccalaureate degrees.
- The course is based on appropriate prerequisites, particularly when offered at the upper-division level.

- The course is open to all baccalaureate degree students of Loma Linda University for general education credit.
- 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 baccalaureate degree.

## LOMA LINDA UNIVERSITY GENERAL EDUCATION REQUIREMENTS (68 QUARTER UNITS)

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 units of general education, which are integrated into the entire undergraduate program. Requirements are organized into five domains, as outlined in the following:

### DOMAIN 1: RELIGION AND HUMANITIES (28-32 QUARTER UNITS)

**The study of religion** must include an average of 4 units of religion course work for every 48 quarter units earned while attending a Seventh-day Adventist college or university. For students who did not earn all their credit at a Seventh-day Adventist college or university, the required religion units will be prorated based on the number of credits earned at a Seventh-day Adventist college or university (i.e., one unit for every 12 units taken at a Seventh-day Adventist institution). All students earning a bachelor's degree, including those who have met the preceding requirements, must take at least one course in religion from Loma Linda University (see following paragraph). All required credits in religion must be earned from a Seventh-day Adventist institution, but it is strongly recommended that students at other institutions include some religion as part of the overall requirement for Domain 1.\*

One religion course dealing with the spiritual heritage of the philosophy and mission of Loma Linda University is required of all graduates and must be taken from Loma Linda University. Courses that fulfill this requirement are: RELT 406 Adventist Beliefs and Life, RELT 423 Loma Linda Perspectives, RELT 436 Adventist Heritage and Health, or RELT 437 Current Issues in Adventism.

Students whose required units in religion from a Seventh-day Adventist institution have been prorated (reduced) are encouraged to make up the additional units in Domain 1 (28 quarter units) with further religion courses and/or additional units in humanities from Loma Linda University.

**The study of humanities** must include a minimum of 12 units. The credits in humanities must be selected from at least three of the following areas:

civilization/history, fine arts, literature, modern language, performing/visual arts (not to exceed 4 quarter units), or philosophy.

\* Religion courses taken at non Seventh-day Adventist institutions will be credited as a philosophy in the humanities area of Domain 1.

All religion courses, applied or nonapplied, will be credited in the religion area if taken at a Seventh-day Adventist institution or as a philosophy in the humanities area if taken at a non Seventh-day Adventist institution.

Students who have taken religion courses at other Seventh-day Adventist institutions will retain full credit, even if there is overlap of content with a religion course taken on the campus of Loma Linda University.

### DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS (24-32 QUARTER UNITS)

Scientific inquiry and analysis encompass both the natural and social sciences. The study of natural sciences must include a minimum of 12 units. The units in natural sciences must be selected from two of the following content areas: biology, chemistry, geology, mathematics, physics, and statistics.

The study of social sciences must include a minimum of 12 units. One course (or components integrated into several courses) dealing specifically with issues of human diversity is required. The remaining units in the social sciences must be selected from the following content areas: anthropology, economics, geography, political sciences, psychology, and sociology.

### DOMAIN 3: COMMUNICATION (9-13 QUARTER UNITS)

Course work in communication must include a complete sequence in English composition that meets the baccalaureate degree requirements of a four-year college or university. (For samples of English composition requirements, see end of this section.) 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 UNITS)

To encourage the pursuit of lifelong leisure activities and wellness, the study of health and wellness must include at least two separate physical activity courses totaling a minimum of 1 quarter unit, and one course in personal health or nutrition. Additional units 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 units.

**LOMA LINDA UNIVERSITY GENERAL  
EDUCATION COURSES OFFERED  
AT LOMA LINDA UNIVERSITY**

General education courses offered by the schools  
are listed below in Domains 1-4.

**DOMAIN 1: RELIGION and HUMANITIES  
(28-32 quarter units)**

**HUMANITIES****ARTA 205 The Language of Art (2-4)**

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

**CHIN 105 Chinese Civilization (4)**

Introduces and discusses important aspects of Chinese civilization: language, literature, history, geography, culture, economics, philosophies, and religions; as well as modern-day politics. Surveys the Mandarin Chinese language, focusing on basic pronunciation, grammar, traditional and simplified written characters, and sentence construction. Communication in everyday life, e.g., in restaurants, on public transportation, in health care encounters. Includes interactive learning, role play, media, music, and cultural presentations to enhance understanding and synthesize learning. Provides basic skills and understanding necessary for further Chinese studies and research.

**CHIN 106 China Today—Its Language and Culture (4)**

Briefly discusses China's past as background for study of important aspects of the country's changing, diverse, and modern culture—including its politics, economics, and religion. Introduces the richness of the Chinese language, while emphasizing common vocabulary used in everyday conversation, especially in a health care environment. Uses role-play and interactive learning to prepare students, faculty, and staff in their varied roles and missions to interact with modern China. Provides fundamental skills and understanding for further Chinese studies and research. Includes one local field trip.

**CHIN 111 Mandarin I (4)**

Concentrates on study of modern vernacular Mandarin Chinese in both spoken and written

forms. Listening, speaking, reading, and simple writing skills immerse students in vocabulary and simple grammatical rules. Emphasizes applied learning, individual inquisitiveness, and fearless verbal practice. Some homework required. Students expected at the end of the course to pronounce a list of common words, distinguish them by listening, and use them in simple dialogues and mini-speeches. Provides competence to read simple road signs, restaurant menus, some simple newspaper headlines and advertisements, simple biblical texts, and Chinese idioms. No knowledge of Chinese language required. Full attendance expected.

**CHIN 112 Mandarin II (4)**

Sequel to CHIN 111. Continues study in modern vernacular Mandarin Chinese in both spoken and written forms. Emphasizes further proficiency in the four basic language skills (listening, speaking, reading, and writing Chinese); increases competence in vocabulary and grammatical knowledge. Introduces health care-related terminology, Christian texts in Chinese, Chinese idioms and English translations. Examination includes a simple speech in class and a short narrative written in Chinese.

Prerequisite: CHIN 111; unless student can speak Chinese and write some Chinese characters.

**CHIN 205 Immersion Language and Culture Program (4)**

Integrates program with a domestic or an international service project within a Chinese community. Applies classroom learning in real-life situations. Student receives an educational "China experience" firsthand through eighty clock hours of lectures, discussion, and service learning.

Prerequisite: CHIN 105\* or CHIN 106\* or CHIN 305\* (\*may be taken concurrently).

**CHIN 206 Health Care-Service Learning in a Chinese Context (2, 4)**

Focuses on an international service-learning project within a Chinese community. Classroom lectures applied to a health-exposition project. Student receives an in-depth China education experience through language and cultural immersion with practical learning while serving people's needs.

Prerequisite: CHIN 105\* or CHIN 106 or CHIN 111 or CHIN 305 (\*may be taken concurrently).



**CHIN 305 Mandarin for Health Care Professionals (2, 4)**

Focuses on the ability to listen, speak, read and write in a Chinese health care-related setting, such as medical and dental offices, clinics, hospitals, nursing homes, public health facilities, and childcare centers. Students study and role play common communication exchanges with patients, physicians, dentists, nurses, and paramedical personnel.

Prerequisite: CHIN 105 or CHIN 106 or CHIN 111; unless student demonstrates competence in Chinese language and knowledge commensurate with that gained as a result of completing the prerequisites.

**DNHY 408 Professional Ethics (2)**

Develops understanding of hygienist's obligations to the public and to his/her professional association. Defines the ethical and mature conduct expected of professional health care providers. Compares and contrasts professional ethics and personal morality as they relate to dental hygiene practice.

**DNHY 409 Jurisprudence (2)**

Laws and regulations that govern the practice of dental hygiene, with special emphasis on California regulations. Standards of government regulations. Obligations of the hygienist to the public and to his/her profession. Domain I.

**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 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.

**MUHL 205 Introduction to Music (4)**

Basic music literature, with some attention to other arts.

**SPAN 101 Elementary Spanish I (2, 4)**

Introduces Spanish culture and language, providing the fundamentals of language: pronunciation, intonation, and grammatical structures. Covers beginning-level grammar and communication (medical and general), designed for students and professionals having little or no previous exposure to the Spanish language. Includes a three-hour language laboratory for the 4-unit course. The 2-unit course covers the beginning level of medical Spanish communication for the Physician Assistant Program and for professionals having little or no previous exposure to the Spanish language.

**SPAN 102 Elementary Spanish II (4)**

Continues SPAN 101, with emphasis on reflexive, preterite, present perfect, and imperfect verbs. Focuses on conversational skills. Includes medical and social vocabulary.

Prerequisite: SPAN 101; or equivalent with instructor's approval.

**SPAN 103 Elementary Spanish III (4)**

Continues SPAN 102, with further study of the fundamentals of pronunciation, composition, and structure of the Spanish language and culture.

Prerequisite: SPAN 102; or equivalent.

**SPAN 118 Spanish Literature I (4)**

Surveys literature from the peninsular Spanish writers. Includes a directed study project covering a review of short stories, discussions of worldview issues of literature and cultural perspectives. Taught in English.

**SPAN 119 Spain: Culture and Civilization (4)**

Introduces and reviews the culture and language of Spain; summarizes and analyzes Spain's achievements in the New World. A directed study project that includes spending time with a Spanish family and writing an eight-page report. Taught in English.

**SPAN 122 Tradition and Paradox of Latin American Women (4)**

Provides health care providers, through literature, with knowledge of the growing Latina population; their cultural needs and experiences in social, academic, and family life activities; and how they strike a balance between their old and new worlds. Taught in English.

**SPAN 123 Practicum in Spanish I (4)**

Practicum in the Spanish language and culture in a total immersion environment. Part of the total cost of tuition may include a trip to a Spanish-speaking country. Supervised experiences communicating with the Spanish-speaking population (behavioral and medical vocabulary included).

Prerequisite: SPAN 101 or SPAN 118 or SPAN 119 or SPAN 122; or Spanish-language class or equivalent (40 hours/contact lectures).

**SPAN 128 Practicum in Spanish II (4)**

Practicum in the Spanish language and culture in a total immersion environment. Part of the total cost of tuition may include a trip to a Spanish-speaking country. Supervised experiences communicating with the Spanish-speaking population (behavioral and medical vocabulary included).

Prerequisite: SPAN 118 or SPAN 119 or SPAN 123; or Spanish-language class or equivalent.

**SPAN 130 Practicum in Medical Spanish IV (4)**

Teaches students to take a complete health history in Spanish—using functional health-pattern tools, practicing in a health care institution. Designed for students who are interested in medical Spanish.

Prerequisite: SPAN 118 or 119 or 123.

**SPAN 201 Intermediate Spanish I (4)**

Enables students and professionals to interview Spanish-speaking patients in a cross-cultural context and to communicate orally in the Spanish language. Covers the reflexive verbs, present, preterite, imperfect, and future tenses. The subjective in nouns and adverbial clauses, comparatives and superlatives.

Prerequisite: SPAN 103.

**SPAN 202 Intermediate Spanish II (4)**

Reviews and continues SPAN 201. Uses an interactive, communicative approach in which students learn clinical and social vocabulary and are tested at the end of the quarter. Four clinical interviews in Spanish (recording and transcribing); 30-60 minutes of language laboratory; future, conditional, past subjunctive, conditional perfect, and compound tenses.

Prerequisite: SPAN 201; or equivalent.

**SPAN 203 Intermediate Spanish III (4)**

Designed for students in the advanced intermediate level to further study and practice reading comprehension, vocabulary building, conversation, and writing in a cultural context. Conducted in Spanish.

Prerequisite: SPAN 202; or equivalent.

**SPAN 301 Advanced Medical Spanish I (4)**

Focuses on advanced medical terminology and the application of language to patient care, including comprehension and communication between professional and patient. Explores intercultural issues. Includes skills and vocabulary useful in clinical settings as well as phrases and commands used during physical assessments. Conducted entirely in Spanish.

Prerequisite: SPAN 203; or equivalent.

**SPAN 401 Advanced Spanish Composition I (4)**

Designed for Spanish speakers or for students at the advanced level of Spanish. Students must have previous experience in composition classes, SPAN 203 or equivalent. Course covers activities to explore ideas and find a theme for the writing task, various prewriting techniques, methods of organizing compositions, defining the purpose of the piece, and identifying the reader for whom the student will write. Course taught entirely in Spanish.

Prerequisite: SPAN 203; or equivalent.

**SPAN 430 Diversity in the Twenty-First Century (4)**

Discusses the philosophy of diversity—including language and culture—taking into account the larger group of immigrants to California, including the Latino and Asian perspective as compared with the mainstream and the African-American group. Explores practical and philosophical ways of promoting personal and social unity in diversity.

**SPPA 217 Beginning Sign Language (3)**

Focuses on learning American Sign Language (ASL) for conversational purposes. Students learn finger-spelling, acquire a sign vocabulary of approximately 500 words, and explain and demonstrate the basic grammatical rules of ASL. Opportunity to use ASL with native signers. Discusses ASL in contrast to the various sign systems currently being used in educational settings in this country.

**RELIGION****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 Personal and Professional Ethics (2, 3)**

The foundations, norms, and patterns of personal integrity and professional responsibility. Additional project required for third unit.

**RELE 457 Christian Ethics and Health Care (2, 3)**

Ethical issues in modern medicine and related fields from the perspective of Christian thought and practice. Additional project required for third unit.

**RELR 404 Christian Service (1, 2)**

Student participates in approved service learning, with written reflection on the Christian reasons for service. Additional project required for second unit.

**RELR 408 Christian Perspectives on Marriage and the Family (2, 3)**

From a Christian perspective, overviews the family life cycle. Additional project required for third unit.

**RELR 409 Christian Perspectives on Death and Dying (2, 3)**

From a Christian perspective, considers the meaning of death—including the process of dying, cultural issues regarding death and dying, grief and mourning, suicide, and other related issues. Additional project required for third unit.

**RELR 415 Christian Theology and Popular Culture (2, 3)**

Examines concepts and practices in popular culture from a Christian perspective. Additional project required for third unit.

**RELR 427 Crisis Counseling (2, 3)**

Crisis phenomena, current crisis theory, a Christian model of crisis care, and the dynamics and practices of crisis care. Additional project required for third unit.

**RELR 429 Cultural Issues in Religion (2, 3)**

Studies similarities and differences between European-American culture and "minority" cultures in America, and the differences pertaining to the way religion is perceived and practiced. Additional project required for third 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 475 Art of Integrative Care (2, 3)**

The integration of psychosocial and spiritual care in the clinical setting. Additional project required for third unit.

**RELT 404 New Testament Writings (2, 3)**

Interprets 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.

**RELT 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.

**RELT 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.

**RELT 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.

**RELT 419 Gospel of John (2-3)**

Explores the message of key passages and themes in John for today. Additional project required for third unit.

**RELT 423 Loma Linda Perspectives (2-3) (meets religion requirement)**

History and philosophy of Loma Linda University as a Christian health-sciences institution that fosters human wholeness. Additional project required for third unit.

**RELT 424 Biblical Prophets (2-3)**

Explores the theological and practical significance for today of selected books, passages, and themes in the Old Testament prophets. Additional project required for third unit.

**RELT 425 Contemporary Religious Issues (2, 3)**

Analyzes prominent topics in religion discussed in contemporary journals. Additional project required for third unit.

**RELT 426 Jesus (2, 3)**

Studies Jesus as healer and teacher, prophet and reformer, Son of God and Savior. Additional project required for third unit.

**RELT 428 Gospel of Mark (2-3)**

Explores the message of key passages and themes in Mark for today. Additional project required for third unit.

**RELT 429 Gospel of Luke (2-3)**

Explores the message of key passages and themes in Luke for today. Additional project required for third unit.

**RELT 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.

**RELT 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.

**RELT 439 Gospel of Matthew (2-3)**

Explores the message of key passages and themes in Matthew for today. Additional project required for third unit.

**RELT 440 World Religions (2, 3)**

Surveys the origins, beliefs, and contemporary practices of the world's major religious systems. Gives 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.

**RELT 444 Christian Mission (2, 3)**

Applies biblical theology 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.

**RELT 447 Cross-cultural Ministry (2, 3)**

Studies the challenges of serving in 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.

**RELT 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.

**RELT 468 Daniel (2-3)**

Nature, purpose, and message of the apocalyptic book of Daniel. Additional project required for third unit.

**RELT 469 Revelation (2-3)**

Nature, purpose, and message of the apocalyptic book of Revelation. Additional project required for third unit.

**RELT 474 Love and Sex in the Bible (2, 3)**

Studies 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.

**RELT 475 Spirituality and the Contemporary Christian (2, 3)**

Explores the meaning of spirituality in the light of Scripture and Christian thought, and studies practices and disciplines that form and mature an individual's spiritual life. Additional project required for third unit.

**RELT 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.

**DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS**

(24-32 quarter units)

**AHCJ 235 Essentials of Human Anatomy and Physiology (4)**

Studies the structure and function of the human body, including organ systems. Prerequisite to many certificate and associate degree programs, e.g., coding specialist/certificate, occupational therapy assistant/A.A. Lecture and laboratory required.

**AHCJ 235L Essentials of Human Anatomy and Physiology Laboratory (1)**

Studies the structure and function of the human body, including organ systems. Prerequisite to many certificate and associate degree programs, e.g., coding specialist/certificate, occupational therapy assistant/A.A. Lecture and laboratory required.

**AHCJ 241 Microbiology (2.5)**

Designed for students in the health sciences. History, classification, morphology, growth, control, transmission, and pathology of selected bacteria, viruses, fungi, rickettsia, and parasites. Host defenses against microbial pathogens, including specific and nonspecific immunity. Per week: lecture 30 hours, laboratory 30 hours. Course covers two quarters. Grade given upon completion of the 241, 242 sequence.

Prerequisite: A college-level chemistry course.

**AHCJ 242 Microbiology (2.5)**

Designed for students in the health sciences. History, classification, morphology, growth, control, transmission, and pathology of selected bacteria, viruses, fungi, rickettsia, and parasites. Host defenses against microbial pathogens, including specific and nonspecific immunity. Per week: lecture 30 hours, laboratory 30 hours. Course covers two quarters. Grade given upon completion of 241, 242 sequence.

Prerequisite: AHCJ 241.

**AHCJ 250 Anatomy and Physiology (4)**

An 8-unit course (4 units Winter Quarter plus 4 units Spring Quarter) that covers structure and function of human biology. For students entering two- and four-year health- professional programs such as physical therapy, occupational therapy, cardiopulmonary sciences, communication sciences and disorders, radiation technology, nursing, and other programs with an anatomy and physiology prerequisite.

**AHCJ 251 Anatomy and Physiology (4)**

An 8-unit course (4 units Winter Quarter plus 4 units Spring Quarter) that covers structure and function of human biology. For students entering two- and four-year health professional programs such as physical therapy, occupational therapy, cardiopulmonary sciences, communication sciences and disorders, radiation technology, nursing, and other programs with an anatomy and physiology prerequisite.

Prerequisite: AHCJ 250\* (\*may be taken concurrently).

**AHCJ 351 Statistics for the Health Professions (3)**

Fundamental procedures in collecting, summarizing, analyzing, presenting, and interpreting data. Measures of central tendency and variation, probability, binomial and normal distribution, hypothesis testing and confidence intervals, t-tests, chi-square, correlation, and regression. Introduction to SPSS statistical package for computer data analysis.

Prerequisite: A passing score of at least 75 percent must be achieved on the mathematics competency examination.

**AHCJ 402 Pathology I (4)**

Fundamental mechanisms of disease, including cell injury; inflammation, repair, regeneration, and fibrosis; and vascular, cardiac, respiratory, gastrointestinal, hepatobiliary, urinary, reproductive, endocrine, and integumentary pathologies.

**AHCJ 403 Pathology II (3, 4)**

Fundamental mechanisms of disease, including the central and peripheral nervous systems, bone and joint, skeletal muscle, developmental, genetic, infectious, and parasitic pathologies; and neoplasia. Fourth unit requires two autopsy viewings and written report.

Prerequisite: AHCJ 402.

**AHCJ 418 Physiology I (4)**

Physiology of the human body, including cellular, neuromuscular, cardiovascular, respiratory, gastrointestinal, renal, and endocrine physiology.

**AHCJ 419 Physiology II (3)**

Detailed study of neuromuscular physiology.

Prerequisite: AHCJ 418.

**AHCJ 461 Research Methods (2)**

Introduces the scientific method in research. Focuses on the major steps of the research process as they relate to research-report evaluation, proposal writing, literature review, development of conceptual framework, identification of variables, statement of hypotheses, research design, and analysis and presentation of data.

Prerequisite: AHCJ 351.

**BCHM 306 Introduction to Organic and Biochemistry (6)**

Meets the organic and biochemistry requirements of nursing and allied health students. Covers the nomenclature, structure, and salient chemical properties of the nine classes of organic compounds. Covers the structures and biological functions of proteins, carbohydrates, lipids, and nucleic acids; intermediary metabolism. Emphasizes relevant health-related topics.

**DNHY 390 Introductory Statistics (2)**

Fundamentals of statistical analysis and critique of research data in scientific literature and in student research projects. Inferential and descriptive statistics, frequency distribution, histograms, bar graphs, and statistical tests. Laboratory computer practice in preparing and analyzing research data. Domain II.

**ENVH 414 Introduction to Environmental Health (3)**

Introduces an overview of the major areas of environmental health, such as ecology, environmental law, and population concerns; environmental diseases and toxins; food, water, and air quality; radiation; noise; and solid and hazardous waste.

**EPDM 414 Introduction to Epidemiology (3)**

Methods and strategies used to investigate distribution, determinants, and prevention of disease in human populations. Disease classification, measures of disease frequency and relative effect, and methods used to isolate effects. Assessments of environmental conditions, lifestyles, and other determinants of disease. Interpretation of results and statistical associations. Critical evaluation of scientific literature. Student presents personal literature study. Laboratory included.

Prerequisite: STAT 414\* (\*may be taken concurrently).

**SPPA 304 Hearing Science (4)**

Introduces basic theories and laboratory exercises in acoustics, psychoacoustics, and physiological acoustics.

**SPPA 376 Anatomy of Speech and Hearing Mechanism (4)**

Anatomy and physiology of auditory-vocal communicative process.

**STAT 414 Introduction to Biostatistics I (3)**

Fundamental procedures in managing, summarizing, presenting, analyzing, and interpreting data. Measures of central tendency and variation. Investigates binomial and normal probability distributions. Topics include: probability; confidence intervals; and hypothesis testing using t-tests, chi-square, correlation, and regression. Briefly introduces ANOVA and multivariate analysis. Emphasizes practical application. Laboratory use of the personal computer in statistical problem solving.

Prerequisite: Competency in introductory level mathematics.

Corequisite: STAT 415.

**STAT 415 Computer Applications in Biostatistics (1)**

Laboratory use of the personal computer in statistical problem solving.

Prerequisite: STAT 414\* (\*may be taken concurrently); or equivalent.

**STAT 464 Survey and Advanced Research Methods (4)**

Principles and procedures of surveys as applied to the health sciences. Survey and research designs, questionnaire construction, interviewing techniques, sampling techniques, sample-size determination, nonresponse problems. Data collection, coding, processing, and evaluation. Presentation of results. Practical experience gained by completing a survey project.

Prerequisite: STAT 414, STAT 415.

Cross-listing: STAT 564.

**AHCJ 305 Infectious Disease and the Health Care Provider (1)**

Current issues related to infectious disease, with special emphasis on principles of epidemiology and the etiology of HIV/AIDS. Discusses disease pathology and modes of transmission compared with hepatitis, tuberculosis, and influenza. Development of ethical response to psychosocial,

economic, and legal concerns. Strategies and programs for education, prevention, and identification of resources. Impact on the health care worker; risk factors; and precautions for blood-borne pathogens, HIV, hepatitis, and tuberculosis.

**AHCJ 324 Psychosocial Models and Interventions (2)**

Major models of stress, crisis, and psychological trauma; and how they relate to health care providers. Psychosocial reactions and responses of populations, individuals, and care providers to societal disruption and trauma, medical emergencies, and death and dying. Applies principles for suicide intervention, critical incident debriefings, and death notification. Roles of psychiatrists, psychologists, social workers, family therapists, and chaplains. Methods of providing temporary, adequate psychological care for individuals in psychosocial crisis.

Cross-listing: GLBH 559.

**AHCJ 328 Wholeness Portfolio I (1)**

Introduces SAHP goals for graduates. Student demonstrates progression toward wholeness, compassion, support of diversity, appreciation of human worth, and commitment to lifelong personal and professional growth.

**AHCJ 407 Financial Management (2)**

Financial aspects of health care involving prospective reimbursement system, analysis of various health care-reimbursement schemes, and hospital financial disbursements. Budget-variance analysis, analysis of cost components, operating statements, and productivity related to a department budget. Special projects may be assigned as needed. Per week: lecture 2 hours.

**AHCJ 408 Health Care Management (4)**

Management theory: planning, organizing, directing, and controlling (including budgetary controls). Department productivity and theories of work simplification. Preparation of resumes, interviewing skills, professional attitudes, group theory, and group dynamics. Students spend the last two-to-three weeks doing special projects designed and supervised by their departments. (Department of Nutrition and Dietetics students register for a 2-unit practicum in conjunction with this course.)

**AHCJ 415 Educational Psychology for Health Professionals (3)**

Psychological factors related to learning processes in professional and higher education.

Emphasizes the role of communication skills in learning settings, gender influences on learning, objectives setting and course design, stimulation of higher-level thinking, motivation, and retention.

Prerequisite: AHCJ 409.

**AHCJ 421 Psychology of Physical Disability (2)**

Psychological reactions to illness or disability. Methods of dealing with these reactions considered with reference to the clinical situation. Seminar approach to professional responsibilities for health care.

**AHCJ 498 Wholeness Portfolio II (1)**

Student develops portfolio that illustrates the potential graduate's ability to meet the goals set by the School of Allied Health Professions for graduates of baccalaureate and master's degree programs.

**ANTH 304 Biological 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 paleopathology (disease in ancient populations), humankind 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 glossolalia.

**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 provide 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 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.

**DNHY 414 Personal Finance (2)**

Personal finance topics, including credit, taxes, insurance, real estate, budgeting, housing, and inflation.

**ENVH 422 Principles of Geographic Information Systems (4)**

Comprehensive overview of the concepts, functions, applications, technologies, and trends pertaining to automated geographic information systems (GIS). Framework for understanding the design, development, implementation, and management of GIS. Topics include: GIS hardware and software considerations, data resources, technical issues and applications in GIS.

**HADM 444 Financial Accounting for Health Care Organizations (4)**

Fundamentals of preparing and understanding financial statements. Emphasizes relationships between the balance sheet, income statement, and cash-flow statement. Generally accepted accounting terminology.

**HPRO 431 Psychology and Sociology of Sport (3)**

Role, effect, and importance of sport in society. Psychological principles that motivate individuals to initiate and continue sport activities.

**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)**

Explores educational psychology through application of development and learning theories to instruction, achievement motivation, self-esteem, classroom management, supportive and disruptive processes on school sites, campus standards, disciplinary practices, legal/ethical issues. Requires research on effective educational practices and related foundations. Additional research for graduate credit.

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 (2, 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 460 The Exceptional Individual (3)**

Studies 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. Emphasizes education and career planning. Open to upper division graduate and postgraduate students only.

**PSYC 479 Human Neuropsychology (4)**

Introduces 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.



**PHCJ 401 Essentials of Public Health (4)**

Essential issues in public health, including history from ancient times to HMOs; definitions; organization and infrastructure; functions, practices, programs, and services. Contributions of important public health practitioners. Political, social, and economic considerations of public health problems.

**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 477 Intervention Strategies for At-Risk Youth (4)**

Psychological and spiritual intervention strategies for working with at-risk youth, taught within the framework of nature retreats known as Operation Jessica. Students learn mentoring, spiritual nurturing, and psychoeducational group leadership skills. Modalities include spiritual transformation activities, group interactions, nature exploration, low and high ropes challenge experiences, drama, music, and art. Theory-based topics covered: dangerous coping methods, spiritual deficiencies, and dysfunctional family systems of at-risk youth. Focuses on understanding gang culture, addictive processes, family and community violence, and spiritual recovery strategies.

**SPPA 377 Bilingualism and Biculturalism I (2)**

Explores theories and issues of bilingualism and biculturalism, introducing literature that gives insights into the experiences and achievements of minority college students and young adults. Opportunity for students to examine their personal identity and competence when faced with another culture or language. Explores various bilingual or dual-language educational practices and their potentials based on psycholinguistic models.

**SOCIAL SCIENCES****NATURAL SCIENCES****DOMAIN 3: COMMUNICATION  
(9-13 quarter units)****AHCJ 177 Professional Literacy for Non-native Readers (3)**

Emphasizes English literacy for students whose official language of instruction is other than English. Focuses on reading, analyzing, and responding to articles relevant to students' professional studies.

Prerequisite: AHCJ 129.

Corequisite: AHCJ 131.

**AHCJ 308 Professional Communications (1-2)**

Forms of written and verbal communication routinely required in the performance of the health care manager's duties. Projects include memos, letters, confidential FAX cover design, short reports, meeting notices, minutes, and creation of agendas.

**AHCJ 311 Medical Terminology (2)**

Language of medicine, including word construction, word analysis, definitions, and the use of terms related to medical science. Course organized by body systems.

**AHCJ 331 Human Resource Management (3)**

Theory and practice of the management of people at work. Organizational behavior concepts and the problems of employee procurement, training, and motivation. Job evaluation, wage administration, employee benefits, and negotiating with labor unions. Preparation for both managing people and directing a department in a complex organization.

**AHCJ 405 Dynamics of Learning and Teaching (2)**

Examines the theories of learning applied to the teaching process. Evaluates current research and methods of instruction.

**AHCJ 409 Adult Learning Styles (3)**

Theories and styles of learning; personality factors related to learning; and implications of effective intellectual, emotional, and social functioning included within the context of structuring education for the adult learner. Analyzes the teaching process, including setting objectives, selecting content, and designing classroom and clinical teaching strategies?with emphasis on alternatives to lecturing.

**AHCJ 426 Introduction to Computer Applications (2)**

Hands-on instruction in Word, Excel, and PowerPoint. Lectures, laboratory assignments, quizzes, projects, and a practical examination. (Course not taught every quarter.)

**AHCJ 432 Database Management I (2)**

Theories and steps of database development using Microsoft Access. Topics include but are not limited to: relationships, form building, advanced queries, reporting, and macros. Requires a project creating a basic health information database from scratch.

**AHCJ 433 Database Management II (2)**

Continuation of AHCJ 432 with the development of an advanced database in Microsoft Access. Includes the application of drop-down menus, reports, security features, and macros.

Prerequisite: AHCJ 432; or consent of instructor.

**AHCJ 464 Group Process and Dynamics (3)**

Introduces principles and techniques of group theories, processes, and dynamics, as applied to the health-professional setting. Concepts include group functions, roles, structures, and characteristics; group membership, norms, dynamics, and relations. Theoretical perspectives on group development, dynamics, and conflicts. Practical issues, including educational applications, negotiation, observation, and diagnosis. Leadership issues, facilitation, expedition, and termination. Simulation exercises, active learning, and flexible choices of study and application.

**AHCJ 465 Seminars in Leadership (2)**

Prepares graduates for entry into the new work requirements. Through observation and participation, students explore the responsibility of today's employee to successfully integrate customer and community service and social responsibility.

**DNHY 499 Research Writing (2)**

Elective course for students wishing to write their research study for submission to professional journals for possible publication.

**HPRO 443 Writing for Publication (2)**

Writing by health professionals for popular, lay, or professional publications. Selection of journal or magazine, writing of query letter, preparation of abstract and manuscript in final form for

submission. Includes preparation of camera-ready art. Not a remedial writing course.

**RDNG 277 Advanced Reading Techniques—Able III (2)**

Advanced reading course to increase student's rate of reading by developing cognitive organizational strategies such as: special techniques for processing information while reading textbooks; and previewing, skimming, and scanning techniques. Advanced skills for improving memory, taking tests, and reducing anxiety.

**STAT 439 Fundamentals of Microcomputer Usage (1)**

Fundamental principles of microcomputer use. Introduces DOS and Windows commands and features. Lectures and in-class demonstrations emphasizing how to create, organize, manage, and protect files on hard disks. Laboratory homework required. Not applicable toward a graduate degree in the School of Public Health.

**WRIT 324 Writing for Health Care Professionals (2)**

Students learn to write term papers and publishable articles from research in the health care literature.

**DOMAIN 4: HEALTH AND WELLNESS (2-6 quarter units)****DTCS 301 Human Nutrition (3)**

Fundamentals of normal nutrition. Carbohydrates, proteins, fats, vitamins, minerals; their roles in human metabolism. Introduction to nutrition in the life cycle. Per week: lecture 3 hours.

**DTCS 311 Human and Clinical Nutrition for Nursing (4)**

Fundamentals of normal nutrition. Carbohydrates, proteins, fats, vitamins, minerals; their roles in human metabolism. Investigates the role of nutrition at various stages in the life cycle of the individual in health and disease. Nutrition intervention in the prevention and treatment of disease in the clinical setting.

**DTCS 312 Clinical Nutrition for Nursing (2)**

Nutrition intervention in the prevention and treatment of disease in the clinical setting.

**HPRO 414 Personal Health and Fitness (4)**

Applies health principles to the student's physical, mental, spiritual, and social health.

**HPRO 415 Consumer Health (3)**

Studies fitness and health in terms of consumer welfare, marketing, and fraud. Discusses ethics as related to professional behavior.

**HPRO 416 Health through the Life Span (4)**

Examines changes in health status that may occur between birth and old age. Emphasizes tailoring wellness strategies and programs to the needs of various age groups.

**NUTR 474 Nutrition and Fitness (3)**

Basic principles of nutrition and healthful eating for fitness and exercise. Role of nutrition and exercise in optimizing health from a scientific standpoint. Myths prevalent among consumers in the area of nutrition and fitness.

**PEAC 110 Independent Activities (.5, 1)**

Develops an appropriate activity program in conjunction with the staff at the activities center. Develops motor skills and physical stamina in a manner that will promote lifelong involvement in physical activity.

**DOMAIN 5: ELECTIVES**

Electives from Domains 1-4 may be selected to complete the general education minimum requirements of 68 quarter units.

**ENGLISH COMPOSITION REQUIREMENTS IN SEVENTH-DAY ADVENTIST COLLEGES**

The following sequences of English composition courses taught in Seventh-day Adventist schools are representative of sequences that would meet LLU general education requirements.

Andrews University	ENGL 111-112: English Composition and ENGL 306: Writing Seminar (9 quarter units)
Atlantic Union College	ENGL 101-102: College Writing I and II (6 semester units)
Columbia Union College	ENGL 101-102: Composition (6 semester units)
La Sierra University	ENGL 111-113: Freshman English (9 quarter units)
Oakwood University	ENGL 111-113: Freshman Composition (6 semester units)
Pacific Union College	ENGL 101-102: College English (8 quarter units)

Southern Adventist University	ENGL 101-102: College Composition (6 semester units)
Southwestern Adventist University	ENGL 121: Freshman Composition and ENGL 220: Technical Writing and Research (6 semester units)
Union College	ENGL 111-112: College Writing I and II (6 semester units)
Walla Walla University	ENGL 121-122: College Writing and ENGL 223: Research Writing (9 quarter units)

**CULTURAL STUDIES CERTIFICATES**

Courses applicable to the Spanish Studies Program certificate for health care professionals (22 units)

ANTH 304	Biocultural Anthropology (4) GE (Domain 2) and certificate
ANTH 306	Language and Culture (4) GE (Domain 2) and certificate
ANTH 448	Medical Anthropology (4) GE (Domain 2) and certificate
RELR 404	Christian Service (1-2)* GE (Domain 1) and certificate
SPAN 118	Spanish Literature I (2-4) GE (Domain 1) and certificate
SPAN 119	Spanish Culture/Civilization (2-4) GE (Domain 1) and certificate
SPAN 122	Tradition and Paradox in Latin American Women (2-4) GE (Domain 1) and certificate
SPAN 101	Introductory Spanish for the Professions (3) GE (Domain 1) and certificate
SPAN 201	Intermediate Spanish for the Professions (3) GE (Domain 1) and certificate
SPAN 123 and 128	Practicum in Spanish (4) GE (Domain 1) and certificate
SPAN 425	Advanced Spanish III (3) certificate
SPAN 426	Spanish in the Hospital Setting (3) certificate
SPAN 428	Practicum in Spanish (4) certificate
SPAN 430	Diversity in the Twenty-First Century (4) certificate
	Service-learning experience (80 clock hours) certificate

**ENGLISH COMPOSITION REQUIREMENTS IN NON-SEVENTH-DAY ADVENTIST COLLEGES**

The following sequences of English composition courses taught in non-Seventh-day Adventist schools are representative of sequences that would meet LLU general education requirements.

**California State University, San Bernardino**

ENG 101 Freshman Composition and one of the following upper-division expository writing courses: EDUC 306, ENG 306, HUM 306, MGMT 306, NSCI 306, or SSCI 306 (8 quarter units)

**Crafton Hills College**

ENGL 101 Freshman Composition (CAN ENGL 2) and ENGL 102 Intermediate Composition and Critical Thinking; or ENGL 152 Intermediate Composition and Literature (CAN ENGL 4) (8 semester units)

**Fullerton College**

ENGL 100 College Writing (CAN ENGL 2) and ENGL 102 Introduction to Literature (CAN ENGL 4) (6 semester units)

**Mt. San Jacinto College**

ENGL 101 Freshman Composition (CAN ENGL 2) and ENGL 103 Writing and Reading Critically (CAN ENGL 4) (8 quarter units)

**Riverside Community College**

ENG 1A English Composition (CAN ENGL 2) and ENG 1B Critical Thinking and Writing (CAN ENGL 4) (8 semester units)

**San Bernardino Valley College**

ENGL 101 Freshman Composition (CAN ENGL 2) and ENGL 102 Intermediate Composition and Critical Thinking (8 semester units)

**University of California, Riverside**

ENGL 1A Beginning Composition, ENGL 1B Intermediate Composition, and ENGL 1C Applied Intermediate Composition (12 quarter units)

## LOMA LINDA UNIVERSITY GENERAL EDUCATION COURSES—ONLINE AND BOOKLET

A complete listing of courses offered each academic term at this University to meet general education domain requirements is included on the Loma Linda University Web site at [www.llu.edu/central/ssweb/index.page](http://www.llu.edu/central/ssweb/index.page) under the course schedules.

By linking from Course Schedules to General Education Brochure and Course Descriptions, the student has access also to the entire list of general education courses and course descriptions. This list is also available at the above Web site as a printable booklet—"Loma Linda University General Education Philosophy, Requirements, and Courses."

## SCHOOL AND PROGRAM-SPECIFIC GENERAL REQUIREMENTS

For additional information about specific general education requirements, see the desired schools and programs—Section III of this CATALOG.

# Student Life

The information on student life contained in this CATALOG is brief. The most current *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 Loma Linda 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 a professional institution of higher learning.

It is inevitable that the student will come under question if academic performance is below standard; student duties are neglected; social conduct is unbecoming; or 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 the current CATALOG and in each school's section of the *Student Handbook*. Grievances regarding both academic and nonacademic matters must be processed according to these published grievance procedures. 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. It is cosmopolitan in that historically the University's global mission has promoted bonds and opportunities in education and service without regard to gender, or to national, racial, or geographical origin. It is

comprehensive in that the University's concern for the welfare of the student traditionally has been an integrated concern for assisting the student toward whole-person health—balanced development of spiritual, social, physical, and mental health. Cultivating the health of any one part enhances the health of all parts. Neglecting or abusing the health of one harms the health of all. Before one can experience whole-person health, there must be a practical appreciation of the interdependent interaction of each part of the whole.

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

### **Spiritual health**

In addition to personal quiet times, opportunities for the student to further develop rich, personal spiritual resources are provided in scheduled religious exercises and activities and in informal association with others who cherish spiritual values. Religion classes as well as weekly chapel services are part of the required curriculum.

### **Social health**

Situated within easy access of the ocean, mountains, and desert, the University provides numerous opportunities for students to complement their formal learning through participation in a wide variety of recreational, cultural, and other activities. A variety of University-, school-, and group-sponsored events encourages students to relax and become better acquainted with one another. Through these activities and events, students can enrich their group interaction and leadership experiences, increase their enjoyment of and interest in fields outside their profession, develop their talents, enhance wholesome and memorable association with others, and cultivate supportive and lifelong social relationships.

### **Mental health**

The University promotes mental health by encouraging students to study and practice principles of sound psychological health and to access state-of-the-art counseling and mental health services, as needed.

### **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 exerted to interest each student in some recreational and health-building activity that may be carried over to enhance future life.

## **RECREATION/WELLNESS: THE DRAYSON CENTER**



The Drayson Center, Loma Linda University's recreation and wellness center, provides state-of-the-art fitness facilities. The center includes a 21,000-square-foot multipurpose gymnasium, which may accommodate three full-sized basketball courts, five volleyball courts, or nine badminton courts. Circling the gymnasium's inside perimeter is an elevated, rubberized, three-lane 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 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 multiuse 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, ballet, karate, and judo. The Wellness Office offers personal training, massage therapy, and individual nutrition counseling and group nutrition classes with a registered dietitian.

## **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 Monday through Thursday, 8 a.m.-5 p.m.; Friday, 8 a.m.-2 p.m. Services are free to students.

## **LOMA LINDA UNIVERSITY STUDENT HEALTH PLAN**

The University-sponsored Student Health Plan is designed to provide comprehensive medical coverage for the student and his/her eligible dependent(s). It is not an insurance program. The plan includes

coverage for hospital care, surgery, emergency care, prescription drugs, and more. Generally, to be eligible for reimbursement under the provisions of the plan, expenses must be incurred while coverage is in effect. Expenses incurred before plan coverage becomes effective or after plan coverage has terminated will not be covered. This plan will only provide medical coverage on an excess basis. This means that all medical expenses must first be submitted to any other available source of health care coverage. There is no vision or dental coverage available. Please see the Loma Linda University Web site for Student Health Services for a complete explanation of the Student Health Plan (<<http://www.llu.edu/central/studenthealth/index.page>>).

#### **Enrollment**

The enrollment form must be returned to Risk Management as specified in order to gain access to the services provided.

#### **Preferred-provider plan**

The health plan has been developed as a PPO (preferred-provider) plan. Benefits for services utilized outside the preferred-provider structure be reduced.

#### **Plan year**

The plan-benefit year is a fiscal year and runs from July 1 through June 30.

#### **Pre-existing-condition exclusion**

If a student or patient has not maintained continuous "creditable coverage" under another health plan during the twelve months prior to the student's date of enrollment, or 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 student's date of enrollment or during the six months prior to the effective date of health plan coverage. Treatment includes receiving services and supplies, consultations, diagnostic tests, or prescribed medications. This exclusion will apply for twelve months from the coverage effective date, or date of enrollment if the individual was enrolled at the time of enrollment to the University, unless such an individual remains treatment free during the six-month term beginning with the date of enrollment or effective date of coverage. If the individual remains treatment free during this six-month term, the pre-existing-condition exclusion will apply only during this six-month period. This exclusion will not apply to pregnancy-related medical expenses or to medical treatment for a newborn or adopted child. (A student who was covered by another health plan prior to enrollment at this University should read the following section entitled "Health Insurance Portability and Accountability Act.")

A student who has a pre-existing condition should check with any prior insurer to obtain complete information regarding his/her rights to COBRA coverage during this pre-existing-condition-exclusion period.

### **HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT (HIPAA)**

If a student has been covered under a medical plan during the past twelve months, all or part of the pre-existing condition exclusion may be waived when s/he comes under the University plan. In order for a determination to be made regarding the student's coverage, the former insurance company or employer must provide to Risk Management a certificate verifying the previous coverage. If the student has any pre-existing medical conditions, it is imperative that this certificate be returned to Risk Management along with the health plan enrollment form.

#### **ELIGIBILITY**

A student is eligible for benefits if s/he:

- Is attending Loma Linda University as a graduate or undergraduate student; and
- Is a degree-track student. A student who is accepted into a degree program and who is registered for more than 0 units will be charged the enrollment fee regardless of the number of units for which s/he is registered.
- Is a nondegree student registered for more than 4 units. As student who is not accepted into a degree program but who is registered as a nondegree student for more than 4 units will be charged the enrollment fee. However, a nondegree student registered for 4 units or fewer will not be charged the fee and will not be eligible to buy into the Student Health Plan.
- Was previously covered under the plan and is on an approved leave of absence from his/her academic program.
- IS an IP-only student. A student who is working on "In Progress" courses and who is not registered for any other units will be charged the enrollment fee.

#### **Additional information regarding eligibility**

- A student who drops all units before the deadline will not be charged for or covered by the plan. Any student who is charged the enrollment fee and drops all units before the last day for a full refund (generally one week after the first day of classes), will receive a full refund of the enrollment fee and will have no access to any University benefits. Please refer to the Student Finance 100-percent refund policy.
- LLUAHSC employees who are "full-time, benefit eligible" will not be charged the

enrollment fee. The fee will not apply, regardless of whether or not employees are using the education benefit. Spouses of employees who are using the employee education benefit will be charged the enrollment fee.

- Students participating in an off-campus or online program will not be charged the enrollment fee unless specifically required by the program.
- An eligible student's coverage will become effective on the first day of class or student orientation, whichever occurs first.

#### Buy-in provision

Under the following provisions, a student may obtain coverage under this health plan or extend coverage to a spouse or dependent children each quarter. In order to receive any coverage under this plan, a student must apply for coverage during an open-enrollment period—within thirty days of a status change (i.e., within thirty days of marriage or within thirty days of the birth of a child) and pay the appropriate quarterly student contribution, as outlined below:

1. Spouse/Dependent children—If a student is covered under this plan, s/he may extend health plan coverage to his/her spouse or dependent child(ren).
2. Leave of absence (LOA)—If a student has been covered under the plan up until immediately prior to leaving school on an approved leave of absence (LOA), s/he may extend coverage under the plan for the length of the approved LOA, up to a maximum extension of one year.
3. Continuation coverage—If a student has been covered under this plan but no longer meets the eligibility requirements (for example, s/he did not attend classes during any quarter, including Summer Quarter), s/he would be able to continue coverage for his/her eligible dependents for up to one quarter through this buy-in provision.

The open-enrollment period for eligible students and dependents is the last two weeks of each calendar quarter. Buy-in coverage will be effective from January 1 to March 31, April 1 to June 30, July 1 to September 30, and October 1 to December 31. No invoices or reminders are sent to students who are buying into the plan. The Department of Risk Management cannot add Student Health Plan fees to the student's account. All payments must be made by check or money order. A newborn child must also be enrolled in the plan within thirty days of birth or adoption in order to receive any coverage under this plan. There is no automatic or temporary coverage provided for any dependents, including adopted or newborn children.

Extension/Continuation coverage—A fee of \$390.00 per quarter for the student plus one of the amounts below for dependents is charge for extension/continuation coverage:

- One dependent (spouse or child) of a covered student—\$420.00 per quarter
- Two or more dependents—\$840.00 per quarter

#### Prescription-drug coverage

Each enrolled student will be given a CVS/Caremark health care identification card, which can be used at any participating pharmacy displaying the CVS/Caremark decal. The cost of the prescription will be billed directly to the plan after the student pays a copayment. Prescriptions filled through CVS/Caremark will be limited to a maximum of a thirty-day supply. The copayment amounts will be \$15.00 for generic drugs and \$30.00 for brand-name\* drugs that are dispensed at the health plan's preferred pharmacies: the LLUMC Pharmacy, the Campus Pharmacy (located in the Loma Linda Market), the Faculty Professional Pharmacy (located in the Faculty Medical Offices), and the LLU Community Pharmacy.

If the prescription is filled at any other participating CVS/Caremark pharmacy, there will be a \$25.00 copayment for generic products or a \$40.00 copayment for brand-name\* drugs. Prescriptions not filled by the CVS/Caremark system will not be covered under the plan. There is a \$5,000.00 maximum deductible per individual per fiscal plan year.

\*The copayment when a name brand is purchased because no generic substitute is available; however, if a student chooses a name brand over a generic drug, the student will be responsible for the generic copayment plus any difference in cost between the two medications.

#### Utilization review

All services that require preadmission review or prior authorization must be processed through the Department of Risk Management. The types of services that require prior authorization include:

- Hospital admissions  
Scheduled admissions must be authorized prior to entrance to the hospital. In the case of emergency admissions, notification must be made the next business day; or if admission occurs on the weekend, within 48 hours.
- All outpatient surgeries
- Home-health services, skilled nursing facilities
- Orthotics and purchase or rental of durable medical equipment

Please refer to the plan document for a complete description of required authorizations. Participants in this plan must follow the preadmission review process in order to receive full hospitalization benefits. If a participant does not follow the preadmission review process, hospitalization benefits will be reduced by 50 percent.

In order to fully understand plan benefits, students need to obtain a University Student Health Plan Document, which describes all of the plan coverage, limitations, and exclusions. Questions regarding the plan should be directed by telephone to the Department of Risk Management at 909/558-4386.

### **MALPRACTICE COVERAGE**

Students are covered by malpractice insurance while acting within the course and scope of any approved clinical assignment.

### **DISABILITY INSURANCE**

All students in the School of Medicine and the School of Dentistry are automatically enrolled in a disability insurance program while enrolled in this University. This program provides limited disability insurance for students while in the program and also allows for conversion to an individual disability insurance policy at the time of graduation. Details of this program are available from the School of Medicine or the School of Dentistry.

### **COUNSELING AND HEALTH SERVICES**

#### **Loma Linda University (LLU) Health Care Student/Family Counseling**

The University Counseling Center offers a variety of private, confidential services to students and their families—including individual, premarital, marital, family counseling, and medication treatment. Counselors use practical, problem-solving strategies to help students deal more effectively with stresses of school and personal life in a healthy and healing way.

The program is staffed by members of Loma Linda University's Department of Psychiatry, which includes psychiatrists, psychologists, licensed clinical social workers and marriage and family therapists.

To schedule an appointment or for more information, call 909/558-6028 or campus extension 66028. Full-time students receive up to nine free visits.

The University Student Counseling Center is located at 11374 Mountain View Avenue (Dover Building) in Loma Linda.

#### **Loma Linda 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. The LLSAP clinicians will develop a treatment plan that may include free short-

term counseling. All LLSAP services are free of charge.

If more extensive treatment is appropriate, the client is 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. Community therapists and LLSAP clinicians will not release information without the written consent of the student, with the exception of matters that fall under mandatory reporting laws.

The 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 by calling on-campus extension 66050 or 909/558-6050: Monday through Wednesday, 8 a.m.-5 p.m.; Thursday, 8 a.m.-7 p.m.; Friday 8 a.m.-1 p.m. Additional appointment times may be available upon request.

The program is located in the Hartford Building, 11360 Mountain View Avenue, Suite A, Loma Linda.

#### **Loma Linda University Student Health Services**

Loma Linda University Student Health Services is committed to providing quality care to students and assisting with students' special needs. Services provided by the qualified team of physicians, nurses, and support staff include primary care, women's health, immunizations, health education, counseling or referral to counseling services, and referral to specialty services.

Student Health Services is located in Evans Hall, room 111. The hours of operation are Monday through Thursday, 8 a.m.-12 p.m., 1 p.m.-5 p.m.; Friday, 8 a.m.-1 p.m. To schedule an appointment or for more information, call 909/558-8770.

### **GOVERNING PRACTICES**

At Loma Linda University, nonacademic policies have been established that help foster a fulfilling University experience. Students are expected to uphold these policies, which govern nonacademic student life on and off campus. Information in this section of the CATALOG, as well as in Section III and in the *Student Handbook* pertains to requirements governing all students. The student is reminded of individual responsibility to be fully informed of the general and specific requirements of his/her school and program.

#### **Identification number and card**

All accepted students will be assigned a unique University identification number. This seven-digit number will be used on all correspondence and noted on all payments to the University. A University identification card using this identification number and a bar code will be issued to each student after



s/he completes initial registration and financial clearance.

The identification card allows access to various student services, including the libraries, Student Health, recreation facilities (i.e., the Drayson Center), parking, etc. Also, the bar code on the card allows currently enrolled and financially cleared students to charge against their accounts at the Campus Bookstore and campus cafeterias, and for ticket sales available through the Student Services office. In subsequent quarters, the card's bar code is automatically reactivated at each registration upon financial clearance.

For further information regarding these identification cards, please contact Student Services.

### **Residence hall**

The University 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 vice president for student services for a possible 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 housing Web site at <[www.llu.edu/central/housing/index.page](http://www.llu.edu/central/housing/index.page)>.

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

### **Marriage**

A student who marries or changes marital status during the academic year must provide the school with advance written notification of the change in status in order to keep school records correct and up to date. Students should make every effort to schedule their wedding ceremonies during academic recesses.

### **Name change**

Currently enrolled students may change their names on University records when they provide evidence (e.g., certified copy of a marriage certificate) that the name change is official. In addition to filing a Request for Change of Name on University Records form with the Office of University Records, the student must present a current ID card or other form of picture ID with his or her name as it appears on University records, along with official documentation of the name change.

Name changes must be processed no later than six months prior to graduation if the new name is to appear on the diploma.

### **Professional apparel**

Clinic and laboratory apparel 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 in the school or department dress code. Student uniforms are to be maintained in clean, presentable condition. Information on the required professional dress is provided in Section III of this CATALOG and in the University *Student Handbook*.

### **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 regarding grooming and attire are provided in Section III of this CATALOG and 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**

Because the student is responsible for transportation arrangements and costs for special projects and off-campus clinics, it is advantageous for the student to have access to a car.

The University enforces traffic rules and regulations as provided for by the State of California Vehicle Code. It is the sole responsibility of the driver of any vehicle on University property to become familiar with these regulations. Drivers are held responsible for any infraction of the regulations. Copies of the brochure entitled Loma Linda University Traffic and Parking Regulations are available at the Department of Security.

Vehicles used by students on campus must be registered with the Department of Security. Returning students must go to the Department of Security annually in September to renew registration.

### **Confidentiality**

The Health Insurance Portability and Accountability Act (HIPAA) of 1996 requires that all health care professionals maintain the highest level of confidentiality in matters pertaining to clients. Discussions or written assignments relating to client information, either health related or personal, may not include identifying data. Clients' privacy and rights are to be protected.

Failure to maintain confidentiality could result in legal action. For additional information, see

"Introduction to HIPAA" at <home.mc.llumc.edu/Departments/LLUHS-Departments/HIPAA-Information/HIPAA-Help/Introduction-to-HIPAA/Index.html>.

### **Substance abuse**

As a practical application of its motto, "To make man whole," Loma Linda University is committed to providing a learning environment conducive to the fullest possible human development. Because the University holds that a lifestyle free of alcohol, tobacco, and recreational/illegal drugs is essential for achieving this goal, it maintains policies that foster a campus environment free of these substances.

All students are expected to refrain from the use of tobacco, alcohol, or recreational or illegal mind-altering substances. Possession or use of these substances may be cause for dismissal.

For details regarding the University's drug-free environment—as well as information regarding prevention, detection, assessment, treatment, relapse prevention, confidentiality, and discipline—see the Loma Linda University *Student Handbook*, Section V, University Policies: Alcohol, controlled substances, and tobacco policy.

### **Sexual harassment**

Sexual harassment is reprehensible and will not be tolerated by the University. It subverts the mission of the University and threatens the well-being, educational experience, or careers 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 the office of the dean in their respective schools.

A more comprehensive statement of the policy regarding sexual harassment and sexual standards can be found in the Loma Linda University *Student Handbook*, Section V, University Policies.

### **Employment**

It is recommended that students limit work obligations (outside employment for income) that divert time, attention, and strength from the arduous tasks of class preparation, clinical practice, and/or training in their chosen career. A student wishing to work during the school year should consult the Office of the Dean of the school in which s/he is enrolled regarding employment restrictions or prohibitions.

### **Employment for international students**

International students must obtain written authorization from International Student and Scholar Services before accepting any on-campus employment. Off-campus employment requires prior issue of a work permit by the Bureau of Citizenship and Immigration Services. F- and J-visa students must limit their employment to twenty hours or less per

week while registered for courses and while classes are in session during three of four quarters in an academic year. Regulations allow full-time work (forty hours or less per week) during school breaks and summer vacations (if students' programs allow summer quarters off). For questions, please telephone International Student and Scholar Services at 909/558-4955.

### **ACADEMIC AUTHORITY**

The Office of the Dean of the school in which the student is enrolled is the final authority in all academic matters, with the exception of General Education requirements, and is charged with the interpretation and enforcement of academic requirements. Any exceptions or changes in academic requirements, graduation requirements, or grades are not valid unless approved by the dean. Any actions taken by individual faculty members with regard to these matters are advisory only and are not binding on the school or the University unless approved by the dean.

### **ACADEMIC INTEGRITY**

The academically dishonest act considers that academic dishonesty intentionally violates the community of trust upon which all learning is based, intentionally compromises the orderly transfer of knowledge from teacher to student, and is inconsistent with good professional and moral behavior. Accordingly, the penalty for academic dishonesty is severe.

Acts of dishonesty include but are not limited to:

- theft;
- falsifying or changing grades or other academic records;
- plagiarism or excessive paraphrasing of someone else's work;
- knowingly giving, obtaining, or falsifying information during examinations or other academic or professional practice assignments;
- using unauthorized aids during examinations;
- loud and disruptive behavior during lectures, demonstrations, or examinations;
- excessive unexcused absences from classes or from clinical assignments.

"Examinations" are defined as regularly scheduled tests, quizzes (scheduled or unscheduled), final examinations, comprehensive assessments, take-home tests, open-book tests, and any other assignment given by an instructor or preceptor whether for a grade, points toward a grade, or for zero points (e.g., a learning exercise).

Instructors and students are responsible for reporting instances of academic dishonesty for investigation. An instructor may take immediate action during an examination or other point-generating activity in order to maintain the integrity of the academic process. Substantiated violations are to be brought before the designated disciplinary body for action. Disciplinary action may include receiving a failing grade on the examination or assignment, receiving a failing grade in the course, suspension, or permanent dismissal from the program.

## CONDUCT

Students are expected to conduct themselves in a professional manner during didactic and clinical training. Professional conduct includes (but is not limited to) punctuality; and respect for other people, their property, and their right to learn. It also includes an appropriate respect for those in authority. Students of Loma Linda University are expected to behave in a manner that will not bring criticism upon themselves, the program, the school, or the University.

Because students may be exposed to patients' relatives and friends in any public place, and because their conversations and their attitudes have an effect on those around them, students are asked to observe the following:

- Any information given to the student by a patient or contained in a medical record must be held in strict confidence. Therefore, the discussion of a patient's diagnosis and treatment or other clinically related topics should be extremely guarded. A patient's family and community people may be listening and may incorrectly interpret the things discussed. Careless talk may lead to malpractice litigation.
- A joking or casual attitude toward illness and medical treatment should not be displayed since it may seem uncaring and be disturbing to those who are ill and suffering, as well as to the family members.
- Student and staff behavior in professional situations may be the deciding influence for or against Christian beliefs, values, and a health-enhancing lifestyle.

An in-depth description of the professional conduct expected of students is contained in the Loma Linda University *Student Handbook*.

## GRIEVANCE PROCEDURE

Grievances related to sexual harassment, racial harassment, or discrimination against the disabled shall be pursued in accordance with University policies specifically relating to these items. Grievances related to academic matters or other issues covered by specific policies shall be made pursuant to the policies of the school in which the student is enrolled. A

student who questions whether the process provided by the school has followed the policy of the school in regard to his/her grievance may request the office of the chancellor conduct a review of the process used by the school in responding to his/her academic grievance.

Students who believe that an error has been made or that they have been dealt with in an inappropriate manner by an office or nonacademic department of the University such as records, student finance, student affairs, health services, Drayson Center, etc., may seek correction by the following steps:

1. The student may put his/her complaint in writing and provide it to the head of the department or office involved. The student may request an appointment and discuss this matter with the department head. The department head will make a decision and provide a written answer to the student within fourteen days of receiving the student's written complaint or meeting with the student, whichever is later. If the answer is not satisfactory to the student, s/he may—
2. Put the complaint in writing and send it to the dean of student affairs for review. The matter will be considered at the next meeting of the dean's council, and the student will be informed in writing of the council's response within seven days of the council's consideration of the complaint.

## COPYRIGHT VIOLATIONS

The copyright law of the United States (Title 17, USC) governs the making of photocopies or other reproductions of copyrighted material. Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specific conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a user makes a request for or later uses a photocopy or reproduction for purposes in excess of "fair use," that user may be liable for copyright infringement. This institution reserves the right to refuse to accept a copying order if, in its judgment, fulfillment of the order would involve violation of copyright law.

## COMMUNICATION DEVICES

All communication devices must be set to "off" or "vibrate" during class, laboratory, clinic, or chapel. No cell phones, PDAs, calculators, laptops, or other electronic or communication items may be used in the classroom, testing facility, or laboratory unless specifically a part of that activity and approved by the faculty member in charge.

# Academic Policies and Information

Students of the University are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation. In this section (Section II) are the University regulations. See Section III for regulations that pertain to each school and program.

## REGISTRATION

Registration dates are published on the Web at <[www.llu.edu/ssweb/registration.html](http://www.llu.edu/ssweb/registration.html)>. The Web should be checked for specific dates of registration, since these dates vary during some quarters due to holiday schedules. Posted deadlines for registration and change of registration are in effect and binding.

After consultation with their academic advisor, students register online. Registration procedure includes entering classes online and clearing finance. Students are advised to print the Request for Clearance Submitted form from the Web in order to retain written documentation that they have requested financial clearance. Upon completion of registration, the student must obtain an ID card at the University Office of Student Affairs (first-quarter registration only).

A late-registration period of at least a week prior to the beginning of the quarter and extending to five days after the quarter begins is provided, during which a late-registration fee of \$50 will be charged, unless the course is offered as an intensive that requires registration before the end of the first day of class.

Students may not attend class without being registered. No credit is granted for academic work performed during any quarter without registration.

### Change in registration

A change in registration requires filing a Registration Change Request (Add/Drop) form with the Office of University Records. Students receive written verification each time a change of program is officially approved. Students are advised to retain this written verification as documentation of their registration.

A student may add courses that follow the general University calendar during the first seven calendar days of the quarter. Courses that follow the general University calendar may be dropped during the first fourteen days of the quarter without academic penalty. Course changes after the fourteenth day of the quarter affect the permanent grade record. Students may withdraw from a course prior to the fourteen calendar days before the final examination

week, after which time withdrawals are no longer permitted.

### Study load

Usually an academic study load is defined in terms of credit units. A full undergraduate load is considered to be 12 or more units per quarter; a full graduate load is considered to be 8 units per quarter.

The normal course load, including all course work for which a student may be registered at this or another institution, is 16 quarter units for an undergraduate student and 12 quarter units for a graduate student. Full-time study loads are those specified by the departments for each program. Students of exceptional ability may register for additional course work upon recommendation of the department and consent of the dean.

### Non-LLU courses as part of total load for financial aid

Regular courses for which a student is registered at another financial-aid eligible institution constitute part of the student's study load. Courses must be transferable and required for completion of the student's Loma Linda University degree program. Correspondence and independent study courses are excluded, per federal-aid regulations. Only when the student enrolls in such courses using the Consortium Agreement form (from the Office of Financial Aid) will the course(s) count on the student's total load as eligible for financial-aid and loan-deferment purposes.

A person who is not enrolled in regular classes but who is occupied in research, dissertation, or thesis, is classified as a student. By filing an Academic Load Validation form every quarter at registration, the academic load may be validated for loan deferment.

## STUDENT LEVEL

Students enrolled in a professional program in which they are classified as freshman, sophomore, junior, or senior will be classified according to the level of the course work they are taking (e.g., a student with a previous baccalaureate degree pursuing another baccalaureate degree would be classified as a sophomore while taking sophomore-level courses, etc.).

Students enrolled in block programs are classified according to the level of the block in which they are enrolled (e.g., master's-1st, 2nd, or 3rd year; or freshman, sophomore, junior, senior, as is appropriate for the degree program; or PY1 [professional year 1]).

## COURSE NUMBERS

Courses are numbered as:

001-099	nondegree-applicable credit
101-299	lower division
301-499	upper division
501-599	graduate
601-699	graduate: seminar, research, thesis, or dissertation
701-899	professional or clinical
901-999	continuing education, without academic credit

500-level course work may not apply toward a baccalaureate degree unless the instructor approves it, and both deans (dean of the school offering the course and dean of the school in which the student is enrolled) give permission; and provided the credit does not apply toward both an undergraduate and a graduate degree. Approval is not needed if the course is part of a coordinated program.

No courses numbered in the 700s, 800s, or 900s may apply toward a baccalaureate degree.

## UNIT OF CREDIT

Credit is recorded in quarter units. One unit represents a minimum of 10 class hours in lecture or 30 hours in laboratory practice.

## ATTENDANCE

Regular attendance at all appointments (class, clinic, laboratory, chapel) is required beginning with the first day of each term. A pattern of absence, excused and unexcused, will be referred to the school's designated academic authority for consideration and action.

Excused absences are defined as follows:

- Illness, verified by a physician's statement or official statement from Student Health Service submitted to the school's designated academic authority;
- Participation in an institution-sponsored activity (verified by a written statement from a faculty sponsor);
- Recognizable emergency approved by the school's designated academic authority.

Tardiness is disruptive, distracting, and inconsistent with professional behavior. Students who arrive after the beginning of class may be counted absent.

Information regarding the school's designated academic authority can be obtained from the Office of the Dean.

## COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

The College Level Examination Program (CLEP), a national program of credit by examination, offers persons of all ages and backgrounds new opportunities to obtain recognition for college-level achievement, no matter how acquired.

As of July 2001, general examinations are no longer offered; however, the policy remains in effect for students who took general examinations prior to that date. No credit is granted for the CLEP general examinations in English composition, mathematics, or science courses requiring a laboratory.

As of July 1, 2004, in order to receive Loma Linda University credit, students must complete all examinations for CLEP credit within six months after having received their initial degree-compliance report. A student will be allowed to challenge a given course by examination only once. CLEP scores will be accepted at C or better until percentiles are available from CLEP. Credit is granted for scores at or above the 50th percentile for the subject examinations, and at the 65th percentile for general examinations in the humanities, natural sciences, and social sciences/history.

## CREDIT BY EXAMINATION

For certain courses offered by the University, a student in an undergraduate degree program may earn credit by passing an equivalency examination administered by the appropriate school and department. Such an examination is at least equal in scope and difficulty to a final examination in the course and may include materials supplied by CLEP or other agencies.

A graduate program should be used to acquire new knowledge. Since the purpose of credit by examination is to validate prior knowledge, graduate credit may not be earned by examination. If a required course in the degree program is a repeat of prior learning, the student may request a waiver, thus making it possible to take elective courses that would increase knowledge.

A student currently enrolled in a degree program at this University who desires credit by equivalency examination petitions the dean of the school offering the course, and, upon approval, pays a testing fee. See Schedule of Charges in the Financial Information section for examination fee.

Equivalency examinations may not duplicate credit already earned through course work, including courses taken for audit.

A grade of CR (Credit) is given only after the student has completed one quarter, or the equivalent, at this University; and has earned 12 units of credit with a grade-point average of at least 2.0 in undergraduate courses.

Units earned by equivalency may not be used as part of the enrolled load.

Equivalency examinations must be taken before the final quarter of residency.

The maximum amount of credit that may be earned by equivalency examination is determined by each school but may not exceed a maximum of 20 percent of the units required for the degree or certificate.

### COURSE WAIVER

Certain course requirements in a program may be waived on the basis of previously completed course work, experience, or licensure. An examination for waiver credit, if required, may be taken only once and must be taken before the last quarter of the program of study. Waiver of a specific course requirement does not reduce the number of units required for a program or residency requirements. A waiver examination does not carry academic credit and cannot be used to make up for a course in which an unsatisfactory grade was received. For examination fee, see Schedule of Charges in the Financial Information section.

Permission to waive a course requirement in the School of Pharmacy requires prior approval of the department chair and consent of the dean.

### INDEPENDENT STUDY

Independent study may be undertaken subject to the consent of the department chair and/or the Office of the Dean. The student is responsible for completion of the Directed/Independent Study Title Request form in addition to the regular registration. University policy limits directed study to 12 quarter units of undergraduate credit and 8 units of graduate credit in a degree program. Individual programs may further limit these units. The Office of the Dean should be consulted regarding limits on credit earned through independent study. Independent study is to be completed in adequate time before graduation to allow recording in the Office of University Records.

### EXTENSION STUDY

To be acceptable for credit, an extension course must be evaluated as to its equivalence to an accepted course. To assure that the course will transfer to Loma Linda University, the student should contact the Office of University Records prior to taking the course. Registration for extension study requires prior approval of the department chair and consent of the dean.

### SCHOLASTIC STANDING

#### Grades and grade points

The following grades and grade points are used in this University. Each course taught in the schools has

been approved for either a letter grade and/or an S/U grade.

A	4.0	Outstanding performance.
A-	3.7	
B+	3.3	
B	3.0	Very good performance for undergraduate credit; Satisfactory performance for graduate credit.
B-	2.7	
C+	2.3	
C	2.0	Satisfactory performance for undergraduate credit. Minimum performance for which credit is granted toward a degree in the School of Nursing or the School of Allied Health Professions.
C-	1.7	Minimum performance for which credit is granted toward a degree in the School of Dentistry, the School of Pharmacy, or the School of Public Health.
D+	1.3	
D	1.0	Minimum performance for which undergraduate credit is granted, except as indicated above.
F	0.0	Failure—given for not meeting minimum performance.
S	none	Satisfactory performance—counted toward graduation. Equivalent to a C grade or better in undergraduate courses, or a B grade or better in graduate courses. An S grade is not computed in the grade-point average. A student may request a grade of S in only a limited amount of course work as determined by the school. This is done by the student's filing with the Office of University Records the appropriate form prior to fourteen calendar days before the final examination week. Once filed, the grade is not subject to change.
U	none	Unsatisfactory performance—given only when performance for an S-specified course falls below a C grade level in an undergraduate course or a B grade level in a graduate course. Similar filing procedures as given for S grade above are required. The U grade is not computed in the grade-point average.
S/N	none	Satisfactory performance in a clock-hour course. Not included in total units. Same grading criteria as the S grade given for a credit-hour course.
U/N	none	Unsatisfactory performance in a clock-hour course. Not included in total units. Same grading criteria as the U grade given for a credit-hour course.
CR	none	Credit for Credit by Examination. Counted toward graduation/units earned but not units attempted. Such credit cannot be counted for financial aid purposes.

NC none No credit for Credit by Examination. Does not count for any purpose.

W Withdrawal—given for withdrawal from a course prior to fourteen calendar days before the final examination week. Withdrawals during the first fourteen calendar days of a quarter or the first seven calendar days of a five-week summer session are not recorded if the student files with the Office of University Records the appropriate form prior to the cut-off date.

Withdrawals outside this time frame, upon recommendation of the dean, may be removed at the discretion of the vice president for academic affairs. In the case of nontraditionally scheduled courses, W will be given for withdrawal from a course prior to completion of 80 percent of the course, excluding the final examination period.

Withdrawals during the first 20 percent of a course, excluding the final examination period, are not recorded if the student files with the Office of University Records the appropriate form prior to the date when this 20 percent of the course is completed.

A student may withdraw only once from a named cognate course that s/he is failing at the time of withdrawal.

UW Unofficial Withdrawal—indicates that the student discontinued class attendance after the close of registration but failed to withdraw officially.

I Incomplete—given when the majority of the course work has been completed and circumstances beyond a student’s control result in the student being unable to complete the quarter. An I notation may be changed to a grade only by the instructor before the end of the following term (excluding the summer sessions for those not in attendance during that term). Incomplete units are not calculated in the grade-point average.

By use of the petition form—available online at [www.llu.edu/central/ssweb/registration.page](http://www.llu.edu/central/ssweb/registration.page)—the student requests an I notation from the instructor, stating the reason for the request and obtaining the signatures of the instructor, the department chair, and the associate dean. The form is left with the instructor. The instructor reports the I notation on the grade-report form, as well as the grade the student will receive if the deficiency is not removed within the time limit. The petition form is then filed with the Office

of University Records along with the grade-report form. The notation I is not granted as a remedy for overload, failure on final examination, absence from final examination for other than an emergency situation, or a low grade to be raised with extra work.

IP In Progress—indicates that the course has a duration of more than a single term and will be completed by the student no later than the final term of the course, not to exceed five quarters for independent study and research courses (original quarter of registration plus four additional quarters). The student’s final grade will be reported on the instructor’s grade report at the end of the term in which the course is completed. If the course work is not completed within the five-quarter time limit, a grade of U will be given.

AU Audit—indicates registration for attendance only, with 80 percent class attendance considered a requirement. A request to change a credit course to audit or an audit course to credit may be made no later than the fourteenth calendar day after the beginning of a quarter, or the seventh calendar day after the beginning of the five-week summer session. (This does not apply to short summer courses lasting only a week or two.)

AUW Audit Withdrawal—given for withdrawing from a course, or to indicate that the 80 percent class attendance requirement was not met.

**ACADEMIC STANDING**

The following classifications are based on scholastic performance, as defined by each school within the University: regular standing or academic probation.

**VETERANS BENEFITS**

Under Title 38 of the U.S. Code, Loma Linda University is approved for the training of veterans and other eligible persons. Information regarding eligibility for these programs may be obtained by calling 888/GIBILL1 or 888/442-4551. Application for benefits must be made directly to the Veterans Administration (VA) and may be done via the Web.

The Office of University Records serves as the certifying official for Loma Linda University. Students should contact the certifying official prior to their first enrollment certification.

Students receiving veteran’s benefits who fail for three consecutive quarters to maintain the cumulative grade-point average (G.P.A.) required for graduation will have their benefits interrupted, and the VA office will be notified.

School of Medicine students must maintain satisfactory grades for all required courses for the year in which they are currently enrolled. If a grade in a required course reflects unsatisfactory progress, the School of Medicine student will not be certified until his/her probationary status (usually one year) has been removed.

For more information, open links to the VA Web site ("Students" or "Prospective Students") on the University Web page at <<http://www.llu.edu>>.

### **PRIVACY RIGHTS OF STUDENTS IN ACADEMIC RECORDS**

Under the Family Education Rights and Privacy Act (FERPA), students have full rights of privacy with regard to their academic records, including their grade reports. Grades are available to the student online at <[www.llu.edu/central/ssweb/index.page](http://www.llu.edu/central/ssweb/index.page)>. The Office of University Records sends one copy of the student grade report to the school.

The campus is authorized under FERPA to release "directory information" concerning students. The University has classified the following as student directory information which may be released: name, address (permanent and local), picture, marital status, birth date, school, program, class, previous college, and telephone number, unless the student specifically requests in writing that the information not be released. Directory information will only be released by the academic dean's office of the school in which the student is enrolled. All requests for directory information received by all other offices of the University will be transferred to the appropriate school office.

### **GRADE CHANGE**

Faculty members are responsible for evaluating and assigning grades. A grade may not be changed except when an error has been made in arriving at or recording a grade. Such changes are permissible up to the end of the succeeding term.

The faculty member must obtain the dean's signature on the Change of Grade form after the initial grade has been entered.

### **REPEATING A COURSE**

Once grades have been posted for a course, a student wishing to improve his/her grade must repeat the course. When repeating a course, the student must attend class and laboratory sessions as ordinarily required and take all regularly scheduled examinations. The amount of tuition paid for repeated courses is determined by the school. Both the original and the repeat grades will appear on the student's permanent record, but only the repeat grade is computed in the G.P.A. and included in the total units earned. *A student may repeat a course only once,*

*and no more than two courses may be repeated in a student's degree program.*

### **PERSONAL LEAVE OF ABSENCE**

A leave of absence is defined as being away from school for the remainder of the quarter, to a maximum of one year, without the intent to return. The appropriate program withdrawal form must be obtained from the University Web site and approved by the dean or his/her designee prior to the student's departure. Stipulations for re-entry are given to the student in writing. The student should consult the Office of the Dean regarding the possibility of maintaining health coverage and continuous registration during the leave period.

### **WITHDRAWAL**

To withdraw from a course(s), the student must complete a Registration Change Request (Add/Drop) form. If a student finds it necessary to withdraw from a degree or certificate program, the dean (or his/her designee) must be notified in writing. The student then arranges for formal withdrawal from the program by filing a Program Withdrawal form from the University Web site. The Change of Program form or the Registration Change Request (Add/Drop) form should be completed as soon as possible after the student determines that s/he cannot complete the quarter. These forms must be filed no later than fourteen days prior to the end of the quarter.

Courses dropped during the first two weeks of the term are not included in the student's permanent record.

If a student is discontinuing the entire program, the date the Program Withdrawal form is properly submitted to the Office of University Records will be the date of withdrawal used to calculate tuition refunds. Tuition is refunded according to the practice outlined in the Financial Information section of this CATALOG. Failure to file the Program Withdrawal form may result in avoidable charges to the student's account. *The tuition-refund policy for off-campus students is listed under the applicable school in Section III of this CATALOG.*

### **ADMINISTRATIVE WITHDRAWAL**

Students who fail to make arrangements for a leave of absence or continuing registration may be administratively withdrawn from school. After one quarter, if the student has not re-enrolled, s/he will be inactivated.



## **FACILITATING THE TRANSFER OF CURRENTLY REGISTERED STUDENTS**

The following steps apply to processing an application for a student who is currently registered at Loma Linda University:

1. The student submits application (online or paper) to a new program that is not part of a joint/combined-degree arrangement.
2. The Office of University Records prominently flags the transcript as being from a currently registered student.
3. The flagged University transcript is forwarded to the new program for evaluation.
4. The new program contacts a designated person in the home school/program to obtain relevant information about the student without revealing that an application is under consideration.
5. If the new program decides to accept the student, the acceptance letter instructs the student to take one of the following actions—
  - Send a letter/deposit accepting the offer of admission and process a Total Withdrawal form or a Leave of Absence form for the program s/he is leaving, or
  - Decline the offer of admission.
6. The home program has an opportunity to speak with the student when s/he attempts to get an advisor's signature on the Total Withdrawal form.
7. The Office of University Records updates the student's program in Banner upon the Total Withdrawal and acceptance into the new program.

## **ACADEMIC RESIDENCE**

A student must meet the residence requirements indicated for a particular degree or certificate.

## **CATALOG IN EFFECT FOR DEGREE REQUIREMENTS**

Subject to department approval, students may complete degree requirements outlined in any CATALOG in effect during the time they are enrolled as accepted students in a school. However, students who have been on leave of absence for more than one year, or who failed to register without leave of absence (consult Office of the Dean regarding number of quarters) may be required to re-enter the program under the CATALOG in effect at the time of re-entry, with the exception of students who are on leave from a school to pursue a medical or dental degree at this

University. Such students may complete their program under their original CATALOG.

## **GRADUATION**

The responsibility for meeting graduation requirements rests primarily upon the student. Therefore, students should read and understand the requirements as set forth in this CATALOG and consult carefully with their advisor to plan a sequence of courses each term that fulfills these requirements. A student's program of study is governed by the requirements listed in the University CATALOG at the time of admission; however, when circumstances demand, the University reserves the right to make changes with reference to admission, registration, tuition and fees, attendance, curriculum requirements, conduct, academic standing, candidacy, and graduation.

The undergraduate who plans to graduate must submit an "Undergraduate Intent to Graduate" form two quarters prior to graduation. The form is available online at [www.llu.edu/ssweb/documents/intgrad.pdf](http://www.llu.edu/ssweb/documents/intgrad.pdf).

## **COMMENCEMENT EXERCISES**

The candidate completing requirements in the Spring Quarter is expected to be present at the commencement exercises and receive the diploma in person. Permission for the degree to be conferred in absentia is contingent upon the recommendation of the dean to the chancellor and can be granted only by the chancellor. If a candidate has not satisfactorily fulfilled all requirements, the University reserves the right to prohibit participation in commencement exercises.

## **DIPLOMAS**

All diplomas issued to graduates list the degrees only. No official diploma is awarded that identifies a specific area of specialization.

## Financial Policies and 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 with this University must have been settled. Registration is not complete until tuition and fees for each term are paid; therefore, the student should be prepared to make these payments during scheduled registration periods for each academic year. Tuition and fees may vary from amounts shown.

### STUDENT FEES

Students attending this University will be charged an enrollment fee, based on the criteria indicated below. Neither the fee in total nor any portion of the fee will be waived under any circumstances. Other school-specific charges—such as technology fees, laboratory fees, etc.—may also appear on the student account. The following criteria govern the enrollment fee:

1. Students who are accepted into a degree program and registered will be charged the enrollment fee, regardless of the number of units for which they are registered.
2. Students who are not accepted into a degree program but who are registered as nondegree students for more than four (4) units will be charged the enrollment fee.
3. Students who are working on "In Progress" courses and who are not registered for any other units will be charged the enrollment fee.
4. A student who is charged the enrollment fee but who drops all units before the deadline for a full refund (generally one week after the first day of classes), will receive a full refund of the enrollment fee and will have no access to any University benefits. Please refer to the percent-refund policy.
5. LLUAHSC employees who are "full-time, benefit eligible" will not be charged the enrollment fee, whether they are using their education benefit or not. Spouses of employees who are using the employee benefit will be charged the enrollment fee.
6. Students participating in an off-campus or online program will not be charged the enrollment fee unless the program specifically requires this fee.
7. Other school-specific fees will be charged independent of the enrollment fee.

Note: The student enrollment fee includes health coverage.

### GENERAL PRACTICES

#### Advance payments/refunds

Students whose student loans are pending at the time of registration—whose applications were not filed at least thirty days prior to registration or who have not paid the balance due for registration—will be charged a \$50.00 late payment. Tuition and fees are due and payable in full before or at registration each term. If a student withdraws from a per-unit course or from a block or nonblock registration up to 60 percent into a term, tuition will be refunded on a pro-rata basis. Students who drop a course from a block program of courses will not receive a refund (please refer to the quarterly registration and refund dates <[www.llu.edu/ssweb/0terms/regdates.html](http://www.llu.edu/ssweb/0terms/regdates.html)>).

#### Monthly statement

The amount of the monthly statement is due and payable in full upon presentation of the statement. A student unable to meet this requirement must make proper arrangements with the director of student finance. An account that is more than thirty days past due is subject to a finance charge of .833 percent per month (10 percent per year). Failure to pay scheduled charges or to make proper arrangements will be reported to the respective school and may cause 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—

- each term in order to complete registration;
- before receiving a certificate or diploma;
- before requesting a transcript, statement of completion, or other certification to be issued to any person, organization, or professional board.

To obtain financial clearance from the Student Loan Collections Office, students with campus-based student loans must be current on all scheduled loan-account payments and must have fully completed a loan exit interview, after ceasing to be enrolled for at least half time at this University. If the student's loan accounts are not current, or an exit interview has not been fully completed, a hold will be placed by the Student Loan Collection Office on transcript, diploma, or degree verification; and PIE requests and other services may be denied. Please note that all student loans are reported to a credit bureau organization on a monthly basis. If a student fails to comply with the terms and conditions of the promissory note, the Student Loan Collection Office will accelerate the loan(s), place the student loan(s) in collection with an outside agency, and demand immediate payment of the entire unpaid balance—including principal, interest due, late fees, other fees, collection costs, attorney costs, and legal costs.

**Payments**

Bankcard, ACH, check, wire transfer, and cash payments are accepted. Checks should be made payable to Loma Linda University and should indicate the student's ID number to ensure that the correct account is credited. In case a payment is returned, there will be a \$25.00 returned-item fee assessed. Payments are accepted in person at Student Finance, by mail, and online at <[www.llu.edu/central/ssweb/studentfinance/index.page](http://www.llu.edu/central/ssweb/studentfinance/index.page)>.

**DEPOSITS****Acceptance Deposit**

Upon notification of acceptance, the student makes the required deposit (see school or program for specific deposit amount). This amount is deducted from the tuition and fees due at registration or forfeited if the student does not enroll.

**Room and key deposit**

Residence hall room and key deposits for Daniells Complex and for Lindsay Hall are forfeited after August 15 if occupancy does not follow for the Autumn Quarter. At the close of the term of residence, both the room deposit and the key deposit are refunded after the dean's inspection and clearance and the student's return of the key.

**HOUSING**

If a student is interested in on-campus/residential housing, application may be made online at <[www.llu.edu/central/housing/index.page](http://www.llu.edu/central/housing/index.page)>.

**INTERNATIONAL STUDENTS**

International applicants (non-U.S. citizens and non-U.S. permanent residents) must meet all admissions requirements for the chosen program before an offer of acceptance can be issued. This includes providing evidence of their ability to meet estimated living expenses and all financial obligations to the University that will occur during their program.

After acceptance into the chosen program, the office of International Student and Scholar Services will contact international applicants and guide them through the appropriate procedures. For questions, please telephone International Student and Scholar Services at 909/558-4955.

**HEALTH SERVICE**

A student registered for more than four units per quarter or enrolled in a certificate or degree program is automatically covered by the Student Health Plan provisions. A nondegree student may request and pay for health-plan coverage if s/he is a part-time student who has been accepted into a Board approved (degree or certificate) program and is currently registered for 1-4 units. For further

information, see the Student Health Plan in the Student Life section of this CATALOG.

**STUDENT AID**

The University participates in grant, scholarship, and loan programs. Financial assistance is available to students from University and government loan funds and other special trust funds. A needs-analysis system approved by the federal government is used to evaluate the need for financial aid. A parental contribution factor is considered for dependent students.

It is necessary for students who are seeking financial assistance to file the Free Application for Federal Student Aid (FAFSA) as soon as possible for the current academic year.

**Loans**

Loans are available both to undergraduate and graduate students who are eligible to participate in government loan programs. Loans are restricted to citizens of the United States and certain eligible noncitizens. Certain funds are interest free while a student is enrolled at least half time. Inquiries about loans should be made to the Office of Financial Aid.

**Work-study program**

Work opportunities may be available to students after financial need is determined by the Office of Financial Aid. The majority of funding for on-campus employment is provided by the United States government for United States citizens and certain eligible noncitizens.

**Financial aid applications**

To apply for financial aid for the 2009-2010 academic year (Summer Quarter through Spring Quarter), the student must complete a FAFSA. FAFSA applications are available online at <[www.fafsa.edu.gov](http://www.fafsa.edu.gov)>. The FAFSA application must be renewed annually.

Cal Grant deadline is March 2.

**VETERANS BENEFITS**

Under Title 38 of the U. S. Code, Loma Linda University is approved for the training of veterans and other eligible persons. Information regarding eligibility for these programs may be obtained by calling 888/GIBILL1 or 888/442-4551. Application for benefits must be made directly to the Veterans Administration (VA) and may be done via the Web. The Office of University Records serves as the certifying official for Loma Linda University. Students should contact the certifying official prior to their first enrollment certification.

Students receiving veteran's benefits who fail for three consecutive quarters to maintain the cumulative grade-point average (G.P.A.) required for graduation will have their benefits interrupted, and the VA office will be notified.

School of Medicine students must maintain satisfactory grades for all required courses for the year in which they are currently enrolled. If a grade in a required course reflects unsatisfactory progress, the School of Medicine student will not be certified until his/her probationary status (usually one year) has been removed.

For more information, open links to the VA Web site ("Students" or "Prospective Students") on the University home Web page at <http://www.llu.edu>.

### **WICHE**

The University participates in the student-exchange program of the Western Interstate Commission for Higher Education (WICHE). Eligibility requirements vary among states. Interested students should apply to their state's certifying officer for further information.

The name and address of the certifying officer can be obtained from the Western Interstate Commission for Higher Education, 3035 Center Green Drive Suite 200, Boulder, CO., 80301. Web page: [wiche.edu/sep/psep/](http://wiche.edu/sep/psep/).

Inquiry may also be made at the Office of Student Financial Aid. The application deadline is October 15 prior to the year aid is needed.

# III

## ABOUT THE SCHOOLS

**School of Allied Health Professions**

**School of Dentistry**

**School of Medicine**

**School of Nursing**

**School of Pharmacy**

**School of Public Health**

**School of Religion**

**School of Science and Technology**

**Faculty of Graduate Studies**

# School of Allied Health Professions

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  - Imaging Informatics
  - Magnetic Resonance Imaging (MRI)
  - Phlebotomy

## Dean's Welcome

Welcome to the School of Allied Health Professions at Loma Linda University. Here you will receive a quality education from a committed faculty and staff. Regardless of the discipline you have chosen to study, we believe we offer an environment that fosters academic excellence, professional competence, and spiritual development.

Our close and effective connection with Loma Linda University Medical Center enables both students and faculty to stay on the cutting edge of health care practice. The school's more than 1,300 clinical affiliations throughout the United States offer a wide variety of experience options designed to develop a well-rounded health care professional.

In the School of Allied Health Professions, we are committed to your education and professional development; and we believe that it is more than just clinical competence—it is our emphasis on the development of the caring and compassionate professional—that sets us apart.



A handwritten signature in black ink that reads "Craig R. Jackson". The signature is written in a cursive, flowing style.

Craig R. Jackson, J.D., M.S.W.  
Dean

## School Foundations

The School of Allied Health Professions was established in 1966 (under the name School of Health Related Professions, 1966-1971) to consolidate the administration of individual curricula initiated earlier in the University: medical technology, 1937; physical therapy, 1941; medical radiography, 1941; occupational therapy, 1959; health information management (formerly medical record administration), 1963.



Curricula added since the school was established are nuclear medicine technology, 1970; radiation therapy technology, 1970; cardiopulmonary sciences (formerly respiratory therapy), 1971; nutrition and dietetics, 1972; medical sonography, 1976; special imaging technology, 1976; cytotechnology, 1982; coding specialist, 1987; occupational therapy assistant, 1988; physical therapist assistant, 1989; emergency medical care, 1993; surgical technology, 1995; physician assistant, 2000; polysomnography, 2002; radiologist assistant, 2003; medical dosimetry, 2003. The curriculum in speech-language pathology and audiology, renamed communication sciences and disorders in 2009, was initiated in 1965 under the auspices of the College of Arts and Sciences of La Sierra University (formerly Loma Linda University, La Sierra campus). The program was transferred to the School of Allied Health Professions in 1987. Particulars governing programs currently offered are detailed in this section of the CATALOG following information that pertains to students schoolwide.

## Mission and Goals

### OUR MISSION

The School of Allied Health Professions is dedicated to fulfilling the mission of Loma Linda University through academic and clinical training of allied health professionals. The school prepares competent health professionals in a Christian environment that emphasizes the healing and teaching ministry of Jesus Christ "to make man whole."

To meet local, national, and international allied health care needs, we seek to serve:

1. Students choosing to become health care professionals.
2. Individuals in need of medical care or health promotion programs.
3. Faculty and staff committed to working with students in a Christian educational setting.

### OUR GOALS

The goals of the School of Allied Health Professions are to:

1. Provide an environment in which the student may develop responsibility for integrity, ethical relationships, and empathic attitudes that contribute to the welfare and well-being of patients.
2. Help the student accept responsibility for integrity, ethical relationships, and empathic attitudes that can contribute to the welfare and well-being of patients.
3. Help the student develop a background of information and attitudes conducive to interprofessional understanding and cooperation.
4. Encourage the student to cultivate habits of self-education that will foster lifelong growth.
5. Engender and nurture in the student the desire to serve humankind—and, in particular, to serve as needed in the medical centers sponsored by the Seventh-day Adventist Church, both in this country and elsewhere.

The goals of the School of Allied Health Professions for the ideal graduate are that s/he:

1. Demonstrates clinical competence in his/her chosen profession.
2. Operates from a foundation of personal and professional ethics that incorporates the fundamental values espoused by Loma Linda University.
3. Demonstrates compassion for others in the manner of Christ.



4. Clarifies his/her values and attitudes of human worth in relationship to his/her understanding of God.
5. Performs effectively within a team setting.
6. Communicates effectively with peers, supervisors, patients, family, and the community—orally and in writing—with sensitivity to nonverbal communication.
7. Analyzes and responds to the changing field of health care.
8. Critically analyzes data.
9. Reads and interprets research papers.
10. Contributes to the chosen health profession through participation in professional organizations.
11. Utilizes a theoretical foundation as a basis for treatment or management.
12. Incorporates wholeness into all aspects of personal and professional life.
13. Demonstrates sensitivity when accommodating diversity among individuals.
14. Commits to lifelong personal and professional learning.
15. Demonstrates basic skills in personal financial management and, where appropriate, in practice management.

### **EVALUATION OF MISSION AND GOALS—WHOLENESS PORTFOLIO—DEVELOPMENT PRACTICUM**

Portfolio is a tool by which students develop and personally achieve goals established by the School of Allied Health Professions. The school conducts an evaluation program that includes courses, validation of writing, and standardized measures related to wholeness. The evaluation courses—Wholeness Portfolio I, II, as well as Graduate Wholeness Portfolio—are intended to be a means of integrating the wholeness concept into the lives of the students and of assessing the outcome of their educational process. The portfolio faculty and staff assist students in understanding and modeling the mission of Loma Linda University and School of Allied Health Professions.

Each portfolio course is in progress for three-to-four quarters, during which time the student is developing a portfolio based on the fifteen goals of the school (see Mission and Goals above). The final portfolio provides the student with an organized, goal-driven documentation of growth and achieved competence of abilities in a personal and professional realm of skills.

An Associate in Science degree program student completes the one-year portfolio practicum; all other undergraduate students complete portfolio practicums I and II over a two-year period. Each graduate student completes a graduate portfolio.

## **General Regulations**

Students of the University are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation. Section III gives the general setting for the programs of each school and the subject and unit requirements for admission to individual professional programs. It is important to review specific program requirements in the context of the general requirements applicable to all programs.

### **ADMISSIONS POLICIES AND 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 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.

In selecting students, the Admissions Committee of the School of Allied Health Professions looks for evidence of self-discipline, personal integrity, and intellectual vigor. The committee also looks for evidence that students possess the capabilities required to complete the full curriculum in the allotted time and to achieve the levels of competence required. Acceptance of the applicant into any program is contingent on the recommendation of the department conducting the program.

An interview with faculty is required by most programs. Loma Linda University was established to provide education in a distinctively Christian environment, and its students are expected to adopt Christian ethical and moral standards as a basis for their conduct. It must be understood further that, in harmony with the University's emphasis on health and the health professions and the practices of the supporting church, applicants who use tobacco, alcoholic beverages, or narcotics should not expect to be admitted.

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

## APPLICATION AND ACCEPTANCE

### Where to write

Correspondence about admission to all programs and requests for application information should be addressed to the Office of Admissions and Records, School of Allied Health Professions, Loma Linda University, Loma Linda, CA 92350.

### Apply early

One class is admitted annually to most of the professional programs. Most programs begin with the Autumn Quarter. Exceptions are noted in the respective programs of this CATALOG.

Late applications are considered as long as space is available. Notifications generally are sent between January 1 and May 15, depending on the completeness of information provided and the date of application. Applicants should inquire at the Office of Admissions and Records if notice of action is not received by April 15 for occupational therapy and physical therapy, and by May 15 for other programs.

### Application review process

All completed applications are first reviewed by the department chair and faculty. A recommendation on each application is then submitted to the school's Admissions Committee, which makes the final decision regarding acceptance.

### Procedure

The procedure for application and acceptance is given below. All correspondence and documents are to be sent to the Office of Admissions and Records, School of Allied Health Professions, Loma Linda University, Loma Linda, CA 92350.

1. File the complete application form (including recommendations, if received), accompanied by the \$60 application fee.
2. Request that transcripts of all college course work be sent to the school. High school transcripts are required of all applicants in order to verify graduation and completion of high school mathematics.
3. Upon receipt of the notice of acceptance, return the required deposit and the card provided to confirm acceptance.
4. Provide health records or certificates, as required.

### Online application

Applications are available online at <[www.llu.edu](http://www.llu.edu)>. (Click on "apply" under Loma Linda University.)

### Applicant's records

The application and all records submitted in support of the application become the property of the University.

## ENTRANCE REQUIREMENTS

### Subject/diploma requirements

High school and college subject requirements for each program are outlined in the respective programs. Students are required to furnish evidence of completion (official transcript) of high school in order to be granted admission to undergraduate programs in schools of the University. A high school diploma or its equivalent, the GED, is required.

### Grade requirement

Eligibility for consideration by the Admissions Committee is based on a grade-point average of at least 2.0 (on a 4.0 scale) for all course work (science and nonscience subjects computed separately) presented in fulfillment of entrance requirements for all programs in the school. A grade-point average considerably higher than the minimum is expected because of the nature of the studies in many professional programs and the competition for the limited number of openings. In general, grade-point averages between 2.5 and 3.0 are considered minimal, depending on the program. A minimum grade of C (2.0) is required for all college transfer courses.

### Transcripts

Transcripts (the documents by which institutions officially convey the grades and credits earned in specific subjects and the stage of completion of curriculum requirements) are accepted only when sent directly to the University by the issuing institution. Transcripts received by the Loma Linda University become the property of the University and will not be released to the student or forwarded to any other institution upon request of the student.

### Academic probation

Students whose cumulative G.P.A. at the end of any quarter is less than the minimum required by the school or program will be placed on academic probation, and the number of units for subsequent registrations will be restricted to a maximum determined by the school of program. A student on academic probation jeopardizes his or her standing in a degree or certificate program.

## Student Life

The information on student life contained in this CATALOG is brief. The most current *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.

### PROFESSIONAL STANDARDS

#### Personal grooming

Good taste indicates that haircut, hairstyling, and personal grooming be neat, and conservative rather than ostentatious.

Grooming and style should also be practical, so that the student can perform assigned duties without embarrassment or inconvenience. Specifically:

- Men's hair must be neatly trimmed and not fall below the collar. Ponytails, spikes, and dreadlocks are not acceptable.
- Mustaches and beards, if worn, must be neat and closely trimmed.
- Women's hair, if long, may be required to be tied back. Spikes and dreadlocks are not acceptable.
- The wearing of hats indoors is not acceptable.
- Words, pictures, and/or symbols displayed on clothing should be consistent with a Christian institution and sensitive to a diverse student population.
- Excessive make-up and fragrances are not appropriate.
- Rings, if worn, should be low profile and limited to one finger per hand. Male students are not allowed to wear ear ornaments. If worn by women, ear ornaments are limited to simple studs and should not drop below the bottom of the earlobes. Such ornaments are limited to one per ear. Rings or ornaments in other anatomical sites are not acceptable.
- Fingernails should be maintained in a professional manner, closely trimmed, and should not interfere with patient safety and comfort during treatments. Nail polish, if worn, should be of a subdued color.

## Academic Policies and Information

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

### ACADEMIC RESIDENCE

In order to graduate from Loma Linda University with a bachelor's degree, a student must complete at least 32 of the last 48 units, or a minimum of 45 total units of course work, at this University. A minimum grade of C (2.0) or better is required for all B.S. and postbaccalaureate degrees.

### GRADUATION CEREMONIES

Graduation events include formal ceremonies identified as conferring of degrees, awarding of diplomas, and recognition of candidates for degrees. Other related graduation events include the baccalaureate and vespers services. The conferring of degrees ceremony(ies) occurs at the close of the Spring Quarter and includes an academic procession, the formal conferring of degrees by the president, and the presentation of diplomas by the dean of the school. Candidates who complete the requirements for degrees and certificates are invited, with families and friends, to attend and participate in these important and colorful events.

To be eligible to participate in graduation events, candidates must have completed all requirements for the degree, including prerequisites and/or corequisites, as specified by the school. In certain degree programs, upon authorization of the dean, exceptions will be made for candidates who:

- Have only clinical experience requirements to complete and can project completion by the end of the calendar year;
- Can complete remaining degree requirements by the end of the Summer Quarter; or
- Are in a block program.

The still in-progress course work may not exceed 8 units for graduate students or 12 units for undergraduate students. A student who completes the requirements for a degree or certificate (other than clinical experience) at the end of the Summer, Autumn, or Winter Quarter is invited to participate in the subsequent June commencement events. The official date of graduation on the diploma is ordinarily the last day of the term in which the requirements for a degree are completed.

Superior academic performance and achievement in scholarship and leadership are recognized in the printed graduation program for persons who complete their baccalaureate degree and who at the end of the quarter preceding their final term have acquired a cumulative grade-point average for all college work (includes course work taken at other colleges/universities, except for remedial courses), as follows:

- 3.5 Graduation cum laude
- 3.8 Graduation magna cum laude
- 3.9 Graduation summa cum laude

Although the official commencement program indicates names of graduates who qualify for honors on the basis of their grade-point average as of the end of the quarter preceding their final term, the subsequently issued diploma and transcript may indicate graduation with honors if the student's final quarter's record has increased the grade-point average sufficiently to qualify for honors at that time.

## SCHOLASTIC STANDING

### Repeating a course

A student who receives an unsatisfactory grade in a required course and is required by the faculty to do additional work may request permission of the faculty to pursue one of the following plans. In either plan the student must register and pay the applicable tuition.

1. Review the course work under supervision and take a make-up examination (usually not given before a minimum of two weeks of study). A passing grade resulting from a repeat examination will be limited to a C (2.0). (See the Schedule of Charges in the Financial Information section of this CATALOG for the tuition rate for tutorial course work.)
2. Repeat the course, attend class and/or laboratory, and take the final course examination. Full tuition will be charged whether regular or occasional attendance is required. (See the Schedule of Charges in the Financial Information section of this CATALOG for the tuition rate.)

A student who receives an unsatisfactory grade in a required clinical-experience course and is required by the faculty to do additional work must reregister and pay the applicable fee. (See the Schedule of Charges in the Financial Information section of this CATALOG for the fee for repeat of clinical experience.)

Both the original and repeat grades are entered in the student's permanent academic record, but only the repeat grade is computed in the grade-point average. A course may be repeated only one time.

### Promotion and probation

Each student's record is reviewed quarterly by the faculty. Promotion is contingent on satisfactory academic and professional performance and on factors related to aptitude, proficiency, and responsiveness to the established aims of the school and of the profession. As an indication of satisfactory academic performance, the student is expected to maintain the following grade-point average:

- 2.0 Associate and baccalaureate degree programs
- 2.5 Master's degree program
- 3.0 Doctoral degree program

A student whose grade-point average in any term falls below the minimum required for the degree, or who receives in any professional or required course a grade less than a C (2.0), or whose clinical performance is unsatisfactory is automatically placed on academic probation. Continued enrollment is subject to the recommendation of the department. If continued enrollment is not recommended, the case is referred to the Administrative Council of the school for final action.

If continued enrollment is recommended, the student will be required to institute a learning-assistance plan within the first two weeks of the following quarter and meet regularly scheduled appointments with the academic advisor. The learning-assistance plan should: identify the problem, identify and list the goals, state the time frame, and include student and advisor signatures and date.

A student who is on academic probation and fails to make the minimum required grade-point average the following quarter or fails to have an overall minimum grade-point average after two quarters will have disqualified him-/herself from the program.

### Standard of student progress (time framework)

After initial enrollment in a program, students must complete program requirements within the following time frames:

A.S. degree	3 years
B.S. degree	5 years
Master's degree	5 years
Doctoral degree	7 years

# Allied Health Studies

The Department of Allied Health Studies provides a variety of administrative and support services to the school's academic departments, including: development, marketing, admissions, computer support and training, portfolio, and financial services. In addition, the Department of Allied Health Studies supports programs offered at distance education sites, online, and in conjunction with other schools of the University.

## FACULTY

Shigenobu Arakaki  
 Kent Chow  
 Noha S. Daher  
 G. Charles Dart, Jr.  
 Intithar S. Elias  
 Helen R. Martinez  
 Esther M. Huecker  
 Craig R. Jackson  
 Theresa M. Joseph  
 Keiko I. Khoo  
 Everett Lohman III  
 Diana S. Medal  
 Dulce L. Pena  
 Gail T. Rice  
 Borge Schantz  
 Ernest R. Schwab  
 Paige Shaughnessy  
 Antonio Valenzuela  
 Ardis E. Wazdataskey  
 Grenith J. Zimmerman

## ADJUNCT FACULTY

Naoki Ando  
 Yuji Asai  
 Masahiro Hashimoto  
 Fusae Ishibashi  
 Takeo Itoh  
 Yoshinori Koide  
 Miyako Murase  
 Naohito Shingu  
 Tsuyoshi Soji  
 Shigeyuki Suzuki  
 Chiharu Tanaka  
 Akira Tsushima

## ADVISORY COMMITTEE

Craig R. Jackson  
 Edd J. Ashley  
 Liane H. Hewitt

## EXTENDED CAMPUS PROGRAMS

Students may contact the program director for information about distance learning programs.

### Health Science, B.S. (Japan)

KEIKO KHOO, Program Director

### Radiation Technology, B.S. (Fresno, California)

ARTHUR W. KROETZ, Program Director

### Health Information Administration, B.S. (online)

MARILYN H. DAVIDIAN, Program Director

### Rehabilitation Science (conjoint Ph.D.)

GRENITH ZIMMERMAN, Program Director

## LEARNING RESOURCE/CENTER FOR PREHOSPITAL CARE, EDUCATION AND RESEARCH (CPCER)

JEFFREY T. GRANGE, Medical Director, Center for Prehospital Care, Education, and Research (CPCER); Director, LLUMC Emergency Medical Services, Department of Emergency Medicine

JEFFREY L. BENDER, Director, Center for Prehospital Care, Education, and Research (CPCER)

BRETT MCPHERSON, Manager, Center for Prehospital Care, Education, and Research (CPCER); Manager, Discoveries Project, Loma Linda University Medical Center

EHREN NGO, Director, Bachelor of Science degree program in emergency medical care Department of Cardiopulmonary Sciences, School of Allied Health Professions

EVELYN MASSEY, Program Director, Life Support Education, Department of Cardiopulmonary Sciences, School of Allied Health Professions

ELIZABETH L. LYNCH, Primary Investigator, Convertible Use Rapidly Expandable (CURE) Center Project, Loma Linda University Medical Center

The Emergency Medical Care (EMC) Bachelor of Science degree program and Life Support Education (LSE), in conjunction with the LLUMC Emergency Department (ED), constitute the Center for Prehospital Care, Education, and Research (CPCER). The center seeks to advance the mission of Loma Linda University Adventist Health Sciences Center (LLUAHSC)—"To make man whole". Bringing together the educational and research resources of Loma Linda University and the educational and ethical resources of LLUMC—a tertiary care center, children's hospital, and Level 1 trauma center—the Center for Prehospital Care, Education, and Research is uniquely equipped to benefit the prehospital and critical care EMS community that serves the 3.3 million residents who populate a vast, geographically diverse region spanning one-quarter of the state of California by:

- Giving emergency and critical care EMS health care providers access to quality education that focuses on personal, spiritual, intellectual, and professional development; and up-to-date, quality patient care.
- Providing and expanding on comprehensive and ethical research focused on fostering professionalism and leadership, while continually building the body of knowledge that guides EMS practice and quality patient care.

- Developing leaders with decision-making skills that reflect spiritual, moral, ethical, and compassionate insights.
- Developing and enhancing managers capable of addressing today's dynamic health care industry with regard to finance and economic viability, resource management, technology, and quality patient care.

### CPCER INFORMATION

For further information, contact CPCER at:

Center for Prehospital Care, Education, and Research, administrative office  
 Location: 11155 Mountain View Avenue, Suite 220  
 Loma Linda, CA 92354  
 Telephone: 909/558-7611; FAX: 909/558-7934; Email: <ems@llu.edu>; or Web site: <<http://www.lluems.org>>

### CPCER COURSES AND PROGRAMS

The Center for Prehospital Care, Education, and Research (CPCER) is an alliance formed by:

- the School of Allied Health Professions; Emergency Medical Care (EMC) Programs (Bachelor of Science degree).
- Life Support Education (LSE).
- the LLUMC Emergency Department (ED).

The center offers one of the largest selections of continuing-education courses, classes, and programs available through a single center in the Western United States.

#### School of Allied Health Professions

The School of Allied Health Professions offers course work and training in emergency medical care through the following academic and continuing-education programs:

1. The B.S. degree program in emergency medical care (EMC)—open to the EMT, paramedic, RN, or respiratory therapist who has completed two years of undergraduate work. (Contact number: 909/558-7076. See additional admission requirements and program information in the Emergency Medical Care Program).
2. The Life Support Education (LSE) Center—open for continuing education to health professionals and to the community.

#### LLUMC Emergency Department—emergency medical care programs

The LLU Medical Center Emergency Department (ED) offers the following courses and programs in

basic and advanced education related to emergency care:

#### Grand rounds and lectures

- Grand rounds
- Lectures for emergency medicine residents

#### EMT and paramedic continuing education, trauma life support, leadership certification, and other offerings

- National registry paramedic refresher program
- Paramedic skills update
- Basic trauma life support
- ICEMA (Inland Counties Emergency Medical Agency) annual review class
- Field care audits

#### LIFE SUPPORT EDUCATION (LSE)

Life Support Education offers basic and advanced classes related to cardiac emergency care, as listed below. Life Support Education is located on campus in the University Arts building, at 24887 Taylor Street, Suite 102; telephone 909/558-4977. It is open to LLU students and LLUMC employees and available to individuals from the surrounding communities.

#### Basic life support (CPR)

Basic life support (CPR) teaches health care providers how to manage a cardiopulmonary arrest victim with the basics of CPR—including chest compression, mouth-to-mouth or bag valve ventilation, and automated external defibrillation.

- Basic life support
- Basic life support instructor
- Basic life support renewal

#### Advanced cardiac life support (ACLS)

Advanced cardiac life support (ACLS) teaches health care providers how to manage a cardiopulmonary arrest victim with cardiac medication, defibrillator, chest compression with ventilations, and endotracheal intubation.

- Advanced cardiac life support
- Advanced cardiac life support instructor
- Advanced cardiac life support renewal

**Pediatric advanced life support (PALS)**

Pediatric advanced life support (PALS) teaches health care providers how to manage a cardiopulmonary-arrest child or infant with medications, endotracheal intubation, defibrillation, and chest compressions with ventilations.

- Pediatric advanced life support
- Pediatric advanced life support instructor course
- Pediatric advanced life support renewal

**Neonatal resuscitation program**

The neonatal resuscitation program teaches the health care provider how to manage and resuscitate a newborn infant experiencing life-threatening cardiopulmonary problems.

- Neonatal resuscitation provider
- Neonatal resuscitation provider instructor
- Neonatal resuscitation provider renewal

**Heartsaver automated external defibrillator (AED)**

The heartsaver automated defibrillator (AED) teaches the lay person or health provider how to use the AED in conjunction with cardiopulmonary resuscitation (CPR).

- Automatic external defibrillation

**ACLS COURSE**

The advanced cardiac life support (ACLS) course is designed to reevaluate medical professionals as ACLS providers and to increase their skills in the management of cardiac arrest, airway management, and arrhythmia recognition. The lectures, workshops, and tests adhere to the guidelines of the American Heart Association. Participants will gain hands-on experience in code management.

**ACLS course objectives**

At the completion of the course, participants will be able to demonstrate proficiency according to American Heart Association standards in the areas of:

- Adult CPR
- Mouth-to-mask ventilation
- Esophageal obturator airway placement
- Endotracheal intubation
- Basic arrhythmia recognition and therapeutic treatment
- Team leadership in a megacode situation, including patient assessment arrhythmia recognition and treatment, supervision of team members and problem solving.

**ACLS prerequisites**

- Be a health care provider whose activities demand proficiency in ACLS skills.
- Study the textbook prior to class attendance.

**ACLS registration**

The registration form, along with payment, should be submitted at least two weeks before course beginning date. Registration closes when classes are full.

**ACLS continuing-education units**

An ACLS card will be issued upon successful completion of the course. The ACLS provider course and ACLS renewal course are approved by the California Board of Registered Nursing (provider number CEP 10403) and constitute eligibility for sixteen hours of CE credit for the ACLS provider course and eight CE credits for ACLS renewal course.

A textbook is required for this course. Precourse materials and textbook can be picked up at Life Support Education (price varies from year to year). For additional information regarding materials, please call 909/558-4977.

**Additional ACLS fees**

\$25.00	Rescheduling fee
\$25.00	Retesting fee, if test is failed
\$25.00	Processing fee for refunds

**Refund policy**

A seven-day notice is required for cancellation or rescheduling. In case of emergency or if the applicant is called into work, LSE should be notified. A \$25.00 processing fee will be charged for refunds.

## Financial Policies and Information

The Office of the Dean is the final authority in all financial matters and is charged with the interpretation of all financial policies. Any exceptions to published policy in regard to reduction or reimbursement of tuition must be approved by the dean. Any statement by individual faculty members, program directors, or department chairs in regard to these matters is not binding on the school or the University unless approved by the dean.

Registration is not complete until tuition and fees for the required installment are paid; therefore, the student should be prepared to make these payments during scheduled registration for each academic year. There may be adjustments in tuition and fees as economic conditions warrant.

### GENERAL FINANCIAL PRACTICES

The student is expected to arrange for financial resources to cover all expenses before the beginning of each school year.

Previous accounts with other schools or this University must have been settled.

### SCHEDULE OF CHARGES (2009-2010)

(Subject to change by Board of Trustees action)

NOTE: Tuition rates are effective Summer Quarter through the following Spring Quarter.

#### Tuition information: by department

Column 1	YEAR	academic year/class
Column 2	UNITS	total units for academic year
Column 3	TUITION	total tuition for academic year
Column 4	STATUS	specified degree or certificate, full-time or part-time, or track

### ALLIED HEALTH SCIENCES

#### Rehabilitation Science—Doctor of Philosophy

Units and tuition vary, depending upon units transferred into Loma Linda University.

YEAR	UNITS	TUITION	STATUS
		\$563 per unit	

### CARDIOPULMONARY SCIENCE

#### Emergency Medical Care—Progression Bachelor of Science

YEAR	UNITS	TUITION	STATUS
1	38	\$17,100	
2	39	\$17,500	

### CPCER—CENTER FOR PREHOSPITAL CARE, EDUCATION, AND RESEARCH

For contact information regarding CPCER certificate program and tuition, see LEARNING RESOURCE/RESEARCH CENTER-Center for Prehospital Care, Education, and Research (CPCER)

#### Respiratory Care—Bachelor of Science

YEAR	UNITS	TUITION	STATUS
1	53	\$23,850	
2	59	\$26,550	

#### Respiratory Care—Certificate

YEAR	UNITS	TUITION	STATUS
1	45	\$20,250	
2	36	\$16,200	

#### Respiratory Care—Postprofessional Bachelor of Science

YEAR	UNITS	TUITION	STATUS
New	55	\$24,750	
Cont	10	\$4,500	

### CLINICAL LABORATORY SCIENCE

#### Phlebotomy—Certificate

YEAR	UNITS	TUITION	STATUS
	5	\$1,690	

#### Cytotechnology—Bachelor of Science

YEAR	UNITS	TUITION	STATUS
1	56	\$25,200	
2	47	\$21,115	

#### Cytotechnology—Certificate

YEAR	UNITS	TUITION	STATUS
1	56	\$25,200	
2	14	\$6,300	

#### Clinical Laboratory Science—Bachelor of Science

YEAR	UNITS	TUITION	STATUS
1	63	\$28,350	Track A, B, C
2	62	\$27,900	

### COMMUNICATION SCIENCES AND DISORDERS

#### Communication Sciences and Disorders—Bachelor of Science

YEAR	UNITS	TUITION	STATUS
1	47-60	\$21,150 to \$27,000	
2	38-63	\$17,100 to \$28,350	

#### Communication Sciences and Disorders—Transitional Master's

YEAR	UNITS	TUITION	STATUS
1	51	\$22,950	
2	1	\$450	



**Communication Sciences and Disorders—  
Master's**

YEAR	UNITS	TUITION	STATUS
1	32	\$18,016	
2	31-46	\$17,453 to \$25,898	

NOTE: Tuition excludes enrollment fee.

**HEALTH INFORMATION  
MANAGEMENT**

**Health Information Administration—Bachelor  
of Science**

YEAR	UNITS	TUITION	STATUS
1	54	\$24,300	
2	47	\$21,150	

Part-time Units and tuition vary.

**Health Information Administration—  
Certificate**

YEAR	UNITS	TUITION	STATUS
Cert	Units may vary, depending upon units transferred into Loma Linda University.		

**Health Information Administration—Health  
Information Technology (HIT) Progression  
Bachelor of Science**

YEAR	UNITS	TUITION	STATUS
1, 2	Units may vary, depending upon units transferred into Loma Linda University.		

**Coding Specialist—Certificate**

YEAR	UNITS	TUITION	STATUS
1	10	\$2,200	
2	16	\$3,520	
3	4	\$880	

**NUTRITION AND DIETETICS**

**Dietetic Technology—Associate in Science**

YEAR	UNITS	TUITION	STATUS
1	45	\$15,210	
2	6	\$2,028	

**Dietetic Technology—Certificate**

YEAR	UNITS	TUITION	STATUS
Cert	Units may vary, depending upon units transferred into Loma Linda University.		

**Nutrition and Dietetics—Bachelor of Science**

YEAR	UNITS	TUITION	STATUS
1	51	\$22,950	
2	49	\$22,050	

**Nutrition and Dietetics—Master's**

YEAR	UNITS	TUITION	STATUS
1	50	\$28,150	
2	52	\$29,276	
3	40-48	\$22,520 to \$27,024	

**Nutrition Care Management—Master's**

YEAR	UNITS	TUITION	STATUS
1	18	\$10,034	
2	24	\$13,512	
3	6	\$3,378	

**OCCUPATIONAL THERAPY**

**Occupational Therapy Assistant—Associate in  
Arts**

Program is currently inactive for 2009-2010.

**Master of Occupational Therapy—Entry Level**

YEAR	UNITS	TUITION	STATUS
1	68	\$30,600	
2	47	\$21,150	
3	30	\$13,500	

**Master of Occupational Therapy—Track**

YEAR	UNITS	TUITION	STATUS
1	64	\$28,800	
2	45	\$20,250	
3	30	\$13,500	

**Progression—Master of Occupational Therapy**

(Applies only to graduate LLU OTA students)

YEAR	UNITS	TUITION	STATUS
1	63	\$28,350	
2	47	\$21,150	
3	30	\$13,500	

**Postprofessional—Master of Occupational  
Therapy**

Units and tuition vary.

YEAR	UNITS	TUITION	STATUS
	45	\$25,335	

**Occupational Therapy—Doctorate**

Units and tuition vary.

YEAR	UNITS	TUITION	STATUS
1	23	\$12,949	
2	24	\$13,512	
3	11	\$6,193	

**PHYSICAL THERAPY**

**Physical Therapist Assistant—Associate in  
Science**

YEAR	UNITS	TUITION	STATUS
1	57	\$19,266	regular
2	6	\$2,028	regular

**Physical Therapist Assistant—Associate in  
Science—two-year track**

YEAR	UNITS	TUITION	STATUS
1,2,3	Units may vary.		

**Progression—Master of Physical Therapy**

YEAR	UNITS	TUITION	STATUS
1	No longer accepting students.		
2	64.5	\$29,025	
3	9	\$4,050	

**Postprofessional—Master of Physical Therapy**

YEAR	UNITS	TUITION	STATUS
1	33	\$16,830	
2	12	\$6,120	

**Entry Level—Doctor of Physical Therapy**

YEAR	UNITS	TUITION	STATUS
1	77	\$36,344	
2	65.5	\$30,916	
3	32.5	\$15,340	

**Postprofessional—Doctor of Physical Therapy**

YEAR	UNITS	TUITION	STATUS
1	36	\$18,360	
2	9	\$4,490	

**Postprofessional—Doctor of Science**

YEAR	UNITS	TUITION	STATUS
1	33	\$16,830	
2	39	\$19,890	
3	12	\$16,120	

**Progression—Doctor of Physical Therapy**

YEAR	UNITS	TUITION	STATUS
1	77	\$36,344	
2	65.5	\$30,916	
3	32.5	\$15,340	

**Postprofessional Master's—Orthotics and Prosthetics**

YEAR	UNITS	TUITION	STATUS
1	36	\$18,360	
2	9	\$4,490	

**PHYSICIAN ASSISTANT SCIENCES****Physician Assistant—Master of Physician Assistant**

YEAR	UNITS	TUITION	STATUS
1	58	\$32,654	
2	59	\$33,217	
3	8	\$4,504	

**RADIATION TECHNOLOGY****Medical Radiography—Associate in Science**

YEAR	UNITS	TUITION	STATUS
New	37	\$12,506	
Cont	23	\$7,774	

**Medical Sciences—Bachelor of Science**

YEAR	UNITS	TUITION	STATUS
1,2	Units may vary depending upon units transferred into Loma Linda University.		

**Radiation Therapy—Certificate**

YEAR	UNITS	TUITION	STATUS
New	27	\$15,201	
Cont	3	\$1,689	

**Radiologist Assistant—Bachelor of Science**

YEAR	UNITS	TUITION	STATUS
New	No longer accepting new students.		
Cont	35	\$15,750	

**Radiologist Assistant—Certificate**

Units and tuition vary, depending upon units transferred into Loma Linda University.			
YEAR	UNITS	TUITION	STATUS
New	No longer accepting new students.		
Cont	28	\$12,600	

**Diagnostic Medical Sonography—Certificate**

YEAR	UNITS	TUITION	STATUS
New	20	\$11,206	Track 1 General/Vascular
Cont 1	16	\$9,008	Track 1
Cont 2	4	\$2,252	Track 1
New	21	\$11,823	Track 2 Cardiac
Cont	1	\$563	Track 2

**Medical Dosimetry—Certificate**

YEAR	UNITS	TUITION	STATUS
New	30	\$16,890	Track A Physics
Cont	10	\$5,630	Track A
New	21	\$11,823	Track B
Cont	7	\$3,941	Track B

**Nuclear Medicine Technology—Certificate**

YEAR	UNITS	TUITION	STATUS
New	15	\$8,445	
Cont	5	\$2,815	

**Special Imaging Technology: (CT and MRI)**

YEAR	UNITS	TUITION	STATUS
New	18	\$10,134	

**Special Imaging Technology: Certificate in Computed Tomography (CT)**

YEAR	UNITS	TUITION	STATUS
New	10	\$5,630	

**Special Imaging Technology: Certificate in Magnetic Resonance Imaging (MRI)**

YEAR	UNITS	TUITION	STATUS
New	12	\$6,756	

**Radiation Sciences—Master's**

YEAR	UNITS	TUITION	STATUS
1	18	\$10,134	
2	24	\$13,512	
3	7	\$3,941	

**Imaging Informatics—Certificate**

YEAR	UNITS	TUITION	STATUS
1	18	\$8,100	
2	6	\$2,700	

**Radiologist Assistant—Master's**

YEAR	UNITS	TUITION	STATUS
1	49	\$22,050	Track 1—Entering w/ AA/AS
1	40	\$22,520	Track 2—Entering w/ BS/BA

**SUPPLIES**

Estimated annual expense of \$600-\$1,500 for supplies (textbooks, professional apparel, materials), depending on program and year of study.

**SPECIAL CHARGES**

60	Application
30	Reapplication
100	Acceptance deposit, nonrefundable (applied on tuition)
350	Acceptance deposit for D.P.T. degrees, nonrefundable (applied on tuition)
500	Acceptance deposit for M.P.A. degree, nonrefundable (applied on tuition)
50	Late registration charge (if student registers later than one full week before the first day of the term; see University calendar for specific dates)
25	Returned check charge
50	Late payment charge if loan funds are not received by registration and loan application was made less than thirty days before registration; if check is returned by bank (in addition to \$25 charge); or if student give a postdated check at registration
200	Application fee for PP-M.P.T.

**ON- AND OFF-CAMPUS STUDENT HOUSING**

Students may go to [www.llu.edu/central/housing/index.page](http://www.llu.edu/central/housing/index.page) for housing information and a housing application form.

**MISCELLANEOUS EXPENSES**

cost	Transportation for off-campus assignments (University sponsored)
cost	Membership fees
cost	Health care items not covered by health insurance
cost	Breakage, damage, loss of University equipment

**AWARDS AND SCHOLARSHIPS**

Awards for scholastic attainment and leadership ability have been made available to students whose performance and attitudes reflect well the ideals and purposes of the school.

**SCHOOL-WIDE SCHOLARSHIPS****Selma Andrews Award**

The Selma Andrews Award is open to all students of the school. Students are encouraged to apply to their departments for scholarships from this fund. There is no application deadline.

**CARDIOPULMONARY SCIENCES****American Medical Response**

The American Medical Response (AMR) Scholarship is given to a current or past employee of AMR who demonstrates excellence in the clinical practice of emergency medical service (EMS) and outstanding

academic achievement in the Emergency Medical Care Program.

**Emergency Medical Care Alumni Scholarship**

The Emergency Medical Care Alumni Scholarship Award is presented to a student who has shown exceptional quality of work in the Emergency Medical Care Program and related projects, with contributions to the emergency medical care community through acts of diversity, service, or volunteerism.

**Faculty Award**

The Faculty Award is presented to a student who has shown promise of outstanding professional achievement and whose performance is in harmony with the objectives and goals of the University.

**Louisa Jezerinac Cardiopulmonary Scholarship Award**

The Louisa Jezerinac Cardiopulmonary Scholarship Award is given to a student whose patient care exemplifies the qualities of compassion and dedication.

**William von Pohle Memorial Respiratory Care Clinical Excellence Award**

The William von Pohle Memorial Respiratory Care Clinical Excellence Award is given each year to the respiratory care student in his/her senior year who demonstrates excellence in clinical practice and an attitude consistent with the mission of Loma Linda University.

**CLINICAL LABORATORY SCIENCE****Affiliate Recognition Award**

The Affiliate Recognition Award is given to a senior clinical laboratory science student who has demonstrated outstanding performance during clinical rotation—including cooperation, motivation, and an ability to work well with staff.

**Chair's Award**

The Chair's Award is given to a senior clinical laboratory science student and to a cytotechnology student in recognition of outstanding scholarship and leadership qualities that are in harmony with the objectives and goals of the University. Selection is based on the recommendation of the faculty.

**Clinical Laboratory Science (CLS) Scholarship**

The clinical laboratory science (CLS) endowment fund is presented to CLS students on the basis of scholarship and promise of professional achievement.

**Faculty Award**

The Faculty Award is presented to a senior clinical laboratory science student and to a cytotechnology student who have shown promise of outstanding professional achievement and who intend to pursue a career in the area of medical technology or cytotechnology. Selection is based on recommendation of the faculty.

**Marlene Ota Scholarship**

The Marlene Ota Scholarship is awarded to a cytotechnology student who has demonstrated integrity, leadership, and academic excellence.

**Moncrieff Scholarship Award**

The Moncrieff Scholarship Award is presented annually to a clinical laboratory science student who has demonstrated superior scholarship; professional dedication; financial need; and such personal attributes as dependability, integrity, and initiative.

**Walsch-Loock Scholarship Award**

The Walsch-Loock Scholarship Award is presented annually to a clinical laboratory science student on the basis of scholarship, promise of professional achievement, and financial need.

**COMMUNICATION SCIENCES AND DISORDERS****Evelyn Britt Promising Student Award**

The Evelyn Britt Promising Student Award is presented to students preparing for graduate work in speech-language pathology and audiology. It recognizes students who show promise of scholastic and professional achievement.

**Outstanding Senior Award**

The Outstanding Senior Award is given to a student who has performed well academically, developed good clinical skills, and contributed to creating a positive learning environment within the department.

**Dean's Award**

The Dean's Award is given annually in recognition of academic excellence and commitment to the objectives of the school.

**President's Award**

The President's Award is given annually in recognition of superior scholastic attainment and active participation in the student community, within the framework of Christian commitment. A recipient is selected from each school of the University.

**HEALTH INFORMATION MANAGEMENT****Audrey Shaffer Endowment**

In the interest of promoting student involvement in the international mission of Loma Linda University, the Audrey Shaffer Endowment provides travel expenses for student clinical and affiliation experiences in health care facilities outside the United States. Candidates must demonstrate academic excellence and leadership qualities. Recommendations from department faculty and students are required.

**Faculty Award**

The Faculty Award is presented to students who have shown promise of leadership, scholarship, and potential contribution to their chosen profession. One award is given annually to students graduating from

the programs in health information administration and health information systems.

**Health Information Management Student Awards**

The Health Information Management Student Awards are given by classmates to the graduating students who have shown promise of leadership, scholarship, and potential contribution to their chosen profession.

**Margaret B. Jackson Scholarship Award**

The Margaret B. Jackson Scholarship Award is presented by the department to a senior on the basis of scholarship, promise of outstanding professional achievement, and financial need.

**Sally Jo Davidian Scholarship**

The Sally Jo Davidian Scholarship is presented to a student who demonstrates professionalism, leadership potential, scholastic achievement, and financial need. Preference is given to single mothers returning to college.

**Smart Corporation Scholarship Award**

The Smart Corporation Scholarship Award is presented to a health information administration student on the basis of scholarship and financial need.

**NUTRITION AND DIETETICS****Fred Lambert Memorial Scholarship Award**

The Fred Lambert Memorial Scholarship Award is given annually to a junior who has demonstrated outstanding potential for success as an administrative dietitian. The award will be given based on academic success, involvement in social and professional activities, personal promotion of the profession and image of the administrative dietitian, and submission of an essay discussing how the food service administrator can contribute to the mission of the Seventh-day Adventist Church.

**Kathleen Keen Zolber Scholarship**

The Kathleen Keen Zolber Scholarship Award is given by the department to selected juniors in recognition of scholarship and promise of outstanding professional achievement.

**Lydia Sonnenberg Scholarship Award**

The Lydia Sonnenberg Scholarship Award is presented annually to selected junior students. Selection is based on academic performance, as well as demonstrated skill and interest in publishing nutrition information for the public.

**Martha Miller Scholarship Award**

The Martha Miller Scholarship Award is given annually to a sophomore or junior student based on scholarship, demonstrated financial need, and promise of outstanding professional achievement.

### **Nutrition and Dietetics Alumni Association Scholarship Award**

The Nutrition and Dietetics Alumni Association Scholarship Award is given annually to a senior student who has demonstrated outstanding academic performance and promise of expertise in professional achievement.

### **Nutrition and Dietetics Faculty Award**

The Nutrition and Dietetics Faculty Award, presented to selected junior students, is based on scholarship, promise of professional achievement, and demonstrated financial need.

### **Ruth Little Nelson Scholarship Award**

The Ruth Little Nelson Scholarship Award is presented to selected students in the junior year. Selection is based on scholarship; leadership; financial need; and such personal attributes as integrity, dependability, and initiative.

### **Winifred Van Pelt Schmitt Scholarship Endowment**

The Winifred Van Pelt Schmitt Scholarship Endowment provides scholarships to nutrition and dietetics students who have demonstrated financial need, satisfactory progress toward a degree, and professional progress.

## **OCCUPATIONAL THERAPY**

### **Daniel Alan Gibson Memorial Scholarship Award**

The Daniel Alan Gibson Memorial Scholarship Award is given to M.O.T. degree students based on financial need, and recognizes commitment to focus on physical dysfunction/orthopaedics in occupational therapy.

### **Edwinna Marshall Scholarship Award**

The Edwinna Marshall Scholarship Award is given annually to M.O.T. degree students based on financial need, and recognizes potential for leadership and education in the field of occupational therapy.

### **Faculty Award**

The Faculty Award is presented to a graduating student who has shown promise of outstanding professional achievement and whose performance is in harmony with the objectives of the University.

### **Hamid Javaherian Memorial Award**

The Hamid Javaherian Award is given to a student in the second or third year of the Doctor of Occupational Therapy Program who exemplifies compassion, leadership, program innovation, and dedication to the community in the spirit of occupational justice.

### **Inland Counties Occupational Therapy Association of California Award**

The Inland Counties Occupational Therapy Association of California Award is presented to senior OT students in recognition of excellent academic and clinical performance.

### **Lynn Arrateig Memorial Scholarship Award**

The Lynn Arrateig Memorial Scholarship Award is given annually to an M.O.T. degree student based on financial need, and recognizes commitment to the practice of pediatrics or geriatrics in the field of occupational therapy.

### **Occupational Therapy Alumni Association Award**

The Occupational Therapy Alumni Association Award recognizes outstanding scholastic and professional achievement in occupational therapy.

### **Occupational Therapy Endowment Scholarship Award**

The Occupational Therapy Endowment Scholarship Award is given annually to students based on scholarship, financial need, and promise of professional achievement.

### **Rose Bucher Memorial Scholarship**

The Rose Bucher Memorial Scholarship Award is given to M.O.T. degree students based on financial need and recognized commitment and creativity in the practice of occupational therapy.

## **PHYSICIAN ASSISTANT PROGRAM**

### **PA Faculty Award**

The PA Faculty Award is presented to a physician assistant student who has shown promise of outstanding professional achievement and whose performance is in harmony with the objectives and goals of the University.

### **Spirit of LLU Physician Assistant Award**

The Spirit of LLU Physician Assistant Award recognizes students who have dedicated themselves to their professional goal, persevering with good humor in the face of adversity; have shown compassion for and sensitivity to others; have a positive attitude; and have served as positive ambassadors for this program throughout their PA program training.

### **The Chair's Award**

The Chair's Award is presented to a senior PA student in recognition for outstanding performance and professional deportment in both the didactic and clinical phases of the program. The recipient is an individual who has consistently demonstrated qualities that are in harmony with the goals of the department and the University.

### **Physician Assistant Alumni Award**

Recipients of the Physician Assistant Alumni Award demonstrate the following criteria: sound judgment in resolving student issues, willingness to lead activities or study groups, mature and responsible behavior, good rapport with peers and faculty/staff, and recent involvement in community service.

**Association of Schools of Allied Health Professions Scholarship for Excellence Award**

The Association of Schools of Allied Health Professions Scholarship is presented to the student who is recognized for outstanding performance in the allied health professions, who is achieving excellence in his/her academic program, and who has significant potential to assume future leadership roles in an allied health profession.

**The Rising Star Award**

The Rising Star Award is presented to the student whose overall performance exemplifies the following criteria: advancing the physician assistant profession, entrepreneurship in invention or learning, noteworthy performance in research, outstanding community service, interest in mentoring patients, and contributing to the department and/or university.

**PHYSICAL THERAPY**

**Faculty Award**

The Faculty Award is presented to a senior who has shown promise of outstanding professional achievement, and whose performance is in harmony with the objectives and goals of the University.

**Fred B. Moor Award**

The Fred B. Moor Award is presented to a senior who has demonstrated exceptional clinical skills and knowledge in the care of physical therapy patients.

**Physical Therapy Alumni Association Achievement Award**

The Physical Therapy Alumni Association Achievement Award recognizes outstanding scholastic attainment and active participation in physical therapy student activities and community involvement.

**Physical Therapy Alumni Association Scholarship Award**

The Physical Therapy Alumni Association Scholarship Award recognizes the student with the highest scholastic attainment in professional studies.

**Randall C. Isley Memorial Award**

The Randall C. Isley Memorial Award recognizes a graduating PTA student who demonstrates scholarship, outstanding compassion, and inspiration in his/her pursuit of PTA as a second career.

**Ron Hershey Student Endowment**

The Ron Hershey Student Endowment provides scholarship funds for students who demonstrate financial need and who exemplify the Christian qualities of love, patience, caring, humility, and a striving for excellence.

**Thomas G. Burke Memorial Scholarship Award**

The Thomas G. Burke Memorial Scholarship Award recognizes the outstanding student dedicated to the pursuit of a second career.

**RADIATION TECHNOLOGY**

**Faculty Award**

The Faculty Award is given by the department in recognition of superior scholarship.

**Walter L. Stilson Award**

The Walter L. Stilson Award is given to a student in each clinical facility who has shown promise of outstanding professional achievement and whose performance is in harmony with the objectives of the University.

**ADDITIONAL REQUIREMENTS**

For additional policies governing Loma Linda University students, see Section II of this CATALOG, as well as the University *Student Handbook*. Students are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation.

# Clinical Laboratory Science—AH

## (B.S.)

RODNEY M. ROATH, Chair, Department of Clinical Laboratory Science

KATHERINE G. DAVIS, Program Director

MONIQUE K. GILBERT, Clinical Coordinator

PAUL C. HERRMANN, Medical Director

### FACULTY

Craig E. Austin  
 Grace T. Baker  
 Nove Basical-Oliver  
 Terry K. Belcher  
 James A. Brandt  
 Linda S. Buckert  
 Helen E. Clark  
 Louis J. Cota  
 Katherine G. Davis  
 Betty M. Fitzsimmons  
 Monique K. Gilbert  
 Sally P. Greenbeck  
 Ronald H. Hillock  
 J. Kapua Hollands  
 Valerie J. Humphries  
 Ronald S. Johnson  
 Susie M. Johnson  
 Jasmine H. Kaloshian  
 Tuyhoa T. Le  
 John E. Lewis  
 Phillip Liang  
 Glenis D. Linas  
 Wagih E. Mikhail  
 Thuan H. Nguyen  
 James M. Pappas  
 Shashank Patel  
 Rodney M. Roath  
 Teri J. Ross  
 Jacquelin S. Sandro  
 Mojgan Sassounian  
 Stuart B. Schneider  
 Linda J. Shain  
 Katherine Vogel  
 Patricia A. Williams  
 Jane N. Zappia

A student who has an interest in science, an investigative mind that enjoys the challenge of solving problems quickly and accurately, and a desire to help others should consider a career as a clinical laboratory scientist.

Clinical laboratory scientists examine and analyze body fluids, tissues, and cells. They look for bacteria, parasites, or other microorganisms; analyze the chemical content of fluids; match blood for transfusions; and test for drug levels in the blood to show how a patient is responding to treatment.

Clinical laboratory scientists perform complex chemical, biological, hematological, immunologic, microscopic, and bacteriologic tests. They use, maintain, and troubleshoot sophisticated laboratory equipment that is used to perform diagnostic tests. The clinical laboratory scientist possesses the scientific and diagnostic skills required for DNA and biomolecular technology and genetic engineering applications, analyzes these test results, and discusses them with the medical staff.

### Opportunities

Employment of clinical laboratory workers is expected to parallel the growth of other health care occupations through the year 2014, particularly as the volume of laboratory tests increases with population growth and with the development of new technology. Employment opportunities are excellent, with current vacancy rates of 16 percent. The twenty-first century is offering clinical laboratory scientists new avenues for test development, experimental design, administration, and education. Clinical laboratory scientists work in hospitals or similar medical facilities, clinical and reference laboratories, home health diagnostics, transfusion services, physicians' offices, and private medical clinics. Employment is also available in pharmaceutical and biotechnology companies, health information systems, DNA technology and genetic engineering corporations, research laboratories, federal government agencies, forensics and crime investigation, veterinary hospitals, U.S. Public Health Service facilities, areas of medical product development, and in customer and patient education.

### The program

The Clinical Laboratory Science Program is a two-year professional program that culminates in a Bachelor of Science degree. Prerequisite courses may be taken at any accredited college or university and are completed during the freshman and sophomore years. Accepted students transfer into the program at the junior-year level, which begins in August during the postsummer session. After satisfactory completion of the program, the student is awarded a Bachelor of Science degree and is eligible to take the state and national board examinations and to become a licensed clinical laboratory scientist.

The junior year is a ten-month program of lecture and laboratory. Emphasis is on the basic clinical science courses, including theory and correlations.

The senior year is a ten-month clinical practicum that provides professional clinical experience in the hospital laboratory environment. Emphasis is on technical proficiency, application of theory to patient care, laboratory organization, and managerial skills.

Senior students must coordinate their time with the operation of Loma Linda University Medical Center's

clinical laboratory and with supplemental affiliate training laboratories in the community.

### **Clinical affiliations**

Multiple clinical affiliations enrich the student's clinical training by providing exposure to procedures in different types of medical facilities. During the forty-week clinical practicum, supplemental training may be scheduled at any of the following clinical sites:

#### **Primary affiliation**

Loma Linda University Medical Center  
Loma Linda, California

#### **Supplemental affiliations**

LifeStream

San Bernardino, California

Community Hospital of San Bernardino  
San Bernardino, California

Hoag Hospital  
Newport Beach, California

Jerry L. Pettis Memorial Veterans Medical Center  
Loma Linda, California

Kaiser Permanente Medical Center  
Fontana, California

### **Transportation to scheduled assignments**

Transportation to training laboratories is the responsibility of the student. Depending on the clinical assignment, commuting times may be up to two hours one way. Senior students must coordinate their time with the operational schedules of the Loma Linda University Medical Center Clinical Laboratory and affiliate laboratories in the community. The senior schedule is a full-time week (forty clock hours) arranged on a Monday through Friday, day shift schedule. On occasion, days or times outside of this typical schedule may be necessary to allow students exposure to unique procedures. A special calendar schedule, different from the University academic calendar, is followed.

### **Accreditation**

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 North River Road, Suite 720, Rosemont, IL 60018; telephone: 773/714-8800; FAX: 773/714-8886; email: [naacslinfo@naacsl.org](mailto:naacslinfo@naacsl.org); Web site: [www.naacsl.org](http://www.naacsl.org).

The program also satisfies the requirements in medical technology of the American Society of Clinical Pathologists' Board of Registry for Medical Technology, P. O. Box 12277, Chicago, IL 60612-0277. The program is approved by the State of California Department of Health Laboratory Field Services, 850 Marina Bay Parkway, Richmond, CA 94804-6403; telephone: 510/873-6327.  
<[www.dhs.ca.gov/ps/lfs/lfsb/](http://www.dhs.ca.gov/ps/lfs/lfsb/)>

### **Professional registration**

Completion of the required sequence of academic course work and directed professional experience prepares the graduate to take the certifying examinations of the ASCP Board of Registry of Medical Technologists and the National Certification Agency for Medical Laboratory Personnel, P. O. Box 15945-289, Lenexa, KS 66285; telephone: 913/438-5110; and the licensure examination of the state of California. Information regarding examinations can be obtained from the program director.

In 1999, the program name was changed from medical technology to clinical laboratory science. The program has prepared and qualified graduates as clinical laboratory scientists.

### **The department goals**

1. To provide opportunity, instruction and guided experience by which the student may acquire the basic knowledge and attain the skills essential to the practice of a chosen profession.
2. To help the student accept responsibility for integrity, ethical relationships, and empathic attitudes that can contribute to the welfare and well-being of patients.
3. To help the student develop a background of information and attitudes conducive to interprofessional understanding and cooperation.
4. To encourage the student to cultivate habits of self-education that will foster lifelong growth.
5. To engender and nurture in the student the desire to serve mankind, and in particular, to serve as needed in the medical centers sponsored by the Seventh-day Adventist Church both in the United States and abroad.

### **CLS program learning outcomes**

1. Demonstrate basic knowledge and technical ability essential to the practice of clinical laboratory science.
2. Practice professionalism through ethical behavior and attitudes.
3. Demonstrate in laboratory practice and in the community those leadership and administrative skills that are consistent with the mission of the School of Allied Health Professions.
4. Adhere to rules and regulations promoting workplace and patient safety and continuous quality improvement (CQI).
5. Exhibit analytical and critical-thinking skills necessary to succeed in laboratory medicine.



### The program objectives

The Clinical Laboratory Science Program endeavors to present a complete educational experience that culminates in a Bachelor of Science degree in clinical laboratory science. The education and clinical experience obtained in this program will give the student the eligibility to take the clinical laboratory scientist examinations offered by the National Board of Registry, the National Certification Association, and other entities approved by the state of California. The bachelor's degree in clinical laboratory science will be granted independent of any external certification or licensing examinations. The graduate will demonstrate professional entry-level competencies in chemistry, hematology, immunohematology, immunology, and microbiology; as well as their respective subsections.

### How to apply

Applications to the Clinical Laboratory Science Program are accepted beginning December 1. Early submission of application is recommended. Applications continue to be reviewed and accepted until the program is filled. Preference will be given to applicants whose completed applications and transcripts are received by March 1. Complete an online application at [www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page).

Applicants must complete prerequisite course work at any accredited college before being admitted to the School of Allied Health Professions; projected course work that will be completed before beginning the program will be considered in the application process.

### Academic progression

A minimum grade of C (2.0) is required for all courses in the program; C- grades are not acceptable. A student who receives a grade of less than C in any academic course that is part of the professional curriculum, is automatically placed on probation. A student who receives an "Unsatisfactory" in any segment of a clinical practicum, is automatically placed on clinical probation. In probation or in clinical probation, continued enrollment for the next quarter, term, or rotation segment is subject to the recommendation of the department.

If continued enrollment is not recommended, the department will notify the student in writing. If continued enrollment is recommended, the student will be required to institute a learning assistance program contract and meet regularly scheduled appointments with the academic advisor. A student on probation is automatically dismissed from the program if a second grade of less than C is received in any academic course that is part of the professional curriculum, or if a second "Unsatisfactory" is received during any subsequent rotation segment. A student on clinical probation is automatically dismissed from the program if a second unsatisfactory is received during any subsequent rotation segment.

Readmission to the program will require reapplication.

### CPR certification

Students are required to have current health care provider cardiopulmonary resuscitation (CPR) certification (adult, child, and infant) for all scheduled clinical experiences. This certification must be completed at the American Heart Association health care provider level. Certification may be completed prior to beginning the program of study or may be obtained at Loma Linda University. Classes are arranged on campus at Life Support Education, University Arts Building, 24887 Taylor Street, Suite 102.

### Admission

To be eligible for admission, applicants must have completed a minimum of 96 quarter units or 64 semester units at an accredited college or university. A minimum grade of C (2.0) is required for all transfer courses; C- (C minus) grades are not acceptable for transfer. A minimum G.P.A. of 2.75 for science is recommended. Prerequisites and transfer patterns may be viewed at [www.llu.edu/allied-health/sahp/transfer/index.page](http://www.llu.edu/allied-health/sahp/transfer/index.page).

### PREREQUISITE

Humanities and religion—20 quarter or 14 semester units total, selected from at least three of the humanities and religion areas:

- Art/Music (performing arts limited to 2 quarter units)
- Civilization/History, foreign language, literature, philosophy, religion—
  - a maximum of 8 quarter units of religion may be applied to the above 20 quarter/14 semester units; for students who attended or are enrolled in an Adventist college, 4 quarter units of religion are required per year attended

College mathematics (algebra or higher level)

General chemistry with laboratory, complete sequence

Organic chemistry with laboratory, complete sequence

\* Introductory physics with laboratory, complete sequence (must include principles of light and electricity)

\* General biology with laboratory, one course

Cultural diversity or cultural anthropology (one course); (select remainder of social sciences units to total of 10 quarter units from at least two of these areas: anthropology, economics, geography, political science, psychology, sociology)

English composition, complete sequence; select remainder of communication units to total 9 quarter units from these courses: computers, public speaking, critical thinking

Health education, personal health, or nutrition (one course)

Two physical education courses

Electives, as necessary, to meet the minimum total requirement of 96 quarter units; recommended:

anatomy and physiology, biochemistry, cellular or molecular biology, genetics, speech, computer applications, critical thinking

For total unit requirements for graduation, see Division of General Studies (Section II).

\*Students planning to apply to advanced degree programs should verify current admission requirements.

#### Junior Year, Post-Summer Session

Units

CLSM 105	Procedures in Phlebotomy	4.0
CLSM 105L	Procedures in Phlebotomy Laboratory	1.0
CLSM 309	Quantitative Analysis (Chemical)	4.0
Totals		9.0

#### Autumn Quarter

Units

AHCJ 328	Wholeness Portfolio I	Course spans entire academic year	1.0
AHCJ 418	Physiology I		4.0
CLSM 321	Hematology I		4.0
CLSM 327	Clinical and Pathogenic Microbiology I		5.0
CLSM 331	Biochemistry		5.0
Totals			19.0

#### Winter Quarter

Units

CLSM 322	Hematology II		4.0
CLSM 324	Immunology I		4.0
CLSM 328	Clinical and Pathogenic Microbiology II		5.0
CLSM 332	Clinical Chemistry I		4.0
CLSM 341	Immunochemistry I		3.0
Totals			20.0

#### Spring Quarter

Units

CLSM 303	Urine and Body Fluid Analysis I		1.0
CLSM 307	Medical Parasitology		3.0
CLSM 333	Clinical Chemistry II		4.0
CLSM 342	Immunochemistry II		3.0
RELE 457	Christian Ethics and Health Care		2.0
RELT 423	Loma Linda Perspectives		2.0
Totals			15.0

**Senior Year, Post-Summer Session**

Units

CLSM 431	Immunoassay		2.0
Totals			2.0

**Autumn Quarter**

Units

AHCJ 498	Wholeness Portfolio II	Course spans entire academic year	1.0
CLSM 451	Clinical Laboratory Management I		2.0
CLSM 496	Clinical Laboratory Science Seminar I		1.0
REL_ 4__	Upper division religion		2.0
Totals			6.0

**Winter Quarter**

Units

CLSM 452	Clinical Laboratory Management II		2.0
CLSM 497	Clinical Laboratory Science Seminar II		1.0
REL_ 4__	Upper division religion		2.0
Totals			5.0

**Spring Quarter**

Units

CLSM 453	Clinical Laboratory Management III		2.0
CLSM 498	Clinical Laboratory Science Seminar III		2.0
Totals			4.0

**Senior Year Clinical Practicum**

Units

CLSM 471	Clinical Practicum I	A twelve-week clinical rotation in the areas of hematology, urinalysis, and parasitology	6.0
CLSM 411	Urine and Body-Fluid Analysis II (1)	Corequisites	9.0
CLSM 414	Clinical Parasitology (2)		
CLSM 422	Hematology III (6)		
Totals			15.0

**Senior Year Clinical Practicum**

Units

CLSM 472	Clinical Practicum II	A twelve-week clinical rotation in the areas of microbiology and immunohematology	6.0
CLSM 413	Diagnostic Microbiology (6)	Corequisites	9.0
CLSM 442	Immunohematology III (3)		
Totals			15.0

<b>Senior Year Clinical Practicum</b>			Units
CLSM 473	Clinical Practicum III	A twelve-week clinical rotation in the areas of chemistry, immunology, and special procedures	6.0
CLSM 434	Clinical Chemistry III (5)	Corequisites	9.0
CLSM 455	Special Procedures (4)		
Totals			15.0
<b>Overall Totals</b>			<b>125.0</b>

# Coding Specialist—AH

## (Certificate)

DEBRA HAMADA, Program Coordinator

### FACULTY

Terri L. Rouse  
Diana Medal

### ADVISORY COMMITTEE

Barbara Pinkowitz, Chair  
Susan Armstrong  
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Evelia Campos  
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Patricia Small

Health care facilities need coders who accurately select ICD-9-CM codes, CPT codes, and DRG and APC assignments for diagnostic and surgical information recorded in health records. In most instances, financial reimbursement is directly tied to these numeric codes. The statistical information generated from these codes is also used in research, quality improvement in patient care, education, and administrative decision making.

### Opportunities

Coding specialists are in demand in acute care and ambulatory care facilities, physicians' office practices, and long-term care facilities. A variety of government agencies require coding expertise as well. The need for accurate, skilled coders is acute in California and throughout the nation. Information about job opportunities is provided to alumni as it becomes available.

### The program

The Coding Specialist Program certificate is a nine-quarter program. Classes meet one night a week. The last two quarters of the program consist of an internship-like laboratory experience—HLCS 261, 262 Coding Practicum I, II. These practicums meet one to two times per week. Prior to beginning coding courses, the student is introduced to health care records, confidentiality, ethics, and pharmacology.

### Professional certification

Upon successful completion of the program, the student is eligible to take the national entry-level certification examination of the American Health Information Management Association.

### The program objectives

Upon completion of the program, the graduate should be qualified to:

1. Use with understanding the instructions in format, organization, and mechanics of the ICD-9-CM, CPT, and E & M coding systems.
2. Code with accuracy and consistency.
3. Analyze medical records to identify significant medical conditions and surgical procedures; correctly select the principal diagnosis and procedure; and appropriately sequence other diagnoses, complications, and procedures.
4. Supervise health data collection and processing through coding, indexing, and maintaining disease and operation statistics.
5. Develop policies and procedures for coding, including a plan for coding quality.
6. Follow federal, state, and professional association guidelines for coding in the health care environment.
7. Understand the concepts of the prospective payment system and perform diagnostic-related group and ambulatory patient-classification assignments using decision trees and computerized patient-data groupers.
8. Delineate the difference between optimization of coding in compliance with governmental regulations and fraudulent coding.

### Accreditation

The Coding Specialist Program is approved by the Approval Committee for Certificate Programs (ACCP), a joint committee of the American Association for Medical Transcription (AAMT) and the American Health Information Management Association (AHIMA).

### PREREQUISITE

In addition to high school graduation/GED, the following prerequisites/courses must be completed at an accredited college or university:

Human anatomy and physiology

Medical terminology

Essentials of human diseases

Introduction to computer applications

### Special course work/credit

Credit for life experience may be offered through waiver or equivalency examination.

<b>Required</b>		<b>Units</b>
HLCS 236	Pharmacology	3.0
HLCS 239	Introduction to Health Records Science	3.0
HLCS 242	Coding I	4.0
HLCS 243	Coding II	4.0
HLCS 245	Coding III	4.0
HLCS 254	Evaluation and Management Coding for Billing and Reimbursement	3.0
HLCS 257	Coding Special Topics	3.0
HLCS 961	Coding Practicum I	2.0
HLCS 962	Coding Practicum II	2.0
RELE 457	Christian Ethics and Health Care	2.0
Totals		30.0
<b>Overall Totals</b>		<b>30.0</b>

A minimum grade of C (2.0) is required for all courses in the program.

# Communication Sciences and Disorders— AH

(formerly Speech-Language Pathology and Audiology)

## (B.S., M.S. Transitional Program, M.S.)

KEIKO KHOO, Department Chair

PAIGE SHAUGNESSY, Program Director for Master of Science and Transitional Programs

KAREN MAINESS, Program Director for Bachelor of Science

JENNIFER ST. CLAIR, Coordinator for Clinical Education

### FACULTY

Keiko I. Khoo

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Karen J. Mainess

Jennifer St. Clair

Brian D. Sharp

Paige Shaughnessy

Jean B. Lowry, Professor Emeritus

Speech-language pathologists (SLP) evaluate and treat children and adults with communication disorders. Difficulties in the areas of speech, language, fluency, swallowing, and voice are associated with a variety of disorders, including developmental delay, hearing impairment, cleft palate, cerebral palsy, stroke, and head injury. Audiologists are involved in prevention, identification, assessment, and rehabilitation of hearing disorders. Students who choose these professions should have an interest in working with people.

### Opportunities

The entry level for speech-language pathology is the master's degree. Employment opportunities for speech-language pathologists and audiologists are found in speech and hearing clinics, public schools, hospitals, universities, health departments, skilled nursing facilities, home health agencies, rehabilitation centers, industry, and private practice. These environments allow for considerable flexibility. There is ample opportunity for employment.

Employment opportunities for speech-language pathology assistants (SLPA) include working under supervision of the speech-language pathologist with children in schools, or with children and adults in private clinics, hospitals, or skilled nursing facilities.

### Student Professional Association

Students are eligible for membership in the National Student Speech-Language-Hearing Association (NSSLHA). Students are encouraged to become members, read the journals, and attend local meetings. Information about NSSLHA can be found at <[www.nsslha.org/nsslha](http://www.nsslha.org/nsslha)>.

### COMMUNICATION SCIENCES AND DISORDERS—B.S.

The Communication Sciences and Disorders Program, leading to the Bachelor of Science degree, begins with the Autumn Quarter of the junior year. The freshman and sophomore years, which are taken at an accredited college/university, other than Loma Linda University, afford the students the fundamentals of a liberal education. The emphasis in the junior and senior years is on professional courses and practical experience.

Upon completion of the Bachelor of Science degree, students are prepared to seek admission to a graduate program in speech-language pathology or related disciplines. Students are encouraged to take SLPA 267 Fieldwork during their senior year in order to qualify for the speech-language pathology assistant license, issued by the California Speech-Language Pathology and Audiology Board.

### Student learning outcomes

In addition to the stated institutional learning outcomes, the undergraduate SLP student is expected to meet the following programmatic learning outcomes:

1. Demonstrate a basic knowledge of the human communication processes.
2. Demonstrate a basic knowledge of the major types of human communication disorders.
3. Demonstrate a commitment to ethical and compassionate service.
4. Demonstrate an understanding of and respect for individuals from diverse cultures and languages.

### Admission to the Bachelor of Science degree program

#### PREREQUISITES

Domain I

**Humanities and Religion:** (28-32 quarter units)

A minimum of 12 quarter units if the student is required to take 16 units of religion from an SDA university before you graduate.\*

A minimum of 20 quarter units if you are required to take 8 units of religion from Loma Linda University before graduation.\*

The credits in humanities must be selected from at least three of the following content areas: civilization/history, fine arts, literature, modern language, performing/visual arts (not to exceed 4 quarter credits), or philosophy.

\*Specific religion courses offered at Loma Linda University are required for graduation. The student's academic advisor will assist him/her in determining how many religion courses will be needed, which religion courses should be taken, and which academic quarters it would be advisable to take these courses.

#### Domain II

**Scientific Inquiry and Analysis:** (24-32 quarter units)

**Natural Sciences:** (minimum of 12 units) The credits in natural sciences must be selected from two of the following content areas: biology, chemistry, geology, mathematics, physics, and statistics.

Mathematics requirement: 4 semesters of high school advanced mathematics or intermediate algebra taken in college will meet the University's mathematics requirement; however, the student will not receive academic credit for the course work. College algebra will meet the University's mathematics requirement. In addition, the student will receive academic credit for the course.

One physical science required (introduction to physics, recommended)

One biological science required (human anatomy and physiology, recommended)

**Social Sciences:** (minimum of 12 quarter units) Select additional courses from anthropology, economics, geography, political science, psychology, and sociology.

General psychology required

Human growth and development, developmental psychology or child development required

A course on cultural diversity required (cultural anthropology recommended).

#### Domain III

**Communication:** (9-13 quarter units)

English: Course work must include a complete sequence in English composition that meets the baccalaureate degree requirements of a four-year college or university (e.g., English 101 and 102).

Speech: One speech or interpersonal communication course required.

Computer courses: not required but course work taken in this category would be counted in this domain.

#### Domain IV

**Health and Wellness** (2-6 quarter units)

Personal health or nutrition. One course required

Physical Activity: must include at least two separate physical activity courses totaling a minimum of 1 quarter credit

#### Electives

A total of 96 quarter units of credit are required for admission into the program. Upon fulfilling all of the aforementioned domain requirements, the student may still need to take elective credits in order to complete the minimum quarter-unit requirement.

#### Application

The application for the Bachelor of Science degree in communication sciences and disorders is available online. Official transcripts of all academic records from colleges, universities, and professional or technical schools must be provided. For complete instructions, please go to [www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page). Online applications open October 1. Applications close for Bachelor of Science June 30.

#### PROGRAM OF INSTRUCTION

At Loma Linda University, the student enters the program in communication sciences and disorders with 96 quarter units (64 semester units). Students who transfer into this program from a community college may transfer a maximum of 105 quarter units (70 semester units). All other credits *must* come from a senior college. Acceptance into the program does not guarantee that students will get all of the academic credit needed to graduate. Some students may need to complete additional academic course work. A minimum grade of C (2.0) is required for a course to count towards graduation.

#### Clinical experience

Supervised clinical practicum is recommended but not required in the Bachelor of Science degree program. Completion of specific courses precedes placement for practicum. Clinical practicum is available for students who have a G.P.A. of 3.0 or above in the major courses.

#### Speech-language pathology assistant

Students in the Bachelor of Science degree program may work towards meeting eligibility requirements for registration in the state of California as a speech-language pathology assistant (SLPA).

#### Requirements

Although SLPAs typically receive an associate degree with a specialty in speech-language pathology, students who have completed a bachelor's degree in



speech-language pathology or communication sciences and disorders may qualify for the California state-issued SLPA certificate after achieving a grade of C or better in CMSD 267 SLPA Fieldwork (2 units), offered at Loma Linda University.

Students generally make arrangements to register for CMSD 267 Fieldwork in their last undergraduate quarter of study (Spring Quarter of the senior year). For further information about SLPA Registration please go to <[www.slpab.ca.gov](http://www.slpab.ca.gov)> and select "Applicants," then "SLP Assistants."

### COMMUNICATION SCIENCES AND DISORDERS—M.S.—TRANSITIONAL PROGRAM

The Master of Science degree in Communication Sciences and Disorders-Transitional Program is designed for individuals who have a bachelor's degree from an accredited college or university, with a major in a field other than speech-language pathology or communication disorders. Any individual with a bachelor's degree from an accredited institution is eligible for the transitional program. This program permits completion of undergraduate course work (generally completed in one year of full-time study) prior to enrolling in graduate-level courses.

The program is three years in length. In the first year of the program, students complete undergraduate course work that provides the necessary foundation for graduate-level courses. The second and third years include graduate course work and clinical work that prepare students for professional practice.

Upon completion of the Master of Science degree for the Communication Sciences and Disorders—Transitional Program, graduates are eligible for the preliminary speech-language pathology services credential (California public schools) and the temporary license in speech-language pathology (California Department of Consumer Affairs). Graduates are also prepared to seek employment as clinical fellows, working towards the certificate of clinical competence (through the American Speech-Language-Hearing Association).

#### Student learning outcomes

The learning outcomes are listed under the Master of Science degree in the communication sciences and disorders section.

#### Admission

The admissions committee considers the following qualifications in making admission decisions: personal statement; overall G.P.A.; last two years' GPA; GRE scores; and letters of recommendation. Admission decisions fit into one of three categories: regular admission; alternate status; denial of admission.

**Regular admission.** Admission is granted to students who submit a literate personal statement and positive

letters of recommendation, who demonstrate professional potential, and who meet the scholarship and examination requirements for admission to the graduate program. A G.P.A. of 3.0 or above and a GRE score of 1000 on the verbal and quantitative sections, combined, and an analytical writing score of 4.0 or higher are recommended. The faculty has observed that students who have a G.P.A. of 3.3 or above and a GRE of 1000 or above are more successful in graduate school than students with lower scholastic and examination scores. A student with a 3.5 on the written portion of the GRE may be considered if s/he score 41 or higher in the written portion of the CBEST (see Degree Requirements).

**Alternate status.** Alternate status is given for one of two reasons: 1) the student qualifies for admission, but the class is full; or 2) application is being held for spring grades or CBEST scores.

**Denial of admission.** A student may be denied admission for a variety of reasons, including: his/her lack of a literate personal statement; recommendation letters that cite significant reservations; or low G.P.A. and/or GRE scores. Admission is unlikely if the student's overall GPA is below 3.3. Admission is also unlikely if the student's combined GRE score is below 1000 and the analytical writing score is below 4.0.

#### Graduate Record Examination (GRE)

Scores on the general test (verbal, quantitative, and analytical writing) of the Graduate Record Examination (GRE) are required with application for admission. Applicants may access information at <[www.gre.org](http://www.gre.org)>.

#### Application

The application for the Master of Science degree in Communication Sciences and Disorders—Transitional Program is available online at <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)>. Official transcripts of all academic records from colleges, universities, and professional or technical schools must be provided. For complete instructions, please go to <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)>.

Applications and all supporting information (transcripts, GRE test results, recommendations, etc.) should be submitted by March 1 to be included in the first round of selection. Later applications will be considered only if spaces are available. The admissions office processes the applications and sends them to the Department of Communication Sciences and Disorders. Applications that are received after March 1 are reviewed in the order they are received. Qualified late applicants may be placed on the "alternates' list."

Online applications open October 1.

Applications close March 1.

**Degree requirements**

1. A minimum of one quarter in residence as a graduate student,
2. Maintaining a minimum GPA of 3.3 in the undergraduate course work to enroll in the graduate course work.
3. A minimum of 51 quarter units of foundational courses, including: CMSD 276, 314, 317, 318, 324, 334, 376, 424, 434, 435, 444, 454, 477, 485, 486 completed prior to enrollment in 500- and 600-level course work.
4. A minimum of 54 quarter units of CMSD graduate credit, excluding externship (8 units), directed teaching (8 units), and religion (3 units minimum).
5. Evidence of having completed 400 clock hours of clinical practice, including 25 clock hours of observation (375 clock hours of direct client / patient contact, with 325 of these hours being at the graduate level).
6. Completion of written comprehensive examinations (Winter Quarter of the third year).
7. California Basic Education Skills Test (CBEST).
8. Completion of the graduate portfolio.

**California Basic Educational Skills Test (CBEST)**

The California Commission of Teacher Credentialing requires that all students in the credential program take the California Basic Education Skills Test (CBEST). This test must be taken before entering the graduate program, or within the first quarter. The CBEST is a measure of reading, writing, and mathematics proficiency and is required by law for anyone applying for a credential in the public schools of California or Oregon. This test is given by National Evaluation Systems, Inc., Box 340880, Sacramento, CA 95834-0880, 916/928-4001. Additional information may be found at <[www.cbest.nesino.com](http://www.cbest.nesino.com)>.

**Student progress review**

Each student's progress in the Master of Science degree in Communication Sciences and Disorders—Transitional Program is reviewed quarterly and upon completion of the undergraduate course work. The student must maintain a G.P.A. of 3.3 in the undergraduate course work to be eligible to enroll in the 500- and 600-level graduate courses.

**Clinical practicum**

Students in the Master of Science degree in Communication Sciences and Disorders—Transitional Program may begin clinical practicum either during the Summer Quarter following the first year or Fall Quarter of the second year.

**COMMUNICATION SCIENCES AND DISORDERS—M.S.**

The Program leading to the Master of Science degree in communication sciences and disorders offers: preparation for careers in the professional practice of speech-language pathology; provides a basis for graduate study and research at a more advanced level; and encourages the development of independent growth. The clinical services of the Department of Communication Sciences and Disorders, Loma Linda University Medical Center, and affiliated practicum sites provide opportunity to obtain breadth of experience in a variety of settings. The program provides opportunity for the graduate

- to satisfy all academic and clinical requirements for the American Speech Language-Hearing Association's certificate of clinical competence, the California Speech-Language Pathology Services credential, and the California License in speech-language pathology, or
- to prepare for doctoral study or careers in related fields.

The program does not offer a master's degree in audiology.

The Master of Science degree program in communication sciences and disorders is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association. The program is approved by the California Commission for Teacher Credentialing to prepare students for the appropriate California public school credential. The program of study consists of completing (1) required graduate-level courses, (2) supervised clinical practice, and (3) comprehensive examinations.

Acceptable undergraduate preparation includes a bachelor's degree in speech-language pathology or in communicative disorders. GRE and CBEST scores are required.

**Student learning outcomes**

In addition to the stated institutional learning outcomes, the graduate student in the Communication Sciences and Disorders Master of Science Program is expected to meet the following learning outcomes:

1. Demonstrate a basic knowledge of the human communication processes.
2. Demonstrate a basic knowledge of the major types of human communication disorders and swallowing disorders.
3. Demonstrate a basic knowledge of the principles and methods of and skills in prevention, assessment, and intervention for people with communication and swallowing disorders.

4. Demonstrate knowledge of processes used in research and the integration of research principles into evidence-based clinical practice.
5. Demonstrate a commitment to ethical and compassionate service.
6. Demonstrate an understanding of and respect for individuals from diverse cultures and languages.

### Admission

The faculty considers the following qualifications in making admission decisions: personal statement; overall G.P.A.; major G.P.A.; GRE scores; clinical performance/professional potential; and letters of recommendation. Loma Linda University students are not automatically admitted to the graduate program by simply meeting the minimum entrance criteria. Admission decisions fit into one of three categories: regular admission, alternate status, and denial of admission.

**Regular admission.** Admission is granted to students who submit a literate personal statement and positive letters of recommendation, who demonstrate professional potential, who have no undergraduate deficiencies, and who meet the scholarship and examination requirements for admission to the graduate program. A G.P.A. of 3.0 or above and a GRE score of 1000 on the verbal and quantitative sections, combined, and an analytical writing score of 4.0 or higher is recommended. The overall G.P.A. and the major G.P.A. of 3.3 or above is expected. The faculty has observed that students who have a G.P.A. of 3.3 or above and a GRE of 1000 or above are more successful in graduate school than those with lower scholastic and examination scores. A student with a 3.5 on the written portion of the GRE may be considered if s/he has a score of 41 or higher in the written portion of the CBEST. (See Degree Requirements)

**Alternate status.** Alternate status is given for one of two reasons: 1) the student qualifies for admission, but the class is full; or 2) the application is being held for spring grades or CBEST scores. For example, a LLU senior who is showing a climbing G.P.A. but who needs additional time to demonstrate solid academic performance might be given alternate status.

**Denial of admission.** A student may be denied admission for a variety of reasons, including: his/her lack of a literate personal statement; recommendation letters that cite significant reservations; or, low G.P.A. and/or GRE scores. Admission is unlikely if the student's overall G.P.A. is below 3.0 and/or the G.P.A. in the major is below 3.3. Admission is also unlikely if the combined GRE score is below 1000 or the analytical writing score is below 4.0. Occasionally, students who do not perform well academically in the freshman and sophomore years, but who demonstrate a dramatic improvement in the last two years, may be considered. These students may show strong

academic performance in the major. This pattern is taken into consideration in the admission process.

### Graduate Record Examination (GRE)

Scores on the general test (verbal, quantitative, and analytical writing) of the Graduate Record Examination (GRE) are required with application for admission. Applicants may access information at <[www.gre.org](http://www.gre.org)>.

### California Basic Educational Skills Test (CBEST)

The California Commission of Teacher Credentialing requires that all students in the credential program take the California Basic Education Skills Test (CBEST). This test must be taken before entering the graduate program, or within the first quarter. The CBEST is a measure of reading, writing, and mathematics proficiency and is required by law for anyone applying for a credential in the public schools of California or Oregon. This test is given by National Evaluation Systems, Inc., Box 340880, Sacramento, CA 95834-0880, 916/928-4001. Additional information may be found at <[www.cbest.nesino.com](http://www.cbest.nesino.com)>.

### Application

Application for the Master of Science degree in Communication Sciences and Disorders Program are due at the School of Allied Health Professions by February 1. The admissions office processes the applications and sends them to the Department of Communication Sciences and Disorders. The faculty reviews the applications the second or third week of February. Applications that are received after February 1 are reviewed in the order they are received. Typically, the class fills by the February 1 deadline. Qualified late applicants may be placed on the "alternates' list."

Online applications open October 1. Applications close for Master of Science degree program February 1.

### Degree requirements

The program of study consists of: (a) required graduate-level courses; (b) supervised clinical practice; and, (c) the comprehensive examination.

The following are requirements for the Master of Science degree in communication sciences and disorders:

1. A minimum of one quarter in residence as a graduate student.
2. A minimum of 54 quarter units of CMSD credit, plus 8 units each of Externship (CMSD 597) and Directed Teaching (CMSD 588), and a minimum of 3 units of religion.
3. Evidence of having completed 400 clock hours of supervised clinical practice, including 25 clock hours of observation (375 clock hours of direct client/patient contact,

with 325 of these hours being at the graduate level).

4. Completion of written comprehensive examinations.
5. California Basic Education Skills Test (CBEST).
6. Completion of the graduate portfolio.

**Student progress review**

Each student's progress in the Master of Science in Communication Sciences and Disorders Program is reviewed quarterly.

Students must maintain a C average, without any course falling below a grade of C.

**Clinical practicum**

Students in the Master of Science degree in Communication Sciences and Disorders Program begin clinical practicum during the first quarter of the first year. All students are expected to enroll in clinical practicum each quarter during the first year. Externship or advanced directed teaching are completed during the summer between the first and second years. There is some flexibility in clinical practicum during the second year.

Junior Year		B.S.	M.S.	Transitional M.S.
AHCJ 328	Wholeness Portfolio I	1.0		
CMSD 217	Beginning Sign Language	3.0		
CMSD 276	Communication across the Lifespan	4.0		4.0
CMSD 284	Introduction to Speech-Language Pathology and Audiology	3.0		
CMSD 314	Language Analysis for Speech-Language Pathology	4.0		4.0
CMSD 318	Transcription Phonetics	3.0		3.0
CMSD 324	Language Disorders of Children	4.0		4.0
CMSD 334	Phonological and Articulation Disorders	4.0		4.0
CMSD 376	Anatomy of Speech-Hearing Mechanism	4.0		4.0
CMSD 485	Clinical Methods in Speech-Language Pathology	4.0		4.0
CMSD 486	Diagnostic Methods in Speech-Language Pathology	4.0		4.0
PSYC 305	Psychological Foundations of Education	4.0		
PSYC 460	The Exceptional Individual	3.0		
RELE 4__	Upper Division Ethics	2.0		
RELT 406	Adventist Beliefs and Life (2.0)	2.0	—	—
RELT 423	Loma Linda Perspectives (2.0)			
RELT 436	Adventist Heritage and Health (2.0)			
RELT 437	Current Issues in Adventism (2.0)			
Totals		49.0	—	31.0

Available electives (may not be taught every year)		B.S.	M.S.	Transitional M.S.
CMSD 377	Bilingualism and Biculturalism I	2.0		
CMSD 426	Behavior Management Applications with Special Populations	2.0		
CMSD 445	Techniques for ESL and Accent Modification	2.0		
Totals		6.0	—	—

<b>Senior Year</b>		<b>B.S.</b>	<b>M.S.</b>	<b>Transitional M.S.</b>
AHCJ 305	Infectious Disease and the Health Care Provider	1.0		
AHCJ 471	Statistics and Research for Health Professionals I	3.0		
AHCJ 472	Statistics and Research for Health Professionals II	3.0		
AHCJ 498	Wholeness Portfolio II	1.0		
CMSD 304	Hearing Science	4.0		
CMSD 317	Acoustic and Physiological Phonetics	2.0		2.0
CMSD 424	Adult Language Pathology	4.0		4.0
CMSD 434	Disorders of Fluency	2.0		2.0
CMSD 435	Voice Disorders	2.0		2.0
CMSD 444	Organic Speech Disorders	4.0		4.0
CMSD 454	Hearing Problems and Basic Audiometry	4.0		4.0
CMSD 467	Speech-Language Pathology and Audiology Practicum (1.0-4.0)	1.0-4.0		
CMSD 477	Bilingualism and Biculturalism II	2.0		2.0
PSYC 404	Psychological Tests and Measurements	3.0		
PSYC 479	Human Neuropsychology	4.0		
REL_ 4__	Upper Division Religion	2.0		
RELR 4__	Upper Division Relational	2.0		
Totals		44.0-47.0	—	20.0

<b>Graduate First Year</b>		<b>B.S.</b>	<b>M.S.</b>	<b>Transitional M.S.</b>
CMSD 511	Graduate Portfolio I		1.0	1.0
CMSD 523	Seminar in Early Childhood Language Disorders		3.0	3.0
CMSD 525	Seminar in School-Aged Child Language Disorders		3.0	3.0
CMSD 535	Voice Disorders		3.0	3.0
CMSD 554	Swallowing Disorders		3.0	3.0
CMSD 567	Clinical Practice in Speech-Language Pathology and Audiology, Advanced (1.0-6.0)	1 unit times 3 quarters	3.0	3.0
CMSD 575	Instrumentation in Speech and Hearing		1.0	1.0
CMSD 598	Research Methods and Professional Literature in Speech-Language Pathology		3.0	3.0
CMSD 679	Seminar: Motor Speech Disorders/ Augmentative Communication		3.0	3.0
CMSD 682	Seminar: Traumatic Brain Injury		3.0	3.0
CMSD 684	Seminar: Adult Language Disorders		3.0	3.0
CMSD 688	Seminar: Articulation		3.0	3.0
Totals		—	32.0	32.0

<b>Graduate Second Year</b>		<b>B.S.</b>	<b>M.S.</b>	<b>Transitional M.S.</b>
CMSD 512	Graduate Portfolio II		1.0	1.0
CMSD 545	Issues in School Speech-Language Pathology		3.0	3.0
CMSD 564	Auditory Rehabilitation and Hearing Aids		3.0	3.0
CMSD 567	Clinical Practice in Speech-Language Pathology and Audiology, Advanced (1.0-6.0)		2.0	2.0
CMSD 576	Instrumentation II		1.0	1.0
CMSD 585	Seminar in Professional Aspects of Speech-Language Pathology		3.0	3.0
CMSD 587	Counseling in Communication Disorders		3.0	3.0
CMSD 588	Directed Teaching in Speech-Language Pathology		8.0	8.0
CMSD 597	Externship in Speech-Language Pathology		8.0	8.0
CMSD 685	Seminar: Stuttering		3.0	3.0
CMSD 687A	Seminar: Open Seminar		2.0	3.0
CMSD 687B	Seminar: Open Seminar		3.0	3.0
CMSD 697	Research (1.0-4.0)		1.0	1.0
REL_ 5__	Graduate-level Religion		3.0	
Totals		—	44.0	42.0
<b>Overall Totals</b>		<b>99.0-102.0</b>	<b>76.0</b>	<b>125.0</b>

# Cytotechnology—AH

## (Certificate, B.S.)

RODNEY M. ROATH, Chair, Department of Clinical Laboratory Science

MARLENE M. OTA, Program Director

DARRYL G. HEUSTIS, Medical Director

PAMELA J. WAT, Medical Co-Director

### FACULTY

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Cytotechnology is a specialty within the broad field of clinical laboratory science. The cytotechnologist, working under the direction of a pathologist, detects cell changes caused by different disease processes and is able to differentiate between normal, atypical, and malignant cell changes. In recognizing microscopic abnormalities of cells and cellular patterns from various body sites, the cytotechnologist assists the pathologist in detecting cancer at its earliest and potentially most curable stage. As a result, physicians are able to diagnose and treat cancer long before discovering its existence by alternate methods.

### Opportunities

Cytotechnologists work in hospitals, clinics, and independent pathology laboratories. The employment outlook for cytotechnologists is favorable, with the demand for trained workers exceeding the supply. Cytotechnologists can advance to supervisory positions, participate in research activities, or become teachers in the field. Advancement is based on experience, skill, and advanced education.

### The program

The Cytotechnology Program, based on the completion of two years of study at an accredited college or university, leads either to a certificate or to a certificate and a Bachelor of Science degree. The program of study begins with the Autumn Quarter. A certificate is awarded at the completion of the fourth quarter of study, and those electing to continue are awarded the Bachelor of Science degree upon the completion of an additional two quarters of study. With the certificate in cytotechnology and the baccalaureate degree, the student is eligible to take a national examination and become a registered cytotechnologist. Registered cytotechnologists entering the program to receive the Bachelor of Science degree are considered to have completed, on the basis of registry, the equivalent course work listed in the first four quarters of the program. A total of 64 quarter units is applied toward the graduation requirements, provided the course work in pathology

is equivalent to that offered in the certificate program at this University. Where credit in pathology is not equivalent, the requirement may be met by taking AHCJ 402, 403 at this University; or by completing a minimum of 8 quarter units of upper-division course work in developmental biology or comparative animal physiology at an accredited college or university.

A writing-validation examination will be administered to all students. For those students achieving a score of less than 4 on the Wholistic Writing Score Sheet, remedial writing must be taken within the first academic year. Upon retest, the student must achieve a score of 4 or higher.

### Clinical affiliations

Multiple clinical affiliations enrich the student's clinical training by providing exposure to different specimen types in the clinical environment. During the twelve-week clinical practicum, supplemental training may be scheduled at any of the following clinical sites:

#### Primary affiliation

Loma Linda University Medical Center  
Loma Linda, California

#### Supplementary affiliations

Loma Linda Pathology Group  
Faculty Medical Offices  
Loma Linda, California

Jerry L. Pettis Memorial Veterans Medical Center  
Loma Linda, California

Physicians Automated Laboratory  
Bakersfield, California

Quest Diagnostics  
Riverside, California

Scripps Memorial Hospital  
La Jolla, California

### Accreditation

The program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756 in collaboration with the Cytotechnology Programs Review Committee—telephone: 727/210-2350; email: <caahep@caahep.org> or <ASCP@cytopathology.org>; or Web site: <www.cytopathology.org>.

### Professional registration

Upon completion of the certificate program (fourth quarter of study) and the completion of a baccalaureate degree, the student is eligible to sit for the certifying examination given by the Board of Registry of the American Society for Clinical Pathology (ASCP), 33 West Monroe, Suite 1600, Chicago, IL 60603; telephone 312/541-4999; FAX

312/541-4998. Information about qualifying examinations can be obtained at the office of the department chair.

### The department goals

1. To provide opportunity, instruction, and guided experience by which the student may acquire the basic knowledge and develop the skills essential to the practice of a chosen profession.
2. To help the student accept responsibility for integrity, ethical relationships, and empathic attitudes that can contribute to the welfare and well-being of patients.
3. To help the student develop a background of information and attitudes conducive to interprofessional understanding and cooperation.
4. To encourage the student to cultivate habits of self-education that will foster lifelong growth.
5. To engender and nurture in the students the desire to serve mankind, and in particular, to serve as needed in the medical centers sponsored by the Seventh-day Adventist Church both in the United States and abroad.

### The program learning outcomes

1. Evaluate cellular abnormalities with a level of accuracy by applying a differential diagnosis in the framework of patient outcome management.
2. Demonstrate knowledge of the ethical role and responsibilities of the cytotechnologist
3. Assess the results of quality assurance measures and institute proper procedures to maintain accuracy.
4. Understand and apply sound principles of scientific research.
5. Advocate rules and regulations, with emphasis on patient and workplace safety.

### The program objectives

The primary objectives of cytologic education is to prepare individuals to perform with competency:

1. Use the microscope to identify, evaluate, and diagnose with a high level of accuracy the cytologic nature of any pathological process present.
2. Recognize the significance of symptoms, treatments, and/or pertinent clinical data that can be used in the evaluation of cellular morphology and the development of the differential diagnosis.
3. Follow laboratory procedures for preparation, acceptance and rejection of specimens, problem solving, and implementation of new procedures.

4. Read, evaluate, prepare, and present scientific research.
5. Implement measures that contribute to quality control of specimens, laboratory safety and regulation, and the practical aspects of laboratory organization and management.
6. Understand the responsibilities and ethical role of the profession.

### The program objectives

Upon completion of the program, the graduate should be qualified to:

1. Determine and implement the appropriate procedures for collecting and processing biological specimens for cytologic analysis.
2. Detect, differentiate between, and diagnose presence and absence of disease in gynecologic and nongynecologic samples.
3. Follow laboratory procedures for preparation, acceptance and rejection of specimens, problem solving, and implementation of new procedures.
4. Use contemporary and uniform diagnostic terminology in reporting laboratory results.
5. Judge the results of quality assurance measures and institute proper procedures to maintain accuracy and precision.
6. Evaluate current and new techniques, instruments, and procedures in terms of their clinical and diagnostic usefulness and practicality.
7. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel, other health care professionals, and the public.
8. Recognize, encourage, and act upon the individual's need for continuing education as a function of growth and maintenance of professional competence.
9. Apply sound principles of management and supervision.
10. Understand and apply sound principles of scientific research.

### Admission

Please note: Grades of C- are not transferable for credit.

#### PREREQUISITE FOR CYTOTECHNOLOGY, CERTIFICATE

Baccalaureate degree from an accredited college/ university

General biology, complete sequence

Human anatomy and physiology, complete sequence

Microbiology with laboratory



General chemistry with laboratory, complete sequence

College algebra

English composition, complete sequence

**PREREQUISITE FOR CYTOTECHNOLOGY, B.S.**

Humanities—20 units minimum (choose minimum of two areas from:

- history, literature, philosophy, foreign language, art / music appreciation / history)
  - Included in the 20-unit minimum:
  - 4 units of religion per year of attendance at a Seventh-day Adventist college or university

General biology, complete sequence

Human anatomy and physiology, complete sequence

Microbiology with laboratory

General chemistry with laboratory, complete sequence

College algebra

Cultural anthropology or an approved course dealing with cultural diversity

Select 8 units from a minimum of two areas: Sociology, economics, geography, political science, psychology, anthropology

English composition, complete sequence (minimum of 9 quarter units)

Personal health or nutrition

Two physical activity courses

Electives to meet the minimum total requirement of 96 quarter units

*For total unit requirements for graduation, see Section II, Division of General Studies.*

**How to apply**

Prospective students should apply as soon after January 1 as possible for the next academic year. The certificate program begins in August and the B.S. degree program begins in September. Preference will be given to applicants whose applications and completed transcripts are received by March 1.

It is suggested that applicants take a minimum of two years of mathematics and natural sciences (excluding general science) during the high school years. A high school diploma or the GED is required for acceptance.

**English requirements**

If English is not the native language, an undergraduate must submit a minimum score of 550 for the Test of English as a Foreign Language (TOEFL) or a minimum score of 90 percent on the Michigan Test of English Language Proficiency (MTELP) or the equivalent. Minimum scores of 5 both on the TOEFL writing test and the speaking test (TWE and TSE-A) are required for acceptance (see Section II, International Students).

**Academic progression**

A minimum grade of C (2.0) is required for all courses in the program. A grade of less than C in any course, or unsatisfactory clinical performance, will be cause for dismissal from the program for the remaining academic year. Readmission to the program will require reapplication.

**Junior Year, Post-Summer Session**

**Certificate B.S.**

CLSC 341	Female Genital Cytology	6.0	6.0
Totals		6.0	6.0

**Autumn Quarter**

**Certificate B.S.**

AHCJ 328	Wholeness Portfolio I	1.0	1.0
CLSC 341	Female Genital Cytology	6.0	6.0
CLSC 351	Respiratory Cytology	6.0	6.0
RELT 423	Loma Linda Perspectives	2.0	2.0
Totals		15.0	15.0

<b>Winter Quarter</b>		<b>Certificate</b>	<b>B.S.</b>
AHCJ 402	Pathology I	4.0	4.0
CLSC 351	Respiratory Cytology	1.0	1.0
CLSC 353	Urinary Tract and Prostate Cytology	3.0	3.0
CLSC 357	Gastrointestinal Tract Cytology	2.0	2.0
CLSC 361	Body Cavity and Miscellaneous Secretions Cytology	3.0	3.0
CLSC 363	Bone Biopsy Cytology	1.0	1.0
CLSC 371	Cytopreparation Techniques	1.0	1.0
Totals		15.0	15.0

<b>Spring Quarter</b>		<b>Certificate</b>	<b>B.S.</b>
AHCJ 403	Pathology II	4.0	4.0
CLSC 361	Body Cavity and Miscellaneous Secretions Cytology	5.0	5.0
CLSC 365	Breast Cytology	1.0	1.0
CLSC 367	Cytogenetics	1.0	1.0
CLSC 371	Cytopreparation Techniques	2.0	2.0
CLSC 373	Histotechnology Techniques	1.0	1.0
CLSC 481	Supervised Cytology Research Project	2.0	2.0
CLSC 491	Cytology Affiliation I	2.0	2.0
RELE 457	Christian Ethics and Health Care	2.0	2.0
Totals		20.0	20.0

<b>Summer Quarter</b>		<b>Certificate</b>	<b>B.S.</b>
CLSC 481	Supervised Cytology Research Project	2.0	2.0
CLSC 491	Cytology Affiliation I	4.0	4.0
CLSC 492	Cytology Affiliation II	6.0	6.0
REL_4__	Upper Division Religion		2.0
Totals		12.0	14.0

<b>Senior Year, Autumn Quarter</b>		<b>Certificate</b>	<b>B.S.</b>
AHCJ 331	Human Resource Management		3.0
AHCJ 498	Wholeness Portfolio II		1.0
CLSC 301	Introduction to Radiographic Procedures I		2.0
CLSC 404	General Histology		5.0
CLSC 424	Hematology		3.0
CLSC 431	Advanced Specialties		3.0
CLSC 483	Supervised Hematology Research Project		2.0
Totals		—	19.0

<b>Winter Quarter</b>		<b>Certificate</b>	<b>B.S.</b>
AHCJ 426	Introduction to Computer Applications		2.0
CLSC 302	Introduction to Radiographic Procedures II		2.0
CLSC 405	Pathology		5.0
CLSC 432	Current Research Techniques		3.0
REL_ 4__	Upper Division Religion		2.0
Totals		—	14.0
<b>Overall Totals</b>		<b>68.0</b>	<b>103.0</b>

A microscope rental fee and a usage-and-replacement fee are required for the Autumn, Winter, Spring, and Summer quarters.

Summer Quarter is the best time to take the religion units; 8 units of religion are required for the B.S. degree.

# Diagnostic Medical Sonography—AH

## (Certificate)

GLENN A. ROUSE, Medical Director  
 MARIE M. DELANGE, Clinical Program Director  
 SHEILA WILSON, Clinical Coordinator  
 RUDY CHAI, Associate Clinical Coordinator  
 BRENDA PFEIFFER, Program Coordinator

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 Glenn A. Rouse  
 Curtis Serikaku

The diagnostic ultrasound profession is a multispecialty field comprised of diagnostic medical sonography (DMS)—with subspecialties in abdominal, neurologic, obstetric/gynecologic, and ophthalmic ultrasound; diagnostic cardiac sonography (DCS)—with subspecialties in adult and pediatric echocardiography; vascular technology (VT); and other emerging fields. These diverse specialties are distinguished by their use of diagnostic medical ultrasound as the primary technology in their daily work. The diagnostic ultrasound professional is an individual qualified by professional credentialing and academic clinical experience to provide diagnostic patient-care services using ultrasound and related diagnostic procedures. Diagnostic ultrasound professionals perform patient assessments, acquire and analyze data obtained using ultrasound-related diagnostic technologies, provide a summary of findings to the physician to aid in patient diagnosis and management, and use independent judgment and systematic problem-solving methods to produce high-quality diagnostic information and optimize patient care.

### Program outcomes

Upon completion of the program, the graduate should be qualified to:

1. Demonstrate the knowledge and skill base to qualify for work in ultrasound at a hospital or clinic.
2. Demonstrate leadership and critical thinking in ultrasound.
3. Behave in a professional manner in all interactions.

4. Comply with the current standards and practices set by the governing bodies and professional organizations.
5. Apply advanced practice in ultrasonography.

### Track 1 (General RDMS and RVT)

Track 1 is a twenty-four-month program leading to credential eligibility in two areas. General RDMS sonographers perform examinations of the internal organs—such as the liver, kidneys, uterus, and thyroid. They also assist in diagnosis of abnormal/normal conditions in children and pregnant women. Vascular sonographers perform a variety of noninvasive examinations of the arteries and veins—assessing blood flow, valve competence, and presence of clots.

### Track 2 (Cardiac RDCS)

Track 2 is a twelve-month program leading to proficiency in diagnostic imaging of cardiac function and disease processes.

### Accreditation

The programs in both general sonography and echocardiography have been accredited since 1983 by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and the Joint Review Committee on Education in Diagnostic Medical Sonography.

### Professional credentialing

Upon completion of the certificate requirements, the student is eligible to write the national examination board of the American Registry of Diagnostic Medical Sonographers.

### Admission

The applicant *must fulfill one of the following four requirements*.\*

Be an ARRT-registered radiologic technologist;

**or**

Be a graduate of an accredited allied health program, including nursing (two years minimum training), licensed vocational nurse, or registered nurse;

**or**

Have any associate degree;

**or**

Have any baccalaureate degree;

**AND must have credits in the following**.\*

Human anatomy and physiology with laboratory, complete sequence within the past five years

Intermediate college algebra, within the past five years

Medical terminology

Patient-care methods

Physics

\* Specific course requirements must be completed at an accredited college or university.

### CPR certification

Students are required to have current health care provider cardiopulmonary resuscitation (CPR) certification (adult, child, and infant) for all scheduled

clinical experiences. CPR certification must be completed at the American Heart Association health care provider level. Certification may be completed prior to beginning the program of study or may be obtained at Loma Linda University. Classes are available on campus at Life Support Education, University Arts building, 24887 Taylor Street, Suite 102.

Required		2-Year Certificate RDMS, RVT	1-Year Cardiac RDCS
EMMC 315	Cardiology		3.0
RELE 457	Christian Ethics and Health Care (2.0-3.0)	2.0	2.0
RTMS 339	Echocardiography I		4.0
RTMS 344	Introduction to Medical Sonography	5.0	
RTMS 345	Ob-Gyn Sonography	5.0	
RTMS 346	Vascular Technology / Doppler / Scan Techniques	5.0	
RTMS 347	Echocardiography II		4.0
RTMS 348	Abdomen / Neurosonography	5.0	
RTMS 358	Introduction to Ultrasound Physics and Instrumentation	1.0	1.0
RTMS 379	Ultrasound Physics and Instrumentation I	2.0	2.0
RTMS 387	Ultrasound Physics and Instrumentation II	1.0	1.0
RTMS 965	Cardiac Ultrasound Clinical Affiliation		12.0
RTMS 966	Cardiac Ultrasound Clinical Affiliation		11.0
RTMS 967	Cardiac Ultrasound Clinical Affiliation		11.0
RTMS 968	Cardiac Ultrasound Clinical Affiliation		12.0
RTMS 971	Medical Sonography Clinical Affiliation	11.0	
RTMS 972	Medical Sonography Clinical Affiliation	11.0	
RTMS 973	Medical Sonography Clinical Affiliation	11.0	
RTMS 974	Medical Sonography Clinical Affiliation	11.0	
RTMS 975	Medical Sonography Clinical Affiliation	12.0	
RTMS 976	Medical Sonography Clinical Affiliation	11.0	
RTMS 977	Medical Sonography Clinical Affiliation	11.0	
RTMS 978	Medical Sonography Clinical Affiliation	11.0	
Totals		115.0	63.0

<b>Optional</b>		<b>2-Year Certificate RDMS, RVT</b>	<b>1-Year Cardiac RDCS</b>
RTMS 381	Topics in Medical Sonography I	1.0	
RTMS 382	Topics in Medical Sonography II	1.0	
RTMS 383	Topics in Medical Sonography III	1.0	1.0
RTMS 384	Topics in Medical Sonography IV	2.0	
RTMS 385	Topics in Medical Sonography V		2.0
Totals		5.0	3.0
<b>Overall Totals</b>		<b>120.0</b>	<b>66.0</b>

Track 1: Third credential (RDCS) requires additional nine months in the program.

Track 2: RVT or RDMS credential requires one additional year

# Dietetic Technology—AH

## (Certificate, A.S.)

GEORGIA W. HODGKIN, Program Director  
 MAXINE J. TAYLOR, Academic Coordinator, Clinical  
 Education

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 Lisa Harris  
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 Susan Kellon  
 Merrill L. King  
 Lyndee Lawrence  
 Connie Lexion  
 Susan K. Lewis  
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 Leh C. Ota  
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Frances Suen  
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### ADVISORY COMMITTEE

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 \*ex officio

The dietetic technician is a support member of the nutrition care team. At the direction of the dietitian, the dietetic technician screens patients for nutrition care needs, marks menus, teaches individuals or groups, monitors effectiveness of nutrition care, and documents findings in the patient's medical record. Dietetic technicians contribute to the overall success of the food service by developing menus, supervising food service employees, monitoring quality of food, and providing in-service training for employees.

### Opportunities

The dietetic technician practices with other members of the nutrition care team, including the registered dietitian, the dietetic assistant, and food production and food service personnel. Employment may be found in a variety of environments, including hospitals and other health care facilities, retirement centers, schools and universities, government and community agencies, food management companies, and industrial feeding sites.

**DIETETIC TECHNOLOGY—CERTIFICATE****Admission**

To be eligible for admission, the applicant to the certificate program must have earned a minimum of a baccalaureate degree at an accredited college or university and meet the following criteria:

- a 2.5 G.P.A. or above
- an interview
- a letter of application
- recommendations
- completion of program prerequisites

**PREREQUISITE**

Bachelor's degree from an accredited college/ university

Human anatomy and physiology with laboratory, complete sequence

Introductory chemistry with laboratory, complete sequence

or

General chemistry with laboratory (one semester or two quarters)

Introduction to sociology

Speech

**Subject requirements**

Applicants must meet the core professional requirements as specified for the A.S. degree.

The program of instruction for students seeking the certificate in dietetic technology is identical to the program of instruction for the A.S. degree. Courses previously taken that are identical to courses required for the degree may, with proper documentation, be considered as meeting the requirements. The final decision is made through the academic variance process.

This program meets the 450 clock hours of professional practice necessary to establish eligibility to write the Registration Examination for the Dietetic Technicians.

**DIETETIC TECHNOLOGY—A.S.**

The A.S. degree in dietetic technology consists of four quarters and integrates the theory of the classroom studies with the experience of the laboratory and supervised clinical experience. Students participate as active learners in a variety of settings planned to develop competent dietetic technicians. The Associate in Science degree is awarded upon successful completion of the program.

**Accreditation**

The Dietetic Technology Program is currently granted continuing accreditation by the Commission on

Accreditation for Dietetics Education of the American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995; telephone: 312/899-5400. Web site: <www.eatright.org/cade>; FAX: 312/899-4817.

**Professional registration**

Upon satisfactory completion of the program and upon recommendation of the faculty, the graduate will be eligible to take the Registration Examination of the Commission on Dietetic Registration in order to become a dietetic technician, registered (DTR).

**Professional association**

Students are eligible for membership in the American Dietetic Association. The association grants student membership at a nominal cost to students of accredited programs. The national office of the American Dietetic Association is at 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995. Along with membership in the American Dietetic Association, students become members of the California Dietetic Association. Students are encouraged to join the California Dietetic Association-Inland District and, where possible, the Seventh-day Adventist Dietetic Association.

**The program goals**

The goals of the program are to:

1. Prepare graduates to be competent entry-level Dietetic Technicians.
2. Assure that with the encouragement, empowerment, and support of faculty and staff, 90 percent of enrolling students complete the program.
3. Provide professionally trained Dietetic Technicians, Registered, who may be employed by the health care and educational systems of the Seventh-day Adventist Church; or local, national, or international entities.
4. Develop a "career ladder" for nutrition education at Loma Linda University.

**Student learning outcomes**

Upon completion of the program, the graduate should:

1. Understand and apply the University philosophy of wholeness into their personal and professional lives.
2. Understand the importance of integrating LLU's Christ-centered values in their personal and professional lives.
3. Demonstrate critical thinking.
4. Develop a commitment to discovery and lifelong learning.
5. Demonstrate effective communication skills in English.
6. Demonstrate effective use of technology appropriate to the discipline.



7. Understand the importance of embracing and serving a diverse world.
8. Demonstrate the importance of collaborating with others within and across disciplines.

### Admission

Admission to the program is based on a selective process. To be eligible for consideration, the applicant must meet the following criteria:

- a 2.5 G.P.A. or above
- an interview
- a letter of application
- recommendations
- completion of program prerequisites

### PREREQUISITE FOR DIETETIC TECHNOLOGY, A.S.

Religion, 4 units per year of attendance at a Seventh-day Adventist college or university

Human anatomy and physiology with laboratory, complete sequence

General chemistry with laboratory (one semester or 2 quarters)

or

Introductory chemistry with laboratory, complete sequence

Two years high school mathematics with grades of C or better

or

Intermediate algebra in college

Sociology

English composition, complete sequence

Speech

Human nutrition

Electives to meet the total minimum requirements of 49 quarter units

### Sophomore Year

		Certificate	A.S.
AHCJ 305	Infectious Disease and the Health Care Provider	1.0	1.0
AHCJ 407	Financial Management	2.0	2.0
AHCJ 408	Health Care Management	4.0	4.0
DTCH 202	Food Selection and Presentation	5.0	5.0
DTCH 204	Community Nutrition	4.0	4.0
DTCH 205	Professional Issues in Nutrition and Dietetics	1.0	1.0
DTCH 241	Introduction to Clinical Nutrition	5.0	5.0
DTCH 242	Medical Nutrition Therapy I	5.0	5.0
DTCH 243	Medical Nutrition Therapy II	5.0	5.0
DTCH 271	Quantity Food Purchasing, Production, and Service	5.0	5.0
DTCH 272	Food-Systems Management	4.0	4.0
DTCH 281	Operations Management in Quantity Food Productions	4.0	4.0
DTCH 291	Dietetic Technology Affiliation	2.0	2.0
DTCH 299	Independent Study in Dietetic Technology	1.0	1.0
REL_4__	Upper Division Religion	2.0	2.0
RELE 457	Christian Ethics and Health Care	2.0	2.0
Totals		52.0	52.0
<b>Overall Totals</b>		<b>52.0</b>	<b>52.0</b>

A minimum grade of C (2.0) is required for all courses in the program.

The program meets the 450 clock hours of professional practice necessary to establish eligibility to write the Registration Examination for the Dietetic Technicians.

### REGISTERED DIETITIAN (R.D.)

To enter the bachelor's degree program to become a registered dietitian, complete all remaining prerequisites for the bachelor's degree program as indicated in the Nutrition and Dietetics Program. The dietetic technician, registered (DTR), should complete one year of practice before applying to the bachelor's degree program.

# Emergency Medical Care—AH

## (B.S.)

EHREN NGO, Program Director

### FACULTY

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Jim Holbrook  
Craig Jackson\*  
David Lopez  
Traci Marin  
Ehren Ngo  
Michael Osur  
\* ex officio

The two-year, upper-division program leading to the Bachelor of Science degree is a sequence of professional course work intended to prepare emergency medical care (EMC) providers for leadership positions in education, management, or advanced clinical practice. Course work may be applied toward meeting entrance requirements for dentistry, medicine, and other graduate programs.

Those electing to study on a part-time basis must complete the junior and senior years within a four-year period. Students new to the profession should be employed a minimum of sixteen hours per week in an emergency medical care-related position in order to gain the most from the program.

### The program objectives

Upon completion of the program, the graduate should be qualified to:

- Demonstrate leadership skills through advanced and multilevel thinking, providing options and alternatives for the care of patients.
- Demonstrate leadership in the emergency medical care field by sharing the knowledge

acquired through the program with members of other professional disciplines.

- Develop and refine critical-thinking skills to enhance ability to analyze and develop the most effective means of caring for patients.
- Compare and contrast the different disciplines of prehospital health care providers that contribute to emergency medical care.
- Differentiate among the different areas of a Level I trauma center and the significance each area of the hospital has in the care of a critical patient.
- Effectively modify practice within the discipline, using the knowledge acquired in the program.

### Program outcomes

In addition to the stated institutional learning outcomes the emergency medical care student is expected to meet the following program learning outcomes:

1. Demonstrate advanced leadership skills.
2. Demonstrate advanced medical care knowledge and practice.
3. Demonstrate advanced practitioner's knowledge, with critical thinking skills in emergency medical care.

### Admission

To be eligible for the junior year of the Emergency Medical Care (EMC) Program, the applicant must:

- Be an EMT or a paramedic, a registered nurse/MICN, or a respiratory therapist.
- Complete the subject requirements listed as prerequisites.
- Arrange for an interview at the University by appointment.
- Satisfactorily complete a writing and mathematics sample.

### PREREQUISITE / COREQUISITE (General Program Track)

Humanities—20 units minimum (choose minimum of three areas from: history, literature, philosophy, foreign language, art / music appreciation / history)

Included in this minimum, 4 units of religion per year of attendance at a Seventh-day Adventist college or university

Human anatomy or physiology, with laboratory  
Microbiology with laboratory

\*Chemistry one quarter / semester, with laboratory

\*Introductory physics, one quarter / semester\*\*

\*College algebra\*\*

\*General psychology  
 \*Cultural anthropology or an approved course dealing with cultural diversity  
 Select 4 more quarter units from sociology, economics, geography, political science, psychology  
 \*English composition, complete sequence  
 Personal health or nutrition  
 Two physical activity courses

In addition to course work listed above, electives to meet 116 quarter units

\* Denotes EMC B.S. degree program prerequisites

\*\* Requirement may be waived based on review of previous course work completed

**PREREQUISITE / COREQUISITE (Prephysician Assistant Track)**

Humanities—20 units minimum (choose minimum of three areas from: history, literature, philosophy, foreign language [Spanish language recommended], art / music appreciation / history)

Included in this minimum, 4 units of religion per year of attendance at a Seventh-day Adventist college or university

\*Human anatomy with laboratory  
 \*Human physiology with laboratory  
 Genetics course, recommended  
 Microbiology with laboratory  
 \*General chemistry with laboratory, complete sequence  
 \*Introductory physics with laboratory or general physics  
 \*College algebra  
 \*General psychology  
 \*Cultural anthropology or an approved course dealing with cultural diversity  
 General or introductory sociology  
 \*Freshman English, complete sequence  
 \*Personal health or nutrition  
 Two physical activity courses

\*In addition to course work listed above, electives to meet 96 quarter units

\* Denotes EMC B.S. degree program prerequisites

**PREREQUISITE / COREQUISITE (Premedicine Track)**

Humanities—20 units (choose minimum of three areas from: history, literature, philosophy, foreign language [Spanish language recommended], art / music appreciation / history)

Included in this minimum, 4 units of religion per year of attendance at a Seventh-day Adventist college or university

\*General biology / Zoology with laboratory, complete sequence  
 \*General chemistry with laboratory, complete

sequence  
 \*General physics with laboratory, complete sequence  
 Organic chemistry with laboratory, complete sequence  
 Biochemistry, recommended  
 Microbiology with laboratory  
 \*College algebra (calculus recommended)  
 \*General psychology  
 \*Cultural anthropology or an approved course dealing with cultural diversity  
 Select 4 more quarter units from sociology, economics, geography, political science, anthropology, psychology  
 \*Freshman English, complete sequence  
 \*Personal health or nutrition  
 Two physical activity courses

In addition to course work listed above, electives to meet 96 quarter units

\* Denotes EMC B.S. degree program prerequisites

**Please note:**

A maximum of 105 quarter units or 70 semester units from a junior / community college may be transferred for credit.

**Additionally,** C- grades and below are not transferable for credit.

**General education requirements**

For total unit requirements for graduation, see Section II, Division of General Studies.

**Computer requirement**

The Emergency Medical Care Program faculty is proud to be on the cutting edge in using distance education technology to facilitate teaching of course work. This technology, however, requires that all prospective students applying for admission to the EMC program have access to a computer with Internet capabilities by the time they actually begin the program. The EMC program and its faculty will not be responsible for course work not completed due to inability to access a computer. Computer hardware specifications may be obtained from the cardiopulmonary sciences department secretary.

**CPR certification**

Students are required to have current health care provider cardiopulmonary resuscitation (CPR) certification (adult, child, and infant) for all scheduled clinical experience. CPR certification must be completed at the American Heart Association health care provider level. Certification may be completed prior to beginning the program of study or may be obtained at Loma Linda University. Classes are available on campus at Life Support Education, University Arts building, 24887 Taylor Street, Suite 102.

<b>Junior Year</b>		<b>Units</b>
AHCJ 328	Wholeness Portfolio I	1.0
AHCJ 402	Pathology I	4.0
AHCJ 403	Pathology II	4.0
EMMC 308	Pharmacology	3.0
EMMC 314	ECG Interpretation and Analysis	2.0
EMMC 315	Cardiology	3.0
EMMC 316	12-Lead ECG Interpretation	2.0
EMMC 325	Current Issues in Emergency Medical Care	2.0
EMMC 331	Introduction to Theories of Emergency Medical Services	2.0
EMMC 332	Theories of Emergency Medical Services	2.0
EMMC 389	Junior Seminars	1.0
EMMC 425	Instruction and Curriculum Design in Emergency Services	3.0
EMMC 451	Health Care Management for Prehospital Providers	2.0
EMMC 484	Legal Issues in Health Care	2.0
RELE 457	Christian Ethics and Health Care	2.0
RELT 423	Loma Linda Perspectives	3.0
<b>Totals</b>		<b>38.0</b>

<b>Senior Year</b>		<b>Units</b>
AHCJ 305	Infectious Disease and the Health Care Provider	1.0
AHCJ 324	Psychosocial Models and Interventions	2.0
AHCJ 471	Statistics and Research for Health Professionals I	3.0
AHCJ 472	Statistics and Research for Health Professionals II	3.0
AHCJ 498	Wholeness Portfolio II	1.0
EMMC 435	Disasters, WMD, and Terrorism	3.0
EMMC 436	Trauma and Surgical Care	2.0
EMMC 445	Perinatal and Pediatric Care	3.0
EMMC 446	Physical Diagnosis	2.0
EMMC 447	Geriatrics and Aging	3.0
EMMC 448	Advanced Physical Diagnosis and Critical Care	2.0
EMMC 452	Seminars in EMS Management I	2.0
EMMC 453	Seminars in EMS Management II	2.0
EMMC 464	Ethics and Leadership in Emergency Services	2.0
EMMC 471	Senior Project I	2.0
EMMC 472	Senior Project II	2.0
EMMC 489	Senior Seminars	1.0
RELT 416	God and Human Suffering	3.0
<b>Totals</b>		<b>39.0</b>
<b>Overall Totals</b>		<b>77.0</b>

# Health Care Administration—AH

## (B.S.)

BRAD JAMISON, Program Director

### FACULTY

Jane E. Adams  
 Stewart R. Albertson  
 S. Eric Anderson  
 James Banta  
 Dora Barilla  
 Lynna S. Belin  
 Donna Bennett  
 Richard Blanco  
 Richard Bruno  
 John Carney  
 Bonnie I. Chi-Lum  
 William Colwell  
 James M. Crawford  
 Wayne S. Dysinger  
 Dwight C. Evans  
 Earl Ferguson  
 Brent A. Fisher  
 Garry J. Fitzgerald  
 Donn P. Gaede  
 Bradley P. Gilbert  
 Eugenia Giordano  
 Oscar A. Giordano  
 Albin H. Grohar  
 Ronald P. Hattis  
 Gordon E. Hewes  
 Renee L. Hills  
 Paul A. Hisada  
 Troy A. Holmes  
 David L. Holt  
 Michael H. Jackson  
 Brad A. Jamison  
 David J. Kinsey  
 Gregory Kono  
 James Kyle  
 Dave Lawrence  
 Karl J. McCleary  
 Rafael Molina  
 LeRoy Nattress  
 Donald G. Pursley  
 Sharon Rushing  
 Steve Serrao  
 Paul Simms  
 Teri S. Tamayose  
 David Tejada-de-Rivero  
 C. Torben Thomsen  
 Abel Torres

The Health Care Administration Program leading to the B.S. degree prepares individuals to serve in midlevel administration. Settings include assisted living and skilled nursing facilities; rehabilitation centers; private, public, and proprietary clinics; and medical centers.

Graduates will be skilled in assessment, developing strategic and marketing plans, personnel management, budget development and management, health care law, and operations management.

### Learner outcomes

Upon completion of this degree, the graduate should be able to:

1. Communicate effectively with the public, staff, and constituencies.
2. Develop and manage a multidepartmental budget.
3. Apply health care law to policy development.
4. Develop and operationalize a marketing plan.
5. Resolve personnel issues effectively.

### REQUIRED GENERAL EDUCATION COURSES

DOMAIN 1: RELIGION AND HUMANITIES (28-32 quarter units)

Religion: The study of religion must include an average of 4 units of religion course work for every 48 quarter units earned while attending a Seventh-day Adventist college or university.

One of the following religion courses required:

- RELT 406 Adventist Beliefs and Life
- RELT 423 Loma Linda Perspectives
- RELT 436 Adventist Heritage and Health
- RELT 437 Current Issues in Adventism

Humanities: Minimum of 12 units chosen from at least three of the following areas: civilization/history, fine arts, literature, modern language, performing/visual arts (not to exceed 4 quarter units), or philosophy.

DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS (24-32 quarter units)

Natural Sciences: Minimum of 12 units chosen from two of the following content areas: biology, chemistry, geology, mathematics, physics, and statistics.

Social sciences: Minimum of 12 units. One course (or components integrated into several courses) dealing specifically with issues of human diversity is required. The remaining units in the social sciences must be selected from the following content areas: anthropology, economics, geography, political sciences, psychology, and sociology.

**DOMAIN 3: COMMUNICATIONS (9-13 quarter units)**

English composition, complete sequence. (must meet the baccalaureate degree requirements of a four-year college or university.)

Communication electives may include courses in computer information systems, critical thinking, and public speaking.

**DOMAIN 4: HEALTH AND WELLNESS (2-6 quarter units)**

Personal health or nutrition

Two separate physical activity courses

**ELECTIVES**

Electives from any of the four domains may be selected to complete the General Education minimum requirements of 68 quarter units and the total units required for a baccalaureate degree (192).

<b>Major</b>		<b>Units</b>
AHCJ 471	Statistics and Research for Health Professionals I	3.0
AHCJ 472	Statistics and Research for Health Professionals II	3.0
HCAD 305	Health Care Communication	4.0
HCAD 316	Economics for Health Care Managers	4.0
HCAD 328	Health Care Organizational Behavior	4.0
HCAD 336	Legal Environment of Health Care	4.0
HCAD 359	Health Care Marketing	4.0
HCAD 375	Health Care Information Systems	4.0
HCAD 401	Health Care-Operations Management	4.0
HCAD 409	Principles of Public Health Administration	4.0
HCAD 446	Accounting for Health Care Managers	4.0
HCAD 464	Health Care Finance	4.0
HCAD 498	Health Care Policy and Strategy	Senior project
AHCJ 331	Human Resource Management (3)	Choose one course
HCAD 374	Health Care-Human Resources (4)	
Totals		53.0-54.0
<b>Overall Totals</b>		<b>192.0</b>

# Health Information Administration—AH

## (PB certificate, HIT-Progression, B.S.)

MARILYN H. DAVIDIAN, Program Director

PAULINE CALLA, Clinical Coordinator, Recruitment Coordinator

### FACULTY

Pauline Calla  
 Jere E. Chrispens  
 Deborah Critchfield  
 Noha S. Daher  
 Marilyn H. Davidian  
 Intithar S. Elias  
 Jennifer L. Guerrero  
 Debra L. Hamada  
 Diana S. Medal  
 Linda M. Palmer  
 Dulce L. Pe\_a  
 Terri L. Rouse  
 Michael Scofield  
 Audrey J. Shaffer  
 Brenda Taylor  
 Douglas F. Welebir

### ADVISORY COMMITTEE

Eric Anderson  
 Felicia Chao  
 Deborah Critchfield  
 Sue Dowis-Chair  
 Cynthia Doyon  
 Cynthia Giltner  
 Craig Jackson\*  
 Margaret Jackson  
 Arthur Kroetz  
 Kristin Krug-Schmidt  
 Beena Nair  
 Barbara Pinkowitz  
 Brenda Taylor  
 \* ex officio

**H**ealth care records are part of an integrated system of health information. The data provide a basis for patient care, quality assurance, legal defense, reimbursement, risk management, accreditation, planning, and decision making.

Health information management has assumed increased importance with the advent of prospective payment, health care privacy legislation, corporate compliance, and the electronic health record. A career in health information management is likely to appeal to a person who has organizational and leadership abilities and who is interested in and has aptitude for medical science, but whose talents are suited for participation other than physical involvement in human illness.

The health information administrator (formerly known as medical record administrator) designs,

develops, and maintains systems for storage, retrieval, and dissemination of information in accordance with federal, state, and local statutes and regulations. This person works with the medical staff and other health professionals in research, administrative studies, functions relative to health information, and patient-care evaluation. The health information administrator in a health care facility will provide management leadership in planning and organizing the department, motivating and evaluating employees, and providing in-service programs for departmental employees or other personnel in the facility. In addition, strategic planning involvement for health information systems is an important function.

### Opportunities

While many health information administrators are employed in various areas of acute care facilities, others work in alternative delivery health care systems, research facilities, quality assurance, software development companies, industrial establishments, government agencies, medical departments of insurance companies, accounting firms, or as consultants to skilled nursing and other facilities.

The multiplicity of new technologies, the advent of electronic health records, the demand for health information, the emphasis on evaluation of care, the surge in research, the emphasis on cost control, and other factors combine to require comprehensive knowledge and increased utilization of administrative talent and judgment.

### Accreditation

The Health Information Administration Program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), 233 North Michigan Avenue, Suite 2150, Chicago, IL 60601-5519

### The student learning outcomes

Upon completion of the program, the graduate will be qualified to:

1. Advocate effectively for health care privacy and confidentiality.
2. Sit for the registered health information administration (RHIA) credentialing examination based on mastery of the health information management curriculum.
3. Perform assessment and management of the information needs for a variety of health care settings.
4. Design, select, and implement health care information systems.
5. Understand the principles of effective personnel management.

6. Understand financial management requirements for institutions and their relationship to clinical data.

## HEALTH INFORMATION ADMINISTRATION—PB CERTIFICATE

### Admission

To be eligible for admission, the applicant must have a bachelor's degree from an accredited college or university.

### PREREQUISITE

Human anatomy and physiology with laboratory, complete sequence  
 Medical terminology  
 College algebra (intermediate algebra acceptable)  
 General psychology  
 Accounting  
 Introduction to computer applications (must include word processing)  
 Personnel management  
 Business communications

### RECOMMENDED

Speech

### Credit by examination or evaluation

Applicants who have comparable education or experience may be able to gain credit toward the certificate by equivalency examination or evaluation of credit on an individual basis.

### Professional registration

Upon completion of the program, and upon recommendation of the faculty, graduates are eligible to write the qualifying examination of the American Health Information Management Association (AHIMA), 233 North Michigan Avenue, Suite 2150, Chicago, IL 60611-5519, for the designation of RHIA (registered health information administrator).

## HEALTH INFORMATION ADMINISTRATION—B.S.

The Health Information Administration Program, leading to the Bachelor of Science degree, begins with the Autumn Quarter. The freshman and sophomore years, which are taken at an accredited college or university, afford the fundamentals of a liberal education and provide background in science, humanities, social studies, and business.

Concentration on health information administration subject matter begins at Loma Linda University in the junior year and continues through the senior year.

Students are advised to complete the curriculum in two years as scheduled. Those electing to study on a part-time basis because of a heavy work load or other reasons must complete all course work within a four-year period.

### Clinical experience

Three complementary types of clinical experience are offered. The first is a variety of assignments in large and small hospitals and other facilities that will acquaint the student with managing information in all aspects of the health care environment. The majority of these assignments are either at Loma Linda University Medical Center or at hospitals located in southern California.

The second type of clinical experience is a three-week internship at the end of the junior year. The internship is not required of graduates of an accredited health information technology program. The third assignment is a three-week affiliation during the Spring Quarter of the senior year. Arrangements for the internship and affiliation sites are made through the department chair and the clinical coordinator. Students are responsible for their own transportation to those facilities not within walking distance of the University, as well as for food and lodging during assignments at distant sites.

### Professional registration

Upon completion of the program, and on the recommendation of the faculty, graduates are eligible to write the qualifying examination of the American Health Information Management Association for the designation of RHIA (registered health information administrator).

### Professional association

Students and graduates are eligible to become members of the American Health Information Management Association and the California Health Information Association. The purpose of these associations is to promote the art and science of health information management. They grant student membership at a nominal cost to undergraduates of approved schools. The student is expected to become a member of these associations, pay the nominal dues, read the journals, and become familiar with the professional activities.

### Admission

To be eligible for admission to the B.S. degree program in health information administration, the applicant must have completed a minimum of 96 quarter units at an accredited college or university.

### DOMAIN 1: RELIGION AND HUMANITIES (20 quarter units)

Humanities—Choose minimum of three areas from: history, literature, modern language, philosophy, and art/music appreciation.

Included in this minimum, 4 units of religion per year of attendance at a Seventh-day Adventist college or university.



**DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS**  
(24-32 quarter units)

**Natural Sciences** (12 units minimum)

Human anatomy and physiology with laboratory, complete sequence

Choose remaining units from: chemistry, geology, mathematics, astronomy, physics, statistics.

**Social sciences** (12 units minimum)

Cultural anthropology or an approved course dealing with cultural diversity

General psychology

Choose 2 additional courses from: sociology, economics, geography, political science

**DOMAIN 3: COMMUNICATIONS** (9-13 quarter units)

English composition, complete sequence

Introduction to computers (must include word processing)

**DOMAIN 4: HEALTH AND WELLNESS** (2-6 quarter units)

Personal health or nutrition

Two physical activity courses

**OTHER**

Introductory accounting (one quarter or semester)

Electives to meet the minimum total requirement of 96 quarter units.

For total unit requirements for graduation, see Division of General Studies, Section II of this CATALOG.

**Junior Year**

		<b>Certificate</b>	<b>B.S.</b>
AHCJ 214	Fundamentals of Computer Systems	2.0	2.0
AHCJ 305	Infectious Disease and the Health Care Provider	1.0	1.0
AHCJ 325	U. S. Health Care-Delivery System	2.0	2.0
AHCJ 328	Wholeness Portfolio I		1.0
AHCJ 331	Human Resource Management		3.0
AHCJ 351	Statistics for the Health Professions		3.0
AHCJ 402	Pathology I	4.0	4.0
AHCJ 403	Pathology II	3.0	3.0
HLIN 301	Introduction to Health Records Management	4.0	4.0
HLIN 303	Basic Coding Principles and Techniques I	3.0	3.0
HLIN 304	Basic Coding Principles and Techniques II	3.0	3.0
HLIN 305	Health Care Statistical Applications	3.0	3.0
HLIN 325	Pharmacology for Health Information Administration	2.0	2.0
HLIN 361	Health Information Administration Laboratory I	1.0	1.0
HLIN 362	Health Information Administration Laboratory II	1.0	1.0
HLIN 395	Professional Practice Experience I--Junior Affiliation	3.0	3.0
HLIN 441	Legal Aspects of Health Information Administration	4.0	4.0
HLIN 483	Long-Term and Alternative Delivery Systems in Health Care	4.0	4.0
HLIN 493	Health Information Management I	4.0	4.0
REL_ 4__	Upper Division Religion		2.0
RELR 4__	Upper Division Relational		2.0
<b>Totals</b>		<b>44.0</b>	<b>53.0</b>

Senior Year		Certificate	B.S.
AHCJ 432	Database Management	2.0	2.0
AHCJ 433	Special Projects in Computer Applications	2.0	2.0
AHCJ 498	Wholeness Portfolio II		1.0
HLIN 306	E & M Coding for Billing and Reimbursement	2.0	2.0
HLIN 401	Survey of Health Systems Management	4.0	4.0
HLIN 407	Financial Management for Health Information Management	2.0	2.0
HLIN 421	Survey of Health Systems Management—Applied	4.0	4.0
HLIN 444	Corporate Compliance in Health Care	3.0	3.0
HLIN 445	Coding Seminar	3.0	3.0
HLIN 451	Quality Improvement in Health Care	3.0	3.0
HLIN 462	Health Information Administration Laboratory III	1.0	1.0
HLIN 463	Health Information Administration Laboratory IV	1.0	1.0
HLIN 475	Research Methods in Health Information Management		3.0
HLIN 484	Current Topics in Health Information Administration	3.0	3.0
HLIN 494	Health Information Management II	5.0	5.0
HLIN 495	Professional Practice Experience Senior Affiliation	3.0	3.0
RELE 457	Christian Ethics and Health Care	2.0	2.0
RELT 423	Loma Linda Perspectives		2.0
Totals		38.0	44.0
<b>Overall Totals</b>		<b>82.0</b>	<b>97.0</b>

A minimum grade of C (2.0) is required for all courses in the program.

Additional certificate requirements: An LLU G.P.A. of 2.5 must be maintained throughout the program. A minimum of 50 units is required for completion.

### HEALTH INFORMATION ADMINISTRATION—HIT-PROGRESSION PROGRAM

#### Admission

To be eligible for admission to the Health Information Technology (HIT) Progression B.S. degree program, the applicant must be a graduate of an accredited health information technology program or hold a current RHIT credential.

#### Subject requirements

A maximum of 70 semester units or 105 quarter units of transfer credit is accepted from accredited junior colleges.

#### Prerequisites

DOMAIN 1: RELIGION AND HUMANITIES (20 quarter units)

Humanities—Choose minimum of three areas from: history, literature, modern language, philosophy, and art/music appreciation.

Included in this minimum, 4 units of religion per year of attendance at a Seventh-day Adventist college or university.

DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS (24-32 quarter units)

**Natural sciences** (12 units minimum)

Human anatomy and physiology with laboratory, complete sequence

Choose remaining units from: chemistry, geology, mathematics, astronomy, physics, statistics.

**Social sciences** (12 units minimum)

Cultural anthropology or an approved course dealing with cultural diversity

General psychology

Choose 2 additional courses from: sociology, economics, geography, political science

Two physical activity courses

DOMAIN 3: COMMUNICATIONS (9-13 quarter units)

OTHER

English composition, complete sequence

Introductory accounting (one quarter or semester)

Introduction to computers (must include word processing)

Electives to meet the minimum total requirement of 96 quarter units.

DOMAIN 4: HEALTH AND WELLNESS (2-6 quarter units)

General education requirements of Domains I through IV; see Division of General Studies, Section II of this Catalog.

Personal health or nutrition

**Available at LLU (may be transferred from another regionally accredited institution)**

Units

AHCJ 214	Fundamentals of Computer Systems	2.0
AHCJ 311	Medical Terminology	2.0
AHCJ 325	U. S. Health Care-Delivery System	2.0
AHCJ 351	Statistics for the Health Professions	3.0
AHCJ 402	Pathology I	4.0
AHCJ 403	Pathology II	3.0
AHCJ 432	Database Management	2.0
AHCJ 461	Research Methods	2.0
HLIN 325	Pharmacology for Health Information Administration	2.0
HLIN 361	Health Information Administration Laboratory I	1.0
HLIN 475	Research Methods in Health Information Management	3.0
HLIN 493	Health Information Management I	4.0
Totals		30.0

**Required core professional courses from the HIT program**

Units

AHCJ 331	Human Resource Management	3.0
HLIN 301	Introduction to Health Records Management	4.0
HLIN 303	Basic Coding Principles and Techniques I	(taken within two years, or current work experience; equivalency examination may be required) 3.0
HLIN 304	Basic Coding Principles and Techniques II	(taken within two years, or current work experience; equivalency examination may be required) 3.0
HLIN 305	Health Care Statistical Applications	3.0
HLIN 362	Health Information Administration Laboratory II	1.0
HLIN 395	Professional Practice Experience I—Junior Affiliation	3.0
HLIN 441	Legal Aspects of Health Information Administration	(taken within two years, or current work experience, or evidence of ten hours of recent training in HIPAA legislation; equivalency examination may be required) 4.0
HLIN 451	Quality Improvement in Health Care	3.0
Totals		27.0

<b>Required to be taken through LLU</b>		Units
AHCJ 305	Infectious Disease and the Health Care Provider	1.0
AHCJ 328	Wholeness Portfolio I	1.0
AHCJ 407	Financial Management	2.0
AHCJ 498	Wholeness Portfolio II	1.0
HLIN 306	E & M Coding for Billing and Reimbursement	2.0
HLIN 401	Survey of Health Systems Management	4.0
HLIN 407	Financial Management for Health Information Management	2.0
HLIN 421	Survey of Health Systems Management—Applied	4.0
HLIN 444	Corporate Compliance in Health Care	3.0
HLIN 445	Coding Seminar	3.0
HLIN 462	Health Information Administration Laboratory III	1.0
HLIN 463	Health Information Administration Laboratory IV	1.0
HLIN 483	Long-Term and Alternative Delivery Systems in Health Care	4.0
HLIN 484	Current Topics in Health Information Administration	3.0
HLIN 494	Health Information Management II	5.0
HLIN 495	Professional Practice Experience Senior Affiliation	3.0
RELE 457	Christian Ethics and Health Care	2.0
RELT 423	Loma Linda Perspectives	2.0
Totals		44.0
<b>Overall Totals</b>		<b>101.0</b>

# Medical Dosimetry—AH

## (Certificate)

BALDEV PATYAL, Program Director

### FACULTY

Carol Davis  
Noriece Kisinger  
Anh Ly

## THE PROGRAM

The Medical Dosimetry Program is designed to educate personnel in the discipline of dosimetry within a radiation oncology environment, and to prepare them to take the certified medical dosimetrist's board examination (CMD).

Medical dosimetry is a dynamic, exciting field involving a combined knowledge of mathematics, physics, and the biological and medical sciences. Dosimetrists plan optimal isodose distributions and treatment dose calculations for a variety of external beam as well as brachytherapy treatments. Medical dosimetrists must possess excellent analytical skills, the ability to critically evaluate data, and an aptitude for physics and mathematics. They must also be able to work closely as a team with physicists, physicians, radiation therapists, and other personnel.

Due to a lack of training programs in medical dosimetry throughout the United States, there is a shortage of medical dosimetrists in many areas of the country. This program aims to provide a supply of well-trained dosimetrists who will be able to meet the needs of radiation oncology facilities in the local area and beyond.

### The program objectives

Upon completion of the program, the graduate should be qualified to:

1. Demonstrate ability to accurately complete dosimetric calculations and procedures as they pertain to all aspects of treatment planning for external beam and brachytherapy.
2. Develop and define critical-thinking skills to enhance ability to analyze and compute dosimetric data as they relate to all aspects of radiation therapy treatment.
3. Exhibit professional behavior, which includes ability to communicate with other professionals and work well both individually and as a team member.
4. Manage patients in an empathetic manner and exhibit basic patient-care proficiencies.
5. Support the professional code of ethics and comply with the stated scope of practice.

## Admission educational background

Students will either need to have:

- ARRT registration in radiation therapy technology with a minimum of two years postgraduate clinical experience or
- a baccalaureate degree in physics or mathematics from an accredited university.

## Program design

The length of the program will depend on the entering qualifications. For ARRT candidates, the program will be four quarters in length. For B.S. degree candidates, the program will be five quarters long.

Instruction will include a mixture of lecture, laboratory, and clinical work. Students will be exposed to a variety of different methodologies within dosimetry, including work with proton therapy-treatment planning.

All instruction will be conducted in the Radiation Medicine Department of Loma Linda University Medical Center. The only exceptions to this will be a short clinical rotation to Long Beach Memorial, and City of Hope medical centers.

The program faculty consists of physicists and dosimetrists who are extremely experienced in their field—many, in both photon and proton therapy-treatment planning.

## Accreditation

The American Association of Medical Dosimetrists (AAMD) strongly supports the concept of formal dosimetry training, which leads to board eligibility for the certificate in medical dosimetry (CMD). This qualification is considered to be the gold standard in dosimetry education.

The Joint Review Committee on Education in Radiologic Technology (JRCERT) accreditation of dosimetry programs became available in 2003. As soon as regulations allow, application for accreditation will be made for this program.

### PREREQUISITE, B.S. IN PHYSICS TRACK

Anatomy and physiology (no laboratory required)  
Medical terminology

### PREREQUISITE, ARRT-REGISTERED RADIATION THERAPY TECHNOLOGIST TRACK

College algebra  
Trigonometry

<b>First Year</b>		<b>Radiation Therapy Track</b>	<b>B.S. Physics Track</b>
RELE 457	Christian Ethics and Health Care	2.0	2.0
RTMD 301	Treatment Planning I	3.0	3.0
RTMD 307	Principles of Brachytherapy	2.0	2.0
RTMD 309	Radiation Therapy Core--Concept Review	1.0	
RTMD 314	Quality Assurance, with Laboratory	2.0	2.0
RTMD 355	Physical Principles of Radiation Therapy I	3.0	3.0
RTMD 356	Physical Principles of Radiation Therapy II	3.0	3.0
RTMD 961	Practicum		9.0
RTMD 962	Practicum		8.0
RTMD 963	Practicum		8.0
RTMD 971	Practicum	10.0	
RTMD 972	Practicum	10.0	
RTMD 973	Practicum	10.0	
RTMR 285	Principles of Radiography I		3.0
RTMR 334	CT and Cross-sectional Anatomy	2.0	2.0
RTSI 369	CT Physics	2.0	2.0
RTTH 332	Radiation Biology		1.0
RTTH 344	Radiation Therapy Procedures		2.0
RTTH 364	Radiation Oncology I		2.0
RTTH 365	Radiation Oncology II		2.0
RTTH 366	Radiation Oncology III		2.0
Totals		50.0	56.0

<b>Second Year</b>		<b>Radiation Therapy Track</b>	<b>B.S. Physics Track</b>
RTMD 302	Treatment Planning II	2.0	2.0
RTMD 305	Special Topics	2.0	2.0
RTMD 964	Practicum		8.0
RTMD 965	Practicum		8.0
RTMD 974	Practicum	10.0	
Totals		14.0	20.0
<b>Overall Totals</b>		<b>64.0</b>	<b>76.0</b>

Students who have already taken these classes will be required to retake them under another number.

# Medical Radiography—AH

## (A.S. on campus and Saudi Arabia)

MARK J. CLEMENTS, Program Director  
 BRENDA PFEIFFER, Assistant Program Director  
 STEVEN L. LEBER, Clinical Coordinator  
 GREGORY E. WATKINS, Medical Advisor

### FACULTY

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 Steven L. Leber  
 Brenda L. Pfeiffer  
 Timothy Seavey  
 Andrew L. Shepard  
 Renee N. Stone

The medical radiographer, or radiologic technologist, is responsible for the accurate imaging of body structures on a radiograph or other image receptor. The technologist provides for patient protection and comfort, determines proper exposure factors, manipulates medical imaging equipment, evaluates the radiograph image for quality and utilizes film or digital technologies to archive and transmit the patient examination images for physician evaluation.

The technologist may also assist the radiologist physician in specialized radiographic procedures. These may require the use of sterile procedures and universal precautions in the administration of radiographic contrast agents to the patient for the enhanced viewing of body systems and their functions.

### The program

The Medical Radiography Program begins with the Autumn Quarter and is based on the completion of one year of prerequisite course work at any accredited college or university. The first quarter at Loma Linda University primarily emphasizes the theoretical aspects of radiography, with one day per week in clinical orientation. The remaining six quarters combine clinical training on a two-to-five-days-per-week basis, with more advanced classroom topics. The schedule may involve limited evening assignments. Clinical and classroom involvement in the program is full time (40 hours/week). Students are off on all national holidays and quarter breaks.

### Affiliations

For the clinical portion of the program, students are assigned to one of the affiliated medical centers: Loma Linda University Medical Center, Loma Linda University Community Medical Center, Inland Valley Regional Medical Center, Hemet Valley Medical

Center, Eisenhower Medical Center, Desert Hospital, Redlands Community Hospital, Menifee Valley Medical Center, Parkview Community Hospital, Pioneer Memorial Hospital, El Centro Regional Medical Center, St. Bernardine's Medical Center, Community Hospital of San Bernardino, or St. Mary Regional Medical Center.

### Accreditation

The program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 North Wacker Drive, Suite 2850, Chicago, IL 60606-3182; telephone 312/704-5300. The program is also approved by the Radiologic Health Branch (RHB) of the state of California, Department of Public Health MS 7610, P.O. Box 997414, Sacramento, CA 95899-7414; telephone: 916/327-5106.

### CPR certification

Students are required to have current health care-provider cardiopulmonary resuscitation (CPR) certification (adult, child, and infant) for all scheduled clinical experience. CPR certification must be completed at the American Heart Association health care provider level. This may be completed prior to beginning the program of study or may be obtained at Loma Linda University. Classes are available on campus at Life Support Education, University Arts Building, 24887 Taylor Street, Suite 102.

### Professional registration and certification

Upon completion of the requirements for the Associate in Science degree, the graduate is eligible to write the qualifying examination of The American Registry of Radiologic Technologists (ARRT). Program graduates who pass the ARRT examination in radiography are eligible to pay for and receive the state license (CRT) in California without further testing. Graduates are encouraged to become members of The California Society of Radiologic Technologists (CSRT) and the American Society of Radiologic Technologists (ASRT) for professional growth and continuing education in their professional discipline.

### Program mission statement

The Medical Radiography Program seeks to support Loma Linda University's overall mission—"To make man whole"—by providing a well-rounded educational experience for its students that produces registry-eligible radiographers who practice excellent patient care and radiation safety.

### The program objectives

Upon completion of the program, the graduate should be qualified to:

1. Complete all certification requirements of the state of California and the American Registry of Radiologic Technologists.

2. Anticipate and provide basic patient care, comfort, and education, as needed.
  3. Practice radiation protection by utilizing principles of basic x-ray production and interactions to limit radiation exposure to the patient, self, and other members of the health care team.
  4. Understand the limits of equipment operation, including the recognition of equipment malfunctions and problem-reporting procedures.
  5. Obtain optimum images by properly utilizing equipment, accessories, techniques, and procedures; and apply knowledge of human structure, function, and pathology to varying patient situations.
  6. Demonstrate knowledge and skills relating to quality-assurance activities.
  7. Provide services to humanity, with full respect for the dignity of all persons.
  8. Communicate appropriately with patients, colleagues, and others with whom s/he comes in contact.
  9. Behave in a professional manner in all interactions.
  10. Demonstrate teamwork in the clinical setting and other situations where this concept leads to completion of goals that an individual could not easily meet alone.
  11. Support the profession's code of ethics and comply with the profession's scope of practice.
  12. Continue to improve knowledge and skills by participating in educational and professional activities, sharing knowledge with colleagues, and investigating new and innovative aspects of professional practice.
4. Students will be prepared to work in their profession.
  5. Students continue to improve knowledge and skills by participating in professional educational activities, sharing knowledge with colleagues while investigating new and innovative aspects of their professional practice.

**Admission**

To be eligible for admission, the applicant must have completed high school from an accredited institution or passed the GED and completed a minimum of 42 quarter units (or 28 semester units) at an accredited college or university.

**PREREQUISITE**

Religion required, 4 units per year of attendance at a Seventh-day Adventist college or university  
 Human anatomy and physiology with laboratory, complete sequence  
 Two years high school mathematics at algebra level or above, with grades of C or above; or algebra in college  
 Medical terminology  
 One year high school chemistry or physics or physical science; or introductory chemistry, introductory physics, or physical science in college (one quarter/semester)  
 General psychology or sociology  
 English composition, complete sequence \*Students who already have a bachelor's degree from a regionally accredited college or university do not have to complete additional units in this area.  
 Speech  
 Computers, one year high school computer courses; or one quarter/semester college computer course  
 Electives to meet the minimum total requirements of 42 units

**The program outcomes**

1. Students demonstrate understanding of and integrate LLU's philosophy of wholeness in their personal and professional lives.
2. Students demonstrate effective use of knowledge and skills within their radiology discipline.
3. Students demonstrate professional behavior in classroom and clinical settings.

**Observation experience**

A minimum of twelve hours of observation in a radiology department is required. Contact the department to obtain the appropriate form.

**PROGRAM OF INSTRUCTION**

Certain aspects of the curriculum require individual scheduling. Time arrangements may be subject to change. Entrance to the clinical year is contingent upon the completion of all prior requirements.

**Sophomore Year, Autumn Quarter**

Units

AHCJ 326	Fundamentals of Health Care	2.0
AHCJ 328	Wholeness Portfolio I	1.0
REL_ 4__	Upper division religion	2.0
RTMR 202	Orientation Laboratory	1.0
RTMR 224	Law and Ethics in Radiologic Sciences	1.0
RTMR 246	Professional Communications	2.0



RTMR 253	Medical Radiography Procedures I	2.0
RTMR 253L	Medical Radiography Procedures Laboratory I	1.0
RTMR 285	Principles of Radiography I	3.0
Totals		15.0

**Winter Quarter**

Units

RTMR 221	Radiologic Patient Care	2.0
RTMR 254	Medical Radiography Procedures II	2.0
RTMR 254L	Medical Radiography Procedures Laboratory II	1.0
RTMR 284	Radiation Protection and Biology	2.0
RTMR 286	Principles of Radiography II	4.0
RTMR 371	Medical Radiography Affiliation I	5.0
Totals		16.0

**Spring Quarter**

Units

RTMR 255	Medical Radiography Procedures III	2.0
RTMR 255L	Medical Radiography Procedures Laboratory III	1.0
RTMR 283	Radiologic Physics	3.0
RTMR 287	Principles of Radiography III	2.0
RTMR 372	Medical Radiography Affiliation II	7.0
Totals		15.0

**Clinical Year, Summer Quarter**

Units

RTMR 373	Medical Radiography Affiliation III	12.0
RTSI 369	CT Physics	2.0
Totals		14.0

**Autumn Quarter**

Units

RTMR 334	CT and Cross-sectional Anatomy	2.0
RTMR 345	Radiologic Pathology	2.0
RTMR 374	Medical Radiography Affiliation IV	10.0
Totals		14.0

**Winter Quarter**

Units

RTMR 321	Radiographic Film Critique	2.0
RTMR 342	Computer Applications in Radiology	1.0
RTMR 375	Medical Radiography Affiliation V	10.0
RTSI 364	Patient Care in Special Imaging	2.0
Totals		15.0

<b>Spring Quarter</b>		Units
REL_ 4__	Upper division religion	2.0
RTMR 363	Comprehensive Review	1.0
RTMR 386	Medical Radiography Affiliation VI	10.0
		Totals
		13.0
		<b>Overall Totals</b>
		<b>102.0</b>

A minimum grade of C (2.0) is required for all courses in the program.

# Nuclear Medicine Technology—AH

## (Certificate)

ERMA EZPELETA, Program Director

Nuclear medicine uses radioactivity to diagnose and treat disease. This medical specialty provides information about both the structure and the function of virtually every major organ system within the body. Nuclear medicine procedures are safe, involve little or no patient discomfort, and do not require the use of anesthesia.

The nuclear medicine technologist is responsible for preparing and administering radiopharmaceuticals; performing patient-imaging procedures; accomplishing computer processing and image enhancement; analyzing biologic specimens; and providing images, data analysis, and patient information for diagnostic interpretation by the physician health care team member.

### Objectives

During the twelve-month certificate Nuclear Medicine Technology Program, students take formal course work along with instruction in the clinical aspects of nuclear medicine. This includes participation, under close supervision, in the actual procedures within the nuclear medicine department. The clinical calendar varies from the University calendar in that the clinical schedule is full time (forty clock hours per week), arranged around lectures and coordinated with affiliated nuclear medicine departments. The program begins with the Autumn Quarter.

### Program outcomes

Upon completion of the program, the graduate should be qualified to:

1. Demonstrate the knowledge and skill base to qualify for work in nuclear medicine at a hospital or clinic.
2. Demonstrate critical thinking in nuclear medicine.
3. Behave in a professional manner in all interactions.
4. Comply with the current standards and practices set by the governing bodies and professional organizations.

### Accreditation

The program is accredited by the Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities, 985 Atlantic Avenue, Suite 100, Alameda, CA 94501; and by the Department of Health Services, Radiologic Health Branch, P.O. Box 942732, Sacramento, CA 94234-7320.

### Distance education

The Nuclear Medicine Technology Program is offered via distance education at City College in Fresno, California.

### CPR certification

Students are required to have current cardiopulmonary resuscitation (CPR) certification (adult and child) for all scheduled clinical experience. Classes are available on campus at Life Support Education, University Arts building, 24887 Taylor Street, Suite 102.

### Professional registration and certification

Upon completion of the certificate requirements, the student is eligible to write the qualifying examination in nuclear medicine of the American Registry of Radiologic Technologists (ARRT), and the certifying examination of the Nuclear Medicine Technology Certification Board (NMTCB) and of the state of California (CTNM).

### Admission

#### PREREQUISITE

The applicant *must fulfill one of the following requirements:*

Be a graduate of an accredited radiologic technology program; or  
 Be an ARRT-registered radiologic technologist; or  
 Be an ASCP-certified medical technologist; or  
 Be a registered nurse with at least two years of college credit, with a minimum of an associate degree; or  
 Have a baccalaureate degree in one of the natural sciences;

*AND must have credits in the following:*

Two years high school mathematics with grades of C or above, intermediate algebra in college  
 Chemistry with laboratory (one quarter/semester introductory or general)  
 General physics with laboratory, complete sequence (highly recommended)  
 Human anatomy and physiology with laboratory, complete sequence  
 Medical terminology  
 Patient-care methods

### Observation experience

A minimum of twenty-four hours of observation in a nuclear medicine department is required.

**Certifications**

1. CPR certification (adult, child)#
2. Venipuncture\*
3. ECG/EKG interpretation\*

All 3 certifications must be completed prior to entering the program.

Offered by:

# LLU Life Support Education

\* LLU Medical Center Staff Development

**Required**

Units

RELE 457	Christian Ethics and Health Care	2.0
RTNM 351	Principles of Nuclear Medicine I	3.0
RTNM 352	Principles of Nuclear Medicine II	3.0
RTNM 353	Nuclear Medicine Procedures I	2.0
RTNM 354	Nuclear Medicine Procedures II	2.0
RTNM 356	Positron Emission Tomography	2.0
RTNM 381	Topics in Nuclear Medicine I	2.0
RTNM 971	Nuclear Medicine Affiliation I	11.0
RTNM 972	Nuclear Medicine Affiliation II	11.0
RTNM 973	Nuclear Medicine Affiliation III	11.0
RTNM 974	Nuclear Medicine Affiliation IV	11.0
Totals		60.0
<b>Overall Totals</b>		<b>60.0</b>

A minimum grade of C (2.0) is required for all courses in this program.

# Nutrition and Dietetics—AH

## (B.S.; M.S. in Nutrition and Dietetics; M.S. in Nutrition Care Management, online)

BERTRUM C. CONNELL, Program Director

GEORGIA W. HODGKIN, Associate Program  
Director

MAXINE J. TAYLOR, Academic Coordinator of  
Clinical Education; Program Director, Nutrition Care  
Management

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Margie I. Carson  
Justine Castro  
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Barbara B. Dickinson  
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Lorraine W. Fisher  
Alyson Foote  
Danetta Frost  
Wanda Grant  
Dorothy Gibson  
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Margaret Hagerty  
Melissa Halas-Liang  
Lisa Harris  
Ruby S. Hayasaka  
Sondra D. Henderson  
Richard Jacobs  
Febra Johnson  
Adrine Kaloshian  
Susan Kellon  
Merrill L. King  
Lyndee Lawrence  
Connie Lexion  
Susan K. Lewis  
Carla Lyder

Merijane Malouin  
Gwen Moore  
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Leh C. Ota  
Heba Peters  
Elizabeth Quigley  
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Jean Sellars  
Frances Suen  
Terri Taylor  
Maryellen Westerberg  
Linda J. Whiting  
Pamela Yong

### ADVISORY COMMITTEE

James Lumsden, Chair  
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Rupa Bajwa  
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Barbara Crouse  
David Dyjack  
Ayad Fargo  
Dottie Gibson  
Georga Hodgkin  
Gayle Hoxter  
Craig R. Jackson\*  
Richard A. Jacobs  
Adrienne Kaloshian  
Merijane T. Malouin  
Norman H. Meyer  
Snorri Olafsson  
Sue Razor  
Patty Watts  
Ralph Watts  
Maryellen Westerberg  
Grenith J. Zimmerman  
\*ex officio

Dietetics, a vital profession in the field of health promotion and medical nutrition therapy, focuses on the sciences of nutrition and management in providing nutrition care and instruction in proper food choices throughout life. Individuals and groups benefit from the work of the registered dietitian, which leads potentially to better health and longer life. Dietetic practice is the application of principles derived from integrating knowledge of food, nutrition, biochemistry, physiology, business and management, journalism, behavioral and social sciences, and the arts to achieve and maintain health, prevent disease, and facilitate recovery from illness.

### NUTRITION AND DIETETICS— COORDINATED PROGRAM

The coordinated program—a joint effort of the School of Allied Health Professions and the School of Public

Health—offers students the option to pursue one of three degrees:

- B.S. degree in nutrition and dietetics
- M.S. degree in nutrition and dietetics
- M.P.H. degree in public health nutrition

Each of these degrees culminates in eligibility to obtain a credential in dietetics, where one could become a registered dietitian. The student obtains this credential upon successful completion of the registration examination offered by the Commission on Dietetic Registration of the American Dietetic Association. The coordinated program in dietetics combines supervised professional practice with the didactic curriculum to develop professional skills concurrently with cognitive and technical skills that enable the graduate to establish eligibility to become a registered dietitian.

### **B.S. degree in nutrition and dietetics**

The B.S. degree prepares entry-level dietitians to join the profession and contribute to the wholeness of humankind. The graduate is awarded the Bachelor of Science degree and is eligible to write the registration examination of the Commission on Dietetic Registration of the American Dietetic Association. This program is comprised of didactic and supervised professional practice experiences in an environment of liberal arts education to prepare an educated graduate. Admission to the professional program at this University begins with the junior year of college. The applicant will present at least two years of education from an accredited college or university to meet specific subject requirements for 2009-2010.

The professional program of seven quarters includes theory, laboratory, research, and clinical experiences. Ten weeks of clinical experiences are scheduled at the end of the junior year and during the Spring Quarter of the senior year. Students participate as active members of the nutrition care team in multiple clinical settings. Administrative affiliation experiences involve decision-making assignments in volume-feeding operations in school food service or health care.

### **M.S. degree in nutrition and dietetics**

The M.S. degree prepares entry-level dietitians to join the profession in areas of advanced practice and in specialty areas that will allow them to contribute to the wholeness of humankind. The graduate is awarded a B.S. degree in nutrition and dietetics and a M.S. degree in nutrition and dietetics at the conclusion of the program. This program is comprised of didactic and supervised professional practice experiences in an environment of liberal arts education to prepare an educated graduate. Admission to this professional program at this University begins with the junior year. The applicant will present at least two years of education from an accredited college or university to meet specific subject requirements for 2009-2010. The prerequisite

requirements are identical to the B.S. degree program requirements.

The professional program of eleven quarters includes theory, laboratory, research and clinical experiences. Four hundred hours of supervised professional practice are scheduled at the end of the junior year; and another four hundred hours of supervised professional practice experiences in medical nutrition therapy are scheduled during the last year of the program. Students participate as active members of the nutrition care team in multiple clinical settings. Students may choose an emphasis in medical nutrition therapy or public health nutrition. Students choosing to earn the M.P.H. degree in public health nutrition should consult the Nutrition Program in the School of Public Health section of this Catalog.

### **M.S. degree in nutrition and dietetics for DPD graduates**

The M.S. degree for didactic programs in dietetics (DPD) is specifically designed for graduates who choose not to pursue a standard dietetic internship but who wish to complete a combined master's degree and supervised practice experience in order to establish eligibility to write the Registration Examination for Dietitians and become a registered dietitian. This program builds upon previous course work in nutrition and dietetics and culminates with an M.S. degree and a verification statement covering both didactic and supervised practice requirements.

The prerequisite for this degree is a DPD verification statement. A 3.0 or above G.P.A. and GRE scores are required.

### **Opportunities**

Members of the dietetics profession practice in a variety of environments—including hospitals and other health care facilities, schools and universities, government and community agencies, business, and industry. A growing number of dietitians are employed in physicians' offices, clinics, home health care agencies, mass communication, and many other entrepreneurial roles.

By successfully passing the Registration Examination for Dietitians, practice opportunities as a specialist in medical nutrition therapy, administrative dietetics, nutrition education, community nutrition, or research are available. There is increased recognition of the importance of nutrition in the fields of medicine, dentistry, and health promotion—with emphasis on fitness and optimal well-being. This indicates that the dietitian's scope of practice is steadily broadening.

The registered dietitian in medical nutrition therapy applies the science of nutrition to the care of people through health promotion and disease prevention, and uses medical nutrition therapy in the treatment of disease. The effective dietitian must be aware of the cultural, social, economic, aesthetic, and psychological factors that affect eating patterns. As a member of the patient-care team, the registered

dietitian (RD) is responsible for assessing, implementing, and monitoring the nutritional care of patients. In addition, the RD may serve professionally as a nutrition practitioner in health care; a teacher in an educational institution; a research dietitian; or a nutrition consultant-educator in municipal, state, or federal departments of health.

The RD in management is accountable for the food service system. In a health care institution, s/he is responsible for the effective functioning of food service from the standpoint of patients, administration, medical staff, and personnel. The administrative RD may also teach; manage food systems in educational, public, or commercial facilities; serve as a consultant to health care or educational institutions; or enter the field of research.

Community registered dietitians practice in diverse settings, translating nutrition science into improved health status. Challenges may include forming partnerships with various organizations, mastering technology, enacting regulations and policies that protect and improve the public's health, and creatively managing scarce resources. Dietitians working in the community exhibit high-quality leadership and planning skills, and many create positions that are entrepreneurial as well as financially rewarding.

### Accreditation

The coordinated program in dietetics is currently granted continuing accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, 312/899-5400. Web site: <[www.eatright.org/cade](http://www.eatright.org/cade)>; Fax: 312/899-4817.

### Professional registration

Upon satisfactory completion of the program and upon recommendation of the faculty, the graduate will receive a verification statement and be eligible to take the Registration Examination for Dietitians in order to become a registered dietitian.

### Professional association

Students and graduates are eligible for membership in the American Dietetic Association. The association grants student membership at a nominal rate to students in accredited programs.

The national office of the American Dietetic Association is at 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995. Along with membership in the American Dietetic Association, students become members of the California Dietetic Association. Students are encouraged to join the California Dietetic Association-Inland District and, where possible, the Seventh-day Adventist Dietetic Association.

### Goals of the coordinated program

The goals of the coordinated program in nutrition and dietetics are to:

1. Prepare graduates to be competent entry-level dietitians who are eligible to write the Registration Examination for Dietitians.
2. Prepare graduates who are servant leaders in their chosen profession.
3. Provide professionally trained registered dietitians with either an emphasis in medical nutrition therapy or public health nutrition who may be employed by the health care and educational systems of the of the Seventh-day Adventist Church; or by local, national, or international entities.

### Learning outcomes

Upon completion of the program, the graduate will be qualified to:

1. Perform competently at the entry level of professional practice.
2. Exhibit Christian ethical and moral values.
3. Exhibit an investigative spirit to continue attaining knowledge and developing professional competency beyond the entry level.
4. Communicate effectively and be computer literate, using and analyzing data in the decision-making process.
5. Develop leadership skills to achieve personal and corporate goals.
6. Incorporate critical-thinking skills into professional and personal decisions.
7. Demonstrate, from a historical and contemporary basis, the value of diversity in the personal and professional life from ethnic, gender, generational, and ideological points of view.

### Admission

Admission to the program is based upon a selective process. To be eligible for consideration, the applicant must:

- have a 3.0 G.P.A. or above
- complete an interview
- complete an online application
- provide recommendations
- complete program prerequisites

### PREREQUISITE

Humanities—20 quarter units minimum (choose minimum of three areas from: history, literature, philosophy, foreign language, art/music appreciation, or art/music history)

Must include 4 units of religion per year of attendance at a Seventh-day Adventist college or university  
Two years high school mathematics with grades of C

or better, or college algebra  
 Anatomy and physiology with laboratory, complete sequence  
 Introductory chemistry with laboratory, complete sequence or general chemistry with laboratory (two quarters of one semester)  
 (NOTE: General chemistry with laboratory recommended [one semester or two quarters] for those considering an advanced degree in nutrition and dietetics, although either chemistry sequence will be accepted.)  
 Microbiology with laboratory

General psychology  
 Introduction to sociology  
 English composition, complete sequence  
 Speech  
 Two physical activity courses  
 Human nutrition

**Total minimum requirement: 96 quarter units**

For total unit requirements for graduation, see Division of General Studies, LLU General Education Requirements (Section II).

<b>Junior Year</b>		<b>B.S.</b>	<b>B.S./M.S.</b>	<b>M.S. (DPD)</b>
AHCJ 329	Organic Chemistry with Laboratory	5.0	5.0	
AHCJ 334	Biochemistry	5.0	5.0	
DTCS 302	Food Selection and Presentation	5.0	5.0	
DTCS 304	Community Nutrition	5.0	5.0	
DTCS 305	Professional Issues in Nutrition and Dietetics	1.0	1.0	
DTCS 321	Nutrition and Human Metabolism	4.0		
DTCS 341	Introduction to Clinical Nutrition	5.0	5.0	
DTCS 342	Medical Nutrition Therapy I	5.0	5.0	
DTCS 343	Medical Nutrition Therapy II	5.0	5.0	
DTCS 371	Quantity Food Purchasing, Production, and Service	5.0	5.0	
DTCS 372	Food Systems Organization and Management	4.0	4.0	
RELR 4__	Upper Division Relational		3.0	
RELT 436	Adventist Heritage and Health	3.0	2.0	
Totals		52.0	50.0	—

<b>Senior Year</b>		<b>B.S.</b>	<b>B.S./M.S.</b>	<b>M.S. (DPD)</b>
_____	Elective		4.0-13.0	
	Undergraduate electives as needed			
AHCJ 305	Infectious Disease and the Health Care Provider	1.0	1.0	1.0
AHCJ 331	Human Resource Management		3.0	
AHCJ 407	Financial Management	2.0		
AHCJ 471	Statistics and Research for Health Professionals I	3.0		
AHCJ 472	Statistics and Research for Health Professionals II	3.0		
DTCS 395	Nutrition and Dietetics Practicum	12.0		
DTCS 396	Food Systems Management--Affiliation		6.0	6.0
DTCS 397	Community Nutrition Affiliation		6.0	6.0
DTCS 405	Senior Seminar	1.0	1.0	1.0
DTCS 442	Nutrition Counseling	3.0		
DTCS 445	Nutrition Care Management	4.0	4.0	4.0
DTCS 452	Advanced Nutrition	4.0		



DTCS 453	Advanced Medical Nutrition Therapy	3.0	3.0	
DTCS 461	Food Science	4.0	4.0	
DTCS 473	Medical Nutrition-Therapy Affiliation	12.0		
DTCS 476	Exercise Physiology in Medical-Nutrition Therapy	3.0		
DTCS 499	Nutrition and Dietetics Independent Study		2.0	
RELE 457	Christian Ethics and Health Care	3.0	3.0	3.0
RELR 4__	Upper Division Relational	2.0		
Totals		60.0	37.0-46.0	21.0

<b>Graduate Program</b>		<b>B.S.</b>	<b>B.S./M.S.</b>	<b>M.S. (DPD)</b>
DTCS 526	Pharmacology in Medical Nutrition Therapy		2.0	2.0
DTCS 554	Advanced Medical Nutrition Therapy			3.0
DTCS 574	Advanced Food Systems Management		3.0	3.0
DTCS 576	Exercise Physiology in Medical Nutrition Therapy		3.0	3.0
EPDM 509	Principles of Epidemiology I		3.0	3.0
NUTR 504	Nutritional Metabolism		5.0	5.0
NUTR 509	Public Health Nutrition and Biology		3.0	3.0
NUTR 517	Advanced Nutrition I: Carbohydrates and Lipids		4.0	4.0
NUTR 518	Advanced Nutrition II: Proteins, Vitamins, and Minerals		4.0	4.0
NUTR 519	Phytochemicals		2.0	2.0
NUTR 526	Nutrition Counseling and Education		2.0	
NUTR 535	Research Applications in Nutrition		3.0	3.0
NUTR 564	Contemporary Issues of Vegetarian Diets		2.0	2.0
NUTR 605	Seminar in Nutrition		1.0	1.0
NUTR 694	Research		4.0	4.0
REL_ 5__	Graduate-level Religion		3.0	
RELE 534	Ethical Issues in Public Health			3.0
STAT 509	General Statistics		4.0	4.0
Totals		—	48.0	49.0

**Affiliation**

Affiliation units do not count toward minimum graduate units required for the degree.

		<b>B.S.</b>	<b>B.S./M.S.</b>	<b>M.S. (DPD)</b>
DTCS 578	Clinical Nutrition Affiliation (6.0-12.0)		18.0	18.0
Totals		—	—	—
<b>Overall Totals</b>		<b>112.0</b>	<b>135.0- 144.0</b>	<b>70.0</b>

### **NUTRITION CARE MANAGEMENT—M.S.**

The M.S. degree in nutrition care management is a postprofessional degree for registered dietitians who seek advancement into administrative roles in their current position or in another institution. Nutrition care management refers to the administration and management of the delivery of nutrition care in a broad sense. It includes the management of nutrition care dietitians as they provide medical nutrition therapy to a patient; it also includes preparation to become an assistant director in a food and nutrition service in either medical nutrition therapy or food service management. Finally, it also means preparation to become the director of the food and nutrition department in medical centers or in school food service. The emphasis of the program in management is to effectively use the resources available to achieve the mission of the employing organization.

This degree is a Web-based, online program in which all courses are offered via the Internet. No more than two classes are offered each quarter. Although the student is able to individually customize the program to some degree, s/he is expected to keep up to date with the discussion and projects assigned in each class. Courses must be completed by the end of the quarter specified.

#### **Mission of the online program**

The mission of the Master of Science degree in nutrition care management is to prepare leadership personnel in nutrition care and multidepartmental management. Graduates will exhibit a Christian managerial style in their approach to achieving objectives and dealing with customers and employees; as well as in applying ethical principles to all aspects of life. Graduates will be proactive scholars who strive to meet the needs of our dynamic society by becoming creative thinkers who apply and use research to advance the practice of nutrition and dietetics, and by developing and implementing public policy.

The Master of Science degree in nutrition care management will be offered via distance education using Blackboard, an Internet-based learning system. Students will not be required to take any courses on campus during the two years of the online program. The 48-unit program includes courses offered by the Department of Nutrition and Dietetics in the School of Allied Health Professions, by the M.B.A. degree program in the School of Public Health, and by the School of Religion.

#### **Goals of the online program**

The goals of the Master of Science degree in nutrition care management are to:

- Further the education and training of registered dietitians who are advanced-level practitioners and/or managers, as well as potential leaders in the profession; and who

are willing to serve not only the Seventh-day Adventist health care community but also the greater community by promoting optimum health and nutrition.

- Graduate trained professionals who are effective managers, competent leaders, educators, and researchers thoroughly prepared to contribute to the profession's body of knowledge through publications, professional presentations, and advocacy.

#### **Student learning outcomes**

The learning outcomes for the Master of Science degree in nutrition care management include preparing the Registered Dietitian to:

1. Demonstrate in-depth knowledge of nutrition and dietetics, and to serve the needs of the global community at advanced practice levels.
2. Apply a Christian approach to all aspects of ethics, management, and leadership within his/her area of responsibility and in his/her personal life.
3. Exhibit an investigative spirit and to continue to attain knowledge and develop professional competency for advanced-level practice.
4. Use current issues and environmental information from his/her system's external and internal environment to influence and/or adapt to changes that will impact the organization and/or public policy.
5. Apply research, statistical methods, and current technology to evaluate and improve his/her areas of responsibility.
6. Engage in program development to serve the needs of the global community.
7. Contribute to the profession's body of knowledge by publishing or giving oral presentations of cogent research results.
8. Develop executive management and leadership skills to achieve personal and corporate goals.

#### **Admission**

The program is open to registered dietitians who have had at least two years of experience in the profession and who are passionate about their role as a potential manager in the profession. To be considered for acceptance into this graduate program, the applicant must present:

- A transcript indicating completion of the academic requirements for registration as a dietitian
- A G.P.A. of 3.0 or above
- A letter of application
- A letter of recommendation from his/her supervisor and/or department head

- the name of a mentor who will be a member of the team supporting the student through the educational experience. Other members of the team include the individual student, the academic faculty, and the student's faculty advisor.

mission, student learning expectations, and learning outcomes

- Introduction to Blackboard—including its various components, such as discussion boards, posting, and accessing course information and assignments
- Downloading and posting information from Blackboard
- Log-in issues

**PROGRAM OF INSTRUCTION**

**Teaching methodology**

The Master of Science degree in nutrition care management will be offered via an online format utilizing Blackboard 7.1 Community and Learning System. The nutrition and dietetics faculty have approved an online syllabus template and Blackboard set-up template to ensure that certain course management strategies are in place and consistent throughout the program. Prior to beginning the program, students will complete an online course that teaches the skills necessary to operate effectively in this online learning environment. Students will be expected to attend a two-day, on-campus orientation prior to beginning their course work. The orientation will include:

Afternoon

- Netiquette
- Online library tutorial
- Tour of Loma Linda University Medical Center
- Drayson Center
- Seventh-day Adventists and their heritage

**Day 2—On-site orientation**

Morning

- Technology strategies and tips for communication and successful participation
- Webcam and Yahoo chat
- Registration
- Contact information for University Records and Financial Aid
- Expectations for mentor
- Yahoo and Google meeting space

**Day 1—On-site orientation**

Morning

- Introduction of faculty and advisor
- Introduction to Loma Linda University's mission and fundamental values
- Orientation to the Master of Science degree in nutrition care management—including

**Autumn Quarter**

Units

AHCJ 545	Legal and Ethical Issues in the Health Professions	3.0
HADM 528	Organizational Behavior in Health Care	3.0
Totals		6.0

**Winter Quarter**

Units

AHCJ 331	Human Resource Management	3.0
DTCS 554	Advanced Medical Nutrition Therapy	3.0
Totals		6.0

**Spring Quarter**

Units

PHTH 536	Research and Statistics II	3.0
RELT 557	Theology of Human Suffering	3.0
Totals		6.0

<b>Second Year, Summer Quarter</b>		Units
DTCS 525	Nutrition Care Marketing	3.0
HADM 604	Health Systems Strategic Planning	3.0
Totals		6.0

<b>Autumn Quarter</b>		Units
AHCJ 566	Theoretical Foundations of Leadership	3.0
AHCJ 579	Instructional Effectiveness	3.0
Totals		6.0

<b>Winter Quarter</b>		Units
DTCS 536	Health Care Financial Management	3.0
HADM 601	Health Systems-Operations Management	3.0
Totals		6.0

<b>Spring Quarter</b>		Units
DTCS 696	Nutrition Care-Management Project	6.0
Totals		6.0

<b>Third Year, Summer Quarter</b>		Units
DTCS 505	Graduate Seminar—Portfolio	3.0
DTCS 579	Capstone Course in Nutrition Care Management	3.0
Totals		6.0
<b>Overall Totals</b>		<b>48.0</b>

# Occupational Therapy—AH

## (Entry-Level M.O.T., Postprofessional M.O.T., O.T.D.)

LIANE H. HEWITT, Department Chair and Program Director for Entry-Level Master of Occupational Therapy, and Postprofessional Master of Occupational Therapy

JUDITH A. PALLADINO, Academic Coordinator for Fieldwork Education, Occupational Therapy Program

HEATHER A. JAVAHERIAN, Program Director for Doctor of Occupational Therapy Program

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Heather J. Thomas  
Donna G. Thorpe  
Yvonne C. Trousdale  
Christine M. Wietlisbach  
Grenith J. Zimmerman

The occupational therapist works with persons who find it difficult to cope with psychological or physiological dysfunction.

The primary concern of the therapist is to stimulate those changes in behavior patterns that will increase the patient's personal independence and ability to work within his/her cultural and personal milieu. To accomplish this goal, the occupational therapist

evaluates the patient; sets up treatment goals; and works together with the occupational therapy assistant in selecting tasks from the gamut of normal daily self-care activities, using them to assist the patient in gaining independent living skills regardless of disability or handicap.

Essential to the role of occupational therapy is an interest in the behavioral sciences and a concern for the individual's need to find proper adjustments to life's circumstances. A desire to teach and a background or interest in medical science are beneficial. Those inclined to mechanical or scientific techniques are suited to helping patients develop their capacities for employment. Others find that they can use their interests in creative arts, crafts, music, and teaching to work with disabled homemakers, children, and retired persons.

### Opportunities

Occupational therapists practice in general hospitals, rehabilitation centers, pediatric or psychiatric clinics, schools, skilled nursing facilities, home care, and outpatient community-centered programs (including hand rehabilitation, work evaluation, and adult day care facilities). Occupational therapy professionals have a wide choice of positions (using varied therapeutic skills with individuals of varying age and disability) and opportunities for advancement.

### Accreditation

The Occupational Therapy Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE), P.O. Box 31220, Bethesda, MD 20824-1220; telephone: 301/652-2682, Web site <[www.aota.org](http://www.aota.org)>.

### Professional registration

Upon satisfactory completion of the occupational therapy entry-level M.O.T. degree—including completion of Level II fieldwork within twenty-four months following completion of academic preparation, and upon recommendation of the faculty—the graduate is eligible to take the national certification examination administered by the National Board for Certification for Occupational Therapy (NBCOT). The board offers computerized examinations on demand throughout the year. After successful completion of this examination, the individual will be an occupational therapist, registered (OTR).

Many states require licensure in order to practice; however, state licenses are based on the results of the NBCOT certification examination. The American Occupational Therapy Association provides recognition essential to the practice of occupational therapy in the United States and most foreign countries. Information about qualifying examinations can be obtained at the office of the department chair.

When the graduate applies to write the certification examination with NBCOT, s/he will be asked to answer questions related to the topic of felonies. Felony convictions may affect a candidate's ability to sit for the national certification examination or obtain state licensure. For further information on these limitations, contact NBCOT at 12 S. Summit Avenue, Suite 100, Gaithersburg, MD 20877-4150; telephone 301/990-7979, Web site <[www.nbcot.org](http://www.nbcot.org)>. Graduates practicing in the state of California must acquire licensure from the California Board of Occupational Therapy. For further information, contact CBOT at 916/263-2294; email: <[cbot@dca.ca.gov](mailto:cbot@dca.ca.gov)>. The office address is 2005 Evergreen Street, Suite 2050, Sacramento, CA 95815-3831.

### Professional associations

Students are eligible for membership in the American Occupational Therapy Association and Occupational Therapy Association of California—two organizations that foster development and improvement of service and education. Students are encouraged to become members, read the journal, and attend local professional meetings. The national association address is: American Occupational Therapy Association, P. O. Box 31220, Bethesda, MD 20824-1220. Web site: <[www.aota.org](http://www.aota.org)>; telephone: 800/729-2682. The state association address is: Occupational Therapy Association of California, PO Box 276567, Sacramento, CA 95827-6567. Web site: <[www.otaconline.org](http://www.otaconline.org)>; telephone: 888/686-3225.

## OCCUPATIONAL THERAPY—ENTRY-LEVEL MASTER OF OCCUPATIONAL THERAPY

The Occupational Therapy Program begins with the Summer Quarter. Admission to the Entry-Level Master of The Occupational Therapy Program junior and senior years at this University is based on presentation of credit for two academic years of prerequisites earned at an accredited college or university, as listed under Admission—Entry-Level Master of Occupational Therapy.

Students who already have a previous baccalaureate degree in another major may apply under option two, based on specific prerequisites listed under Admission—Option Two.

The curriculum is built on three levels of learning: foundation, practice, and professional. These levels of learning represent curriculum content that supports the student's progressive growth and knowledge. Initially, students focus primarily on foundation knowledge courses in basic sciences combined with concepts of wholeness and looking at their own, as well as others' occupational worlds. Next, the curriculum emphasizes student learning of core occupational therapy practice. Subsequently, the curriculum provides opportunities for the student to develop professional competency in research and in program development/evaluation; and to envision how the occupational therapy profession enhances

health care trends. Classroom instruction is integrated with supervised fieldwork practice at approved community programs.

### CPR certification

Students are required to have current cardiopulmonary resuscitation (CPR) certification (adult and child) for all scheduled clinical experience. All CPR certifications must be completed at a health care provider level and accredited through the American Heart Association. Classes are available on campus at Life Support Education University Arts building, 24887 Taylor Street, Suite 102.

### Immunizations

Students are required to have a current tuberculosis test and titers for varicella, MMR, tetanus, diphtheria, and hepatitis B series for all scheduled fieldwork experience.

### Clinical experience

For the two, three-month fieldwork experiences (Winter Quarter of the second year and Winter Quarter of the third year), the student is assigned for experience at approved hospitals and in community health care programs. Assignments cannot always be arranged in the immediate community because of limited facilities; students are responsible for their own transportation. Level II fieldwork must be completed within twenty-four months of the didactic course work. Students must also clear fingerprinting and background checks prior to beginning fieldwork.

### The program outcomes

At the end of the Master of Occupational Therapy program, students will:

1. Articulate the history of the profession, the scope and role of occupational therapy within health care, and its contributions to the quality of life.
2. Engage in occupational therapy practice to promote client(s) participation in society.
3. Engage in global critical thinking to envision future possibilities for personal, professional, and societal potential.
4. Understand how lifestyle impacts health and consider person-environment factors in establishing interventions in the clinical and community settings.
5. Use research literature to inform clinical decisions and engage in research that contributes to best practice.
6. Integrate Christ-centered values in personal living and professional practice.

### ADMISSION: OPTION ONE

BACHELOR OF SCIENCE (B.S.) AND MASTER OF OCCUPATIONAL THERAPY (M.O.T.) TRACK

Option one is for individuals who do not have an earned bachelor's degree from an accredited college

or university. Graduates will receive a Bachelor of Science degree in health science and a Master of Occupational Therapy degree.

To be eligible for admission, the applicant must have completed a minimum of 96 quarter units at an accredited college or university.

**Please note:** Grades of C- are not transferable for credit.

#### Prerequisite

Humanities—20 units minimum (choose minimum of three areas from: history, literature, philosophy, foreign language, art/music appreciation or history, applied art/music)

Included in this minimum, 4 units of religion per year of attendance at a Seventh-day Adventist college or university

Human anatomy and physiology with laboratory, complete sequence

Select one additional content area from chemistry, physics, or physical science

Two years high school mathematics with grades of C or better, or intermediate algebra

Sociology

General psychology

Human growth and development

English composition, complete sequence

Speech

Personal health or nutrition

Two physical activity courses

Electives to meet the minimum total requirement: 96 quarter units

#### (Option One and Option Two)

##### Junior Year, Summer Quarter

		B.S./M.O.T.	Prior B.S.
AHCJ 412	Anatomy	9.0	9.0
OCTH 301	Introduction to Occupational Therapy	2.0	2.0
OCTH 305	Terminology for Occupational Therapy Practice	2.0	2.0
OCTH 331	Functional Kinesiology	3.0	3.0
Totals		16.0	16.0

##### Autumn Quarter

		B.S./M.O.T.	Prior B.S.
AHCJ 305	Infectious Disease and the Health Care Provider	1.0	1.0
AHCJ 404	Pharmacology	1.0	1.0
OCTH 309	Human Occupation across the Lifespan	5.0	5.0
OCTH 314	Task Analysis	2.0	2.0
OCTH 321	Intervention Techniques and Strategies I	2.0	2.0
OCTH 341	Functional Neuroscience	3.0	3.0
RELT 423	Loma Linda Perspectives	2.0	
Totals		16.0	14.0

#### Work experience

A minimum of forty hours of documented observation in an OT setting is required before application will be considered for admission.

#### ADMISSION: OPTION TWO

##### MASTER OF OCCUPATIONAL THERAPY (M.O.T.) TRACK

Option two is for individuals who have earned a baccalaureate degree in another major, from an accredited college or university. Graduates will receive a Master of Occupational Therapy degree ONLY.

#### PREREQUISITE

The applicant must complete the following subject requirements at an accredited college or university:

Human anatomy and physiology with laboratory, complete sequence

Select one additional science course from chemistry, physics, or physical science

For option two, prerequisites may be waived at the discretion of the Department of Occupational Therapy.

#### Work experience

A minimum of forty hours of documented observation in an OT setting is required before application will be considered for admission.

**Winter Quarter****B.S./M.O.T. Prior B.S.**

AHCJ 402	Pathology I	4.0	4.0
OCTH 306	Group Dynamics and Intervention	2.0	2.0
OCTH 315	Therapeutic Media	2.0	2.0
OCTH 317	Occupational Therapy Practicum I	2.0	2.0
OCTH 451	Disorders of Human Performance I	5.0	5.0
RELE 457	Christian Ethics and Health Care	2.0	2.0
Totals		17.0	17.0

**Spring Quarter****B.S./M.O.T. Prior B.S.**

AHCJ 403	Pathology II	3.0	3.0
AHCJ 471	Statistics and Research for Health Professionals I	3.0	3.0
OCTH 316	Design and Technology	2.0	2.0
OCTH 318	Occupational Therapy Practicum II	2.0	2.0
OCTH 442	Case Analysis, Reasoning, and Management I	2.0	2.0
OCTH 452	Disorders of Human Performance II	5.0	5.0
RELT 416	God and Human Suffering	2.0	
Totals		19.0	17.0

**Senior Year, Summer Quarter****B.S./M.O.T. Prior B.S.**

AHCJ 472	Statistics and Research for Health Professionals II	3.0	3.0
OCTH 417	Occupational Therapy Practicum III	2.0	2.0
OCTH 431	Intervention Techniques and Strategies II	3.0	3.0
OCTH 443	Case Analysis, Reasoning, and Management II	2.0	2.0
OCTH 453	Disorders of Human Performance III	4.0	4.0
Totals		14.0	14.0

**Autumn Quarter****B.S./M.O.T. Prior B.S.**

OCTH 418	Occupational Therapy Practicum IV	2.0	1.0
OCTH 435	Upper-Extremity Rehabilitation and Splinting	3.0	3.0
OCTH 455	Case Analysis, Reasoning, and Management III	3.0	3.0
OCTH 456	Community Practice	2.0	2.0
OCTH 526	Business Topics in Health Care	2.0	2.0
OCTH 541	Current Trends in Occupational Therapy Practice I	3.0	3.0
RELR 475	Art of Integrative Care	2.0	
Totals		17.0	14.0

**Winter Quarter****B.S./M.O.T. Prior B.S.**

OCTH 491	Fieldwork Experience I	12.0	12.0
Totals		12.0	12.0



**Graduate Year, Spring Quarter****B.S./M.O.T. Prior B.S.**

OCTH 542	Current Trends in Occupational Therapy Practice II	3.0	3.0
OCTH 544	Advanced Occupational Therapy History	3.0	3.0
OCTH 563	Professional Competency Development I	1.0	1.0
OCTH 571	Research I	3.0	3.0
Totals		10.0	10.0

**Summer Quarter****B.S./M.O.T. Prior B.S.**

_____	Elective	Graduate elective	3.0	3.0
OCTH 551	Theoretical Perspectives on Occupation		3.0	3.0
OCTH 561	Program Development/Design I		3.0	3.0
OCTH 564	Professional Competency Development II		1.0	1.0
OCTH 572	Research II		2.0	2.0
Totals			12.0	12.0

**Autumn Quarter****B.S./M.O.T. Prior B.S.**

OCTH 552	Graduate Seminar		3.0	3.0
OCTH 562	Program Development/Design II		3.0	3.0
OCTH 565	Professional Competency Development III		1.0	1.0
OCTH 573	Research III		2.0	2.0
RELR 536	Spirituality and Everyday Life		3.0	3.0
Totals			12.0	12.0

**Winter Quarter****B.S./M.O.T. Prior B.S.**

OCTH 591	Fieldwork Experience II		12.0	12.0
Totals			12.0	12.0
<b>Overall Totals</b>			<b>157.0</b>	<b>150.0</b>

A minimum grade of C with an overall G.P.A. of 2.5 is required for all courses in the program.

The program of instruction is full time for each quarter. Academic credit of less than 12 units per quarter does not indicate less than full-time work.

### **OCCUPATIONAL THERAPY— POSTPROFESSIONAL MASTER OF OCCUPATIONAL THERAPY**

#### **The program**

The postprofessional master's degree program is designed for the occupational therapist with an entry-level baccalaureate degree in occupational therapy who wishes to pursue advanced studies in the profession.

#### **Admission**

To be eligible for admission, the applicant must have earned a bachelor's degree or postbaccalaureate certificate in occupational therapy from an accredited program, with a minimum G.P.A. of 3.0. The applicant must also be certified by the National Board for Certification in Occupational Therapy (NBCOT). The applicant's recommendations, interview, personal statement, and work experience are also considered in the admissions screening process.

International students with no NBCOT certification must have graduated from a WFOT-recognized university and complete the required fieldwork experience for their degree. TOEFL score of 550 (paper-based), or 80 (Internet-based), is required for students speaking English as a second language.

Foreign transcript reports must be submitted from either the Association of American College Registrars and Admissions Officers (AACRAO), Education

Credentials Evaluators (ECE), or World Education Services (WES).

**The program outcomes**

At the end of the postprofessional master's degree program, students will:

1. Become leaders in occupational therapy, occupying a broad range of roles in education, clinical practice, or administration within a variety of clinical settings.

2. Demonstrate advanced specialization and professional skills.
3. Demonstrate the skills to respond to the changing needs of society.
4. Integrate Christ-centered values in personal living and professional practice.

**PREREQUISITE**

Baccalaureate degree in occupational therapy from an accredited institution.

**PROGRAM OF INSTRUCTION**

The curriculum is five quarters in length for full-time students, or may be tailored for part-time students.

<b>Major</b>		Units
OCTH 526	Business Topics in Health Care	3.0
OCTH 542	Current Trends in Occupational Therapy Practice II	3.0
OCTH 544	Advanced Occupational Therapy History	3.0
OCTH 551	Theoretical Perspectives on Occupation	3.0
OCTH 552	Graduate Seminar	3.0
OCTH 563	Professional Competency Development I	1.0
OCTH 564	Professional Competency Development II	1.0
OCTH 565	Professional Competency Development III	1.0
Totals		18.0

<b>Cognates</b>		Units
AHCJ 509	Teaching and Learning Styles	3.0
AHCJ 511	Biostatistics I	3.0
AHCJ 526	Computer Applications II	3.0
AHCJ 591	Research I	3.0
AHCJ 592	Research II	2.0
REL_ 5__	Graduate-level religion	3.0
Totals		17.0

<b>Electives</b>		Units
____ __	Elective	10.0
Totals		10.0
<b>Overall Totals</b>		<b>45.0</b>

**DOCTOR OF OCCUPATIONAL THERAPY—(O.T.D.)**

**The program**

The Doctor of Occupational Therapy Program provides occupational therapists an opportunity to further their education through its flexible online format. The online community fosters learning and

professional growth through creative learning experiences, critical reflections, and discussions.

The program will take approximately two-and-a-half years to complete in accordance with the professional doctorate accrediting standards of the Western Association of Schools and Colleges. The course work includes emphasis on spirituality, diversity, critical reasoning, advocacy, participation, education, and

research. The capstone project is a professional rotation designed by the student, allowing him/her to creatively explore new areas of practice, and engage in innovative research and programming.

### The program outcomes

At the end of the doctoral program, students will:

1. Articulate and serve the community by promoting health and the integration of mind, body, and spirit.
2. Contribute to the profession's body of knowledge through written dissemination of research and oral presentations.
3. Advocate for the profession, client, and those in need through participation in community and professional organizations.
4. Commit to lifelong learning through disciplined advancement of knowledge and participation in professional activities.

### Admission

To be eligible for admission, the applicant must have earned a master's degree in occupational therapy or another related field with a minimum G.P.A. of 3.0.

Applicants may have a bachelor's degree in occupational therapy and a master's degree in occupational therapy or another related field, or they may have a bachelor's degree in a related field and a master's degree in occupational therapy. Applicants in the United States must be certified by the National Board of Certification in Occupational Therapy (NBCOT). The applicant's recommendations, phone interview, personal statement, and work experience are also considered in the admissions screening process.

Applicants from other countries must submit verification of licensure and certification in occupational therapy. Foreign transcript reports must be submitted from either the Association of American College Registrars and Admissions Officers (AACRAO) or Education Credentials Evaluators (ECE). Test of English as a Foreign Language (TOEFL) scores must be at least 550 (paper-based) or at least 80 (Internet-based).

### PREREQUISITE

Master's degree in occupational therapy or a related field from an accredited institution and six months of professional practice.

### Major

Units

OCTH 600	Occupational Science	3.0
OCTH 601	Spirit of Diverse Abilities I	3.0
OCTH 602	Spirit of Diverse Abilities II	3.0
OCTH 604	Health, Society, and Participation	3.0
OCTH 605	Education in Occupational Therapy	3.0
OCTH 606	Leadership in Occupational Therapy	3.0
OCTH 611	Research I: Proposal Writing	4.0
OCTH 614	Research and Professional Rotation II	5.0
OCTH 621	Professional Rotation Planning	2.0
OCTH 622	Professional Rotation Proposal	1.0
OCTH 623	Professional Rotation	4.0
OCTH 625	Professional Rotation III	4.0
OCTH 627	Professional Publication and Dissemination	5.0
Totals		43.0

<b>Cognates</b>		<b>Units</b>
AHCJ 605	Critical Analysis of Scientific Literature	3.0
HPRO 509	Principles of Health Behavior	3.0
RELE 524	Christian Bioethics	3.0
RELR 535	Spirituality and Mental Health	3.0
RELT 539	Christian Understanding of God and Humanity	3.0
		Totals 15.0
		<b>Overall Totals 58.0</b>

# Orthotics and Prosthetics—AH

## (Postprofessional M.S.)

### Admission

To be eligible for admission, the applicant must have earned a baccalaureate degree in orthotics and prosthetics or a baccalaureate degree in any major and an orthotics or prosthetics certificate degree from an accredited college or university. There is no GRE requirement for acceptance into this program.

### TOEFL score

A TOEFL score of 550 (213 if computer generated or 80 if Internet-based) is required for foreign students. All foreign transcripts, including high school, must be submitted to an approved evaluation service. The list of the three approved services can be obtained from the School of Allied Health Professions admissions office. Results of the evaluation are to be sent to this university directly from the evaluation center. Official foreign transcripts must be sent to the School of Allied Health Professions, directly from school to school, at the time of application.

### The program

The Postprofessional Master of Science Program in orthotics and prosthetics is designed for individuals with a baccalaureate degree in orthotics and prosthetics or a baccalaureate degree in any major and an orthotics or prosthetics certificate degree from an accredited college or university who wish to pursue advanced studies in their profession.

### Practice credentials

The educational requirements for orthotic and prosthetic practitioners has progressively increased since the American Board of Certification in Orthotics and Prosthetics (ABC) originally set the standards for the unique balance of technical skills, rehabilitation techniques, and medical engineering in 1948. The

National Commission of Orthotic and Prosthetic Education (NCOPE), the professional accrediting body, has set a minimum requirement for educational and experiential guidelines for the provision of orthotic and prosthetic care. Several states have licensing laws regarding the provision of orthotic and prosthetic care. Credentials are evaluated based on the applicable entry-level education or postbaccalaureate certification. Postprofessional education cannot be used for this purpose.

### Learning outcomes

In addition to the stated institutional learning outcomes the postprofessional Master of Science degree in orthotics and prosthetics student is expected to meet the following programmatic learning outcomes:

- Outcome 1— Discovery. Students will demonstrate a commitment to discovery.
- Outcome 2— Science. Students will use basic science knowledge to advance orthotics and prosthetics practice.
- Outcome 3— Global outreach. Students will provide orthotic and prosthetic care to the larger world population.
- Outcome 4— Clinical excellence. Students will provide advanced patient-specific orthotic and prosthetic care.
- Outcome 5— Education excellence. Students will demonstrate a commitment to the promotion of the profession through excellence in teaching.
- Outcome 6— Administration. Students will demonstrate a commitment to the promotion of the profession through excellence in administration.

### Required

Units

Required		Units
AHCJ 509	Teaching and Learning Styles	3.0
AHCJ 511	Biostatistics I	3.0
AHCJ 519	Graduate Wholeness Portfolio	1.0
AHCJ 535	Advanced Physiology II: Exercise and Thermoregulation	3.0
AHCJ 544	Advanced Functional Neuroanatomy	3.0
AHCJ 545	Legal and Ethical Issues in the Health Professions	3.0
AHCJ 591	Research I	3.0
AHCJ 592	Research II	3.0
AHCJ 696	Research Rotations	2.0
ORPR 504	Materials Science in Orthotics and Prosthetics	3.0
ORPR 505	Current Issues in Orthotics and Prosthetics	3.0

ORPR 506	Advanced Specialty Tracks in Orthotics and Prosthetics	3.0
PHTH 515	Topics in Rehabilitation	3.0
PHTH 529	Pathokinesiology of Gait	3.0
PHTH 630	Kinetics of the Human Body: Physics-Based Kinesiology	3.0
RELR 525	Health Care and the Dynamics of Christian Leadership	3.0
		Totals 45.0
		<b>Overall Totals 45.0</b>

# Physical Therapist Assistant—AH

## (A.S.)

JEANNINE STUART MENDES, Program Director  
CAROL J. APPLETON, Assistant Program Director;  
Academic Coordinator of Clinical Education

### FACULTY

Carol J. Appleton  
Bruce D. Bradley  
Lawrence E. Chinnock  
Henry Garcia  
Susan M. Huffaker  
Jeannine Stuart Mendes  
Steven D. Newton  
Ronald M. Rea

The physical therapist assistant is a skilled paraprofessional health care worker who, under the direction and supervision of a physical therapist, implements selected components of the patient's treatment program. The extent to which the physical therapist assistant is involved in treatment depends upon the supervising therapist.

A planned patient-care program is carried out by the assistant, following established procedures. Duties of the physical therapist assistant include: training patients in exercises and activities of normal daily living; performing treatment interventions; utilizing special equipment; assisting in performing tests, evaluations, and complex treatment procedures; and observing and reporting the patient's responses.

The rehabilitation team may include the occupational therapist, nurse, speech and hearing therapist, respiratory therapist, recreational therapist, physician, social worker, chaplain, vocational counselor, dietitian, and psychologist. This team has as its objective the optimum functional restoration and rehabilitation of patients disabled by illness or injury.

### Opportunities

Physical therapy offers a career for men and women who are interested in medical science and who enjoy working with people. Physical Therapist Assistant Program graduates have a wide choice of opportunities with medical groups, hospitals, rehabilitation centers, outpatient clinics, national and state agencies, and school systems. For those who desire to further their education, Master of Physical Therapy, Doctor of Physical Therapy, and Doctor of Physical Therapy Science programs are available.

### The program

The Physical Therapist Assistant Program (PTA), which is fifteen months in length, leads to the Associate in Science degree and professional licensure. The program begins with the sophomore

year. Instruction begins in June; graduation is the following June. Official program completion, however, is when clinical affiliations are completed—usually by the end of September.

### Clinical experience

Supervised clinical experience is obtained in a variety of settings during the program. Students complete a two-week practicum and three major clinical assignments, each six weeks in length.

All clinical assignments will be made by the coordinator of clinical education or a designate (or program director). Because of the limited number of local facilities available, assignments cannot be made on the basis of the student's family/marital status or personal preference.

Although the department makes an effort to accommodate the student's preference, the student agrees to accept the clinical assignment made by the department at any of the affiliated facilities, whether local or out of state.

### Accreditation

The program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association, 1111 North Fairfax Street, Alexandria, VA 22314; telephone, 703/706-3245.

### CPR certification

Students are required to have current health care provider cardiopulmonary resuscitation (CPR) certification (adult, child, and infant) for all scheduled clinical experience. CPR certification must be completed at the American Heart Association health care provider level. Certification may be completed prior to beginning the program of study or may be obtained at Loma Linda University. Classes are available on campus at Life Support Education, University Arts building, 24887 Taylor Street, Suite 102.

### Transportation

Students are required to have their own transportation to and from clinical sites.

### Professional licensing

Satisfactory completion of the degree requirements and clinical affiliations qualifies the student to sit for the National Physical Therapist Assistant Licensing Examination. Licensure is not required in all states for the physical therapist assistant to practice. Information about licensure or registration in the state in which one wishes to practice can be obtained on the Web at <[www.fsbpt.org/directory.cfm](http://www.fsbpt.org/directory.cfm)>.

**Professional association**

Students and graduates are eligible for membership in the American Physical Therapy Association. The objectives of the association are to foster development and improvement of service and education. This organization grants student membership at a nominal cost to undergraduates of approved schools. The student is required to become a member of this association while in the program. The national office of the American Physical Therapy Association is at 1111 North Fairfax Street, Alexandria, VA 22314.

**Program philosophy statement**

In accordance with the mission of Loma Linda University—"To make man whole"—and of the School of Allied Health Professions—"to continue the healing and teaching ministry of Jesus Christ"—the program is committed to the highest development of the physical, emotional, mental, and spiritual capacities of its faculty and students. Promoting wholeness constitutes a caring commitment to the well-being of others, to students and to program personnel; to active engagement in the advancement of the profession; and to a living consecration to God. Students in this program will have opportunities to develop a commitment to excellence in service for others and their profession, and to develop a biblically-informed faith and a commitment to life-long spiritual growth.

**Program mission**

The PTA program affirms the mission and values of Loma Linda University and the School of Allied Health Professions by providing an educational program that prepares physical therapist assistants whose lives are balanced in the development of intellect, social skills, competent practice, and spiritual connection.

**Program goals**

In order to achieve the PTA program mission, the PTA program goals are to:

1. Provide technical level physical therapy education for the physical therapist assistant that culminates in an Associate in Science degree.
2. Prepare graduates ready to provide physical therapy interventions and services under the direction and supervision of licensed physical therapists in a variety of settings.
3. Prepare graduates for service who demonstrate ethical behavior consistent with legal and professional standards.
4. Provide opportunities for students to gain compassionate insight into practices and behaviors found in a variety of ethnic and cultural backgrounds within an atmosphere of respect for differences.
5. Provide opportunities for graduates to consider the concept of wholeness when addressing the needs of the patient/client in

terms of physical, mental, and spiritual concerns.

6. Prepare graduates to communicate effectively with patient/clients and family when appropriate, with colleagues and with other members of the health care delivery team.
7. Maintain compliance with CAPTE evaluative criteria for PTA educational programs.

**Program faculty goals**

In order to provide the learning experiences necessary and desired to prepare graduates for practice, the goals of the PTA program faculty are to:

1. Hold state practice licensure as well as membership in the professional organization(s).
2. Hold a master's-level degree or higher.
3. Maintain contemporary knowledge/practice expertise in assigned teaching areas.
4. Practice effective instructional methods relevant to course content, course design and learning assessment methods.
5. Develop, implement, and evaluate the technical and clinical education components of the PTA curriculum.
6. Accept applicants into the PTA program who have adequately completed all eligibility requirements and who provide sufficient evidence on which to predict successful completion of the PTA program.
7. Use an approach to education in the PTA classroom which reflects an appreciation of the teaching and healing ministry of Jesus Christ.
8. Engage in service for the school, the university, the profession and/or the community.
9. Model professional and personal behavior that is in harmony with Christ-like values in interactions with students, staff, colleagues, alumni, family, and the public.

**Expected student learning outcomes**

The mission of the PTA program is to graduate physical therapist assistants whose lives are balanced in the development of intellect, social skills, competent practice, and spiritual connection.

Graduates of the program will be able to:

1. Demonstrate a basic level of knowledge and skills appropriate for safe and effective practice as a physical therapist assistant and as a member of the health care team.
2. Provide physical therapy interventions and services under the direction and supervision of licensed physical therapists in a variety of settings.



3. Exhibit ethical behavior consistent with legal and professional standards when interacting with instructors, classmates, patients/clients and family members, and clinical personnel.
4. Demonstrate compassionate respect for differences encountered in interactions with individuals from other ethnic and cultural backgrounds.
5. Demonstrate consideration of the close interrelationship of physical, mental, and spiritual concerns when addressing the needs of patients/clients and others.

### Admission

**Please note:** Grades below C are not transferable for credit.

To be eligible for admission, a student must have completed the following prerequisites at a regionally accredited college or university and have a minimum G.P.A. of 2.5 both in science and in nonscience classes.

#### PREREQUISITE

Individuals who already have a bachelor's degree from a regionally accredited college or university need to complete only the prerequisites denoted with an asterisk (\*):

Four units of religion required only if applicant has attended a Seventh-day Adventist college or university

Select 4 units from one area: history, literature, philosophy, foreign language, art/music appreciation/ history

\*Human anatomy and physiology with laboratory, complete sequence

\*Introductory physics with laboratory, one quarter/semester

\*Two years high school mathematics with grades of C or above or intermediate algebra in college

\*General psychology

\*Human growth and development or developmental psychology or abnormal psychology

Freshman English composition, complete sequence

\*Speech

Personal health or nutrition or two physical activity courses

Electives to meet the minimum total requirements of 48 quarter units or 32 semester units

### Work/Observation experience

Twenty hours in an inpatient physical therapy setting, plus an additional sixty hours in an inpatient or outpatient setting—for a total of eighty hours—are required.

## PROGRAM OF INSTRUCTION

### Sophomore Year, Summer Quarter

Units

PTAS 201	Anatomy	4.0
PTAS 205	Introduction to Physical Therapy	1.0
PTAS 206	Documentation Skills	1.0
PTAS 212	Physical Therapy Procedures	3.0
PTAS 231	Physical Therapy Modalities	3.0
PTAS 275	Psychosocial Aspects of Health	2.0
RELE 456	Personal and Professional Ethics	2.0
<b>Totals</b>		<b>16.0</b>

### Autumn Quarter

Units

AHCJ 305	Infectious Disease and the Health Care Provider	1.0
PTAS 203	Applied Kinesiology	4.0
PTAS 224	General Medicine	3.0
PTAS 225	Neurology	3.0
PTAS 227	Therapeutic Exercise	2.0
PTAS 236	Applied Electrotherapy	3.0
<b>Totals</b>		<b>16.0</b>

<b>Winter Quarter</b>		Units
PTAS 226	Orthopaedics I	3.0
PTAS 238	Wound Care	1.0
PTAS 243	Applied Geriatrics	3.0
PTAS 252	Applied Neurology	3.0
PTAS 264	Applied Prosthetics and Orthotics	2.0
PTAS 265	Professional Seminar	1.0
PTAS 291	Physical Therapist Assistant Practicum	1.0
RELR 475	Art of Integrative Care	2.0
Totals		16.0

<b>Spring Quarter</b>		Units
PTAS 241	Applied Pediatrics	2.0
PTAS 251	Orthopaedics II	3.0
PTAS 261	Physical Therapy Practice	1.0
PTAS 293	Physical Therapist Assistant Affiliation I	6.0
Totals		12.0

<b>Summer Quarter</b>		Units
PTAS 294	Physical Therapist Assistant Affiliation II	6.0
PTAS 295	Physical Therapist Assistant Affiliation III	6.0
Totals		12.0
<b>Overall Totals</b>		<b>72.0</b>

A minimum grade of C (2.0) is required for all courses in the program.

# Physical Therapy—AH

(M.P.T., D.P.T., D.Sc.)

EDD ASHLEY, Chair, Department of Physical Therapy

LAWRENCE E. CHINNOCK, Associate Chair, Program Director for Entry-Level Doctor of Physical Therapy

EVERETT B. LOHMAN III, Program Director for Postprofessional Master of Physical Therapy, Postprofessional Doctor of Physical Therapy, Postprofessional Doctor of Science, Postprofessional Master of Science in Orthotics and Prosthetics Program

CAROL J. APPLETON, Academic Coordinator of Clinical Education for Progression Master of Physical Therapy Program

THERESA JOSEPH, Academic Coordinator of Clinical Education for Entry-Level Doctor of Physical Therapy Program

## FACULTY

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## ADVISORY COMMITTEE

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Lawrence E. Chinnock  
Theresa O. DeLao  
Liane H. Hewitt  
Craig R. Jackson\*  
Wendy Lantz  
Lee Nattress  
Lyn Nattress  
\*ex officio

Beyond the Associate in Science degree, physical therapy options include pre- and postprofessional master's and doctoral degrees:

- Postprofessional Master of Physical Therapy,
- Progression Doctor of Physical Therapy
- Entry-level Doctor of Physical Therapy,
- Postprofessional Doctor of Physical Therapy,
- Postprofessional Doctor of Science,
- Postprofessional Master of Science in Orthotics and Prosthetics

Physical therapists evaluate and treat patients with disease, injury, or disabilities. In many states, registered physical therapists work as independent practitioners. Physical therapy techniques are applied to restore strength, flexibility, and coordination; to reduce pain; and generally to prepare the patient to function more effectively at work and in activities of daily living. Agents such as heat, light, electricity, water, exercise, and massage are used. While working with patients, psychological and sociological principles are used to motivate and instruct.

Within the profession, there are many specialties—including orthopaedics, neurology, pediatrics, geriatrics, cardiopulmonary, hand rehabilitation, and sports physical therapy. Physical therapists work in acute care and convalescent hospitals, rehabilitation centers, children's centers, private practice, athletic training and sports medicine programs, research institutions, school systems, and home care agencies.

## Professional association

Students and graduates are eligible for membership in the American Physical Therapy Association (APTA). The objective of the association is to foster development and improvement of service and education. This organization grants student membership at a nominal cost to students of approved schools. The student is required to become a member of this association while in the program

and is encouraged to read the journal and attend the APTA-sponsored meetings.

### Professional registration

Satisfactory completion of the progression M.P.T. or entry-level D.P.T. degree requirements and clinical affiliation qualifies the student to sit for all state licensure examinations. Information about the state registries of physical therapists can be obtained at the office of the department chair. All states require that a physical therapist pass the national qualifying examination for licensure to practice. California application form and fee are submitted to the Physical Therapy Board of California, 1418 Howe Avenue, Suite 16, Sacramento, CA 95825; Web site: <www.ptb.ca.gov>.

## PHYSICAL THERAPY—PROGRESSION D.P.T.

The Progression Doctor of Physical Therapy (D.P.T.) Program is specifically for applicants with an associate degree in physical therapy who wish to advance to a doctoral degree. Applicants must have graduated from a CAPTE-accredited program within a regionally accredited institution. A minimum G.P.A. of 3.0 is required for prerequisite course work. Individuals who have already earned a bachelor's degree in any field from a regionally accredited institution need only complete the prerequisites denoted with two asterisks (\*\*).

Admission criteria include: G.P.A., completion of prerequisites, interview, essay, recommendations, and work experience. The minimum subject admission requirements in quarter units are listed below.

### DOMAIN 1: HUMANITIES AND RELIGION (20 quarter / 14 semester units minimum)

#### Humanities

(12 quarter / 8 semester units minimum)

Credits in humanities must be selected from *at least three* of the following areas and must include *at least one* upper-division course:

Civilization/History  
Fine arts  
Literature  
Modern language  
Philosophy  
Performing / Visual arts (not to exceed 4 quarter units)

#### Religion

An applicant who has attended an Adventist college or university is required to have taken 4 quarter units of religion from an Adventist institution for each year of attendance at an Adventist college or university. Up to 8 quarter credits may apply towards the 20

credits required in Domain 1. If the applicant has not attended an Adventist institution, no religion units are required. In either case, however, the applicant must have completed 20 quarter / 14 semester units in Domain 1: Humanities and Religion.

### DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS

**Natural Sciences:** The study of natural sciences must include at least *one upper-division course*.

\*\* Human anatomy and physiology with laboratory, complete sequence (preferred)  
**or**  
General biology (complete sequence)

\*\* Select *one* of the following options:

Option one: General chemistry with laboratory (complete sequence)  
and  
a minimum of 6 quarter / 4 semester units of any physics with laboratory

Option two: General physics with laboratory (complete sequence)  
and  
a minimum of two academic terms of any sequenced chemistry with laboratory

\*\* Statistics

\*\* One additional natural science course

\*\* Medical terminology (required only of students entering June 2012 and beyond)

#### Social Sciences

9 quarter / 6 semester units minimum, with at least *one upper-division course*

\*\* General psychology

\*\* Human growth and development

### DOMAIN 3: COMMUNICATION

Freshman composition, complete sequence (must meet transfer requirements to four-year college or university)

\*\* One course in communication skills (speech)

\*\* One basic computer course, which includes word processing and spreadsheets (Applicants may document proficiency.)

### DOMAIN 4: HEALTH AND WELLNESS

Health education (personal health or nutrition)  
Two activity courses in physical education

### DOMAIN 5: ELECTIVES

Applicants must have a total of 138 quarter / 92 semester units, with a minimum of 18 quarter / 12 semester units of upper-division course work. Credits earned in a PTA program may be applied toward the 138 quarter / 92 semester unit requirement.

*No more than 105 quarter/70 semester units may be transferred from a community college.*

**Please note:** Grades of C- and below are not accepted for credit.

### Accreditation

The program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association, 1111 North Fairfax Street, Alexandria, VA 22314; telephone 703/706-3245.

### Loma Linda University Department of Physical Therapy student learning outcomes

Upon completion of the program, graduates should be qualified to demonstrate:

1. Entry-level knowledge and clinical skills appropriate for safe and effective physical therapy practice.
2. Multicultural competence, i.e., demonstrate compassion and respect during interactions with individuals from different ethnic and cultural backgrounds.
3. Clinical reasoning evidenced by the ability to critically think and integrate evidence-based practice into their clinical decision-making skill set.
4. Awareness and application of the ethical and legal parameters surrounding the profession of physical therapy.
5. Understanding of evidence-based clinical care utilizing collaborative relationships between the patient, physical therapist, and other health care practitioners.
6. Effective verbal and nonverbal communication with instructors, classmates, and clinical personnel as needed to work effectively as a member of a health care team.

### Clinical experience

Supervised experience is obtained in a variety of settings and at different times during the program. First-year students complete a two-week practicum assignment during the Spring Quarter. Second-year students complete a three-week assignment during the Autumn Quarter. The major clinical assignments are during the third year. The student will be assigned a three-week clinical rotation and a ten-week affiliation during Summer Quarter, an eleven-week affiliation during Winter Quarter, and one ten-week affiliation during Spring Quarter.

All clinical assignments will be made by the academic coordinator of clinical education or a designate. Because of the limited number of local facilities available, assignments cannot be made on the basis of the student's family/marital status or personal preference. Although the department makes an effort to accommodate the student's preference, the student agrees to accept the clinical assignments made by the department at any of the affiliated facilities, whether local or out of state.

### TOEFL score

A TOEFL score of 550 (213 if computer generated) is required for foreign students. All foreign transcripts, including high school, must be submitted to an approved evaluation service. The list of the three approved services can be obtained from the School of Allied Health Professions admissions office. Results of the evaluation are to be sent to this University directly from the evaluation center. Official foreign transcripts must be sent to the School of Allied Health Professions, directly from school to school, at the time of application.

## PROGRAM OF INSTRUCTION

### Senior Year, Summer Quarter

Units

AHCJ 311	Medical Terminology	2.0
AHCJ 412	Anatomy	9.0
PHTH 436	Kinesiology	3.0
PHTH 438	Manual Muscle Testing	3.0
RELT 440	World Religions	2.0
Totals		19.0

### Autumn Quarter

Units

AHCJ 305	Infectious Disease and the Health Care Provider	1.0
AHCJ 328	Wholeness Portfolio I	1.0
AHCJ 418	Physiology I	4.0

AHCJ 443	Neuroanatomy I	4.0
PHTH 437	Therapeutic Procedures	3.0
PHTH 451	Scientific Inquiry I	2.0
PHTH 516	Electrotherapy	3.0
RELT 406	Adventist Beliefs and Life	2.0
Totals		20.0

**Winter Quarter**

Units

AHCJ 402	Pathology I	4.0
AHCJ 419	Physiology II	3.0
AHCJ 426	Introduction to Computer Applications	2.0
AHCJ 444	Neuroanatomy II	2.0
AHCJ 538	Histology	3.0
PHTH 439	Human Life Sequence	3.0
PHTH 441	Biostatistics I	2.0
Totals		19.0

**Spring Quarter**

Units

AHCJ 403	Pathology II	3.0
PHTH 413	Clinical Neurology	2.0
PHTH 434	PT Communication and Documentation	2.0
PHTH 435	Physical Therapy Modalities	3.0
PHTH 442	Biostatistics II	2.0
PHTH 465	Exercise Physiology	3.0
PHTH 471	Physical Therapy Practicum I	1.0
PHTH 477	Locomotion Studies	3.0
Totals		19.0

**Graduate First Year, Summer Quarter**

Units

AHCJ 404	Pharmacology	2.0
HPRO 508	Aspects of Health Promotion	2.0
PHTH 452	Scientific Inquiry II	2.0
PHTH 511	Clinical Orthopaedics	2.0
PHTH 512	Clinical Psychiatry	2.0
PHTH 527	Scientific Foundations for Therapeutic Exercise	2.0
PHTH 575	Orthopaedics IV	1.0
Totals		13.0

<b>Autumn Quarter</b>		Units
AHCJ 498	Wholeness Portfolio II	1.0
AHCJ 516	Clinical Imaging	3.0
PHTH 484	Therapeutic Exercise	3.0
PHTH 501	Neurology I	2.0
PHTH 521	Orthopaedics I	3.0
PHTH 525	General Medicine I	3.0
PHTH 572	Physical Therapy Practicum II	1.5
Totals		16.5

<b>Winter Quarter</b>		Units
PHTH 502	Neurology II	3.0
PHTH 504	Pediatric Care	3.0
PHTH 522	Orthopaedics II	3.0
PHTH 526	General Medicine II	3.0
PHTH 534	Soft-Tissue Techniques	2.0
RELT 557	Theology of Human Suffering	3.0
Totals		17.0

<b>Spring Quarter</b>		Units
PHTH 503	Neurology III	3.0
PHTH 523	Orthopaedics III	3.0
PHTH 524	Hand Rehabilitation for the Physical Therapist	2.0
PHTH 554	Geriatrics	2.0
PHTH 555	Differential Diagnosis	2.0
PHTH 561	Physical Therapy Administration	4.0
RELE 524	Christian Bioethics	3.0
Totals		19.0

<b>Graduate Second Year, Summer Quarter</b>		Units
PHTH 573	Physical Therapy Practicum III	1.5
PHTH 583A	Physical Therapy Affiliation IA	4.0
Totals		5.5

<b>Autumn Quarter</b>		Units
PHTH 583B	Physical Therapy Affiliation IB	1.0
PHTH 591	Advanced Orthopaedic Studies	6.0
PHTH 592	Advanced Neurologic Studies	4.0
PHTH 594	Advanced General Medicine Studies	4.0
Totals		15.0

Winter Quarter		Units
PHTH 584	Physical Therapy Affiliation II	5.0
Totals		5.0

Spring Quarter		Units
PHTH 585	Physical Therapy Affiliation III	5.0
Totals		5.0
<b>Overall Totals</b>		<b>173.0</b>

## PHYSICAL THERAPY— POSTPROFESSIONAL M.P.T.

### Admission

To be eligible for admission, the applicant must have earned a bachelor's degree in physical therapy from an accredited program. There is no GRE requirement for acceptance into this program. A personal computer (minimum: 800 MHz multimedia) with Internet access (minimum: 56 k.b.p.s. [connected at 44+ k.b.p.s.]) is required.

### TOEFL score

A TOEFL score of 550 (213 if computer-generated, 80 if Internet-based test) is required for foreign students. All foreign transcripts, including high school, must be submitted to an approved evaluation service. The list of the three approved services can be obtained from the School of Allied Health Professions admissions office. Results of the evaluation are to be sent to this University directly from the evaluation center. Official foreign transcripts must be sent to the School of Allied Health Professions, directly from the school to school, at the time of application.

### The program

The Postprofessional Master of Physical Therapy Program (PP-MPT) is designed for individuals with a

baccalaureate degree in physical therapy who wish to pursue advanced studies in their profession.

### Practice credentials

To practice physical therapy in the United States, one must meet the criteria of the state in which s/he wishes to practice. Credentials are evaluated based on the applicable entry-level education. Postprofessional education cannot be used for this purpose.

### Learning outcomes

In addition to the stated institutional learning outcomes, the PP-MPT student is expected to meet the following programmatic learning outcomes:

- Outcome 1— Discovery. Students will demonstrate a commitment to discovery.
- Outcome 2— Science. Students will use basic science knowledge to advance physical therapy practice.
- Outcome 3— Global outreach. Students will provide physical therapy care to the larger world population.
- Outcome 4— Clinical excellence. Students will provide advanced patient-specific physical therapy care.

## PROGRAM OF INSTRUCTION

Major		Units
PHTH 529	Pathokinesiology of Gait	3.0
PHTH 531	Soft-Tissue Mobilization	3.0
PHTH 545	Orthopaedic Interventions: Mobilization of Peripheral Nerves & Diarthroidal Joints of the Extremities	3.0
PHTH 548	Function-Based Rehabilitation	3.0
PHTH 549	Vestibular Rehabilitation	3.0
PHTH 550	Integrative Approach to Early Rehabilitation	3.0
PHTH 598	Advanced Specialty Tracks	3.0
Totals		21.0



Cognates		Units
AHCJ 509	Teaching and Learning Styles	3.0
AHCJ 511	Biostatistics I	3.0
AHCJ 519	Graduate Wholeness Portfolio	1.0
AHCJ 544	Advanced Functional Neuroanatomy	3.0
AHCJ 545	Legal and Ethical Issues in the Health Professions	3.0
AHCJ 591	Research I	3.0
AHCJ 592	Research II	3.0
AHCJ 696	Research Rotations	2.0
RELR 575	Art of Integrative Care	3.0
		Totals
		24.0
		Overall Totals
		45.0

### PHYSICAL THERAPY—ENTRY-LEVEL D.P.T

#### The program

The Entry-Level Doctor of Physical Therapy Program (D.P.T.) is for individuals who have no previous degree in physical therapy. No bachelor's degree is required. The D.P.T. degree program is three years in length. A minimum G.P.A. of 3.0 is required for prerequisite course work.

#### Accreditation

The program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association, 111 North Fairfax Street, Alexandria, VA 22314; telephone 703/706-3245.

#### Clinical experience

Supervised experience is obtained in a variety of settings and at different times during the program. First-year students complete a two-week practicum assignment during the Spring Quarter. Second-year students complete a three-week assignment during the Autumn Quarter. The major clinical assignments are during the third year. The student will be assigned a three-week clinical rotation and a ten-week affiliation during Summer Quarter, an eleven-week affiliation during Winter Quarter, and one ten-week affiliation during Spring Quarter.

All clinical assignments will be made by the academic coordinator of clinical education or a designate. Because of the limited number of local facilities available, assignments cannot be made on the basis of the student's family/marital status or personal preference. Although the department makes an effort to accommodate the student's preference, the student agrees to accept the clinical assignments made by the department at any of the affiliated facilities, whether local or out of state.

### Loma Linda University Department of Physical Therapy student learning outcomes

Upon completion of the program, graduates should be qualified to:

- Entry-level knowledge and clinical skills appropriate for safe and effective physical therapy practice.
- Multicultural competence, i.e., compassion and respect during interactions with individuals from different ethnic and cultural backgrounds.
- Clinical reasoning evidenced by the ability to critically think and integrate evidence-based practice into their clinical decision-making skill set.
- Awareness and application of the ethical and legal parameters surrounding the profession of physical therapy.
- Understanding of evidence-based clinical care utilizing collaborative relationships between the patient, physical therapist, and other health care practitioners.
- Effective verbal and nonverbal communication with instructors, classmates, and clinical personnel as needed to work effectively as a member of a health care team.

#### Admission requirements

To be eligible for admission to the Entry-Level Doctor of Physical Therapy Program, the applicant must have a minimum G.P.A. of 3.0 and must have completed a minimum of 138 quarter units at a regionally accredited college or university. Admission is a selective process. Criteria used include: G.P.A., completion of subject requirements, interview, essay, recommendations, and work experience.

The minimum subject admission requirements in quarter units are listed below. Individuals who already have an earned bachelor's degree in any field from a regionally accredited institution need only

complete the prerequisites denoted with two asterisks (\*\*). Additional electives in the areas that have one asterisk (\*) are recommended.

**Please note:** Grades of C- and below are not transferable for credit.

DOMAIN 1: RELIGION AND HUMANITIES (28 quarter/19 semester units, minimum)

**Humanities (16 quarter/11 semester units minimum)**

Credits in humanities must be selected from at least three of the following content areas, and one course must be at the upper-division level.

Civilization/history  
 Fine arts  
 Literature  
 Modern language  
 Philosophy  
 Performing / visual arts (not to exceed 4 quarter units)

**Religion**

An applicant who has attended an Adventist college or university is required to have taken four quarter units of religion from an Adventist institution for each year of attendance at an Adventist college or university. Up to 12 quarter credits may apply towards the 28 credits required in Domain 1. If the applicant has not attended an Adventist institution, no religion units are required. In either case, however, the applicant must have completed 28 quarter/19 semester units in Domain 1: Humanities and Religion.

DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS (53 quarter/35 semester units, minimum)

**Natural Sciences**

The study of natural sciences must include at least one upper-division course:

\*\*Human anatomy and physiology with laboratory, complete sequence (preferred)  
**or**

\*\*General biology (complete sequence)

\*\*One additional natural science course

\*\*Statistics

**\*\*Select one of the following two options:**

\*\*Option one: General chemistry with laboratory (complete sequence)

**and**

a minimum of 6 quarter/4 semester units of any physics with laboratory

\*\*Option two: General physics with laboratory (complete sequence)

**and**

a minimum of two academic terms of any sequenced chemistry with laboratory

\*\* Medical terminology (required only of students entering June 2012 and beyond)

**Social Sciences**

(16 quarter /11 semester units, minimum)

The study of social sciences must include at least one upper-division course:

\*\*General psychology

\*\*Human growth and development

DOMAIN 3: COMMUNICATION

(15 quarter /10 semester units, minimum)

Freshman composition, complete sequence (must meet transfer requirements to four-year college or university)

\*\*One course in basic communication skills (speech)

\*\*One basic computer course that includes word processing and spreadsheets. (Applicants may document proficiency.)

DOMAIN 4: HEALTH AND WELLNESS

(3 quarter/2 semester units, minimum)

**Required:**

Physical education (two physical activity courses)  
 Personal health education or nutrition course

DOMAIN 5: ELECTIVES

To meet total requirements of 138 quarter/92 semester units

Students must have a minimum of 18 quarter/12 semester units of upper-division course work.

No more than 105 quarter/70 semester units may be transferred from a community college.

\*\*WORK/OBSERVATION EXPERIENCE

**Required:**

Twenty hours in an inpatient physical therapy setting, plus an additional sixty hours in an inpatient or outpatient setting—for a total of eighty hours—are required

**Please note:** Grades of C- and below are not accepted for credit.

**TOEFL score**

A TOEFL score of 550 (213 if computer generated) is required for foreign students. All foreign transcripts, including high school, must be submitted to an approved evaluation service. The list of the three approved services can be obtained from the School of

Allied Health Professions admissions office. Results of the evaluation are to be sent to this University directly from the evaluation center. Official foreign transcripts must be sent to the School of Allied Health Professions, directly from school to school, at the time of application.

**PROGRAM OF INSTRUCTION****Senior Year, Summer Quarter**

Units

AHCJ 311	Medical Terminology	2.0
AHCJ 412	Anatomy	9.0
PHTH 436	Kinesiology	3.0
PHTH 438	Manual Muscle Testing	3.0
RELT 440	World Religions	2.0
Totals		19.0

**Autumn Quarter**

Units

AHCJ 305	Infectious Disease and the Health Care Provider	1.0
AHCJ 328	Wholeness Portfolio I	1.0
AHCJ 418	Physiology I	4.0
AHCJ 443	Neuroanatomy I	4.0
PHTH 437	Therapeutic Procedures	3.0
PHTH 451	Scientific Inquiry I	2.0
PHTH 516	Electrotherapy	3.0
RELT 406	Adventist Beliefs and Life	2.0
Totals		20.0

**Winter Quarter**

Units

AHCJ 402	Pathology I	4.0
AHCJ 419	Physiology II	3.0
AHCJ 426	Introduction to Computer Applications	2.0
AHCJ 444	Neuroanatomy II	2.0
AHCJ 538	Histology	3.0
PHTH 439	Human Life Sequence	3.0
PHTH 441	Biostatistics I	2.0
Totals		19.0

**Spring Quarter**

Units

AHCJ 403	Pathology II	3.0
PHTH 413	Clinical Neurology	2.0
PHTH 434	PT Communication and Documentation	2.0
PHTH 435	Physical Therapy Modalities	3.0

PHTH 442	Biostatistics II	2.0
PHTH 465	Exercise Physiology	3.0
PHTH 471	Physical Therapy Practicum I	1.0
PHTH 477	Locomotion Studies	3.0
Totals		19.0

**Graduate First Year, Summer Quarter**

Units

AHCJ 404	Pharmacology	2.0
HPRO 508	Aspects of Health Promotion	2.0
PHTH 452	Scientific Inquiry II	2.0
PHTH 511	Clinical Orthopaedics	2.0
PHTH 512	Clinical Psychiatry	2.0
PHTH 527	Scientific Foundations for Therapeutic Exercise	2.0
PHTH 575	Orthopaedics IV	1.0
Totals		13.0

**Autumn Quarter**

Units

AHCJ 498	Wholeness Portfolio II	1.0
AHCJ 516	Clinical Imaging	3.0
PHTH 484	Therapeutic Exercise	3.0
PHTH 501	Neurology I	2.0
PHTH 521	Orthopaedics I	3.0
PHTH 525	General Medicine I	3.0
PHTH 572	Physical Therapy Practicum II	1.5
Totals		16.5

**Winter Quarter**

Units

PHTH 502	Neurology II	3.0
PHTH 504	Pediatric Care	3.0
PHTH 522	Orthopaedics II	3.0
PHTH 526	General Medicine II	3.0
PHTH 534	Soft-Tissue Techniques	2.0
RELT 557	Theology of Human Suffering	3.0
Totals		17.0

**Spring Quarter**

Units

PHTH 503	Neurology III	3.0
PHTH 523	Orthopaedics III	3.0
PHTH 524	Hand Rehabilitation for the Physical Therapist	2.0
PHTH 554	Geriatrics	2.0
PHTH 555	Differential Diagnosis	2.0

PHTH 561	Physical Therapy Administration	4.0
RELE 524	Christian Bioethics	3.0
Totals		19.0

**Graduate Second Year, Summer Quarter**

Units

PHTH 573	Physical Therapy Practicum III	1.5
PHTH 583A	Physical Therapy Affiliation IA	4.0
Totals		5.5

**Autumn Quarter**

Units

PHTH 583B	Physical Therapy Affiliation IB	1.0
PHTH 591	Advanced Orthopaedic Studies	6.0
PHTH 592	Advanced Neurologic Studies	4.0
PHTH 594	Advanced General Medicine Studies	4.0
Totals		15.0

**Winter Quarter**

Units

PHTH 584	Physical Therapy Affiliation II	5.0
Totals		5.0

**Spring Quarter**

Units

PHTH 585	Physical Therapy Affiliation III	5.0
Totals		5.0
<b>Overall Totals</b>		<b>173.0</b>

**PHYSICAL THERAPY—  
POSTPROFESSIONAL D.P.T.****Admission**

The Postprofessional Doctor of Physical Therapy Program (PP-DPT) is designed for the individual with a degree in physical therapy who wishes to pursue advanced studies in the profession. To be eligible for admission, the applicant must have earned a bachelor's degree in physical therapy from an accredited program, and must have earned a master's degree. Upon evaluation of transcripts, additional corequisites may be required, and sequencing of courses maybe modified. There is no GRE requirement for acceptance into this program.

Since some courses are Web based, students admitted into the program must have access to a personal computer (minimum: 800 MHz multimedia) with Internet access (minimum: 56 k.b.p.s. [connected at 44+ k.b.p.s.]).

**Learning outcomes**

In addition to the stated institutional learning outcomes the PP-DPT student is expected to meet the following programmatic learning outcomes:

- Outcome 1— Teamwork. Students will demonstrate the ability to collaborate with others within and across disciplines.
- Outcome 2— Discovery. Students will demonstrate a commitment to discovery.
- Outcome 3— Science. Students will use basic science knowledge related physical therapy practice.
- Outcome 4— Global outreach. Students will provide physical therapy care to the larger world population.
- Outcome 5— Clinical excellence. Students will provide advanced patient-specific physical therapy care.

**PROGRAM OF INSTRUCTION****First Year**

Units

_____	Elective	9.0
AHCJ 507	Pharmacology in Rehabilitation	3.0
AHCJ 516	Clinical Imaging	3.0
AHCJ 518	Advanced Physiology I: Neurobiology	3.0
AHCJ 527	Medical Screening for Rehabilitation Professionals	3.0
AHCJ 551	Professional Systems in Management I	3.0
AHCJ 605	Critical Analysis of Scientific Literature	3.0
AHCJ 699	Directed Study	3.0
PHTH 541	Advanced Clinical Practice I	3.0
PHTH 542	Advanced Clinical Practice II	3.0
PHTH 543	Advanced Clinical Practice III	3.0
PHTH 629	Lower-Quarter Biomechanical Relationships	3.0
RELR 525	Health Care and the Dynamics of Christian Leadership	3.0
Totals		45.0
<b>Overall Totals</b>		<b>45.0</b>

**DISTANCE EDUCATION**

The Postprofessional Doctor of Physical Therapy Program is offered on site at Castle Medical Center, Kailua, Hawaii.

**PHYSICAL THERAPY—  
POSTPROFESSIONAL D.Sc.**

The Doctor of Science Program is a research-oriented doctoral degree designed for the physical therapist who wishes to pursue advanced studies in the area of education, research, basic science, and advanced clinical practice. To be eligible for admission, the applicant must have a Bachelor of Science degree in physical therapy earned from an accredited program, and an earned master's degree. Upon evaluation of transcripts, additional corequisites may be required; and sequencing of courses may be modified. There is no GRE requirement for acceptance into this program; however, successful completion of a comprehensive written examination is required in order to advance to candidacy during the program. A written dissertation and a defense of the dissertation is a requirement of the program. At the completion of the program, the diploma will be awarded by the School of Allied Health Professions in conjunction with the Faculty of Graduate Studies.

Since some courses are Web based, students admitted into the program must have access to a personal computer (minimum: 800 MHz multimedia) with Internet access (minimum: 56 k.b.p.s. [connected at 44+ k.b.p.s.]).

**Learning outcomes**

In addition to the stated institutional learning outcomes the D.Sc. student is expected to meet the following programmatic learning outcomes:

- Outcome 1— Discovery. Students will demonstrate a commitment to discovery.
- Outcome 2— Science. Students will use basic science knowledge to advance physical therapy practice.
- Outcome 3— Global outreach. Students will provide physical therapy care and education to the larger world population.
- Outcome 4— Clinical excellence. Students will provide advanced patient-specific physical therapy care.
- Outcome 5— Teaching. Students will serve as mentors and educators to ignite the flame of discovery, knowledge, and critical thinking.

**PROGRAM OF INSTRUCTION****First Year** Units

_____	Elective	3.0
AHCJ 507	Pharmacology in Rehabilitation	3.0
AHCJ 516	Clinical Imaging	3.0
AHCJ 518	Advanced Physiology I: Neurobiology	3.0
AHCJ 527	Medical Screening for Rehabilitation Professionals	3.0
AHCJ 551	Professional Systems in Management I	3.0
AHCJ 605	Critical Analysis of Scientific Literature	3.0
AHCJ 699	Directed Study	3.0
PHTH 541	Advanced Clinical Practice I	3.0
PHTH 542	Advanced Clinical Practice II	3.0
PHTH 543	Advanced Clinical Practice III	3.0
PHTH 629	Lower-Quarter Biomechanical Relationships	3.0
RELR 525	Health Care and the Dynamics of Christian Leadership	3.0
<b>Totals</b>		<b>39.0</b>

**Second Year** Units

AHCJ 506	Educational Evaluation and Clinical Assessment	3.0
AHCJ 515	Curriculum Development in Higher Education	3.0
AHCJ 534	Advanced Neurological Rehabilitation	3.0
AHCJ 535	Advanced Physiology II: Exercise and Thermoregulation	3.0
AHCJ 556	Administration in Higher Education	3.0
AHCJ 564	Collaborative Learning in Higher Education	3.0
AHCJ 569	Computers and Electronics for Clinicians	3.0
AHCJ 599	Directed Teaching	3.0
PHTH 535	Research and Statistics I	3.0
PHTH 536	Research and Statistics II	3.0
PHTH 599	Comprehensive Examination	—
RELE 525	Ethics for Scientists	3.0
<b>Totals</b>		<b>33.0</b>

**Third Year** Units

PHTH 537	Research and Statistics III	3.0
PHTH 538	Research and Statistics IV	3.0
PHTH 697	Research and Statistics V	3.0
RELT 557	Theology of Human Suffering	3.0
<b>Totals</b>		<b>12.0</b>
<b>Overall Totals</b>		<b>84.0</b>

# Physician Assistant—AH

## (M.P.A.)

DAVID LOPEZ, Interim Chair  
 BENNY HAU, Medical Director  
 ALLAN M. BEDASHI, Didactic Coordinator, Interim Program Director  
 GHINA G. KATRIB, Assistant Didactic Coordinator  
 YASMIN C. CHENE, Assistant Clinical Coordinator  
 GERALD A. GLAVAZ, Clinical Coordinator

### FACULTY

Allan M. Bedashi  
 Kenrick C. Bourne  
 Yasmin C. Chene  
 Gerald A. Glavaz  
 Benny Hau  
 Ghina Katrib

### ADVISORY COMMITTEE

Allan M. Bedashi  
 Kenrick C. Bourne  
 Mark Carr  
 Kent Chow  
 Gerald A. Glavaz  
 Helen R. Greenwood  
 Benny Hau  
 Craig R. Jackson\*  
 David Lopez  
 Gail T. Rice  
 Grenith J. Zimmerman  
 \*ex officio

Physician assistants (PAs) are health professionals who are licensed to practice medicine under physician supervision. Physician assistants are qualified by graduation from an accredited physician assistant educational program and by certification by the National Commission on Certification of Physician Assistants. Within the physician/PA relationship, the PA exercises autonomy in medical decision making and provides a broad range of diagnostic and therapeutic services. The clinical role of a PA includes primary and specialty care in medical and surgical settings in rural and urban areas. The PA's practice is centered on patient care and may also include educational, research, and administrative activities.

### The program

Loma Linda University offers a professional course of study leading to the Master of Physician Assistant (M.P.A.) degree. This degree prepares students for medical work as midlevel health care professionals.

The program consists of didactic and clinical phases that run concurrently for eight quarters over a twenty-four-month period. A new class is accepted annually. Students are selected from a variety of

clinical backgrounds. Experience in patient care, duration of experience, level of patient contact, and degree of responsibility are considered in the evaluation of each applicant. Graduates from the program are eligible to write the national board examination.

### Accreditation

The program is fully accredited by the Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA).

### Program objectives

Upon completion of the program, the graduate will be qualified to:

1. Obtain detailed and accurate patient histories.
2. Perform appropriate physical examinations.
3. Evaluate patients and make diagnoses.
4. Order, perform, and interpret diagnostic tests.
5. Order and perform selected therapeutic procedures.
6. Develop, implement, and monitor patient-management plans.
7. Present patient data in oral and written forms.
8. Provide continuity of patient care.
9. Assist in surgical procedures.
10. Perform life-saving procedures in emergency situations.
11. Counsel and instruct patients regarding issues of health care management, mental health, therapeutic regimens, normal growth and development, and family planning.
12. Refer patients to appropriate health/mental/ social service agencies in the community.
13. Write drug orders.
14. Conduct a medical literature search.
15. Conduct an investigation of a medical, health, or psychosocial topic; perform a statistical evaluation; and present data in appropriate oral and written formats.

### Program outcomes

In addition to the stated institutional learning outcomes the M.P.A. degree student is expected to meet the following programmatic learning outcomes:

1. Demonstrate basic science knowledge in physician assistant sciences.
2. Demonstrate competence, knowledge, and clinical skills in physician assistant sciences.
3. Demonstrate critical-thinking skills in physician assistant sciences and practice.



## Admission PREREQUISITE

College-level prerequisite courses include the following:

A baccalaureate degree from an accredited institution, *in addition to* patient care experience

Human anatomy and physiology with laboratory, complete sequence

Introductory chemistry with laboratory, complete sequence (inorganic, organic, and biochemistry);  
**or**  
one year of general chemistry with laboratory

Microbiology with laboratory

General psychology

General sociology or equivalent  
**or**  
Cultural anthropology or equivalent

College algebra

English, one year

## RECOMMENDED

Statistics, medical terminology, and computer literacy

## PREFERENCE GIVEN TO

Applicants with documented health care experience

Seventh-day Adventists

Graduates of Loma Linda University

Applicants from underrepresented populations

Applicants with documented community service

## Admission requirements

An overall G.P.A. of at least 3.0 or higher and a science G.P.A. of 3.0 or higher on a 4.0 scale.

Applications must be submitted through CASPA <[www.caspaonline.org](http://www.caspaonline.org)>.

Three letters of recommendation—one from a practicing M.D., D.O. or P.A.

Documented patient-care experience

**Please note:** Grades below C are not accepted for credit.

## How to apply

Applications are accepted between June 1 and December 1. Applications must be made through the Central Application Service for Physician Assistants (CASPA); this service is available at <[www.caspaonline.org](http://www.caspaonline.org)>. Completed applications and all supporting documents must be received by the Department of Physician Assistant Sciences *no later than January 15*. Required interviews are granted to qualified applicants upon invitation by the admissions committee.

Applicants must complete all prerequisite course work at an accredited college before being admitted to a program in the School of Allied Health Professions.

A minimum score of 550 (paper based) or 213 (computer based from the Test of English as a Foreign Language (TOEFL) must be submitted. Any student with a score on the TOEFL writing test (TWE) of less than 4 will be required to do remedial work during the program and retake the TOEFL.

## Housing

On-campus housing is available for men and women. For information on the men's dormitory (Daniells' Residence), call 909/558-4561. For information on the women's dormitory, Lindsay Hall, call 909/558-4561.

## Financial aid

Applications for financial aid should be submitted early, even before the student is admitted into the program. Processing of financial aid should be done by January 1. Applications for CAL Grants (California residents only) must be postmarked no later than March 2. These applications are available after December 25. The University's Student Financial Aid Office will help applicants obtain the necessary applications and guide them in the process of applying for aid. Applicants for aid must contact the Office of Financial Aid, Loma Linda University, Loma Linda, CA 92350 at 909/558-4509.

## Contact information

Beverly Stocker  
909/558-7295  
<[bstocker@llu.edu](mailto:bstocker@llu.edu)>

or visit the SAHP Web site at  
<[www.llu.edu/allied-health/sahp/pa/index.page](http://www.llu.edu/allied-health/sahp/pa/index.page)>.

## PROGRAM OF INSTRUCTION

### First Year, Autumn Quarter

Units

AHCJ 519	Graduate Wholeness Portfolio	Year-long course	1.0
PAST 401	Anatomy and Physiology I		3.0
PAST 404	Biochemistry for Physician Assistants		3.0

PAST 406	Clinical Laboratory	2.0
PAST 509	Behavioral Science for Physician Assistants	3.0
PAST 521	Research I	3.0
RELE 505	Clinical Ethics	3.0
SPAN 101	Elementary Spanish I	2.0
Totals		20.0

**Winter Quarter**

Units

PAST 402	Anatomy and Physiology II	3.0
PAST 411	Pathology for Physician Assistants I	3.0
PAST 421	Pharmacology for Physician Assistants I	3.0
PAST 514	Physical Diagnosis I	3.0
PAST 522	Research II	2.0
PAST 541	Clinical Medicine for Physician Assistants I	5.0
Totals		19.0

**Spring Quarter**

Units

PAST 403	Anatomy and Physiology III	3.0
PAST 412	Pathology for Physician Assistants II	3.0
PAST 422	Pharmacology for Physician Assistants II	3.0
PAST 507	Seminar in Preventive Medicine	2.0
PAST 515	Physical Diagnosis II	3.0
PAST 542	Clinical Medicine for Physician Assistants II	5.0
Totals		19.0

**Summer Quarter**

Units

PAST 504	Primary Care Pediatrics	2.0
PAST 505	Women's Health Care	2.0
PAST 506	Clinical Skills for Physician Assistants	4.0
PAST 543	Clinical Medicine for PAs, III	3.0
SPAN 123	Practicum in Spanish I	4.0
Totals		15.0

**Second Year, Autumn Quarter**

Units

PAST 516	Physician Assistant Professional Issues	Year-long course	2.0
PAST 523	Research III	Year-long course; research project presented during Spring Quarter	2.0
Totals			4.0

**Clinical rotations**

1 rotation Summer, 3 Autumn, 3 Winter, 3 Spring, and 2 Summer quarters

Units

PAST 524	Family Medicine I	4.0
PAST 525	Family Medicine II	4.0
PAST 526	Internal Medicine I (Inpatient Medicine)	4.0
PAST 527	Internal Medicine II (Outpatient Medicine)	4.0
PAST 528	Pediatrics I (Inpatient Pediatrics)	4.0
PAST 529	Pediatrics II (Outpatient Pediatrics)	4.0
PAST 531	Obstetrics and Gynecology	4.0
PAST 532	General Surgery	4.0
PAST 533	Emergency Medicine	4.0
PAST 534	Psychiatry/Behavioral Medicine	4.0
PAST 536	Elective I	4.0
PAST 537	Elective II	4.0
Totals		48.0
<b>Overall Totals</b>		<b>125.0</b>

# Radiation Sciences—AH

## (B.S., M.S.)

RENEE N. STONE, M.A.M., RT (R)(M), Program Director / Associate Chair, Department of Radiation Technology

### FACULTY

Laura L. Alipoon  
 Noha S. Daher  
 Carol A. Davis  
 Marie M. DeLange  
 Erma Ezpeleta  
 Brenda S. Holden  
 Barbara Holshouser  
 Noriece R. Kisinger  
 Arthur W. Kroetz  
 Leo Pope  
 Glenn A. Rouse  
 Tim Seavey  
 Andrew L. Shepard  
 Madeleine Waters  
 Grenith Zimmerman

For radiologic technologists educationally prepared beyond the level of the Associate in Science degree, there are numerous career options. Radiology departments in large hospitals offer career opportunities in management, supervision, and research. Excellent opportunities also exist for those who are qualified to teach radiologic technology. In addition, commercial enterprises and state governments continually need technologists with advanced training to serve as customer representatives, technical consultants, and health physicists.

### The program

The Bachelor of Science degree program, which begins at the level of the junior year, emphasizes the more advanced areas in radiologic technology and is designed to prepare graduates for careers in administration, clinical specialties, teaching, or health physics.

### Accreditation

Loma Linda University is regionally accredited by the Western Association of Schools and Colleges (WASC), 985 Atlantic Avenue, Suite 100, Alameda, CA 94501; telephone, 510/748-9001; FAX, 510/748-9797; <www.wascweb.org> or <wascsr@wascsr.org>.

### CPR certification

Students are required to have current health care provider cardiopulmonary resuscitation (CPR) certification (adult, child, and infant) for all scheduled clinical experience. CPR certification must be completed at the American Heart Association health care provider level. This may be completed prior to beginning the program of study or be obtained at

Loma Linda University. Classes are available on campus at Life Support Education, University Arts building, 24887 Taylor Street, Suite 102.

### The program objectives

1. Graduate practitioners who are leaders in the profession and who are capable of serving the greater community in the public, private, and nonprofit sectors.
2. Graduate managers, administrators, and educators who contribute to the profession's body of knowledge through leadership roles, publications, professional presentations, and advocacy.

### Program outcomes

Upon completion of the program, the graduate should be qualified to:

1. Demonstrate leadership and reflective thinking in radiation sciences.
2. Behave in a professional manner in all interactions.
3. Improve knowledge and skills in radiation sciences.
4. Apply advanced practice in radiation sciences.

### Admission

To be eligible for admission, the applicant must be a graduate of an approved associate degree program (or the equivalent) in radiologic technology, radiation therapy, nuclear medicine, or diagnostic ultrasound (sonography). A maximum of 70 semester or 105 quarter units from an accredited junior college will be accepted as transfer credit, including units for clinical education. Students who have completed a hospital training program are allowed up to 55 quarter units of academic credit on the basis of their registry certificate.

### Certification

The applicant must have certification from the American Registry of Radiologic Technologists (ARRT) or equivalent specialty certification. Applicants who are eligible to take the ARRT examination for certification but who have not had opportunity to do so are given provisional status for one quarter. Eligibility to continue is subject to student's obtaining certification. It should be understood that the University will not sign or validate registry documents of students who obtained their training in another program.

**RADIATION SCIENCES—B.S.**

The student in the baccalaureate degree program completes:

- The general studies requirements (General Education)
- The radiation technology core requirements (online)
- An area of emphasis (administration and education, clinical practice, science, or informatics)

Electives to meet the needs of the individual student are selected from existing courses after consultation with the program director.

**PREREQUISITE/COREQUISITE**

Students must fall within 12 quarter units of completion of General Education (GE) requirements in order to be considered for the Bachelor of Science in radiation sciences core program. Those requirements are listed below.

Statistics and research methods (taken within the past five years). Please contact the program director for online statistics and research methods courses.

Humanities—28 units minimum (choose minimum of three areas from: history, literature, philosophy, foreign language, art/music appreciation/history). Included in this minimum, 4 units of religion per year of attendance at a Seventh-day Adventist college or university. Five units of religion are included in the

BSRS core as a corequisite. A total of 28 quarter units are required to fulfill this area.

Human anatomy and physiology with laboratory, one semester/quarter minimum; or general biology with laboratory, complete sequence.

Natural Sciences—Additional natural science units from: chemistry, geology, mathematics, physics, and statistics. Must have a total of 12 quarter units of natural sciences, including up to 6 units from anatomy and physiology (no more than 6 units in any one area from the natural sciences may be used).

Two years high school mathematics with grades of C or above, or intermediate algebra in college.

Social Science—Units to include cultural anthropology (or an approved course dealing with cultural diversity). Must have a total of 12 quarter units of social science. Select additional quarter units from: economics, geography, political science, psychology, sociology, or anthropology.

English composition, complete sequence. Additional communication units may include courses in computer information systems, critical thinking, and public speaking. Minimum of 9 units are needed to complete this area.

Personal health or nutrition and two physical activity courses to meet the minimum of 3 quarter units.

Electives to meet the minimum total requirements of 192 quarter units.

**Major****Units**

<b>Major</b>		<b>Units</b>
AHCJ 328	Wholeness Portfolio I	1.0
AHCJ 498	Wholeness Portfolio II	1.0
HCAD 305	Health Care Communication	4.0
HCAD 316	Economics for Health Care Managers	4.0
HCAD 336	Legal Environment of Health Care	4.0
HCAD 374	Health Care Human Resources	4.0
HCAD 464	Health Care Finance	4.0
RTCH 325	Excel Basics for Radiology Managers	2.0
RTCH 385	Radiologic Trends in Health Care	3.0
RTCH 418	Health Information Management and Radiology Coding for Radiology Managers	4.0
RTCH 464	Moral Leadership	4.0
RTCH 471	Applied Research Methods	2.0
RTCH 472	Applied Research Methods	1.0

RTCH 485	Digital Management in Radiology	2.0
RTCH 494	Senior Project	2.0
RTMR 451	Management of a Radiologic Service	3.0
Totals		45.0

**Religion** Units

REL_ 4__	Upper division religion	3.0
RELT 406	Adventist Beliefs and Life (2 to 3)	Choose one course
RELT 423	Loma Linda Perspectives (2 to 3)	
RELT 436	Adventist Heritage and Health (2 to 3)	
RELT 437	Current Issues in Adventism (2 to 3)	
Totals		5.0-6.0

**Area of emphasis: administration and education** Units

RSTH 471	Instructional Techniques I	2.0
RTCH 475	Curriculum Development in Health Sciences	2.0
RTCH 411	Student-Teaching Practicum I (2)	Choose 6 units
RTCH 412	Student-Teaching Practicum II (2)	
RTCH 413	Management Practicum I (2)	
RTCH 414	Management Practicum II (2)	
Totals		10.0

**Area of emphasis: imaging informatics** Units

RTII 354	Introduction to Informatics	3.0
RTII 358	PACS Planning and Implementation	3.0
RTII 359	Digital Radiography and PACS for the Imaging Specialist	Prerequisite for imaging informatics 2.0
RTII 364	Administrative Issues in Informatics	3.0
RTII 368	Future Management of PACS	3.0
Totals		14.0
<b>Overall Totals</b>		<b>74.0-75.0</b>

**Area of emphasis: clinical practice (18-31 units)**

A 9-24 month, full-time internship in a clinical specialty can be selected from the following areas:

- Nuclear sonography (31 units)
- Nuclear medicine technology (18 units)
- Special imaging technology (18 units)
- Radiation therapy technology (27 units)

Acceptance into these specialties into the baccalaureate program.

**Area of emphasis: science (12-15 units)**

12-15 quarter units selected from the natural sciences in the areas of biology, microbiology, chemistry, math or physics. These courses are taken at your local college/ university. A minimum grade of C+ (2.5) is required for all courses.

## **RADIATION SCIENCES—M.S. ONLINE PROGRAM**

MIKE IORIO, Program Director

### **The program**

The Master of Science in Radiation Sciences Program has a commitment to educate and expand the knowledge and expertise of radiology health professionals by providing radiology practitioners in this community, as well as across the country, with an opportunity to advance their education.

### **Distance education**

The Master of Science in Radiation Sciences Program is an online program open to qualified applicants.

### **Mission statement**

The mission of the Master of Science in Radiation Sciences Program is to provide students with an enhanced understanding of leadership, management, administration and education so that they can become productive leaders in the radiology and/or other environments.

### **Program objectives**

1. Graduate practitioners who are leaders in the profession and who are capable of serving the greater community in the public, private, and nonprofit sectors.
2. Graduate managers, administrators, and educators who can contribute to the profession's body of knowledge through leadership roles, publications, professional presentations, and advocacy.

### **Program outcomes**

Upon completion of the program, the graduate should be qualified to:

1. Demonstrate leadership and reflective thinking in radiation sciences.
2. Behave in a professional manner in all interactions.
3. Improve knowledge and skills in radiation sciences.
4. Apply advanced practice in radiation sciences.

### **Admission requirements**

To be eligible for admission, the applicant must have earned bachelor's degree with a minimum GPA of 3.0. Applicants must also possess National Certification or equivalent in a Radiation Science discipline.

The applicant's letters of recommendation, telephone interview, written essay, and work experience are also considered in the admissions screening process.

All applicants must have the following:

- A bachelor's degree completed with a GPA of 3.0
- National certification or equivalent in a radiation science discipline
- Official transcripts for all college course work
- Resume and three letters of reference
- Two-page essay describing the applicant's personal and professional skills and accomplishments, interests, career goals, and how the M.S.R.S. will help achieve them.
- Telephone interview (to be scheduled after application has been submitted)

### **PREREQUISITE**

Bachelor's degree from an accredited institution  
Statistics (within five years of application)  
Research methods (within five years of application)

### **Program design**

The program is twenty-four months or eight quarters in length. Students will come to campus for three-to-five days for orientation approximately two weeks prior to the beginning of school in the first Autumn Quarter. Subsequently, all courses will be totally online until the week prior to graduation when the students will again come to campus to present their research projects. The program may be completed in one year beginning Fall Quarter of 2009 (upon approval by program director).

### **Research requirements**

Statistics and research methods courses are required if not completed within five years of application. While in the program, students will complete a 3-unit research methods course AHCJ 595, which will include descriptive statistics; and 6 units of RTRS 621, 622 Capstone Project. Students will prepare at least one publishable manuscript to be submitted to the Department Research Committee for evaluation regarding its publication potential.

### **Professional portfolio**

The student will complete a professional portfolio while in the program. The portfolio will contain evidence of the growth and learning that occurred while the student progressed through the program: pre- and postreflection on the seven core values of the University, leadership assessment results, and final papers or projects from course work. The student will be asked to reflect on his/her growth, insights, and application of knowledge gained while in the program. Portfolio selections will be placed in the portfolio quarterly.

<b>Required</b>		<b>Units</b>
AHCJ 545	Legal and Ethical Issues in the Health Professions	3.0
AHCJ 566	Theoretical Foundations of Leadership	3.0
AHCJ 567	Personal Leadership	3.0
AHCJ 576	Basics of Marketing	3.0
AHCJ 578	Health Care Finance and Reimbursement	3.0
AHCJ 579	Instructional Effectiveness	3.0
AHCJ 586	Curricula Planning in Health Sciences	3.0
AHCJ 595	Research and Statistics Concepts and Methods: Intermediate	3.0
HADM 528	Organizational Behavior in Health Care	3.0
HADM 574	Managing Human Resources in Health Care Organizations	3.0
HADM 604	Health Systems Strategic Planning	3.0
RELT 563	Health Care, Humanity, and God (3.0-4.0)	3.0
RTRS 584	Basics of Imaging Informatics	3.0
RTRS 614	Professional Portfolio	3.0
RTRS 615	Advances in Technology: Educational and Managerial Issues	3.0
RTRS 621	Capstone Project I	3.0
RTRS 622	Capstone Project II	3.0
Totals		51.0
<b>Overall Totals</b>		<b>51.0</b>



# Radiation Therapy Technology—AH

## (Certificate)

CAROL DAVIS, Clinical Program Director, Certificate

### RADIATION THERAPY TECHNOLOGY-CERTIFICATE

The fifteen-month certificate program is given in a distance learning format, in conjunction with Fresno Community College. Students must attend either the Loma Linda or the Fresno Campus for instruction, and may attend clinical educational sites in the Loma Linda, Fresno, Bakersfield or Porterville areas. The program commences in the Fall Quarter and involves course work via teleconferencing, as well as a comprehensive, supervised, clinical education in all aspects of clinical radiation oncology. Students are expected to rotate to different clinical sites in their specific geographical area during the program in order to enhance their clinical acumen. The program is 40 hours per week and follows the main University calendar.

#### Program outcomes

1. Comprehend treatment charts and other data such as treatment plans and DRR's, and be able to extract all data necessary to complete an accurate patient treatment.
2. Comprehend the principles of the construction and operation of radiation therapy accelerators and beam modification devices.
3. Accurately complete all aspects of patient treatment, and understand the need for daily reproducibility of "set-up."
4. Effectively and coherently communicate ideas to patients, patients' families, staff, peers, and faculty.
5. Accurately maintain patient treatment records with the understanding that they are legal documents.
6. Understand the principles of general quality assurance and continuous quality improvement (CQI) as they apply to the practice of radiation therapy.
7. Understand the principles of radiation safety as they apply to the practice of radiation therapy.
8. Understand the principles of HIPPA as the act applies to the practice of radiation therapy.

#### Accreditation

The program is accredited by the Joint Review Committee on Education in Radiologic Technology, 20 North Wacker Drive, Suite 900, Chicago, IL 60606-2901; telephone 312/704-5300.

#### Distance education

The Radiation Therapy Technology Program is offered via distance education at Fresno City College, Fresno, California.

#### CPR certification

Students are required to have current health care provider cardiopulmonary resuscitation (CPR) certification (adult, child, and infant) for all scheduled clinical experience. CPR certification must be completed at the American Heart Association health care provider level. This must be completed prior to beginning the program of study. Classes are available on campus at Life Support Education, University Arts building, 24887 Taylor Street, Suite 102.

#### Admission

##### PREREQUISITE

To be admitted into the Radiation Therapy Technology Program and to become certified and registered, the applicant *must fulfill the following two prerequisites:*

Be an ARRT-registered radiologic technologist; **and**

Be a graduate of an accredited radiologic technology program;

**AND must have credits in the following:**

Radiation physics

Human anatomy and physiology with laboratory, complete sequence

College algebra

Radiation protection (available in professional program for those who have not taken it)

Patient-care methods

General psychology

Computers

**or**

Be a registered nurse or

Be a graduate of an accredited allied health program (minimum training of two years)

**AND must have credits in the following:**

Human anatomy and physiology with laboratory, complete sequence

College algebra

Medical terminology

Patient-care methods

Radiation physics

Radiation protection (available in professional program for those who have not taken it)

Principles of radiography

Computers

General psychology

**Observation experience required**

A minimum of forty hours of work observation in a radiation therapy department is required.

<b>Required</b>		Units
AHCJ 403	Pathology II	3.0
RELE 457	Christian Ethics and Health Care	2.0
RTTH 332	Radiation Biology	1.0
RTTH 342	Patient-Care Practices in Radiation Therapy	2.0
RTTH 344	Radiation Therapy Procedures	2.0
RTTH 348	Radiation Therapy Review	1.0
RTTH 355	Physical Principles of Radiation Therapy I	3.0
RTTH 356	Physical Principles of Radiation Therapy II	3.0
RTTH 357	Applied Dosimetry	2.0
RTTH 364	Radiation Oncology I	2.0
RTTH 365	Radiation Oncology II	2.0
RTTH 366	Radiation Oncology III	2.0
RTTH 971	Radiation Therapy Affiliation I	8.0
RTTH 972	Radiation Therapy Affiliation II	8.0
RTTH 973	Radiation Therapy Affiliation III	8.0
RTTH 974	Radiation Therapy Affiliation IV	8.0
RTTH 975	Radiation Therapy Affiliation V	12.0
		Totals 69.0
		<b>Overall Totals 69.0</b>

# Radiologist Assistant—AH

## (M.S. Online/Blended Program)

RENEE STONE, Program Director

### The program

The student will receive didactic and clinical mentoring on neonatal, pediatric, adult, and geriatric populations. Courses will be a combination of discussion, projects, case studies and Web-based learning. Students are responsible for finding their own clinical site and radiologist mentor. This is an online program; however, and students must be on campus one week in the Autumn Quarter, and one week in the first Winter and Spring quarters, and one week in the final Spring Quarter.

### Mission

The mission of the Radiologist Assistant Program is to provide students with a sound clinical, didactic, and moral foundation so that they can impact patient care in a positive and meaningful manner.

### Vision

The Radiologist Assistant Program at Loma Linda University will be one of the premier radiologist assistant programs in the nation—home to a program that students will want to attend. Its diverse and safe learning environment will contribute to the view of Loma Linda University as one of the state's economic and cultural centers.

### Purpose

The purpose of the Radiologist Assistant Program is to educate students to competently function as radiologist assistants in the variety of imaging environments.

### The program objectives

1. Graduate competent advanced practice technologists who perform procedures and clinical activities of the profession
2. Graduate leaders who engage in activities that advance the profession

3. Graduate midlevel practitioners who will impact health care delivery
4. Graduate professionals who maintain recognized educational standards of the profession
5. Graduate professionals who employ proper ethics within the profession

### Admissions requirements

To be eligible for admission, the applicant must have:

1. A maximum of 105 quarter or 70 semester units from an accredited college/university, which will be accepted as transfer credit, including units for clinical education. Students who have completed a hospital training program are allowed 55 quarter units (as a part of the maximum) of academic credit on the basis of their registry certificate.
2. Certification from the American Registry of Radiologic Technologists (ARRT)
3. A minimum of two years of full-time radiography work experience.

### Two tracks for entrance

Students enter the M.S. degree program two different ways. Track one allows the student to enter with an associate degree. In their first year, students take the 50-unit (includes required religion) online core of the Bachelor of Science degree in radiation sciences.

Students in good standing at the end of their first year will progress to the radiation assistant curriculum in their second year and will be lock step with the Track two radiation assistant students. At the end of three years, these students will be granted a B.S. degree and an M.S. degree, based on the course work done and the total number of units.

Track two allows students to enter with a bachelor's degree and begin their radiation assistant curriculum in the first quarter of the program. For both tracks, general education requirements will be completed prior to beginning the program.

### Junior Year

Junior Year		A.S. to M.S.	Prior B.S.
AHCJ 308	Professional Communications	2.0	
AHCJ 328	Wholeness Portfolio I	1.0	
AHCJ 498	Wholeness Portfolio II	1.0	
HCAD 305	Health Care Communication	4.0	
HCAD 316	Economics for Health Care Managers	4.0	
HCAD 336	Legal Environment of Health Care	4.0	
HCAD 374	Health Care-Human Resources	4.0	

HCAD 464	Health Care Finance	4.0	
REL_ 4__	Upper Division Religion	4.0-6.0	
RELT 406	Adventist Beliefs and Life	2.0	
RTCH 325	Excel Basics for Radiology Managers	2.0	
RTCH 385	Radiologic Trends in Health Care	3.0	
RTCH 418	Health Information Management and Radiology Coding for Radiology Managers	4.0	
RTCH 464	Moral Leadership	4.0	
RTCH 471	Applied Research Methods	2.0	
RTCH 472	Applied Research Methods	1.0	
RTCH 485	Digital Management in Radiology	2.0	
RTCH 494	Senior Project	2.0	
RTMR 451	Management of a Radiologic Service	3.0	
Totals		53.0-55.0	—

**Senior Year, Autumn Quarter****A.S. to M.S. Prior B.S.**

AHCJ 519	Graduate Wholeness Portfolio	1.0	1.0
REL_ 4__	Upper Division Religion	3.0	3.0
RTRA 425	Fluoroscopy and Radiation Protection	1.0	1.0
RTRA 426	Radiology Reporting	1.0	1.0
RTRA 431	Pharmacology I	2.0	2.0
RTRA 444	Pathophysiology	2.0	2.0
RTRA 471	Clinical Internship	2.0	2.0
RTRA 521	Radiology Procedures and Image Evaluation I	3.0	3.0
Totals		15.0	15.0

**Winter Quarter****A.S. to M.S. Prior B.S.**

AHCJ 402	Pathology I	4.0	4.0
RTRA 432	Pharmacology II	2.0	2.0
RTRA 451	Patient Assessment I	2.0	2.0
RTRA 472	Clinical Internship	5.0	5.0
RTRA 491	Cross-sectional Anatomy I	1.0	1.0
RTRA 522	Radiology Procedures and Image Evaluation II	3.0	3.0
Totals		17.0	17.0

**Spring Quarter****A.S. to M.S. Prior B.S.**

AHCJ 403	Pathology II	3.0	3.0
RTRA 452	Patient Assessment II	2.0	2.0
RTRA 473	Clinical Internship	6.0	6.0

RTRA 476	Topics for the Radiologist Assistant	2.0	2.0
RTRA 492	Cross-sectional Anatomy II	1.0	1.0
RTRA 523	Radiology Procedures and Image Evaluation III	3.0	3.0
Totals		17.0	17.0

**Graduate Year, Summer Quarter****A.S. to M.S. Prior B.S.**

RTRA 446	Clinical Management and Education	2.0	2.0
RTRA 524	Radiology Procedures and Image Evaluation IV	3.0	3.0
RTRA 571	Clinical Internship IV	6.0	6.0
Totals		11.0	11.0

**Autumn Quarter****A.S. to M.S. Prior B.S.**

REL_ 5__	Graduate-level Religion	3.0	3.0
RTRA 572	Clinical Internship V	6.0	6.0
RTRA 591	Radiologist Assistant Research Project I	1.0	1.0
Totals		10.0	10.0

**Winter Quarter****A.S. to M.S. Prior B.S.**

RTCH 567	Leadership Theory and Practice	3.0	3.0
RTRA 573	Clinical Internship VI	6.0	6.0
RTRA 588	Comprehensive Review	1.0	1.0
RTRA 592	Radiologist Assistant Research Project II	2.0	2.0
Totals		12.0	12.0

**Spring Quarter****A.S. to M.S. Prior B.S.**

RTRA 384	Radiobiology and Health Physics	2.0	2.0
RTRA 424	Medical-Llegal Issues in Radiology	1.0	1.0
RTRA 574	Clinical Internship VII	6.0	6.0
RTRA 593	Radiologist Assistant Research Project III	2.0	2.0
Totals		11.0	11.0
<b>Overall Totals</b>		<b>146.0-148.0</b>	<b>93.0</b>

# Rehabilitation Science—AH

**(Ph.D.)**

GRENITH J. ZIMMERMAN, Program Director

The School of Allied Health Professions offers the Doctor of Philosophy degree 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.
- Assess, develop, and implement interdisciplinary community based services.

**Admission**

Applicants must meet the following minimum requirements:

- Bachelor's or master's degree in any allied health professions area or discipline related to rehabilitation science, with a minimum G.P.A. of 3.0 in academic and professional course work.

- Current licensure/certification in one of the rehabilitation science professions.

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, licensure or certification, professional organizations, honors, awards, publications, presentations, and grants.
3. At least one example of written work (e.g., term paper, course assignment, publication, master's degree research project or thesis).

**Requirements**

A minimum of 114 units beyond the bachelor's degree is required for students holding a master's or doctoral degree in a professional area; up to 45 graduate-level quarter units taken in completion of the professional degree may be applicable to the Doctor of Philosophy degree. Application of these credits to the Doctor of Philosophy degree must be reviewed by the School of Allied Health Professions Doctor of Philosophy in Rehabilitation Science Committee prior to submission to the Faculty of Graduate Studies for approval. The student's program course work for the degree must be approved by the Doctor of Philosophy in Rehabilitation Science Committee.

**Curriculum**

**DOMAIN 1**

Political and professional advocacy

Units

RESC 515	Political and Professional Advocacy in Rehabilitation (3)	6 units minimum	6.0
RESC 516	Practicum in Advocacy (1 to 3)		
SPOL 613	Social Science Concepts I (4)		
SPOL 614	Social Science Concepts II (4)		
		Totals	6.0

**DOMAIN 2**

Theories and applications in health care systems and delivery

Units

AHCJ 545	Legal and Ethical Issues in the Health Professions (3)	3 units minimum	3.0
AHCJ 552	Professional Systems in Management II (3)		
HADM 528	Organizational Behavior in Health Care (3)		
HADM 542	Managerial Accounting for Health Care Organizations (3)		
HADM 559	Health Care Marketing (3)		
HADM 564	Health Care Finance (3)		
HADM 575	Management Information Systems in Health Care (3)		
HADM 601	Health Systems-Operations Management (3)		
HADM 604	Health Systems Strategic Planning (3)		
OCTH 600	Occupational Science (3)		
OCTH 604	Health, Society, and Participation (3)		
RESC 519	Rehabilitation Theories and Applications in Health Care	Required	3.0
Totals			6.0

**DOMAIN 3**

Determinants of health behavior

Units

EPDM 509	Principles of Epidemiology I (3)	6 units minimum	6.0
GLBH 517	Cultural Issues in Health Care (3)		
GLBH 548	Violence and Terrorism Issues (3)		
HPRO 509	Principles of Health Behavior (3)		
HPRO 515	Mind-Body Interactions and Health Outcomes (3)		
HPRO 526	Lifestyle Diseases and Risk Reduction (3)		
HPRO 588	Health Behavior Theory and Research (4)		
Totals			6.0

**DOMAIN 4**

Leadership and higher education

Units

AHCJ 506	Educational Evaluation and Clinical Assessment (3)	6 units minimum	6.0
AHCJ 509	Teaching and Learning Styles (3)		
AHCJ 551	Professional Systems in Management I (3)		
AHCJ 556	Administration in Higher Education (3)		

AHCJ 564	Collaborative Learning in Higher Education (3)		
AHCJ 599	Directed Teaching (3)		
NRSG 544	Teaching and Learning Theory (3)		
NRSG 546	Curriculum Development in Higher Education (3)		
NRSG 555	Pharmacology in Advanced Practice I (3)		
OCTH 605	Education in Occupational Therapy (3)		
OCTH 606	Leadership in Occupational Therapy (3)		
Totals			6.0

**Religion**

Include 9 units of religion, chosen from the following ethical, theological, and relational courses (other religion courses selected in consultation with the program director)

			Units
RELE 524	Christian Bioethics (3)	3 unit minimum	3.0
RELE 525	Ethics for Scientists (3)		
RELR 525	Health Care and the Dynamics of Christian Leadership (3)	3 unit minimum	3.0
RELR 536	Spirituality and Everyday Life (3)		
RELT 557	Theology of Human Suffering (3)	3 unit minimum	3.0
RELT 563	Healthcare, Humanity, and God (3)		
Totals			9.0

**Research and dissertation**

Didactic course work (12 units minimum)

			Units
RESC 697	Research (1.0-12.0)		24.0
AHCJ 605	Critical Analysis of Scientific Literature (2)	9 units minimum	9.0
HPRO 589	Qualitative Research Methods (3)		
MFAM 502	Research Tools and Methodology: Qualitative (3)		
PHTH 535	Research and Statistics I (3)		
STAT 515	Grant- and Contract-Proposal Writing (3)		
STAT 535	Introduction to Modern Nonparametric Statistics (3)		
STAT 564	Survey and Advanced Research Methods (3)		
STAT 568	Data Analysis (3)		



MFTH 601	Statistics I (4)	No more than one of these courses	3.0-4.0
PHTH 536	Research and Statistics II (3)		
PSYC 502	Advanced Statistics II (4)		
STAT 514	Intermediate Statistics for Health-Science Data (3)		
		Totals	36.0-37.0
		<b>Overall Totals</b>	<b>69.0-70.0</b>

**Comprehensive examinations**

The written comprehensive examination is designed to establish that the student has a broad understanding of rehabilitation science. A student is eligible to take the written examination after completing a minimum of 30 quarter units of course work, including 6 units from each of the four core domains and 6 units in research and statistics.

The oral examination is designed to establish that the student has adequate foundational information in appropriate content areas, as well as a plan to answer a research question appropriate for a doctoral dissertation. Following successful completion of the written comprehensive examination, the oral examination will be scheduled by the student's research mentor in consultation with the program director. Questions for the examination will be over the student's research proposal and the content areas on which the proposal rests.

**Advancement to candidacy**

The student may apply for admission to doctoral candidacy after (a) passing the written and oral comprehensive examinations; and (b) securing the support of his or 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. One paper must be accepted for publication before the candidate's graduation.

**General requirements**

For information about requirements and practices to which all graduate students are subject, the student should consult the Policies and General Regulations in Section II and the School of Allied Health Professions in Section III.

# Respiratory Care—AH

## (Certificate, B.S., Postprofessional B.S.)

DAVID LOPEZ, Department of Cardiopulmonary Sciences Chair; Postprofessional B.S. Program Director

DAVID M. STANTON, Program Director, B.S., Entry Level and Certificate

KATHERINE GATTUSO, Director of Clinical Education, B.S.

RICHARD D. NELSON, Program Director—Saudi Campus

N. LENNARD SPECHT, Medical Director

### FACULTY

Kate Gattuso  
David Lopez  
Arthur Marshak  
Charles B. Spearman  
N. Lennard Specht  
David M. Stanton

### CLINICAL/CONTRACT FACULTY

Alan Alipoon  
G. Ophelia Brooks  
Raquel M. Calderone-Vizcaino  
Beth Elliot  
Dennis Graham  
Tony (Pauline) Hilton  
Linda Houston-Feenstra  
Leo M. Langga  
Michael Lum  
Traci L. Marin  
Leslie Morales  
Richard D. Nelson  
Ehren Ngo  
Curtis Powell  
Mark S. Rogers  
Douglas Roth  
Richard N. Sample  
Loreen K. Scott  
Lindsey Simpson  
Marco Soto  
Thomas W. Taylor, Jr.  
Michael Terry  
Carter Tong  
Maria Yun

Respiratory care is an allied health profession that promotes health and improvement in the cardiopulmonary function of people with heart and lung abnormalities and disease. Newborn, pediatric, adult, and elderly patients are treated for a wide range of problems—infant respiratory distress syndrome; trauma; cardiopulmonary arrest; conditions brought on by shock; postoperative surgical complications; and respiratory diseases such as pneumonia, asthma, cystic fibrosis, chronic bronchitis, and emphysema.

The respiratory care practitioner is a member of the health care team in medical centers, skilled nursing facilities, outpatient rehabilitation programs, physician offices, and in-home care. Many are involved in research and development of new and innovative care and equipment. They are effective communicators and compassionate caregivers, possessing an awareness of cultural sensitivity and diversity. They have leadership roles in patient education, wellness intervention, and development of respiratory care plans. Respiratory care professionals apply critical-thinking skills in cardiopulmonary diagnostics and patient assessment to optimize decision making and delivery of patient care. In a time of high technology, increasing growth of the elderly population, and increasing numbers of patients with asthma and chronic lung disease, there is a greater demand for educated and skilled respiratory care practitioners.

### Professional accreditation, licensure, and credentialing

Respiratory care program accreditation is provided by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon recommendation of the Committee on Accreditation for Respiratory Care (CoARC). Standards and guidelines published by CoARC must be met, relevant to general and respiratory care education and to ongoing program assessment and improvement. Inquiries regarding CAAHEP can be directed to 1361 Park Street, Clearwater, FL 33756; telephone 727/210-2350; Web site <[www.caahep.org](http://www.caahep.org)>; or FAX 727/210-2354. Inquiries regarding CoARC can be directed to 1248 Harwood Road, Bedford, TX 76021-4244; telephone 817/283-2835; or Web site <[www.coarc.com](http://www.coarc.com)>. The Respiratory Care Program at Loma Linda University is CAAHEP accredited.

Graduates of CAAHEP-accredited respiratory care programs must apply to the State of California Department of Consumer Affairs Respiratory Care Board (RCB) for a license to practice in the state. The RCB requires that graduates of respiratory care programs complete general and respiratory care education courses with grades of C or above, resulting in a minimum of an Associate in Science degree in respiratory care. Graduates must successfully complete an examination for licensure, declare felony convictions, and undergo fingerprinting. License denial may occur due to prior felony conviction(s). Inquiries regarding the RCB can be directed to 444 North 3rd Street, Suite 270, Sacramento, CA 95814; telephone 916/323-9983; FAX 916/323-9999; or Web site <[www.rcb.ca.gov](http://www.rcb.ca.gov)> or <[RCBinfo@dca.ca.gov](mailto:RCBinfo@dca.ca.gov)>.

The National Board for Respiratory Care, Inc. (NBRC), provides nationally recognized credentialing examinations for graduates of accredited respiratory

care programs. Those who successfully complete the entry-level examination receive the certified respiratory therapist (CRT) credential. This examination currently is required by the state of California for licensure to practice respiratory care. Advanced practitioner examinations are required for the registered respiratory therapist (RRT) credential, neonatal-pediatric specialist certification (NPS), and certified (CPFT) and registered (RPFT) pulmonary function technologist. NBRC inquiries can be made to 18000 W. 105th Street, Olathe, KS 66061, telephone 913/895-4900; FAX 913/895-4650; or Web site <www.nbrc.org>.

### Professional association

The American Association for Respiratory Care (AARC) encourages students and graduates to become members and participate in national meetings and local chapters. The AARC's aim is to foster professional growth, encourage research, and provide services and representation for its members. Further information may be obtained from the national office, 9425 North MacArthur Boulevard, Suite 100, Irving, TX 75063; telephone 972/243-2272; or Web site <www.aarc.org>.

The California Society for Respiratory Care (CSRC), as an affiliate of the AARC, is a nonprofit professional organization whose mission is to represent and encourage excellence in the art and science of cardiopulmonary support.

The CSRC is committed to health, healing, and disease prevention in the California community. The society extends these concepts to its members, students, health care professionals, and the public through education and clinical practice. Further information may be obtained from the CSRC at 1961 Main Street, Suite 246, Watsonville, CA 95076; telephone 888/730-2772; FAX 831/763-2814; or Web site <www.csrc.org>.

## RESPIRATORY CARE—CERTIFICATE

### CPR certification

Students are required to have current health care provider cardiopulmonary resuscitation (CPR) certification (adult, child, and infant) for all scheduled clinical experience. CPR certification must be completed at the American Heart Association health care provider level. This may be completed prior to beginning the program of study or may be obtained at Loma Linda University. Classes are available on campus at Life Support Education, University Arts building, 24887 Taylor Street, Suite 102.

### Admission

To be eligible for admission, the applicant must have completed a minimum of 96 quarter units (64 semester units) from an accredited college or university, or its equivalent from a foreign education program.

### PREREQUISITE

Human anatomy and physiology or general biology with laboratory, complete sequence

Microbiology with laboratory

Introductory chemistry with laboratory, complete sequence; or general chemistry with laboratory, complete sequence

High school-level physics or introductory physics, one quarter/semester in college; or general physics, one quarter/semester in college

Two years of mathematics selected from: algebra I (elementary), algebra II (intermediate), or geometry. Course work may be taken in high school or college.

General psychology

English composition, complete sequence

Introduction to computers (high school or college)

## RECOMMENDED COURSE WORK

Speech

### Required minimum grade

All course work must have a grade of C (2.0) or better.

### Professional eligibility

Upon completion of the program, graduates are eligible to pursue all credentialing examinations offered by the National Board for Respiratory Care (NBRC). Inquiries to NBRC can be made to 8310 Nieman Road, Lenexa, KS 66214-1579; telephone 913/599-4200; email: <nbrc-info@nbrc.org>; or Web site <www.nbrc.org>.

### Fees

Respiratory Therapy Board Examination Review \$260.00 (applied year 2 to RSTH 496)  
Written Registry Self Assessment Examination \$40.00 (applied year 2 to RSTH 496)

### Equivalency examination/Evaluation of credit

Applicants who have comparable education or experience may be able to gain credit toward the certificate by equivalency examination or evaluation of credit on an individual basis. Loma Linda University reserves the right to assess the respiratory care knowledge base and competencies of each applicant by assessment examination(s).

A Loma Linda University grade-point average of C (2.0) is required for all courses in the program.

(See Section IV for course descriptions.)

**RESPIRATORY CARE—B.S.**

Loma Linda University offers two Bachelor of Science degree programs in respiratory care. The first program is for students who have had no previous education in respiratory care and who have completed the program prerequisites listed below.

**The program**

The two-year, upper-division program leading to the Bachelor of Science degree is a sequence of professional course work intended to prepare competent respiratory therapists with advanced abilities in clinical care. Course work may be designed toward meeting entrance requirements for the dentistry, medicine, and physician assistant programs.

**The program objectives**

Upon completion of the program, the graduate should:

1. Collect and review pertinent clinical information and suggest and implement diagnostic procedures, according to age-specific criteria.
2. Select, obtain, assemble, maintain, and correct malfunctions on all respiratory therapy equipment.
3. Administer medications via aerosol, subcutaneous, and other appropriate routes of delivery, according to age-specific criteria.
4. Apply current and advanced respiratory care concepts and treatment plans in the areas of ventilatory support systems (invasive and noninvasive), medical gas therapy, gas exchange therapy, airway care, and advanced resuscitation techniques, according to age-specific criteria.
5. Assist the physician in the performance of all diagnostic or therapeutic procedures related to cardiopulmonary function.
6. Function as an efficient member of the interdisciplinary team.
7. Demonstrate advanced knowledge and clinical skill in specialty areas selected from
  - neonatal/pediatric critical care
  - adult critical care
  - cardiopulmonary diagnostics
  - hyperbaric medicine
  - sleep disorders medicine
  - cardiopulmonary rehabilitation
  - extended care

**Program outcomes**

In addition to the stated institutional learning outcomes, the respiratory care student is expected to meet the following programmatic learning outcomes:

1. Demonstrate basic cardiopulmonary knowledge in respiratory care.

2. Demonstrate advanced knowledge and clinical skills in respiratory care practice.
3. Demonstrate critical-thinking skills in respiratory care.

**Admission**

To be eligible for admission, the applicant must:

1. Complete the subject requirements noted as prerequisites (students who have not completed these requirements may be accepted on a provisional basis); and
2. Arrange for an interview at the University by appointment (an off-campus or telephone interview can be arranged for the distant student).

**PREREQUISITE**

**Humanities**—20 quarter (14 semester) units minimum (choose minimum of three areas from: history, literature, philosophy, foreign language, art/music appreciation or art/music history)

Included in this minimum, 4 units of religion per year of attendance at a Seventh-day Adventist college or university

**Natural Sciences**—Human anatomy and physiology with laboratory, complete sequence; or general biology with laboratory, complete sequence; microbiology with laboratory; introductory chemistry with laboratory, complete sequence; or general chemistry with laboratory, complete sequence

High school-level physics or introductory physics, one quarter/semester in college; or general physics, one quarter/semester in college

Two years high school mathematics with grades of C or above or intermediate algebra in college

**Social Sciences**—Psychology, sociology, and cultural anthropology or an approved course dealing with cultural diversity

**Communications**—English composition, complete sequence; speech

Computers

**Health and Wellness**—Personal health or nutrition

Two physical activity courses

Electives to meet minimum total requirement of 82 quarter (55 semester) units

For total unit requirements for graduation, see Division of General Studies, LLU General Education Requirements (Section II).

**Junior Year, Autumn Quarter**

		<b>Certificate</b>	<b>B.S.</b>
AHCJ 311	Medical Terminology	2.0	2.0
AHCJ 326	Fundamentals of Health Care	2.0	2.0
AHCJ 328	Wholeness Portfolio I		1.0
RSTH 304	Cardiopulmonary Anatomy and Physiology	4.0	4.0
RSTH 331	Pharmacology I	2.0	2.0
RSTH 334	Patient Assessment	2.0	2.0
RSTH 341	Respiratory Therapy Science I	5.0	5.0
Totals		17.0	18.0

**Winter Quarter**

		<b>Certificate</b>	<b>B.S.</b>
AHCJ 402	Pathology I		4.0
RSTH 332	Pharmacology II	2.0	2.0
RSTH 342	Respiratory Therapy Science II	5.0	5.0
RSTH 366	Diagnostic Techniques	3.0	3.0
RSTH 381	Cardiopulmonary Diseases I	2.0	2.0
RSTH 391	Respiratory Care Practicum I	2.0	2.0
Totals		14.0	18.0

**Spring Quarter**

		<b>Certificate</b>	<b>B.S.</b>
AHCJ 305	Infectious Disease and the Health Care Provider	1.0	1.0
AHCJ 403	Pathology II		3.0
RELE 457	Christian Ethics and Health Care	2.0	2.0
RSTH 323	Pulmonary Function Methodology	3.0	3.0
RSTH 343	Respiratory Therapy Science III	4.0	4.0
RSTH 382	Cardiopulmonary Diseases II	2.0	2.0
RSTH 392	Respiratory Care Practicum II	2.0	2.0
Totals		14.0	17.0

**Senior Year, Summer Quarter**

		<b>Certificate</b>	<b>B.S.</b>
EMMC 316	12-Lead ECG Interpretation		2.0
RELT 406	Adventist Beliefs and Life		2.0
RSTH 393	Respiratory Care Practicum III		4.0
RSTH 404	Critical Care		4.0
Totals		—	12.0

<b>Senior Year, Autumn Quarter</b>		<b>Certificate</b>	<b>B.S.</b>
RSTH 354	Case Studies in Adult Respiratory Care	2.0	
RSTH 421	Perinatal and Pediatric Respiratory Care	2.0	
RSTH 434	Advanced Patient Assessment	2.0	
RSTH 441	Respiratory Therapy Science IV	3.0	
RSTH 494	Respiratory Care Practicum IV	2.0	
Totals		11.0	—

<b>Autumn Quarter</b>		<b>Certificate</b>	<b>B.S.</b>
AHCJ 465	Seminars in Leadership		2.0
AHCJ 471	Statistics and Research for Health Professionals I		3.0
AHCJ 498	Wholeness Portfolio II		1.0
RSTH 354	Case Studies in Adult Respiratory Care		2.0
RSTH 421	Perinatal and Pediatric Respiratory Care		2.0
RSTH 434	Advanced Patient Assessment		2.0
RSTH 441	Respiratory Therapy Science IV		3.0
RSTH 494	Respiratory Care Practicum IV		2.0
Totals		—	17.0

<b>Winter Quarter</b>		<b>Certificate</b>	<b>B.S.</b>
AHCJ 472	Statistics and Research for Health Professionals II		3.0
RELR 475	Art of Integrative Care		2.0
RSTH 422	Advanced Perinatal and Pediatric Respiratory Care	2.0	2.0
RSTH 424	Exercise Physiology and Pulmonary Rehabilitation	3.0	3.0
RSTH 444	Case Studies in Neonatal/Pediatric Respiratory Care	2.0	2.0
RSTH 466	Advanced Diagnostic Techniques		2.0
RSTH 495	Respiratory Care Practicum V	2.0	2.0
Totals		9.0	16.0

<b>Spring Quarter</b>		<b>Certificate</b>	<b>B.S.</b>
EMMC 315	Cardiology	3.0	3.0
RELT 416	God and Human Suffering		2.0
RSTH 464	Case Management in Respiratory Care		2.0
RSTH 471	Instructional Techniques I		2.0
RSTH 474	Cardiopulmonary Health Promotion and Disease Prevention		2.0
RSTH 496	Respiratory Care Practicum VI	3.0	3.0
Totals		6.0	14.0

Summer Quarter		Certificate	B.S.
EMMC 316	12-Lead ECG Interpretation	2.0	
RSTH 393	Respiratory Care Practicum III	4.0	
RSTH 404	Critical Care	4.0	
Totals		10.0	—
<b>Overall Totals</b>		<b>81.0</b>	<b>112.0</b>

A minimum of 192 quarter units are required for the Bachelor of Science degree in respiratory care.

### RESPIRATORY CARE— POSTPROFESSIONAL B.S.

Loma Linda University offers two Bachelor of Science degree programs in respiratory care. The second program is for students who have an Associate in Science degree in respiratory care from a CAAHEP-accredited respiratory care program and who wish to earn a Bachelor of Science degree in respiratory care. This program is designated as the postprofessional Bachelor of Science degree in respiratory care.

#### The program

The two-year, upper-division program leading to the Bachelor of Science degree is a sequence of professional course work intended to graduate individuals who have acquired advanced knowledge in the respiratory care profession, including assessment, therapeutic interventions, and management of patients with cardiopulmonary-related disorders; and who uphold the standards of the mission and goals of the School of Allied Health Professions.

#### The program goals

The goals of the program are to:

1. Provide therapists to the respiratory care and medical communities who have advanced practice training in cardiopulmonary care and fundamental knowledge in the areas of leadership and education.
2. Provide an undergraduate program for two-year-level respiratory therapists that enhances and broadens their knowledge in cardiopulmonary health care sciences and general studies, and allows progression into graduate programs.

#### The program objectives

Upon completion of the program, the graduate should:

1. Apply fundamental and advanced adult, pediatric, and neonatal respiratory care concepts and treatment plans in the areas of pathophysiology, diagnostics and advanced

- interventions, gas exchange therapy, medical gas therapy, airway care, and ventilatory support systems (invasive and noninvasive).
2. Apply problem-solving skills in the areas of advanced pulmonary physiology, related diagnostics, and comprehensive pulmonary rehabilitation programs.
3. Perform fundamental and advanced patient assessment and diagnostic skills for various cardiopulmonary diseases.
4. Develop fundamental skills to conduct and interpret research in the health care arena.
5. Develop fundamental skills in leadership.
6. Develop fundamental skills in topic presentation to the health care profession and patient-care community, using appropriate lecture and demonstration techniques.

#### Program outcomes

In addition to the stated institutional learning outcomes, the postprofessional respiratory care student is expected to meet the following programmatic learning outcomes:

1. Demonstrate advanced knowledge in respiratory care.
2. Demonstrate advanced leadership skills.
3. Demonstrate critical-thinking skills in respiratory care practice.

#### Admission

To be eligible for admission, the applicant must:

1. Be a graduate of a CAAHEP-approved or provisionally approved, or CAHEA-approved advanced practitioner associate degree (or the equivalent) program in respiratory care;
2. Complete the subject requirements noted as prerequisites (students who have not completed these requirements may be accepted on a provisional basis); and,
3. Arrange for an interview at the University by appointment (an off-campus interview can usually be arranged for the distant student).

**PREREQUISITE**

Humanities—20 units minimum (choose minimum of three areas; history, literature, philosophy, foreign language, art/music appreciation, or art/music history)

Included in this minimum, 4 units of religion per year of attendance at a Seventh-day Adventist college or university

Human anatomy and physiology with laboratory, complete sequence; or general biology with laboratory, complete sequence; or general zoology with laboratory, complete sequence

Microbiology with laboratory

Introductory chemistry with laboratory or general chemistry with laboratory

High school-level physics; or introductory physics, one quarter/semester in college; or general physics, one quarter/semester in college

Two years high school mathematics with grades of C or above or intermediate algebra in college

General psychology or sociology

Cultural anthropology or an approved course dealing with cultural diversity

Select 4 more quarter units from sociology, psychology, economics, geography, political science

English composition, complete sequence

Speech

Computers

Personal health or nutrition

Two physical activity courses

Electives to meet minimum total requirement of 96 quarter units

For total unit requirements for graduation, see Division of General Studies, LLU General Education Requirements (Section II).

**Electives**

The senior project is a culminating body of work, developed by the student in consultation with the program director and presented to the department faculty. Work may be a research paper, clinical presentation, management project, or other project approved by the program director.

**Senior Year, Autumn Quarter**

Units

AHCJ 328	Wholeness Portfolio I	1.0
AHCJ 465	Seminars in Leadership	2.0
AHCJ 498	Wholeness Portfolio II	1.0
RSTH 301	Advanced Respiratory Therapy Science I	3.0
RSTH 422	Advanced Perinatal and Pediatric Respiratory Care	2.0
RSTH 434	Advanced Patient Assessment	2.0
<b>Totals</b>		<b>11.0</b>

**Winter Quarter**

Units

AHCJ 402	Pathology I	4.0
AHCJ 471	Statistics and Research for Health Professionals I	3.0
RSTH 424	Exercise Physiology and Pulmonary Rehabilitation	3.0
RSTH 431	Senior Project I	2.0
RSTH 466	Advanced Diagnostic Techniques	2.0
RSTH 485	Evidenced-Based Medicine in Respiratory Care	4.0
<b>Totals</b>		<b>18.0</b>

**Spring Quarter**

Units

AHCJ 403	Pathology II	3.0
AHCJ 472	Statistics and Research for Health Professionals II	3.0



EMMC 315	Cardiology	3.0
EMMC 316	12-Lead ECG Interpretation	2.0
RSTH 401	Cardiopulmonary Intensive Care	2.0
RSTH 432	Senior Project II	2.0
RSTH 471	Instructional Techniques I	2.0
RSTH 486	Evidenced-Based Medicine in Respiratory Care II	4.0
Totals		21.0

**Summer Quarter**

Units

RSTH 433	Senior Project III	2.0
RSTH 451	Respiratory Care Affiliation I	2.0
RSTH 487	Evidenced-Based Medicine in Respiratory Care III	4.0
Totals		8.0
<b>Overall Totals</b>		<b>58.0</b>

## School certificates

A certificate is defined as a document of completion of a nondegree educational experience. School of Allied Health Professions school certificates are awarded upon completion of organized programs of study at the postsecondary level. Currently, four school certificates are offered.

Students registering in one of these school certificate programs register through the Office of University Records for the courses, but the certificate is issued by the School of Allied Health Professions, not Loma

Linda University. The Records Office maintains a record of registration but not the certificate. Records of the certificate and its awarding are maintained by the sponsoring department in the School of Allied Health Professions.

Financial aid is NOT available to students registered in school certificate programs. These programs do not meet necessary requirements established by the U.S. Department of Education for aid eligibility.

# Certificate in Computed Tomography (CT)— AH

STEVEN L. LEBER, Program Director

## Overview of program

The computed tomography technologist works in a highly specialized field operating sophisticated computerized tomography equipment. This technology provides detailed cross-sectional images of the human body, assisting physicians with quality patient diagnosis and treatment.

This is a full-time, six-month certificate program completed in two quarters—Fall and Winter. Fall Quarter starts at the end of September and Winter Quarter ends around the middle of March. During the program, students take formal course work along with clinical instruction. It is a full-time program with no arrangements for part-time or evening status. Clinical sites are available but the student is not guaranteed placement close to the student's residence.

The program requires 40 hours per week, which includes didactic and clinical experience. Clinical experience includes four (4), eight-hour days per week. Classes are scheduled for one day per week and may require the student to be on campus.

The program also offers a combined nine-month CT/MRI program. Interested applicants should check the appropriate box on the application.

## Program outcomes

Upon completion of the program, the graduate should :

1. Be a knowledgeable professional in the field of study.
2. Demonstrate leadership and critical thinking in all areas of CT scanning.
3. Behave with ethical standards as a professional CT technologist.
4. Positively interact and communicate with patients, department personnel, and professional staff.
5. Maintain skills and knowledge by interacting with fellow professionals, attending educational conferences, and staying current with changing technology.

## The CT student profile

- Enthusiastic and interested in maintaining high standards of academics, clinical performance, and patient care.
- Possesses a broad knowledge of human anatomy and computer skills.

- Strong academic performance in science and related courses.
- Detail oriented, able to work under pressure with critical-thinking and problem-solving skills.

The applicant should submit meaningful recommendations from prior teachers, work supervisors, or health professionals who are knowledgeable about his/her qualifications. An applicant who is completing a program in radiologic technology prior to the start of the program may apply as long as s/he has completed ARRT, CRT, and CPR requirements by the program start date.

## Program requirements

1. Current ARRT Registry in Radiation Technology (RT)
2. Current California (CRT) license
3. Current CPR Card with the American Heart Association.
4. A minimum GPA of 2.5 must be maintained in all didactic and clinical coursework. Each student must complete all clinical requirements and class work, including assignments, quizzes, and exams.

## Observation experience

A minimum of eight hours of career observation in CT is required. The Career Observation Form is available as a download from the forms page on the Web site.

## Application procedure

1. Application should include a statement of purpose, application fee, three recommendations, and transcripts. Official transcripts must come directly from other schools to the School of Allied Health Professions admissions office.
2. Applications are accepted starting January of each year.
3. Deadline for applications is May 1.

## Interviews

Interviews are conducted towards the end of May. All applicants will be interviewed by the program director and representatives of the School of Allied Health Professions. Applicants residing in southern California should plan for a personal interview. Applicants will be notified by phone or email of their interview schedule.

The interviews are rated in the following four areas:

- a. Work experience or training background
- b. Recommendations
- c. Academic background
- d. Communication skills, knowledge, motivation, etc.

### Selection

After all applicants have been interviewed, the selection committee for the CT program meets to make the final selections. Selections are usually decided by the middle of June and confirmation of each decision is mailed to the respective applicant from the Office of Admissions for the School of Allied Health Professions.

### Acceptance

Accepted applicants are notified by the end of June.

#### Autumn Quarter

		CT	CT & MRI
RTSI 364	Patient Care in Special Imaging	2.0	2.0
RTSI 369	CT Physics	2.0	2.0
RTSI 971	Special Imaging (CT/MRI) Affiliation I	10.0	10.0
Totals		14.0	14.0

#### Winter Quarter

		CT	CT & MRI
RTSI 361	MRI Physics I		2.0
RTSI 367	Cross-sectional Radiographic Anatomy	2.0	2.0
RTSI 972	Special Imaging (CT/MRI) Affiliation II	10.0	10.0
Totals		12.0	14.0

#### Spring Quarter

		CT	CT & MRI
RTMR 381	Topics in Medical Radiography I		2.0
RTSI 362	MRI Physics II		2.0
RTSI 973	Special Imaging (CT/MRI) Affiliation III		10.0
Totals		—	14.0
<b>Overall Totals</b>		<b>26.0</b>	<b>42.0</b>

# Online Certificate in Imaging Informatics— AH

TIMOTHY SEAVEY, Program Director

## The program

The purpose of the program is to enable the learners to function as Picture Archiving Computer Systems (PACS) Administrators.

## Distance education

The Imaging Informatics Program is an online program open to qualified applicants throughout the nation.

## Program outcomes

Upon completion of the program, the graduate should be qualified to:

1. Demonstrate leadership and critical thinking in the management of imaging informatics.
2. Behave in a professional manner in all interactions in imaging informatics.
3. Comply with the current standards and practices set by the governing bodies of imaging in the medical field.
4. Improve knowledge and skills in the imaging informatics arena.

## Admission requirements

To be eligible for admission, applicants must show proof of having completed a medical radiography associate-level certificate, from an accredited institution or show compliance with the American Registry of Radiologic Technology (ARRT) regulations for limited technicians using computed radiography (CR) and direct capture radiography (DR). Applicants must have at least two years of experience with CR or DR in their work place or take a prerequisite CR/DR course (available online at Loma Linda University). Special considerations can be made by the program director on a case-by-case basis. For clarification and to insure proper advisement, please contact the Program Director, Timothy Seavey, via email (<tseavey@llu.edu>) prior to starting the application process.

The applicant's recommendations, phone interview, and work experience are also considered in the admissions screening process.

*It is preferred that applicants meet at least one of the following:*

Certified by the American Registry of Radiologic Technology (ARRT), Diagnostic Radiography  
**OR**  
in good standing with the American Registry of Radiologic Technology (ARRT) Limited Tech CR/DR.

*All applicants must have the following:*

- Copy of current state and/or national license/certification
- Official transcripts for all college and related course work
- Three letters of reference
- One-page essay describing their personal and professional skills and accomplishments, interests, career goals, and how the Imaging Informatics Program will help achieve them
- Phone interview (to be scheduled after application has been submitted)

## Program design

The program will consist of four 3-unit courses totaling 12 quarter units. The student will utilize text, video, PowerPoint, and other interactive online resources to optimize the online environment through the Blackboard delivery system. The student will be assessed using quizzes, papers, group discussion, laboratory assignments, and projects. Completion of the Informatics Certificate program counts for two points of the seven required to qualify for the American Board of Imaging Informatics Examination. ([www.ABII.org](http://www.ABII.org)).

## Program of instruction

The program of instruction outlined below is for students applying for the 2009-2010 academic year. Courses may be taken concurrently. Program start dates are for Fall and Spring quarters.

<b>Required</b>		Units
RTII 354	Introduction to Informatics	3.0
RTII 358	PACS Planning and Implementation	3.0
RTII 364	Administrative Issues in Informatics	3.0
RTII 368	Future Management of PACS	3.0
		Totals
		<b>Overall Totals</b>
		<b>12.0</b>

Students may complete the program in two quarters or in one year.

# Certificate in Magnetic Resonance Imaging (MRI)—AH

STEVEN L. LEBER, Program Director

## Overview of program

Magnetic resonance imaging technologists work in a highly specialized field operating sophisticated computerized equipment. They provide detailed cross-sectional images of the human body, assisting physicians with quality patient diagnosis and treatment.

This is a full-time, six-month certificate program requires two quarters—Winter and Spring. The program starts in January and ends around the middle of June. During the program students take formal course work along with clinical instruction. There are no arrangements for part-time or evening status. Clinical sites are available but the student is not guaranteed placement close to the his/her residence.

The program requires 40 hours per week, which includes didactic and clinical experience. Clinical involves four eight-hour days per week. Classes are scheduled for one day per week and may require the student to be on campus.

A combined nine-month MRI/CT program is also offered. Interested applicants should check the appropriate box on the application.

## Program outcomes

Upon completion of the program, the graduate should be qualified to:

1. Be a knowledgeable professional in the field of study.
2. Demonstrate leadership and critical thinking in all areas of MRI scanning.
3. Behave with ethical standards as a professional MRI technologist.
4. Positively interact and communicate with patients, department personnel, and professional staff.
5. Maintain skills and knowledge by interacting with fellow professionals, attending educational conferences, and staying current with changing technology.

## The MRI student profile

1. Enthusiastic and interested in maintaining high standards of academics, clinical performance, and patient care.
2. Possesses a broad knowledge of human anatomy and computer skills.

3. Strong academic performance in science and related courses.
4. Students should be detail-oriented, able to work under pressure with critical-thinking and problem-solving skills.

The applicant should submit meaningful recommendations from prior teachers, work supervisors, or health professionals who are knowledgeable about his/her qualifications. An applicant who is completing a program in radiologic technology prior to the start of the program may apply as long as s/he has completed ARRT, CRT, and CPR requirements by the program start date.

## Program requirements

- Current ARRT registry in radiation technology (RT)
- Current California (CRT) license
- Current CPR card with the American Heart Association.
- A minimum G.P.A. of 2.5 must be maintained in all didactic and clinical course work. Each student must complete all clinical requirements and class work, including assignments, quizzes, and exams.

## Observation experience

A minimum of eight hours of career observation in MRI is required. The Career Observation Form is available as a download from the forms page on the Web site.

## Application procedure

1. Applications are accepted starting in January of each year.
2. Deadline for applications is May 1. The program starts the following January.
3. Application should include a statement of purpose, application fee, three recommendations and transcripts. Official transcripts must come directly from other schools to the School of Allied Health admissions office.

**Interviews**

Interviews are conducted towards the end of May. All applicants will be interviewed by the program director and representatives of the School of Allied Health Professions. Applicants residing in southern California should plan for a personal interview. Applicants will be notified by phone and/or email of their interview schedule. Interviews are rated in the following four areas:

- a. Work experience or training background
- b. Recommendations
- c. Academic background
- d. Communication skills, knowledge, motivation, etc.

**Selection**

After all applicants have been interviewed, the selection committee for the MRI program meets to make the final selections. Selections are usually decided by the middle of June and confirmation of each decision is mailed to the respective applicant from the Office of Admissions for the School of Allied Health Professions.

**Acceptance**

Applicants accepted for the following Winter Quarter are notified by the end of June.

All information in this promotion is subject to change.

**Autumn Quarter**

		MRI	CT & MRI
RTSI 364	Patient Care in Special Imaging		2.0
RTSI 369	CT Physics		2.0
RTSI 971	Special Imaging (CT/MRI) Affiliation I		10.0
Totals		—	14.0

**Winter Quarter**

		MRI	CT & MRI
RTSI 361	MRI Physics I	2.0	2.0
RTSI 367	Cross-sectional Radiographic Anatomy	2.0	2.0
RTSI 972	Special Imaging (CT/MRI) Affiliation II	10.0	10.0
Totals		14.0	14.0

**Spring Quarter**

		MRI	CT & MRI
RTMR 381	Topics in Medical Radiography I	2.0	2.0
RTSI 362	MRI Physics II	2.0	2.0
RTSI 973	Special Imaging (CT/MRI) Affiliation III	10.0	10.0
Totals		14.0	14.0
<b>Overall Totals</b>		<b>28.0</b>	<b>42.0</b>



# Certificate in Phlebotomy—AH

RODNEY ROATH, Chair, Department of Clinical Laboratory Science

TERI J. ROSS, Program Director

PAUL C. HERRMANN, Medical Director

Procedures in phlebotomy are designed to train individuals to collect blood for laboratory analysis, which is necessary for the diagnosis and care of the patient. Ideal for health professionals seeking to expand their current skills, or for those interested in a profession in laboratory medicine, this training program is approved by the California Department of Public Health, Laboratory Field Services. The School of Allied Health issues a certificate in phlebotomy to successful participants.

## The program

The program trains the modern phlebotomist to perform venipuncture and capillary punctures; topics include medical terminology, laboratory safety, basic anatomy and physiology, quality-assurance methods, and medicolegal issues of phlebotomy. A minimum of forty hours of supervised clinical experience is available at Loma Linda University Medical Center and other medical affiliates, allowing participants to achieve proficiency in the health care setting.

## Accreditation

The program is approved by the California Department of Public Health, Laboratory Field

Services, 850 Marina Bay Parkway, Building P, 1st Floor, Richmond, CA 94804-6403; telephone: 510/620-3792. Web site: <www.dhs.ca.gov>.

## Professional registration

Upon successful completion of the certificate program, participants receive a certificate of completion in phlebotomy and are eligible to take examinations such as the national certifying examination offered by the Board of Registry, American Society of Clinical Pathologists (ASCP), 2100 West Harrison Street, Chicago, IL 60612; telephone, 800/621-4142 or the National Center for Competency Testing (NCCT), 7007 College Blvd., Overland Park, KS 66211, 800/875-4404, Web site: <www.ncctinc.com>; or any others recognized by the state of California.

## Admission

To be eligible for admission, the applicant must be 18 years of age or older and have a high school diploma or GED. All registrants must have current immunizations (measles, mumps, rubella, tetanus) PPD skin test, proof of hepatitis B vaccine, and pass a background check.

## How to apply

Prospective students should contact the Department of Clinical Laboratory Science in the School of Allied Health Professions for an application packet with instructions.

## Required

Required		Units
AHCJ 105	Procedures in Phlebotomy	5.0
Totals		5.0
<b>Overall Totals</b>		<b>5.0</b>



# School of Dentistry

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  - Implant Dentistry, M.S. (optional), M.S.D. (optional), post-D.D.S./D.M.D., certificate
  - Oral and Maxillofacial Surgery, M.S. (optional), M.S.D. (optional), post-D.D.S./D.M.D., certificate
  - Orthodontics and Dentofacial Orthopaedics, M.S., post-D.D.S./D.M.D., certificate
  - Pediatric Dentistry, M.S. (optional), M.S.D. (optional), post-D.D.S./D.M.D., certificate
  - Periodontics, M.S. (optional), M.S.D. (optional), post-D.D.S./D.M.D., certificate
  - Prosthodontics, M.S. (optional), M.S.D. (optional), post-D.D.S./D.M.D., certificate
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## Dean's Welcome

Dentistry is a strategic component of overall health; and Loma Linda University School of Dentistry is a vibrant center of education where you will acquire knowledge, technical skills, management expertise, and the ability to exceed patients' expectations—thereby providing you with the capacity to thrive in your dental career.

Our faculty are committed to providing you with an evidence-based education that incorporates the most advanced electronic education resources available. You will receive abundant experience in patient care, both in the School of Dentistry and at extramural clinics that help meet the dental health needs of individuals with limited or no access to dental care.

Our ongoing commitment to clinical and foundational research provides you with rich opportunities to work with outstanding faculty in a wide variety of investigative activities.

You will receive an excellent contemporary education filled with rich clinical experience. However, it is the people who have been drawn to this unique environment of Christian education that make Loma Linda University a special place. I invite you to learn more about our clinical services; our programs; and our exceptional family of students, faculty, and staff.



A handwritten signature in black ink that reads "Charles J. Goodacre". The signature is written in a cursive, flowing style.

Charles J. Goodacre, D.D.S., M.S.D.  
Dean, School of Dentistry

## School Foundations

### HISTORY

A small but determined group of dentists met during the summer of 1943 in Grand Ledge, Michigan. Their purpose was to form an organization that would serve as a catalyst, urging the Seventh-day Adventist Church to sponsor a dental school where young adults could learn the dental profession in an environment consistent with their religious beliefs. These men were the founders of the National Association of Seventh-day Adventist Dentists (NASDAD).

Under the leadership of Dr. J. Russell Mitchell, the organization's first president, the goal of a Christian dental school began taking conceptual form. NASDAD expanded in membership and objectives through men such as Dr. C. C. Ray, who toured the country on his own time in search of fellow Seventh-day Adventist dentists who were willing to pursue NASDAD's goals.

Dr. M. Webster Prince served as president of NASDAD in 1948 and 1949. At a meeting in San Francisco in 1949, NASDAD members voted unanimously to support the dental school project. Later that year at a NASDAD session in Hinsdale, Illinois, the members pledged a strong financial base in support of their goals.

The momentum of the effort became evident in the early 1950s. The General Conference of Seventh-day Adventists, under the guidance of President W. H. Branson, asked Dr. Prince to conduct a feasibility study. Official action was taken in 1951 to authorize establishment of the School of Dentistry as a unit of Loma Linda University's School of Medicine. Dr. Prince was selected as the first dean of the School of Dentistry. His leadership in organizing and eventually administering the new School of Dentistry was facilitated by his prior experience as president of the Michigan Dental Association and as chair of the American Dental Association Council on Dental Education. Forty-two students comprised the inaugural class in the late fall of 1953.

A dental hygiene curriculum leading to a Bachelor of Science degree was developed in 1959 under the direction of Dr. Gerald A. Mitchell, chair of the Department of Periodontics. Violet Bates became chair of the new department, and the first class of ten dental hygienists graduated in 1961.

In 1960 Dr. Charles T. Smith became dean. During this period the school experienced positive growth in many areas. A dental assisting curriculum was developed in 1968 under the leadership of Betty Zendner. The first class graduated in 1969, receiving the Associate in Science degree. A dental auxiliary utilization (DAU) program was initiated to provide enhanced learning for dental students. The Monument Valley Dental Clinic for Navajo Indians

was started in 1966, and Dean Smith succeeded in finding from public sources fiscal support for the clinic building and for faculty housing. New advanced education (postdoctoral) programs were initiated in five clinical disciplines: orthodontics, oral surgery, periodontics, endodontics, and oral pathology.

During the 1970s, the School of Dentistry continued its evolution into one of the premier clinical programs in the United States. Dr. Judson Klooster became dean in 1971. One of his major contributions was the expansion of Prince Hall, which was completed in May 1976. The new building more than doubled the number of clinical units; provided facilities for specialized areas of clinical instruction; and included eight new research laboratories, new classrooms, seminar rooms, amphitheaters, urgently needed teacher office space, and a commensurate expansion of support facilities and services. The Oral and Maxillofacial Surgery Clinic was remodeled, and an outpatient surgicenter was developed to meet the needs of those patients requiring general anesthesia for dental treatment.

The School of Dentistry became an important regional resource for providing dental care for developmentally disabled children and adults, many of whom require such a treatment setting. The Biomaterials Research Laboratory was constructed; and new advanced education programs were initiated in pediatric dentistry, implant dentistry, dental anesthesiology, and prosthodontics. A new program was established in 1985 to provide a U.S. dental education for foreign-trained dentists. An increasing number of dental professionals from other countries were seeking an American education and the opportunity to practice dentistry in the United States or to gain advanced knowledge to share in their own countries. The International Dentist Program continues to offer an intensive, twenty-one-month course of study leading to a D.D.S. degree. The program has added a six-month certificate program limited to dental missionaries from other countries who sense the need for updated continuing education.

In 2000, the first major expansion of the School of Dentistry in more than twenty years added 15,000 square feet to Prince Hall on the east side and provided two new patient entrances. The expanded Special Care Dentistry Clinic and the enlarged Pediatric Dentistry Clinic were relocated to the ground floor. An additional student laboratory was also included on that level. On the second floor, the new space allowed for expansion of the predoctoral clinic, with thirty-six additional operatories.

## OUR MISSION

Loma Linda University School of Dentistry seeks to further the healing and teaching ministry of Jesus Christ wherein:

- Students learn to provide high-quality oral health care based on sound biologic principles.
- Patients receive competent care that is preventive in purpose and comprehensive in scope, and provided with compassion and respect.
- Faculty, students, and staff value the patient relationship, respect diversity, and share responsibility by working together toward academic, professional, spiritual, and personal growth.
- Scholarly activity and research provide a foundation for evidence-based learning and enhance whole-person care.
- The workplace environment attracts and retains a superior and diverse faculty and staff who motivate, educate, and serve.
- Our communities (local, global, and professional) benefit from our service, stewardship, and commitment to lifelong learning.

## VISION

Loma Linda University School of Dentistry is a preeminent health care organization seeking to represent God in all we do. We are enthusiastically committed to excellent, innovative, comprehensive education of our students and whole-person care of our patients.

Our students, staff, and faculty are empowered through an enabling environment that honors the dignity, diversity, and worth of everyone.

Our graduates are exemplary professionals and progressive clinicians of integrity.

Our Lord's example inspires us to enrich our local and global communities through service. This is our calling.

## CORE VALUES

- Belief in God
- Respect for the individual
- Principled spirituality
- Student focused
- Empathic care
- Commitment to service
- Pursuit of truth
- Progressive excellence
- Analytic thinking
- Effective communication

# General Information

## GENERAL REGULATIONS

Students of the University are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation. This section of the CATALOG provides the general setting for the programs of the School of Dentistry and outlines the subject and unit requirements for admission to individual professional programs. It is important to review specific program requirements in the context of the general requirements applicable to all programs.

## SPECIFIC PROGRAM REQUIREMENTS

Information on the preceding pages pertains to general requirements governing all students. The student is reminded of individual responsibility to be fully informed not only of these general requirements but also of the specific requirements in the following pages, which govern the curriculum of the chosen program.

## PROGRAMS AND DEGREES

The School of Dentistry offers a comprehensive range of programs. Each of the school's five programs draws on the curricula of the various departments.

1. The undergraduate curriculum, the DENTAL HYGIENE Program and the DENTAL HYGIENE DEGREE COMPLETION Program, leads to the Bachelor of Science degree and prepares the dental hygienist to enter a variety of careers. Dental hygiene is a four-year college curriculum; the junior and senior years are taken in the Loma Linda University School of Dentistry.
2. The four-year professional curriculum, the GENERAL DENTISTRY Program, leads to the Doctor of Dental Surgery degree and equips the general dentist to meet the needs of a diverse patient population.
3. THE INTERNATIONAL DENTIST Program, a twenty-four-month (two academic years) curriculum, leads to a Doctor of Dental Surgery degree from Loma Linda University upon completion of the program. The program is designed for the dentist who has earned a dental degree outside the United States.
4. The ADVANCED DENTAL EDUCATION Programs lead to postdoctoral certificates in eight specialty and nonspecialty areas of dentistry and, at the student's option, additionally to the Master of Science or a Master of Science in Dentistry degree.
5. The COMBINED DEGREES Programs lead to a Doctor of Dental Surgery degree (through the School of Dentistry) earned concurrently with a Master of Public Health degree (through the School of Public Health)—D.D.S./M.P.H.; or to the Doctor of Dental Surgery degree (through the School of Dentistry) earned concurrently with a Master of Science degree or Doctor of Philosophy degree—D.D.S./M.S. or D.D.S./Ph.D.



## COMBINED DEGREES PROGRAMS

### D.D.S. / M.P.H.

A combined degrees Doctor of Dental Surgery and Master of Public Health degree program is open to qualified students who want to influence and manage the future as skilled leaders—in public or private sectors—from large health care systems to mission hospitals, from research laboratories to primary care. The Master of Public Health degree can be taken, within a twelve-month period after either the second or third year of the D.D.S. degree program, in any of the following majors: biostatistics, environmental and occupational health, community wellness, epidemiology, health administration, health education, international health, maternal and child health, or nutrition.

### D.D.S. / M.S.

A combined degrees program leading to the Doctor of Dental Surgery and the Master of Science degrees is open to qualified students of dentistry. The student who is interested in establishing a broader



professional base in science or who is looking toward a career in teaching or research may take an interim leave from the School of Dentistry after the second or third professional years and fulfill professional degree requirements subsequent to or concurrent with completing course work and research for the Master of Science degree.

The combined degrees program in dentistry and in biomedical and clinical ethics is designed to fit the schedule of D.D.S. degree students. Ethics in dentistry is an emerging academic interest, and this program aims to evolve the Loma Linda University dental school into one of a very select few in the nation known for their expertise in ethical issues. This program requires 48 units of credit.

#### **D.D.S. / Ph.D.**

The biomedical sciences program provides opportunity for well-qualified and motivated students to pursue both a professional and a graduate education and to prepare for careers in clinical specialization, teaching, or investigation in health and human disease. The student who has a baccalaureate degree and the approval of the School of Dentistry Office of Academic Affairs may enter the combined degrees program and work concurrently toward the Doctor of Dental Surgery and the Doctor of Philosophy degrees. A minimum of six years is required to complete a combined degrees program, offered cooperatively by the School of Dentistry and the School of Medicine, the School of Religion, or the School of Science and Technology.

### **ADVANCED DENTAL EDUCATION PROGRAMS**

The School of Dentistry offers advanced dental education programs in specialty and nonspecialty disciplines of dentistry. Postdoctoral certificates, Master of Science (M.S.) and Master of Science in Dentistry (M.S.D.) degrees are available. The purpose of these programs is to offer candidates an opportunity to integrate advanced clinical training with meaningful exposure to applied basic science and research. For additional information and to submit an online application, interested applicants should visit the School of Dentistry Web site (Graduate Programs).

Advanced dental education programs leading to a professional certificate with an option to also pursue the Master of Science (M.S.) degree or the Master of Science in Dentistry (M.S.D.) degree are:

- Dental Anesthesiology
- Endodontics
- Implant Dentistry
- Oral and Maxillofacial Surgery

- Orthodontics and Dentofacial Orthopedics (M.S. degree only)
- Pediatric Dentistry
- Periodontics
- Prosthodontics

These programs are organized to comply with the standards of the Council on Dental Education of the American Dental Association, and the objectives and content meet the requirements of the respective specialty boards. In addition, the programs in endodontics, oral and maxillofacial surgery, orthodontics and dentofacial orthopedics, pediatric dentistry, periodontics, and prosthodontics are accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and the United States Department of Education. For additional information, the student may contact:

The Office of Advanced Education  
Loma Linda University  
School of Dentistry  
Loma Linda, CA 92350

<[www.llu.edu/dentistry/gradprograms/index.page](http://www.llu.edu/dentistry/gradprograms/index.page)>

#### **Admission requirements for advanced dental education programs/postdoctoral programs**

An appropriate degree from an accredited college or university is required for admission into the advanced dental education programs and postgraduate programs. A doctoral degree in dentistry (Doctor of Dental Surgery or Doctor of Dental Medicine) or the equivalent is required for admission to all programs. The applicant should have achieved a general grade-point average of not less than 3.0 on a 4-point scale, with no grade below 2.0. In addition to acceptable scholastic performance, the applicant must give evidence of personal and professional fitness for growth in the science and art of the intended dental discipline. For application deadlines, see the section on each individual program or refer to the chart on the following page.

After applicants are accepted into the advanced dental education programs in dental anesthesiology, endodontics, oral and maxillofacial surgery, pediatric dentistry, periodontics, prosthodontics, or the postdoctoral program in implant dentistry, they may apply for admission to the Faculty of Graduate Studies for the purpose of earning an M.S. degree; or to the Office of Advanced Education to earn an M.S.D. degree (in addition to the advanced program certificate). For the purpose of the Faculty of Graduate Studies application only, a Graduate Record Examination (GRE) certificate is required at the time of application to the Faculty of Graduate Studies. Applicants for the Master of Science (M.S.) degree

who meet or exceed the minimum entrance requirements may be accepted to the Faculty of Graduate Studies (FGS) by the School of Dentistry's Associate Dean for Advanced Dental Education. The master's degree thesis must be completed, defended, and accepted in final form (as evidenced by a completed Form D) by both the graduate program and the Faculty of Graduate Studies. The time lapse from acceptance to the master's degree program to completion of all degree requirements and the thesis may not exceed five years.

For additional information regarding the dates and times for GRE, call toll free 609/771-7670; or visit Web site <www.gre.org>. Applicants for whom English is a second language must show satisfactory results on the Test of English as a Foreign Language (TOEFL). For additional information, call toll free 800/257-9547.

#### **Residence**

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

#### **Stipends**

Stipends are provided in the dental anesthesiology and the oral and maxillofacial surgery programs. For details, contact the program directors.

#### **Tuition**

Tuition and fees quoted in the school financial information section of this CATALOG are for the academic year 2009-2010.

#### **Thesis**

Students on the Master of Science degree track are required to pursue study in basic or clinical research, the results of which are to be presented in thesis form according to standards set by the Faculty of Graduate

Studies Council. Students may be required to defend the thesis orally. A thesis is optional for the M.S.D. degree.

#### **Publishable paper**

Students on the Master of Science in Dentistry degree track must submit a publishable paper (or optional thesis) no later than one year from the date they complete their certificate program. Candidates are admitted to only one master's degree track of their choosing.

#### **General requirements**

For information about requirements and practices to which all graduate students are subject, the student should consult Section II of this CATALOG.

#### **Dual major option**

Applicants to the programs in implant dentistry, periodontics, and prosthodontics have the option to select an extended program (approximately four-and-one-half years in total length) to pursue dual majors in two of the following disciplines of study: periodontics, prosthodontics, or implant dentistry.

Students must complete all the requirements of each ADA-recognized specialty program (periodontics and prosthodontics) in order to be eligible to pursue board certification. Dual credit up to 100 units may be awarded for courses required by the two programs.

Individuals who wish to pursue the dual major option must indicate such an interest by completing separate applications to both programs. Applicants to one of the optional dual major programs must not only meet the admissions requirements of each program, but must also be admitted to the advanced education programs they designate.

### Admissions Criteria for Advanced Dental Education Programs

Effective January 1, 2007, applications to all graduate programs must be submitted online through Loma Linda Admissions.

Program	Official Transcript(s) <sup>1</sup>	Cumulative G.P.A. <sup>2</sup>	GRE <sup>3</sup>	National Boards Part I <sup>4</sup>	TOEFL <sup>5</sup>	Letters of Recommendation
Dental Anesthesiology <sup>6</sup> <i>24 mo. / 6 positions</i>	Required	3.0	Not Required	Required (all applicants)	Required	3
Endodontics <i>27 mo. / 3 positions</i>	Required	3.0	Required for internationally trained applicants	Required (all applicants)	Required	3
Implant Dentistry <i>36 mo. / 3 positions</i>	Required	3.0	See #3	Not Required	Required	3
Oral and Maxillofacial Surgery <sup>8</sup> <i>4 yrs. / 3 positions; 6 yrs. / 2 positions</i>	Required	3.0	See #3	Required (all applicants) score of 86 or higher	Required	3
Orthodontics and Dentofacial Orthopedics <sup>7,9</sup> <i>27 mo. / 6 positions</i>	Required	3.0	Required <sup>9</sup>	Required (all applicants)	Required	3
Pediatric Dentistry <i>24 mo. / 4 positions</i>	Required	3.0	See #3	Required (all applicants)	Required	3
Periodontics <sup>10</sup> <i>36 mo. / 3 positions</i>	Required	3.0	See #3	Required (only U.S.-trained applicants)	Required	3
Prosthodontics <i>36 mo. / 4 positions</i>	Required	3.0	See #3	Required (only U.S.-trained applicants)	Required	3

<sup>1</sup> Transcripts: Transcripts from all postsecondary schools from which credit was received, whether or not the work pertains to the Loma Linda University degree, are required to complete the application.

<sup>2</sup> Grade-point average (G.P.A.): A cumulative G.P.A. of 3.0 (on a 4.0 scale) is required for admission.

<sup>3</sup> GRE (Graduate Record Examination) criteria: Although the Graduate Record Examination (GRE) may not be required by all programs for admission, it is required of all students who wish to apply for admission to the Faculty of Graduate Studies and pursue a Master of Science (M.S.) degree. The sum of the GRE verbal and quantitative percentile rankings must equal or exceed 100. Furthermore, neither the verbal nor quantitative score may be lower than the 35th percentile for that section. In addition, only GRE test scores within the past five years will be accepted.

The GRE Writing Assessment score must equal or exceed 4.0. Applicants with scores lower than 4.0 must satisfactorily complete the Loma Linda University Critical Essay or the University course in English writing, as specified by the associate dean for advanced dental education.

<sup>4</sup> National Boards, Part I: Refers to Part I of the two-part U.S. National Board Examinations. Part II must also be submitted when available. All must be passing grades.

<sup>5</sup> English-language skills: Non-U.S. applicants, for whom English is not their primary language and whose secondary education has been given outside the U.S. are required to take the TOEFL examination. They must demonstrate satisfactory verbal and written English-language skills. A minimum TOEFL score of 550 (paper-based), 213 (computer-based), and 80 (Internet-based) is required. TOEFL scores are valid for two years from the test date.

<sup>6</sup> Dental license: All applicants for the Advanced Education Program in Dental Anesthesiology who are not currently enrolled in a U.S. or Canadian dental school must have a current U.S. or Canadian dental license.

<sup>7</sup> International Dentist Program: All internationally trained applicants for the Advanced Education Program in orthodontics and dentofacial orthopaedics must complete an accredited International Dentist Program.

<sup>8</sup> Oral and Maxillofacial Surgery: All applicants to the six-year program also must submit their DAT scores to University Admissions through official channels.

<sup>9</sup> Orthodontics and Dentofacial Orthopedics: This program requires applicants to meet the requirements for the certificate program and the Master of Science (M.S.) degree track. Therefore, to be considered, an applicant must take the GRE and meet or exceed the requirements stated above in item #3. Copies of official test results must be sent to University Admissions through official channels.

<sup>10</sup> Periodontics: This program has a rolling admission process between January 1, 2009, and September 1, 2009, which means it reserves the right to fill its entering class prior to the September 1 deadline.

### Application and Program Dates

Program	LLU Applications		Admissions Committee Meets	PASS Applications		Advanced Education Programs	
	Open	Close		Open	Close	Start Date	Ending Date
DENTAL ANES	1/1/2009	9/1/2009	October	5/15/2009	9/1/2009	July 1	June 30
ENDN	1/1/2009	9/15/2009	October	5/15/2009	9/15/2009	July 1	Late September
IMPD	1/1/2009	9/15/2009	December	n/a	n/a	July 1	June 30
ORDN	1/1/2009	8/1/2009	November	n/a	n/a	Late June	Late September
OMFS	n/a	n/a	January	5/15/2009	9/1/2009	July 1	June 30
PEDN	1/1/2009	10/15/2009	December	5/15/2009	10/15/2009	Late June	June 30
PERI	1/1/2009	9/1/2009 (Rolling Admissions)	September	5/15/2009	9/1/2009	July 1	June 30
PROS	1/1/2009	8/15/2009	October	5/15/2008	8/15/2009	July 1	June 30

### DOCTOR OF DENTAL SURGERY (D.D.S.) PROGRAM

#### Application and admission

The Admissions Committee looks for evidence of scholastic competence, moral and ethical standards, and significant qualities of character and personality. In broad terms, the following are standards required for admission:

- Intellectual capacity to complete the curriculum.
- Emotional adaptability and stability.
- Social and perceptual skills.
- Physical ability to carry out observation and communication activities, and the possession of sufficient motor and sensory abilities to practice general dentistry.
- Commitment to a dynamic spiritual journey and service to mankind.

All materials submitted for admission should be sent to:

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

#### Pre-entrance requirements

Although the pre-dentistry curriculum in an accredited college can be completed in three years, a baccalaureate degree or equivalent is strongly recommended. The following complete college courses are required for entrance into the D.D.S. degree program:

#### HUMANITIES

Freshman English (complete sequence, 2 semesters or 2 quarters) to include composition and literature

NATURAL SCIENCES (complete course, one full year or equivalent)

General biology or zoology with laboratory

General chemistry with laboratory

General physics with laboratory

Organic chemistry with laboratory

Biochemistry (one semester or a minimum of 4 units; 2 quarters or a minimum of 6 units)

ELECTIVES (strongly recommended)

Molecular biology and/or Cell biology

Genetics

Immunology

Microbiology  
 Vertebrate physiology  
 Histology  
 Anatomy  
 Psychology  
 Basic human nutrition  
 Basic accounting  
 Principles of management  
 Small-business Management  
 Ceramics

Students preparing for the predoctoral program are required to complete a minimum of three academic years with no fewer than 96 semester or 144 quarter units in a college or university accredited by a regional accrediting association. Preference is given to applicants who have completed or will complete the requirements for a baccalaureate degree prior to admission. A maximum of 64 semester or 96 quarter units of credit may be accepted from an accredited junior or community college.

A complete academic year of class work (8 semester or 12 quarter units) in general biology, general chemistry, organic chemistry, general physics. A complete sequence of freshman English to include composition and literature (2 semesters or 2 quarters). The biochemistry requirement is one semester or a minimum of 4 units; 2 quarters or a minimum of 6 units. *All science prerequisites must be completed within five years prior to admission, with a grade of C or above in each course.* A minimum grade-point average of 2.7 in science subjects and in nonscience subjects, averaged separately, is required. The average grade-point average for accepted students is substantially higher.

Students who are enrolled in another program in Loma Linda University are not considered for admission until they have completed or have been released from the program.

Prior to consideration for admission, the applicant must meet specific criteria related to past academic performance (G.P.A.), performance on the Dental Admission Test (DAT), and a personal interview. Applicants are expected to have taken the DAT within the previous two years, preferably not later than October of the year preceding admission. At the applicant's request, test results are sent to the school by the testing service. Information may be obtained directly from the American Dental Education Association, 211 East Chicago Avenue, Chicago, IL 60611. An application form and descriptive material may be obtained from the school.

In order to be better prepared with specific vocabulary and understanding, the applicant should include science courses with content similar to courses offered during the first year of the professional curriculum. The applicant's purpose should be the pursuit of diverse knowledge, the cultivation of an inquiring mind, the practice of efficient methods of study, and the habit of thinking and reasoning independently. These are of paramount importance to the applicant's development as a unique and responsible human being.

The choice of electives can broaden the applicant's view of the scope of knowledge. Being well-read will give a perspective on the sweep of human thought throughout the ages, and often this will be of assistance in written and verbal communication and will improve the ability to think and express oneself well. Psychological, social, philosophical, and religious insights will help to develop basic resources for the solution of personal problems and the growth of self-understanding the student must have in order to understand and help associates.

An applicant from a college or university outside the United States or Canada or from a nonaccredited college or university in the United States must complete a minimum of one full academic year (24 semester or 36 quarter credits) in competition with other preprofessional students in an accredited college or university in the United States. A grade of C or above in each course completed is required. (A grade of C- will not be accepted.)

#### Application procedure

The school participates in the American Association of Dental Schools Application Service (AADSAS). Cards requesting an AADSAS application are available at most colleges and universities and also on the Internet at <www.adea.org>; or email at <aadsas@adea.org>. The application should be completed and returned to the Washington address indicated on the application. AADSAS processes this application and sends copies to the schools of the applicant's choice. The School of Dentistry at Loma Linda University recommends that applicants file their AADSAS application before August 1 in order to be competitive. To be given consideration for the next entering class, the student's application deadline is December 1. The following is a step-by-step process for completing an application to Loma Linda University.

1. **Supplementary application.** The Office of Admissions receives applications from AADSAS.
2. The applicant then receives an email invitation to complete an electronic supplementary application.
3. **Supplementary written materials.** The applicant must return the completed

supplementary application and materials within thirty days. This includes an essay specific to Loma Linda University, a wallet-sized photograph, and the application fee of \$75.

4. **Transcripts.** Official transcripts may be sent to AADSAS and then released by AADSAS to the School of Dentistry. When an applicant becomes an accepted student, official transcripts, mailed directly from all colleges/universities, are required in order for the student to be registered for the first quarter of classes.
5. **References.** The applicant is asked to supply a minimum of three personal references. It is recommended that these include an academic reference from a science instructor; a reference from an employer; a character or religious reference, such as from a minister; and a reference from a friend in the dental profession. If the applicant has attended a college or university that has a preprofessional committee that prepares a preprofessional evaluation, it is required that Loma Linda University be sent a copy of this evaluation from the committee. Members of the applicant's family are excluded from writing the required letters of reference, although letters will be accepted for the file in addition to those required. Recommendation letters may be sent to AADSAS and then released by AADSAS to Loma Linda University School of Dentistry.
6. **Dental Admission Test.** The applicant is required to complete and must meet specific criteria related to performance on the Dental Admission Test (DAT). Preference is given to applicants who have taken the test by October of the academic year preceding that for which admission is desired. The student entering the first year is expected to have taken the test within the past two years. If the test has been taken more than one time, the most recent scores are used for admission criteria. The committee reviews all scores on the test. The DAT scores must be on file at Loma Linda University before an acceptance to the school will be issued. Test results should be sent to Loma Linda University, School of Dentistry, Office of Admissions.
7. **Interview.** The applicant's records will be screened when the supplementary application, recommendations, and transcripts are on file. The applicant may then be invited to the school for a personal interview. An interview is required for admission. The interview provides an opportunity for evaluation of noncognitive factors, including communication skills,

personal values, motivation, and commitment to goals of the profession; as well as genuine concern for others in the service of dentistry. At the time of the interview, a tour of the school will be given by a current student in the program.

8. **Observation.** It is important that preprofessional students seek experience observing and assisting in a dental office to become familiar with the work of a dentist or a dental hygienist. Prior to interviewing, applicants are expected to complete a minimum of twenty hours of observation/work experience in a dental facility, ten of which must be done in a general practitioner's office.
9. **Acceptance.** The accepted student receives an acceptance letter and a follow-up letter with information relative to required forms and deposit deadlines.
10. **Pre-entrance health requirements/immunizations.** It is expected that necessary routine dental and medical care will have been attended to before the student registers.

New students are required to have certain immunizations and tests before registration. Forms to document the required immunizations are provided for the physician in the acceptance packet set to the student by the school. In order to avoid having a hold placed on registration, the student is encouraged to return the documentation forms in the provided envelope to Student Health Service no later than six weeks prior to the beginning of classes.

Students enrolling in the School of Dentistry must provide documentation of having had the following immunizations and tests:

- MMRs—measles (rubeola), mumps, rebecca (German measles) (or provide proof of two previous MMRs).
- PPD (TB) skin test (current skin test result or x-ray report).
- Tetanus/Diphtheria booster.
- Chicken pox blood test and/or immunization. If no known history of chicken pox, then student may choose blood test (which may reveal pre-existing immunity) and/or immunization (if no prior immunity).
- Hepatitis-B vaccination series. Students who know themselves to have had

hepatitis-B in the past should employ extra protection when involved in direct patient care and may request a modified curriculum, if necessary. This series of three vaccinations may be completed at this University (even if it was begun elsewhere) through the Student Health Service. (The student will be charged a fee.)

- A recent eye examination performed by an ophthalmologist or optometrist.

For further information, consult the *Student Handbook*, Section V—University Policies—Communicable disease transmission-prevention policy; and the Student Health Service office, extension 88770.

If a returning student is assigned to a clinical facility that requires a tuberculosis skin test, the student is required to have the test within the six months before the assignment begins.

11. **Deposits.** The student accepted into dentistry must submit a deposit of \$1,000 and the required forms to the Office of Admissions. All deposits become part of the first quarter's tuition. Failure to submit this deposit will result in the loss of the applicant's position in the class. The remaining balance of the first quarter's tuition and fees is due no later than the day of matriculation in late September. If the applicant has submitted a completed application for financial aid by March 2, and if the Stafford application has been submitted by June 15, the final installment can be paid utilizing University-assisted sources.

Non-U.S. citizens and nonpermanent residents are required by U.S. immigration regulation to secure sufficient funds and pay for their first year's tuition and fees before they can register for Autumn Quarter. In addition, they must provide documentary evidence of sufficient funds for their second year. International students will receive the necessary visa applications and registration clearance after they have submitted their \$1,000 deposit and payment plan.

### Transfer

Transfer from another school of dentistry in the United States is not recommended and is considered only in unusual circumstances. Credits from professional schools (business, medical technology, nursing, pharmacy, chiropractic, or medicine) do not fulfill admission requirements. Credit for studies taken at a military service school is granted to veterans according to recommendations in the *Guide of the American Council on Education* and/or the

California Committee for the Study of Education. The University reserves the right to require satisfactory completion of written or practical examinations in any course for which transfer credit is requested.

A transfer applicant should expect to begin at the first-year level and will be considered only if there is space available at the appropriate level or in the dental class desired. An application for transfer will be considered when the following information is received in the school's Office of Academic Affairs:

- letter from applicant, stating reason for requesting transfer;
- letter of recommendation from the dean of the dental school where the applicant is enrolled;
- official transcripts sent directly to the Office of Academic Affairs for both pre-dental and dental school courses completed;
- Dental Admission Test results.

## INTERNATIONAL DENTIST PROGRAM

### Application and admission

Application forms are available online at <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)>. Requests for information are accepted by mail, email, or telephone.

### Pre-entrance requirements

- Dental degree from a recognized foreign dental school;
- Successful completion of the National Dental Board Examination Part I and Part II;
- TOEFL examination with a minimum score of 550 on the written examination or a minimum score of 213 on the computer examination or a minimum of 80 on the Internet-based examination;
- Dental school transcript (evaluated by an evaluation center approved by the University).

Other documentation is required, as outlined in the application. An application fee of \$75 is required—with the application and accompanying documentation—between February 1 and August 1. All application material sent to the Office of Admissions becomes the property of the school.

Students currently enrolled in a similar program at another university are not eligible to apply and will not be accepted for admission.

### Application procedure

1. **References.** The applicant is required to supply a minimum of three personal references. It is recommended that these include an academic reference from a science instructor, a reference from an employer, and a character and/or a religious reference. Members of the applicant's family are excluded from writing the required letters of reference, although letters will be accepted for the file in addition to those required. Letters should be sent directly to the School of Dentistry Office of Admissions.
2. **Selection process**
  - *Screening:* Completed applications submitted before the application deadline will first be evaluated by the Office of Admissions. The most qualified applicants will be invited for interviews and dexterity testing.
  - *Interview:* Interviews will be schedule on the same day as the dexterity test.
  - *Dexterity test:* testing is conducted on one or more Sundays in October.
  - *Final selection:* The results of the dexterity test and interview, as well as the applicant's application materials, are presented to the School of Dentistry Admissions Committee for final selection. Twenty-four applicants are accepted each year for enrollment in the International Dentist Program the following year.
3. **Transcripts.** Applicants must provide official transcripts, mailed directly from all colleges/universities attended by the student, of all postsecondary education prior to offers of admission.
4. **Language.** All classes are conducted in English, and patients treated in the clinic communicate in English. Applicants must demonstrate competence in both written and spoken English.
5. **Entering students/Deposit.** A student accepted into the International Dentist Program must submit a deposit of \$1,000 USD to Loma Linda University by the date specified. Students must also pay in advance for two quarters' tuition costs. For students eligible for government-sponsored financial aid programs, only the first quarter's tuition is required at the initial registration. Living expenses vary, depending on the student's lifestyle. Generally, the living expenses

range from \$1,000-\$1,800 (or more) per month.

6. **Pre-entrance health requirements/Immunizations.** It is expected that necessary routine dental and medical care will have been attended to before a student registers. New students are required to have certain immunizations and tests before registration. Forms to document the required immunizations are provided for the physician in the acceptance packet sent to the student by the school. In order to avoid having a hold placed on the registration packet, the student is encouraged to return the documentation forms in the provided envelope to Student Health Service no later than six weeks prior to the beginning of classes.

Students enrolling in the School of Dentistry must provide documentation of having had the following immunizations and tests:

- MMRs—measles (rubeola), mumps, rubella (German measles) (or provide proof of two previous MMRs).
- PPD (TB) skin test (current skin test result or x-ray report).
- Tetanus/Diphtheria booster.
- Chicken pox blood test and/or immunization. If no known history of chicken pox, then student may choose blood test (which may reveal pre-existing immunity) and/or immunization (if no prior immunity).
- Hepatitis-B vaccination series. Students who know themselves to have had hepatitis-B in the past should employ extra protection when involved in direct patient care and may request a modified curriculum, if necessary. This series of three vaccinations may be completed at this University (even if it was begun elsewhere) through the Student Health Service. (The student will be charged a fee.)
- A recent eye examination performed by an ophthalmologist or optometrist.

For further information, consult the *Student Handbook*, Section V—University Policies: Communicable disease transmission-prevention policy; and the Student Health Service office, 909/558-8770.

Students in the International Dentist Program have the same benefits, including health care coverage, as are described



elsewhere in this CATALOG.

7. **Student financial aid.** Private loans may be available to augment government loans. For more information, contact the Office of Financial Aid at email <finaid@llu.edu>; or by telephone: 909/558-4509.

## DENTAL HYGIENE PROGRAM

### Application and admission

A student must have a high school diploma or its equivalent, and must meet college entrance requirements. After successful completion of the required pre-entrance courses in an accredited college or university, admission to the Dental Hygiene Program is in the junior year.

To apply, please visit our Web site at <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)>.

Applications and all other required documentation must be submitted between July 1 and February 1.

### Pre-entrance requirements

The dental hygiene applicant must meet the following minimum requirements:

- 96 quarter or 64 semester units of acceptable college credit.
- NOTE: Loma Linda University requires all students who graduate with a baccalaureate degree to complete a minimum of 68 quarter units of general education, which is integrated into the entire undergraduate program.
- Good scholastic standing, with a grade-point average of 2.7 or higher in science course work and in nonscience course work, averaged separately; *a minimum grade of C for all pre-entrance course work to be transferred to the University.*
  - The average entering grade-point is 3.2 or above.
  - Acceptable personal qualities.
  - A personal interview with a representative designated by the School of Dentistry. This interview will assess characteristics such as personal values, spiritual heritage, communication skills, service orientation, and volunteer experience.
  - Minimum of 20 hours experience observing with a dental hygienist is encouraged prior to an interview. Dental assisting experience is also highly recommended.
  - Dental hygiene applicants are expected to complete all general education requirements

before matriculating in the School of Dentistry. A student may be accepted with a deficiency in one or more of the areas but is expected to eliminate deficits before enrolling in the Dental Hygiene Program.

### Dental hygiene general education requirements

DOMAIN I: 28-32 units  
Religion and Humanities

Four quarter or three semester units of religion for each year of attendance at a Seventh-day Adventist college; cultural heritage courses (20 quarter units or 14 semester units) selected from a minimum of three different areas—history and/or civilization, fine arts (theory course work only), literature, philosophy/ethics, foreign language, performing arts/visual arts (not to exceed four quarter units).

DOMAIN II: 24-32 units  
Scientific Inquiry and Analysis and Social Sciences

One full year of chemistry covering inorganic, organic, and biochemistry—each with laboratory; human anatomy and human physiology with laboratory (may be two separate courses or sequential courses); microbiology with laboratory. *Science course work must be completed within five years prior to admission.* Nonremedial college mathematics or statistics. Introductory sociology, general psychology; and cultural anthropology/diversity courses.

DOMAIN III: 9-13 units  
Communication

English composition and literature, a complete sequence; and a speech/interpersonal communication/persuasion course. An introductory course in computers is highly recommended.

DOMAIN IV: 2-6 units  
Health and Wellness

A personal health or nutrition course and two physical education activity courses. The same physical education course should not be taken more than once.

## LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY LEARNING OUTCOMES FOR THE NEW DENTAL GRADUATE

Graduating dental students must be competent to independently:

1. Perform clinical decision making that is supported by foundational knowledge and evidence-based rationales.
2. Promote, improve, and maintain oral health in patient-centered and community settings.
3. Function as a leader in a multicultural work environment and manage a diverse patient population.

4. Understand the importance of maintaining physical, emotional, financial, and spiritual health in one's personal life.
5. Apply ethical principles to professional practice.

### **LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY ADVANCED DENTAL EDUCATION PROGRAMS STUDENT LEARNING OUTCOMES**

Graduate students and residents in advanced dental education programs are expected to:

1. Understand the didactic foundation of their discipline and master the clinical skills required to utilize that foundation.
2. Integrate advanced clinical training with meaningful exposure to the applied basic sciences.
3. Engage in a project involving advanced clinical training with meaningful exposure to research.
4. Integrate interdisciplinary treatment planning into their didactic and clinical activity.
5. Apply for and pursue board certification in their discipline through the appropriate sponsoring organization.
6. Understand the importance of developing a commitment to the University-wide student learning outcomes.

## **Student Life**

### **SCHOOL OF DENTISTRY TECHNICAL STANDARDS**

In harmony with its own education, research, and service objectives, and using the American Dental Education Association suggested guidelines, Loma Linda University School of Dentistry has identified technical standards for its programs. The qualified applicant will meet, or will have the potential to meet, the following technical standards—standards that every student in the dentistry programs is expected to reach.

#### **Cognitive abilities**

School of Dentistry students must have abilities that allow them to accurately and effectively measure, verify, calculate, reason, analyze, and synthesize. Students must be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures in order to fully and completely solve dental problems. In addition, students must be able to visualize and comprehend physical demonstrations in the classroom, laboratory, and clinic. Effective problem solving requires students to gather, organize, and assess relevant information in order to arrive at an integrated solution.

#### **Observation**

For learning to occur, students will be required to observe and interpret demonstrations and experiences. Such observation requires the functional use of vision, touch, hearing, and somatic sensation. Observation is further enhanced by the sense of smell.

Students must be able to acquire information from written documents; and to visualize information presented in images from papers, films, slides, videos, or DVDs. They must be able to interpret radiographic and other graphic images, with or without the use of assistive devices. Students must be able to observe patients accurately, at a distance and close at hand. They must be able to observe and appreciate verbal and nonverbal communications when performing dental operations or administering medications.

All students in the School of Dentistry must possess adequate visual and tactile skills to perform dental examinations and provide treatment. Visual acuity, accommodation, and color vision are necessary to discern differences and variations in color, shape, and general appearance between normal and abnormal hard and soft tissues. Touch and somatic sensation are required for effective learning, as well as for effective evaluation and treatment of patients. A student must also possess sufficient visual acuity to read electronic charts, records, small print, and handwritten notations.

**Communication**

Students in the School of Dentistry must be fluent in the use of standard written and spoken English. Thus students' communication with patients, faculty, and staff will be facilitated when eliciting or providing information; or when documenting changes in patients' mood, activity, and/or posture. Students must also be skilled in observing and understanding nonverbal communication. In addition, they must develop the professional judgment that will enable them to discern when and how to maintain patient confidentiality.

**Motor skills**

School of Dentistry students should have sufficient motor and sensory capability in both hands to be able to provide general dental care. They must possess the motor and sensory capabilities to perform diagnostic procedures—including such diagnostic maneuvers as palpation, percussion, and auscultation; and to perform basic laboratory tests. Exercising these capabilities requires coordination of both gross and fine muscular movements, equilibrium, and functional tactile and visual senses.

Students must be able to operate foot controls, utilizing fine movements; and to operate high- or low-speed dental instruments, accurately performing movements of less than one-half millimeter. They must also demonstrate well-developed tactile sense and precise control while using dental hand instruments.

**Behavioral and social attributes**

Students must be able to perform basic life support (e.g., CPR), transfer and position disabled patients, and physically restrain patients who lack motor control. Additionally, they must be able to position or reposition themselves around the patient and dental chair while sitting or standing.

Students must possess the emotional stability and resilience required for full utilization of their abilities in the context of a full and challenging education program. Success in the educational program requires use of good judgment; prompt completion of all responsibilities attendant to the diagnosis and care of patients; and development of mature, sensitive, and effective relationships with patients, staff, or colleagues.

It is also imperative that students be able to tolerate physically taxing workloads and to function effectively under stress. Students must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, honesty, concern for others, interpersonal skills, interest, cultural sensitivity, and motivation are all personal qualities that will be assessed during the admissions and education process.

**Disabled applicants and students**

It is Loma Linda University's policy to comply fully with the provisions of the Americans with Disabilities Act, Sect. 504 of the Rehabilitation Act. The school is committed to providing dental education—including support services and reasonable accommodations for disabilities—to qualified applicants who will be able to perform all technical standards with or without accommodations; and for whom such accommodation does not fundamentally alter the School of Dentistry courses or create an undue burden.

During the application process, the school requests that an applicant disclose any disability for which an accommodation may be needed. The Admissions Committee requires written documentation of the disability, which they will review prior to making an assessment as to whether or not the applicant can be expected to perform the essential functions of the program.

A student who desires accommodation for any disability identified after admission must complete a request form available in the office of the associate dean for student affairs for evaluation with appropriate University entities. Appropriate and reasonable accommodation will be provided, as necessary.

**POLICIES FOR THIS SCHOOL**

The information on student life contained in this CATALOG 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.

**CODE OF ETHICS**

A school of dentistry is a place where the professionals of tomorrow are selected and trained in the development of professional and ethical standards that are consistent with the highest goals of the profession. It is for this purpose that the School of Dentistry has a code of ethics. This code is a means of educating and training the future dental professional in areas of ethical activity, and a way of developing an ethical and moral awareness that will help professionals serve the public and the profession. The code of ethics of the School of Dentistry applies to all students in the school—including dental hygiene, dentistry, international, graduate, and certificate students. In addition, residents, fellows, preceptors, research scholars, and exchange students involved in school programs shall also be subject to these school policies.

## STUDENT ASSOCIATION

Membership in the Dental Students Association is open to all students. The objectives of the organization include creating a common bond among students—orienting them to the dental profession, encouraging and fostering community outreach activities, stimulating interest in current scientific development, providing programs of broad academic scope, promoting students' various interests, and providing social activities.

## SPECIAL OPPORTUNITIES

### Conventions

The annual Alumni-Student Convention, sponsored since 1960 by the Alumni Association, gives opportunity for students to meet alumni and hear presentations by prominent guest lecturers in the dental profession.

Students have the opportunity to make research presentations in the form of table clinics. The winners are then invited to present their table clinics at state and national conventions.

### Dedication service

A dedication service is held during the convention, giving students an opportunity to dedicate their professional life to Christ. First-year students (D1) are presented with personalized Scriptures; graduating students are given personalized Loma Linda University laboratory coats.

# Academic Information

## GENERAL POLICIES

### Registration

The student must register on or before the dates designated by the Office of University Records. Early registration is encouraged. Registration procedures are completed electronically at the myLLU registration portal <myllu.llu.edu>. Once at the portal, a student must clear registration holds (Student Health, transcript holds, housing holds) and clear finance. At the beginning of the first quarter of attendance, a student is required to have a picture taken for the student identification badge. International students must also register with the International Student Affairs office each quarter.

Late registration is permissible only in case of 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 first week of the term. A change in registration after the second week affects the grade record. A student may not concurrently register for courses in another school of the University without permission from the associate dean for academic affairs.

### Attendance

Regular attendance at lectures, clinics, and other assemblies is required of all students. All lectures and laboratories provide information essential for successful completion of the program. Each student is responsible for all material covered and assignments made. Absences in excess of 15 percent may be sufficient cause for a failing or unsatisfactory grade to be recorded. Clinics and individual courses/instructors may have more stringent requirements.

### Length of academic residence

To fulfill the requirement pertaining to length of academic residence, the student must be registered for a full course load at the University for the entire senior year for the Bachelor of Science degree; and the entire third (D3) and fourth (D4) years for the Doctor of Dental Surgery degree.

### Dean's list

Outstanding academic performance will be rewarded by publication of the Dean's List each quarter. The eligibility requirements are:

- Complete at least 12 units of graded course work during the quarter;
- Achieve a term grade-point average of at least 3.5 with no grade lower than a B-;
- Receive no Incomplete grades on the grade report.

**Course waiver**

A course requirement may be waived if the applicant has previously taken the course and earned a grade of B or above, but no credit results. Evaluation for waiver of courses will be completed only after an applicant has been accepted to the program, and must be approved by the course director at this University and the school's associate dean for academic affairs. Tuition is not reduced if courses are waived or if a student takes less than a full load.

**Special examination**

It is the policy of the school that all students are expected to take examinations at the scheduled time. The only acceptable excuse for not taking an examination on time is major illness (documented by the Student Health Service and conveyed to the course director and the Office of Student Affairs prior to the examination). The consequences of missing an examination under the circumstances of documented illness are determined by the course director. If a student appears late for an examination, s/he may be denied admission to the examination site. If a student arrives late for an examination and is allowed to take the examination, s/he will be required to finish the examination at the same time as students who arrive on time.

**Repeating/remediating a course**

If a student receives an unsatisfactory or failing grade in a required course, it will be necessary for him/her to do additional work. Based on the original grade earned by the student, and upon the recommendation of the Academic Review Committee, one of the following plans will be pursued:

1. For courses with unsatisfactory performance (D+/D/U grades) the student must reregister for the course, review the course work independently, repeat required assignments or quizzes, and take any or all course examinations as required by the course director. The highest grade allowed for a remediated course is C. At the discretion of the Academic Review Committee and course director, the student may be required to repeat the course at the next course offering.
2. For courses with failing performance (F grades), the student must reregister for the course, attend the class and/or laboratory, and take all course examinations at the next regular course offering.
3. Both the original and repeat grades are entered into the student's permanent academic record, but only the repeat grade units are computed in the grade-point average.

**ACADEMIC CRITERIA FOR PROMOTION****Academic criteria for academic advancement and program completion****Dentistry****Level D1 to level D2**

- Cumulative G.P.A. at or above 2.0.
- Successful completion of D1 comprehensive examination.

**Level D2 to D3**

- Cumulative, didactic, and preclinical laboratory G.P.A. at or above 2.0.
- Successful completion of National Board Examination Part I.

**Level D3 to D4**

- Cumulative G.P.A. at or above 2.0.
- Successful completion of National Board Examination Part II.

**Dental Hygiene****Junior to Senior**

- Cumulative didactic and preclinical G.P.A. at or above 2.0.
- Successful completion of junior clinic promotion OSCE.

**GRADUATE STUDENT/RESIDENT**

- Cumulative, didactic, and laboratory G.P.A. at or above 3.0 (B).
- Successful completion of all evaluations.
- Successful completion of Annual Student Evaluation (includes a review of entire academic record).
- Selection for advancement to Master of Science degree candidacy (for those on M.S. degree track only).

**SCHOOL OF DENTISTRY ACADEMIC REQUIREMENTS FOR GRADUATION**

A candidate completing requirements in the Spring Quarter is expected to be present at the commencement exercises and receive the diploma in person. Permission for the degree to be conferred in absentia is contingent upon the recommendation of the dean to the president and can be granted only by the president. If a candidate has not satisfactorily fulfilled all requirements, the University reserves the right to prohibit participation in commencement exercises.

**Dentistry**

A candidate for the Doctor of Dental Surgery degree must be at least twenty-one years of age and must have:

1. Satisfactorily completed all requirements of the curriculum—including specified attendance, level of scholarship, length of academic residence, number of credit units, and service-learning requirements.
2. Completed special examinations, as required by the faculty.
3. Successfully completed Parts I and II of the National Board Examination.
4. Demonstrated evidence of satisfactory moral and professional conduct, of due regard for Christian citizenship, and of consistent responsiveness to the established aims of the University.
5. Discharged financial obligations to the University.
6. Been certified by the faculty as approved for graduation.

**Dental Hygiene**

In order to be eligible for graduation, the student must have:

1. Completed the Undergraduate Intent to Graduate Form.
2. Completed all requirements for admission to the chosen curriculum.
3. Satisfactorily completed all chosen requirements of the curriculum, including specified attendance, level of scholarship, length of academic residence, and number of credit units.
4. Attended an accredited college for the first two years, and Loma Linda University School of Dentistry for the junior and senior years.
5. Achieved no lower than a C- grade in all core courses and a minimum grade-point average of 2.0.
6. Completed special examinations as required by faculty.
7. Passed the Dental Hygiene National Board Examination.
8. Demonstrated evidence of satisfactory moral and professional conduct, of due regard for Christian citizenship, and of consistent

responsiveness to the established aims of the University.

9. Discharged financial obligations to the University.
10. Been certified by the faculty as approved for graduation.
11. Completed dental hygiene training with a certificate or Associate in Science degree from an accredited college and completed the Degree-Completion Program at the School of Dentistry (pertains to Degree-Completion Program graduates only).

**NATIONAL DENTAL BOARDS**

Successful completion of the National Board Examination Parts I and II (NBE-I and NBE-II) is a requirement for graduation. The National Board examinations are designed to assess cognitive knowledge of the basic, behavioral, and clinical sciences. Eligibility to sit for either part of the National Board Examination is determined by successful completion of the curriculum leading up to the examination. In addition, students are required to pass a comprehensive examination that assesses mastery of the test specifications prior to each National Board Examination. The eligibility requirements and timetable for passing the National Board Examination are stated below:

**PART I**

*First attempt—*

Scheduled during June or July following completion of the second year. If a student fails the examination, s/he will have her/his scheduled clinic time substantially reduced. During this time, students will be required to study for a re-examination no later than December.

*Second attempt—*

If a student does not successfully complete the second attempt of the Part I examination by the end of Autumn Quarter, s/he will be required to take a two-quarter leave of absence to prepare for re-examination the succeeding Summer Quarter.

*Third attempt—*

After taking the re-examination in the succeeding Summer Quarter, the student will be allowed to work on the clinic until examination results are received. If the student successfully completes the Part I examination, s/he will continue to work on the clinic for the Summer and Autumn quarters and will begin didactic courses again during the Winter Quarter with the current third-year students. If the student does not successfully complete the National Board Examination Part I on the third attempt, s/he will be discontinued from the program.

**PART II***First attempt—*

Scheduled in December of the fourth year. If the examination is not successfully completed, access to the clinic will be restricted in order to provide additional time for study. The student will be given an opportunity to retake the examination in the following Spring Quarter. National Board Examination policy requires subsequent attempts to be at least ninety days apart. If a student fails the Part II examination, s/he will not be permitted to participate in licensure examinations.

*Second attempt—*

A student who fails the Part II examination a second time will be required to take a leave of absence to prepare for a re-examination. A candidate for the Doctor of Dental Surgery degree must have successfully completed Parts I and II of the National Board Examination before being awarded the D.D.S. degree.

**PROCEDURES FOR ACADEMIC REVIEW**

There are six Academic Review Committees: D1, D2, D3, D4, IDP, and Dental Hygiene. Membership of each committee consists of the associate dean for academic affairs, the associate dean for student affairs, the associate dean for admissions, and the course directors of all courses required of the respective class in the academic year. The associate dean for clinic administration and primary attending faculty are members of the D3/D4 Academic Review Committees. In addition, each committee has two student members appointed by the dean in consultation with the DSA officers. Student committee members will be in the class one year ahead of the class being reviewed.

The Academic Review Committees meet once per quarter to evaluate student academic and clinical performance and progress records. Students whose performance does not meet the stated academic standards and students who are being considered for discontinuation may be scheduled for a hearing with the committee.

The committee also recommends to the dean all appropriate candidates for promotion, academic probation, repeat, or other appropriate actions; as well as students who should receive special recognition for academic excellence.

The process for evaluation of academic performance is as follows:

1. The Academic Review Committee—by reviewing grades, reports, and other pertinent information—identifies students whose academic and/or clinical performance is below acceptable levels.

2. The associate dean for student affairs notifies a student facing possible academic sanctions regarding the time and place for a meeting called for the purpose of allowing the student to appear before the committee to present reasons why action should not be taken. The Academic Review Committee considers the student's presentation and all available information before making a recommendation.

3. The dean may enforce one or more of four academic sanction options—

- Academic probation
- Remedial action
- Academic leave of absence
- Academic discontinuation

Please refer to Academic Disciplinary Policy for more specific descriptions regarding each academic sanction.

4. A student may appeal the decision of the Academic Review Committee to the dean. Such appeals are not expected to be routine and should be considered only in circumstances where new and relevant information exists that was not available for consideration by the Academic Review Committee. The dean will review the matter and either render a decision or appoint a three-member ad hoc committee. Members of this committee will not have been involved in the Academic Review Committee decision process. The ad hoc committee will determine whether the process was appropriately followed, review new information, and judge whether the record supports the decision. They will report their findings and recommendation to the dean, who will decide if the appealing student will be permitted to continue participating in classes and/or clinical assignments during the appeal proceedings.

**ACADEMIC DISCIPLINARY POLICY****Academic probation**

Academic probation is a specified period of time during which the student is given an opportunity to comply with specific academic standards. Such action must be confirmed by letter to the student.

**Criteria for placement on academic probation (predoctoral, IDP, and dental hygiene students)**

A student will be placed on academic probation if s/he meets one or more of the following conditions:

1. Term or cumulative grade-point average (G.P.A.) below 2.0.

2. Failing (U/F) or unsatisfactory (D+/D) grades in any course required for the degree.
3. Clinical performance below minimum expected for current academic level.
4. Social/behavioral/ethical problems that significantly impact academic and/or clinical performance.

**Criteria for advisory notice of potential for academic probation**

A graduate student/resident will be sent an advisory letter of the potential for placement on academic probation under the following conditions:

1. Term G.P.A. of 2.7 (B-).
2. One or more courses with grade of B-.
3. One or more courses with a grade of marginally satisfactory (MS).

**Criteria for placement on academic probation (graduate students and residents)**

Graduate students/residents will be placed on academic probation if they meet one or more of the following conditions:

1. Term G.P.A. of 2.3 (C+).
2. Failing (F/U) or unsatisfactory (C+/C/C- or D+/D/D-) grades in any course required for the specialty certificate or Master of Science (M.S.) degree program (if applicable).
3. Clinical performance below minimum expected for their year level.
4. Social/behavioral/ethical problems that significantly impact academic and/or clinical performance.

**Level of academic probation (predoctoral, IDP, dental hygiene, graduate students and residents)**

The level of academic probation indicates the seriousness of the cumulative academic deficiency. However, depending on the seriousness or nature of the academic deficiency, a student may be considered for academic leave of absence or discontinuation at any level of probation.

Level 1 First term on academic probation.

Level 2 Second term on academic probation, consecutive or nonconsecutive.  
EXCEPTION: Continued academic probation due to failing grade in a course that cannot be repeated until a later term.

Level 3 Third term on academic probation, consecutive or nonconsecutive. If a student is unable to remove academic probationary status within the following term, s/he will be considered for academic discontinuation.  
EXCEPTION: Continued academic probation due to failing grade in a course that cannot be repeated until a later term.

Level 4 If a student meets the criteria for academic probation for a fourth term, consecutive or nonconsecutive, s/he will be considered for academic discontinuation.

**CLINIC PROBATION**

**Student in good clinic standing**

The student who meets attendance requirements, clinic point requirements, and requirements as defined by the clinical departments in the School of Dentistry shall receive a "Satisfactory" (S) grade for the quarter.

**Clinic probation Level 1**-Students who meet one or more of the following criteria:

1. Failure to meet the attendance requirement;
2. Failure to meet the published minimum clinic point requirement;
3. Failure to achieve the standards of care expected in their quality of patient treatment;
4. Failure to meet the requirements defined by the clinical departments in the School of Dentistry.

Students will receive a "Marginal Satisfactory" (MS) grade and will be required to attend Friday afternoon clinic sessions for the following quarter. Students on clinic probation Level 1 will not be eligible for honors programs during the time they are on probation. Students are notified in writing of their probation status.

If students, while on clinic probation Level 1, meet the attendance requirements, achieve the overall minimum clinic point requirement at the end of the remedial quarter, improve their quality of patient treatment as needed, and complete all requirements as defined by the clinical departments, they return to "good standing" status and will not be required to attend the Friday afternoon clinic sessions the following quarter.

**Clinic probation Level 2**-Students, who while on clinic probation Level 1, meet one or more of the following criteria:

1. Failure to meet the attendance requirement;



2. Fall more than 200 points below the minimum points required for the remedial quarter;
3. Failure to achieve the standards of care expected in their quality of patient care;
4. Failure to complete requirements defined by the clinical departments in the School of Dentistry.

Students on clinic probation Level 2 will receive an "Unsatisfactory" (U) grade, register again for the SDCL course, and continue to attend Friday afternoon clinic sessions. Students on Clinic Probation Level 2 will not be eligible for honors programs. Students on Clinic Probation 2 will have one quarter to meet the attendance requirement, finish the quarter with fewer than 200 points below the requirement, meet the standard of care expected in their quality of patient care and complete all requirements as defined by the clinical departments in the School of Dentistry.

If students, while on clinic probation Level 2, meet the attendance requirement, improve their quality of patient care, complete the requirements defined by the clinical departments of the School of Dentistry, and finish the quarter with fewer than 200 points below the minimum, they will return to clinic probation Level 1. The student can eventually work back to good standing.

**Clinic probation Level 3**-Students, who while on clinic probation Level 2, meet one or more of the following criteria:

1. Complete the remedial quarter more than 200 points below the minimum;
2. Failure to meet the attendance requirement;
3. Failure to achieve the standards of care expected in their quality of patient care;
4. Failure to complete requirements defined by the clinical departments in the School of Dentistry during the remedial quarter.

Clinic probation Level 3 requires the Academic Review Committee to consider discontinuing the student or require him/her to repeat one academic year. If the Academic Review Committee votes to require a student to repeat a year, the student will join the following class at that point in the academic calendar. The Academic Review Committee will determine which courses (if any) the student must repeat.

When a student is required to repeat one year, s/he immediately returns to "good standing" status.

#### **Disciplinary actions available (graduate students and residents)**

A student/resident who is not performing up to expectations can receive the following:

Restriction of clinical privileges	by program director
Academic probation (Level 1 to 3)	by the associate dean for advanced education upon the recommendation of the program director
Behavioral probation (Level 1 to 3)	by the associate dean for advanced education upon the recommendation of the program director
Clinical probation (Level 1 to 3)	by the associate dean for advanced education upon the recommendation of the program director
Discontinuation	by the associate dean for advanced education upon the recommendation of the program director

#### **Probation (graduate students and residents)**

All recommendations to the associate dean for advanced education must be supported by well-documented evidence of repeated counseling and other internal measures designed to point out deficiencies and take corrective action through a detailed remediation program. A remediation program must be specific in design, implemented, and monitored for any student/resident who is not performing up to a program's stated standards. It is helpful to have documentary evidence on record by multiple faculty members, with detailed accounts of dates, times, explanations of counseling, discussions, and corrective measures. Written statements from support staff should also be included if they have direct contact or knowledge of a matter involving a graduate student/resident.

Graduate students/residents may be placed on academic probation, behavioral probation, and clinical probation. Probation begins at Level 1 and may progress to Level 3. Graduate students/residents should be placed on probation for a prescribed period of time: one quarter, two quarters, etc. This information should be conveyed to a student/resident verbally and in writing.

#### **Continuation (graduate students and residents)**

Students/residents who are not progressing as expected may be continued in their year group for as long as necessary before being promoted to the next year or discontinued. To exercise this option, the associate dean for advanced education must inform University Records of the decision to continue a student/resident and state the anticipated length of that continuation. Program directors determine when to continue a student/resident, when to discontinue a student/resident, and whether to allow him/her to graduate or continue his/her studies. Invariably, the length of the continuation period will determine

when a student/resident actually completes his/her program.

**Discontinuation (graduate students and residents)**

Students/residents who do not make any measurable improvement by the end of the prescribed remediation and counseling periods may be discontinued by the associate dean for advanced education on the recommendation of the respective program director.

**Restrictions for a student on academic probation**

A student on academic probation:

1. May not serve as an officer for any class, school, or extracurricular organization.
2. May not take any elective courses.
3. May not participate in any elective off-campus service-learning or mission activities.
4. Remains on academic probation until all the terms of the probation sanctions have been fulfilled, unless the student is discontinued.

**Remedial action (Remediation)**

As a condition for continued enrollment, remedial action may consist of:

1. Counseling, tutoring, and/or repeating assignments or course work; or completing additional assignments or course work, possibly including repeating an academic year or portion thereof.
2. Other specified requirements.

**Academic leave of absence**

Academic leave of absence is a specified period of time during which the student is withdrawn from the academic program. Upon request to and approval by the Academic Review Committee, the student may return to the program at a year/term level specified by the committee. The student may be requested to fulfill specific requirements prior to re-entering the academic program.

The following guidelines pertain to when an academic leave of absence may be considered for a student who is in one or more of the following situations:

- Student has a serious academic deficit that cannot be removed while continuing with current course work.
- At the end of the academic year, student does not meet the criteria for promotion to the next academic year.
- Student has three consecutive quarters on academic probation.

- Student has not passed the National Board Examination on schedule after two attempts and needs full study time to prepare for the National Board Examination.
- Student fulfills criteria for academic discontinuation yet shows promise for future success despite current deficiencies.

Return from an academic leave of absence requires that the student reapply for admission by written request to the associate dean for academic affairs. The student must meet the requirements for readmission specified by the Academic Review Committee at the time the leave of absence was granted. The requirements for readmission may also be reviewed by the Academic Review Committee.

**Academic discontinuation (includes IDP students)**

Guidelines for academic discontinuation are as follows:

**D1 Year**

- Any term with one or more failing grades, regardless of term or cumulative G.P.A.
- Three or more unsatisfactory or failing grades within the academic year, regardless of term or cumulative G.P.A.
- Three consecutive quarters on academic probation.
- Failure to fulfill terms of academic probation within the specified time period.
- Failure to meet criteria for promotion to D2 year by the end of the D1 year.

**D2 Year**

- Any term with one or more failing grades, regardless of term or cumulative G.P.A.
- Four or more unsatisfactory or failing grades since enrollment in the program, regardless of term or cumulative G.P.A.
- Failure to fulfill terms of academic probation within the specified time period.
- Level 4 academic probation.
- Failure to meet criteria for promotion to D3 year by the end of the D2 year.

**D3 Year**

- Any term with one or more failing grades, regardless of term or cumulative G.P.A.
- Five or more unsatisfactory or failing grades since enrollment in the program, regardless of term or cumulative G.P.A.

- Failure to fulfill terms of academic probation within the specified time period.
- Level 4 academic probation.
- Failure to meet criteria for promotion to D4 year by the end of the D3 year.

#### D4 Year

- Failure to pass either section of the National Board Examination within three attempts.
- Failure to achieve eligibility for graduation within five full academic years of enrollment in the dental program. *Exception for students who are required to repeat an academic year or who are on a split program. These students must achieve eligibility for graduation within one year of the new graduation date assigned at the time of change to an alternate program.*

#### Dental hygiene juniors

- Any term with one or more failing grades, regardless of term or cumulative G.P.A.
- Three or more unsatisfactory or failing grades within the academic year, regardless of term or cumulative G.P.A.
- Failure to fulfill terms of academic probation within the specified time period.
- Failure to meet criteria for promotion to DH senior year by the end of the DH junior year.

#### Dental hygiene seniors

- Any term with one or more failing grades, regardless of term or cumulative G.P.A.
- Three or more unsatisfactory or failing grades within the academic year, regardless of term or cumulative G.P.A.
- Failure to fulfill terms of academic probation within the specified time period.
- Failure to pass the National Board Examination within three attempts.
- Failure to achieve eligibility for graduation within three full academic years of enrollment in the dental hygiene program.

In some situations the Academic Review Committee may recommend that a student repeat an academic year (or portion thereof) as an alternative to discontinuation.

#### Graduate students/Residents

- Three or more unsatisfactory or failing grades within the academic year, regardless of term or cumulative G.P.A.

- Three consecutive quarters of academic probation.
- Failure to fulfill terms of academic probation within the specified time period.
- Failure to achieve eligibility for award of a certificate in the clinical specialty program within the standard number of full academic years.

### STUDENT-INITIATED ACADEMIC GRIEVANCE PROCEDURE

If a student wishes to contest a grade, s/he should discuss the grade first with the instructor, where appropriate; then with the course director, if applicable; and finally with the department chair. If the student is not satisfied, s/he may then appeal to the associate dean for academic affairs (for further discussion of the academic grievance process, see Loma Linda University *Student Handbook*, Section V—University Policies).

### SERVICE LEARNING

Service Learning at Loma Linda University School of Dentistry continues the original purpose of the school—to train dental health professionals to provide service to underserved populations, both locally and abroad.

Field experience for students of dentistry and dental hygiene includes extramural opportunities within the U.S. and in foreign countries. In addition to providing clinical treatment, service-learning experiences include local health fairs and elementary school dental health presentations. Service experiences may last from one day to several weeks.

All dental and dental hygiene students are required to complete assigned service-learning rotations and minimum clock hours as described in each program. Dental students are required to complete a minimum of 120 service-learning hours. Forty hours must be completed doing local community service dentistry. Up to 30 of the remaining 80 hours may be completed doing nondental service. Dental hygiene students must complete 75 service-learning hours. Thirty-five (35) hours of local service are required, and up to 15 nondental service hours will be credited.

Students are required to be in good and regular standing to be eligible to participate in elective international service-learning experiences.

### LEARNING ENVIRONMENT

Because the study of dental sciences and arts is based on a foundation in essentially the same science subjects as are studied in medicine and allied health curricula, the School of Dentistry shares with the

School of Medicine the facilities for teaching basic sciences.

Classrooms, laboratories, student lounges, teachers' offices, and clinical facilities related solely to dentistry occupy the School of Dentistry building, named in honor of M. Webster Prince, the first dean. Prince Hall is on the University mall facing the University Church and adjacent to the Medical Center. The facilities effectively accommodate collaboration with the Medical Center in ongoing research and service programs.

The total resources of the University constitute a wealth of opportunity for the student with initiative and willingness to develop individual capacity to the fullest extent. Students find varied opportunities for serving and learning in the immediate University community, in school-sponsored service-learning clinics, in clinical and research electives, and in diverse volunteer programs.

### **BASIC SCIENCES DEPARTMENT SERVING THE SCHOOL OF DENTISTRY**

The Loma Linda University departments of basic sciences include anatomy, biochemistry, microbiology, and physiology and pharmacology. The basic sciences serve as the foundation for the dental sciences by leading toward an understanding of normal structure and function, as well as introducing the basis for pathology in the practice of dentistry.

Subjects are taught in the first year of the dental hygiene and the first two years of the general dentistry curricula as part of three conceptually integrated sequences of courses—sequences in physiology, in anatomy, and in applied science. Throughout the basic sciences, an appreciation of God's creation and His wisdom is reinforced through the study of human biology. Students are encouraged to extend their knowledge and apply it for their own well-being and for the well-being of their patients.

- The Department of Anatomy provides students with the opportunity to learn the fundamental morphology of the human body, including gross anatomy, histology, neuroanatomy, and embryology.
- The Department of Biochemistry enables students to learn the fundamentals of biochemistry as they apply to the practice of dentistry.
- The Department of Physiology and Pharmacology enables the student to describe the normal physiological functions of the major body systems as they relate to the mastery of dentistry; and to apply the principles and basic concepts of drug action, safety, and disposition.

This basic science focus provides a basic fund of knowledge that is essential for the practice of dentistry and dental hygiene. The faculty are dedicated to providing students with tools that expand their thinking and challenge them to ask probing questions and to earnestly search for answers. Their aim is to prepare students to excel scientifically. The higher aim is, through the Christian atmosphere of this University, to prepare students to become truly compassionate dentists.

# Financial Information

## FINANCIAL POLICIES

The Office of the Dean is the final authority in all financial matters and is charged with the interpretation of all financial policies. Any exceptions to published policy in regard to reduction or reimbursement of tuition must be approved by the dean. Any statement by individual faculty members, program directors, or department chairs in regard to these matters is not binding on the School or the University unless approved by the dean.

Registration is not complete until tuition and fees on the required installment are paid; therefore, the student should be prepared to make these payments during scheduled registration for each academic year. There may be adjustments in tuition and fees as economic conditions warrant.

## GENERAL FINANCIAL PRACTICES

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

## SATISFACTORY ACADEMIC PROGRESS POLICY

To be eligible for federal, state, and university financial aid, students are required by the U.S. Department of Education and the state of California to maintain satisfactory progress toward their degree objectives. In compliance with prescribed regulations, the University and School of Dentistry have established guidelines that are designed to ensure that students successfully complete courses to promote timely advancement toward a specific degree objective.

### Definition of satisfactory academic progress

The School of Dentistry defines satisfactory academic progress by the following three criteria:

1. Meeting a minimum grade-point average requirement.
2. Making yearly progress by completing the academic requirements defined for a program.
3. Completing the degree objective within the maximum time allowed.

### Grade-point average requirement

To maintain satisfactory academic progress, students in the dental and dental hygiene programs must maintain a minimum cumulative grade-point average of 2.0. In addition, dental hygiene students must achieve no lower than a C grade in all core courses.

### Yearly progress requirement

Each student's academic progress is evaluated by the Academic Review Committee at the end of each academic term, and a cumulative review is conducted to determine eligibility for promotion at the end of each academic year. The Office of Academic Affairs monitors the minimum grade-point average requirement. The Financial Aid Office monitors yearly progress and the maximum time allowance.

Students whose academic standing or degree progress falls below the standard receive a financial aid warning during the next quarter of registration. If their academic standing or degree progress is not raised to the standard by the end of the quarter in which the financial aid warning was issued, all financial aid will be terminated for these students until the requirements have been met.

### Reasonable degree progress

It is expected that students will complete the requirements for a degree within the scheduled curriculum time for the degree. The Doctor of Dental Surgery degree is scheduled to be completed in four years and may not exceed six years. The Bachelor of Science degree in dental hygiene is scheduled to be completed in two years in the professional curriculum and may not exceed three years.

### Certification of status

The Office of Academic Affairs will certify the official status of each enrolled student at the end of each academic year to University Records and to the Office of Financial Aid.

### Student financial aid

Loans are available only to United States citizens, green-card holders, or those with permanent-resident status. Qualified students can obtain loans for approximately 75 percent of tuition costs. For more information, contact the Office of Financial Aid by email: <finaid@univ.llu.edu>; or by telephone: 909 / 558-4509.

**SCHEDULE OF CHARGES (2009-2010)**

(subject to change by Board of Trustees action)

**DENTISTRY****TUITION\***

First Year	\$44,930	Fall, Winter, Spring quarters
Second Year	\$54,427	Rates effective beginning Summer Quarter
Third Year	\$54,427	Rates effective beginning Summer Quarter
Fourth Year	\$54,427	Rates effective beginning Summer Quarter

**ENROLLMENT FEES**

First Year	\$1,674	Fall, Winter, Spring quarters
Second Year	\$2,232	Effective beginning Summer Quarter
Third Year	\$2,232	Effective beginning Summer Quarter
Fourth Year	\$2,232	Effective beginning Summer Quarter

**SCHOOL OF DENTISTRY FEES**

First Year	\$1,662
Second Year	\$857
Third Year	\$857
Fourth Year	\$857

**INSTRUMENTS AND RENTAL**

First Year	\$5,723
Second Year	\$4,751
Third Year	\$335
Fourth Year	\$88

**SUPPLIES**

First Year	\$987
Second Year	\$831
Third Year	\$419
Fourth Year	\$544

**LABORATORY FEES**

First Year	\$135
Second Year	\$140
Third Year	\$120
Fourth Year	\$40

**TEXT/MANUALS**

First Year	\$1,100
Second Year	\$1,260
Third Year	\$1,200
Fourth Year	\$300

**NATIONAL BOARD EXAMINATIONS**

First Year	\$0
Second Year	\$265
Third Year	\$0
Fourth Year	\$345

**RESTORATIVE DEPARTMENT SUPPLIES**

First Year	\$245
Second Year	\$496
Third Year	\$121
Fourth Year	\$57

**OTHER DEPARTMENT SUPPLIES**

First Year	\$100
Second Year	\$565
Third Year	\$450
Fourth Year	\$0

**TOTAL TUITION AND FEES**

First Year	\$56,556
Second Year	\$65,824
Third Year	\$60,161
Fourth Year	\$58,890

**IDP CLASS OF 2011 (entering program Spring 2009)****TUITION**

Spring 2009	\$17,188	Students entering program Spring 2009 (Class of 2011)
Summer 2009	\$18,047	
Autumn 2009	\$18,047	
Winter 2010	\$18,047	
Spring 2010	\$18,047	

**ENROLLMENT FEES**

Spring 2009	\$528
Summer 2009	\$558
Autumn 2009	\$558
Winter 2010	\$558
Spring 2010	\$558

**SCHOOL OF DENTISTRY FEES**

Spring 2009	\$195
Summer 2009	\$495
Autumn 2009	\$312
Winter 2010	\$195
Spring 2010	\$195

**INSTRUMENT ISSUE**

Spring 2009	\$6,630
Summer 2009	\$0
Autumn 2009	\$0
Winter 2010	\$0
Spring 2010	\$0

**SUPPLIES**

Spring 2009	\$970
Summer 2009	\$11
Autumn 2009	\$7
Winter 2010	\$10
Spring 2010	\$4

**LABORATORY FEES**

Spring 2009	\$45
Summer 2009	\$45
Autumn 2009	\$35
Winter 2010	\$35
Spring 2010	\$30

**TEXT/MANUALS**

Spring 2009	\$826
Summer 2009	\$0
Autumn 2009	\$0
Winter 2010	\$0
Spring 2010	\$0

**COMPUTER**

Spring 2009	\$2,200
Summer 2009	\$0
Autumn 2009	\$0
Winter 2010	\$0
Spring 2010	\$0

**TOTAL TUITION AND FEES**

Spring 2009	\$28,582
Summer 2009	\$19,156
Autumn 2009	\$18,959
Winter 2010	\$18,845
Spring 2010	\$18,834

**IDP CLASS OF 2010 (students graduating Spring 2010)****TUITION**

Summer 2009	\$18,047	Students graduating Spring 2010
Autumn 2009	\$18,047	
Winter 2010	\$18,047	

**ENROLLMENT FEES**

Summer 2009	\$558
Autumn 2009	\$558
Winter 2010	\$558

**SCHOOL OF DENTISTRY FEES**

Summer 2009	\$195
Autumn 2009	\$272
Winter 2010	\$195

**SUPPLIES**

Summer 2009	\$33
Autumn 2009	\$41
Winter 2010	\$234

**LABORATORY FEES**

Summer 2009	\$30
Autumn 2009	\$10
Winter 2010	\$10

**TOTAL TUITION AND FEES**

Summer 2009	\$18,863
Autumn 2009	\$18,928
Winter 2010	\$19,044

**DENTAL HYGIENE****TUITION**

Junior Year	\$23,883	Fall, Winter, Spring quarters
Senior Year	\$31,844	Effective beginning Summer Quarter

**ENROLLMENT FEES**

Junior Year	\$1,620	Fall, Winter, Spring quarters
Senior Year	\$2,160	Effective beginning Summer Quarter

**SCHOOL OF DENTISTRY FEES**

Junior Year	\$1,650
Senior Year	\$2,155

**INSTRUMENTS ISSUE**

Junior Year	\$5,153
Senior Year	\$0

**SUPPLIES**

Junior Year	\$952
Senior Year	\$125

**LABORATORY FEES**

Junior Year	\$150
Senior Year	\$80

**TEXT/MANUALS**

Junior Year	\$915
Senior Year	\$248

**NATIONAL BOARD EXAMINATIONS**

Junior Year	\$0
Senior Year	\$265

**TOTAL TUITION AND FEES**

Junior Year	\$34,323
Senior Year	\$36,877

NOTE: The figures listed above are estimates based on the best information available for the 2009-2010 school year as of January 2009. Tuition and enrollment fees are pending approval by Loma Linda University Board of Trustees. Students should plan on an annual increase consistent with inflation in the education sector.

**ON- AND OFF-CAMPUS STUDENT HOUSING**

Students may go to <[www.llu.edu/central/housing/index.page](http://www.llu.edu/central/housing/index.page)> for housing information and a housing application form.

**AWARDS—GENERAL DENTISTRY PROGRAM**

Dentistry students are eligible to receive awards of various kinds for demonstrated excellence, scholastic attainment, leadership ability, technical ability, professional proficiency, initiative, and other accomplishments or achievements, according to the bases established by the donors. The names of all award recipients are printed in the University commencement program.

**General awards**

Academy of Dentistry International

Academy of General Dentistry

Academy of Osseointegration Outstanding Implant Dentistry

Academy of Operative Dentistry

Alpha Omega Scholarship

American Academy of Gold Foil Operators

American Academy of Implant Dentistry

American Academy of Oral and Maxillofacial Pathology

American Academy of Oral and Maxillofacial Radiology

American Academy of Oral Medicine

American Academy of Orofacial Pain

American Academy of Pediatric Dentistry

American Academy of Periodontology

American Association of Endodontists

American Association of Oral & Maxillofacial Surgeons

American Association of Oral Biologists

American Association of Orthodontics

American College of Dentists, Southern California Section

American College of Prosthodontists

American Dental Society of Anesthesiology

American Student Dental Association

Ben W. Oesterling Award

Boyko Award for Christ-like Service in Dentistry

California Association of Oral and Maxillofacial Surgeons

California Dental Association - Senior Awards

California Dental Association Community Leadership Award

David Anderson Recognition Award

Delta Dental Student Leadership Award

Dental Foundation of California Scholarships

Dentsply Student Clinician Award

Fixed Prosthodontics Department Award

G. Hartzell Clinician Award

Graduate Implant Dentistry Award

ICOI/Sullivan Schein Dental Pre-doctoral Achievement Award

International College of Dentists

Kenneth E. Wical

LLU Center for Dental Research

Omicron Kappa Upsilon William S. Kramer Award

Oral Surgery Department Award

PCSP/JPD Award in Excellence Prosthodontics

Pacific Dental Services Scholarship

Pierre Fauchard Academy

Pierre Fauchard Academy Scholarship

Service Learning Award

Southern California Academy of Endodontics

Southern California Academy of Oral Pathology

Southern California Society of Dentistry for Children

Wil Alexander Award

Wilfred A. Nation Award

#### **Alumni Association**

The Alumni Association Award is given for manifested qualities and abilities indicative of potential for professional and community leadership.

#### **President's Award**

The President's Award is made annually in recognition of superior scholastic attainment and active participation in the student community, within the framework of Christian commitment. One recipient is selected from each school of the University.

#### **Dentistry Academic Excellence Silver Award**

A dental student who achieves a score of one standard deviation above the national mean on the NBE-I is acknowledged as follows:

- Certificate of recognition given at School of Dentistry Awards Chapel at the end of the fourth year
- School pays the fee for NBE-II
- Recognition in LLU *Dentistry Journal*
- Recognition in LLU *Dentalgram*
- Press release to student's home newspaper

#### **Dentistry Academic Excellence Gold Award**

A dental student who achieves a score of one standard deviation above the national mean on both NBE-I and NBE-II is acknowledged as follows:

- Certificate of recognition given at the School of Dentistry Awards Chapel at the end of the fourth year



- School pays \$1500 towards the application fee for one state or regional licensure examination
- Recognition in *LLU Dentistry Journal*
- Recognition in *LLU Dentalgram*
- Recognition on a "perpetual" plaque on public display
- Press release to student's home newspaper

#### **NASDAD**

An award is given by the National Association of Seventh-day Adventist Dentists to promote scholarship and to encourage high standards of character and conduct and the demonstration of leadership ability.

#### **OKU**

Omicron Kappa Upsilon (OKU), the national honor society for dentistry, was founded in 1914 for the purpose of promoting scholarship among dental students. Only students who rank in the upper 20 percent of the class qualify for consideration. A maximum of 12 percent of each graduating class is eligible for alumni membership.

#### **Prince**

M. Webster Prince, the first dean of the School of Dentistry, established in 1957 an annual award to be given to a senior recognized by the senior class and the faculty as having outstanding qualities of scholarship, leadership, and stewardship.

### **AWARDS—INTERNATIONAL DENTIST PROGRAM**

In addition to being eligible for the special awards listed, students in the International Dentist Program are eligible to receive awards based on accomplishments and achievements that reflect the ideals of the program. The names of all awards recipients are noted in the University commencement program.

Professionalism Award

Lloyd Baum Clinical Excellence Award

Omicron Kappa Upsilon (OKU)

### **AWARDS—DENTAL HYGIENE PROGRAM**

Dental hygiene students are eligible to receive awards by demonstrating scholastic attainment, leadership ability, technical and professional competency, and other accomplishments and achievements that reflect the ideals of the dental hygiene profession. The names of all award recipients are printed in the University commencement program.

The AMERICAN ASSOCIATION OF PUBLIC HEALTH DENTISTRY AWARD is presented to a student who has demonstrated a special interest in community dentistry and commitment to dental public health. Selection is by vote of the dental hygiene faculty.

The BATES AWARD is given to the student who demonstrates notable achievement during training. Selection is by vote of the faculty.

The CALIFORNIA DENTAL HYGIENISTS ASSOCIATION OUTSTANDING LEADERSHIP AWARD is presented by the California Dental Hygiene Association to a student demonstrating professional leadership. The recipient of this award is selected by the dental hygiene class and faculty liaison.

The CLINICIAN'S AWARD is given to the student who demonstrates outstanding clinical achievements and the highest level of concern for patients. Selection is by vote of the faculty.

The DEAN'S AWARD is given for excellence in the combined characteristics of clinical ability and professionalism. Selection is based on the recommendation of the dental hygiene faculty and the dean.

The KLOOSTER HUMANITARIAN AWARD is given to the student who demonstrates a spirit of giving, kindness, and enthusiasm. Selection is by vote of the faculty.

The MIDDLETON AWARD is given in recognition of high standards of service, spiritual leadership, and dedication to church and humanity. The recipient of this award is chosen by the class.

The MITCHELL AWARD is given by vote of the class to the student considered to be the most outstanding leader during the two years of dental hygiene training.

The PREVENTIVE DENTISTRY AWARD FOR RESEARCH is sponsored by Johnson & Johnson and is presented in recognition of outstanding achievement in dental hygiene research. Selection is by vote of the dental hygiene faculty.

The RESEARCH AWARD is given by vote of the faculty to the student(s) whose research best represents the compilation of scientific principle, contribution to the body of knowledge for dentistry and dental hygiene, and increased access to oral health care.

The SIGMA PHI ALPHA AWARD constitutes election to the national honor society for dental hygienists. It is based on scholarship and character and is limited to 10 percent of the class, chosen from the top 20 percent scholastically.

The STUDENT OF THE YEAR AWARD is given to the student who embodies the attributes of excellence and professionalism—the ideal student. Selection is by vote of the faculty.

The TRI-COUNTY DENTAL HYGIENIST'S SOCIETY AWARD is given in recognition of outstanding student contribution to the professional association. Selection is by vote of the Tri-County Society in conjunction with the faculty liaison.

The WESTERN SOCIETY OF PERIODONTOLOGY AWARD is given to a student who demonstrates outstanding achievement and aptitude in periodontics. This award is selected by the faculty.

The DENTAL HYGIENE ACADEMIC EXCELLENCE AWARD is given to a dental hygiene student who achieves a score of 90 or above on the Dental Hygiene

National Board Examination. The recipient will be acknowledged as follows:

- Notification of receipt of the Academic Excellence Award
- Certificate of recognition awarded during the pinning ceremony on commencement weekend
- \$750 scholarship
- Recognition in LLU *Dentistry Journal*
- Recognition in LLU *Dentalgram*

# Dentistry, General—SD

## (D.D.S.)

CHARLES J. GOODACRE, Dean, School of Dentistry

The goal of the General Dentistry Program is to train practitioners in the delivery of high-quality dental care that is preventive in purpose and comprehensive in scope, and that is based on sound biological principles.

### Curriculum

Dentistry, like all health professions, exists to benefit society and, therefore, continually assesses its professional services to ascertain what measures, attitudes, and skills most effectively serve society.

The School of Dentistry is committed to:

- Beginning the curriculum with a strong foundation in the sciences that are basic to knowledge of the structure and function of the human being in health and in sickness.
- Providing an educational environment that progressively leads a student to mastery and correlation of clinical sciences and skills.
- Developing a frame of reference from which to mobilize the resources of dentists and associated professional personnel in both delivery of health care and contribution to community well-being by education for the prevention of illness.

These concepts include responsibility for contributing to the body of scientific knowledge by questioning, investigating, and teaching; for remaining sensitive and adaptive to the needs of humanity in ever-changing conditions; and for maintaining consciousness of the individual obligation to live, practice, and strive for the good of humanity.

The curriculum in dentistry, organized to be completed in four academic years, fulfills requirements for the Doctor of Dental Surgery degree.

### Objective

The primary objective of the dental curriculum is to graduate men and women who attest to the purpose of the University and the goals of the School of Dentistry, which include advancing knowledge and understanding of health, disease, and ways to improve health and the dental health care-delivery system through basic and applied research.

### Admission

Information and procedures for applying to the Doctor of Dental Surgery Program can be found under Application and Admissions in the School of Dentistry general information in Section III of this CATALOG.

### Regulations

The student is also subject to the conditions of registration, attendance, financial policy, governing practices, and graduation requirements outlined in Section II and in the School of Dentistry general information in Section III of this CATALOG.

### Instruments, textbooks, additional materials

The instruments, textbooks, and materials required for the study and practice of dentistry are prescribed by the School of Dentistry. The school issues dental instruments each quarter as needed in the program.

Unauthorized or incomplete equipment is not acceptable. Advance administrative approval must be obtained for any exception.

### Employment

Because the dental program is very rigorous, first-year students in dentistry may not accept part-time employment during the first term. Such employment thereafter may be accepted by the student only upon receiving written permission from the Office of the Associate Dean for Academic Affairs.

### Academic incentive program

Detailed information on the Academic Incentive Program may be found under that heading in the School of Dentistry general information in Section III of this CATALOG.

### Licensing

Eligibility to take examinations given by the state and regional boards of dental examiners is based on essentially the same requirements as are stipulated by the School of Dentistry for the Doctor of Dental Surgery degree. Information about the examinations of the respective states is available from the associate dean for academic affairs. Credentials from the National Board of Dental Examiners are accepted in lieu of the written portion of a state examination in most states. Many states require the National Board Examination and provide no alternative. (The national board does not include a clinical examination.)

### D.D.S. competencies

The curriculum is designed to ensure that by graduation all students will have the skills, attitudes, and competencies important to the successful practice of dentistry. Students must be competent in the following knowledge and skills, and are expected to be able to perform them independently.

**DOMAIN I**

1. **CRITICAL THINKING**—Perform clinical decision making that is supported by foundational knowledge and evidence-based rationales.

The new dentist must be able to:

- a. Understand the fundamental principles governing the structure and functioning of the human organism.
- b. Integrate information from biomedical, clinical, and behavioral sciences in addressing clinical problems.
- c. Read and evaluate scientific literature and other appropriate sources of information in making oral health-management decisions.
- d. Demonstrate the ability to use sound, scientifically derived laboratory and clinical evidence to guide clinical decision making.
- e. Apply critical-thinking and problem-solving skills in the comprehensive care of patients.
- f. Understand the role of lifelong learning and self-assessment in maintaining competency and attaining proficiency and expertise.

2. **COMMUNITY INVOLVEMENT**—Promote, improve, and maintain oral health in patient-centered and community settings.

The new dentist must be able to:

- a. Explain the role of the dental professional in a community setting.
- b. Recognize the effectiveness of community-based programs.
- c. Explain the role of professional dental organizations in promoting the health of the public.
- d. Explain the concept of a worldwide community as described in the world mission of the Seventh-day Adventist Church.

3. **DIVERSITY**—Function as a leader in a multicultural work environment and manage a diverse patient population.

The new dentist must be able to:

- a. Demonstrate the ability to serve patients and interact with colleagues and allied dental personnel in a multicultural work environment without discrimination.
- b. Demonstrate honesty and confidentiality in relationships with staff.
- c. Explain the principles of leadership and motivation.

- d. Demonstrate the skills to function successfully as a leader in an oral health care team.
- e. Communicate effectively with patients, peers, other professionals, and staff.

4. **PROFESSIONAL PRACTICE**—Understand the basic principles important in developing, managing, and evaluating a general dental practice.

The new dentist must be able to:

- a. Evaluate the advantages and disadvantages of different models of oral health care management and delivery.
- b. Explain legal, ethical, and risk management principles relating to the conduct of dental practice.
- c. Explain the basic principles of personnel management, office systems, and business decisions.
- d. Apply financial management skills to debt and business management.
- e. Apply knowledge of informational technology resources in contemporary dental practice.
- f. Understand the importance of spiritual principles as a basis for developing a philosophy of health care.

5. **PERSONAL AND PROFESSIONAL BALANCE**—Understand the importance of maintaining physical, emotional, financial, and spiritual health in one's personal life.

The new dentist must be able to:

- a. Demonstrate the ideal of service through the provision of compassionate, personalized health care.
- b. Understand the importance of maintaining a balance between personal and professional needs for successful life management.
- c. Explain the issues associated with chemical dependency, its signs in oneself and others, and the resources and treatments available.
- d. Explain the basic principles of personal financial planning and retirement planning.
- e. Explain the concept of personal wholeness espoused by Loma Linda University and the Seventh-day Adventist Church.

6. **PATIENT MANAGEMENT**—Apply behavioral and communication skills in the provision of patient care.

The new dentist must be able to:

- a. Recognize and manage significant cultural, psychological, physical, emotional, and behavioral factors affecting treatment and the dentist-patient relationship.
  - b. Establish rapport and maintain productive and confidential relationships with patients, using effective interpersonal skills.
  - c. Recognize common behavioral disorders and understand their management.
  - d. Use appropriate and effective techniques to manage anxiety, distress, discomfort, and pain.
  - e. Manage dental fear, pain, and anxiety with appropriate behavioral and pharmacologic techniques.
7. **ETHICS**—Apply ethical principles to professional practice and personal life.

## **DOMAIN II: ASSESSMENT OF THE PATIENT AND THE ORAL ENVIRONMENT**

8. **EXAMINATION OF PATIENTS**—Conduct a comprehensive examination to evaluate the general and oral health of patients of all ages within the scope of general dentistry.

The new dentist must be able to:

- a. Identify the chief complaint and take a history of the present illness.
- b. Conduct a thorough medical history, social history, and dental history.
- c. Perform an appropriate clinical and radiographic examination using diagnostic aids and tests, as needed.
- d. Identify patient behaviors that may contribute to orofacial problems.
- e. Identify biologic, pharmacologic, and social factors that may affect oral health.
- f. Identify signs of abuse or neglect.
- g. Establish and maintain accurate patient records.

9. **DIAGNOSIS**—Determine a diagnosis by interpreting and correlating findings from the examination.

The new dentist must be able to:

- a. Identify each problem that may require treatment.
- b. Establish a clinical or definitive diagnosis for each disorder identified.

- c. Assess the impact of systemic diseases or conditions on oral health and/or delivery of dental care.
- d. Recognize conditions that may require consultation with or referral to another health care provider and generate the appropriate request.

10. **TREATMENT PLANNING**—Develop a comprehensive treatment plan and treatment alternatives.

The new dentist must be able to:

- a. Identify treatment options for each condition diagnosed.
- b. Identify systemic diseases or conditions that may affect oral health or require treatment modifications.
- c. Identify patient expectations and goals for treatment.
- d. Explain and discuss the diagnosis, treatment options, and probable outcomes for each option with the patient or guardian.
- e. Develop an appropriately sequenced, integrated treatment plan.
- f. Modify the treatment plan, when indicated, due to unexpected circumstances, noncompliant individuals, or for patients with special needs (such as frail or elderly; or medically, mentally, or functionally compromised individuals).
- g. Present the final treatment plan to the patient, including time requirements, sequence of treatment, estimated fees, payment options, and other patient responsibilities in achieving treatment outcomes.
- h. Secure a signed consent to treatment.

11. **MANAGEMENT OF PAIN AND ANXIETY**—Manage pain and anxiety with pharmacologic and nonpharmacologic methods.

The new dentist must be able to:

- a. Evaluate the patient's physical and psychological state and identify factors that may contribute to orofacial pain.
- b. Manage patients with craniofacial pain and be able to differentiate pain of a nondental origin.

12. **EMERGENCY TREATMENT**—Manage dental emergencies and medical emergencies that may be encountered in dental practice.

The new dentist must be able to:

- a. Manage dental emergencies of infectious, inflammatory, and traumatic origin.
- b. Provide basic life-support measures for patients.
- c. Develop and implement an effective office strategy for preventing and managing medical emergencies.

13. **HEALTH PROMOTION AND MAINTENANCE**—Provide appropriate preventive and/or treatment regimens for patients with various dental carious states, using appropriate medical and surgical treatments.

The new dentist must be able to:

- a. Use accepted prevention strategies, such as oral hygiene instruction, microbiologic evaluation, nutritional education, and pharmacologic intervention to help patients maintain and improve their oral and systemic health.
- b. Properly isolate the tooth/teeth from salivary moisture and bacterial contamination.
- c. Differentiate between sound enamel, hypomineralized enamel, remineralized enamel, and carious enamel.
- d. Develop and implement an appropriate treatment plan for enamel surfaces that can be managed by remineralization therapies.
- e. Develop and implement an appropriate treatment plan for tooth surfaces with caries involving the enamel and/or dentin.
- f. Remove or treat carious tooth structure and restore with appropriate materials.
- g. Determine when a tooth has such severe carious involvement as to require extraction.

14. **ASSESSMENT OF TREATMENT OUTCOMES**—Analyze continuously the outcomes of patient treatment to improve the treatment.

The new dentist must be able to:

- a. Perform periodic chart review and case presentations.
- b. Review and assess patient-care outcomes.

### **DOMAIN III: RESTORATION TO OPTIMAL ORAL HEALTH, FUNCTION, AND ESTHETICS**

15. **TREATMENT OF PERIODONTAL DISEASE**—Evaluate and manage the treatment of periodontal diseases.

The new dentist must be able to:

- a. Design and provide an appropriate oral hygiene-instruction plan for the patient.
- b. Remove hard and soft deposits from the crown and root surfaces.
- c. Evaluate the outcomes of the initial phase of periodontal treatment.
- d. Manage the treatment of patients in the maintenance phase of therapy.
- e. Recognize and manage the treatment of advanced periodontal disease.
- f. Recognize the need for and appropriately use chemotherapeutic agents.
- g. Manage the treatment of mucogingival periodontal problems.
- h. Manage the treatment of hard- and soft-tissue problems in preparation for restorative procedures.

16. **MANAGEMENT OF DISEASES OF PULPAL ORIGIN**—Evaluate and manage diseases of pulpal origin and subsequent periradicular disease.

The new dentist must be able to:

- a. Prevent and manage pulpal disorders through the use of indirect and direct pulp capping and pulpotomy procedures.
- b. Assess case complexity of each endodontic patient.
- c. Manage endodontic emergencies.
- d. Manage nonsurgical endodontic therapy on permanent teeth.
- e. Recognize and manage endodontic procedural accidents.
- f. Manage pulpal and periradicular disorders of traumatic origin.
- g. Manage endodontic surgical treatment.
- h. Manage bleaching of endodontically treated teeth.
- i. Evaluate outcome of endodontic treatment.

17. **MANAGEMENT OF PATHOLOGIC CHANGES**—Recognize and manage pathologic changes in the tissues of the oral cavity and of the head and neck area.

The new dentist must be able to:

- a. Recognize clinical and radiographic changes that may indicate disease.

- b. Recognize variations of normal and developmental anomalies.
- c. Identify conditions that may require treatment.
- d. Manage oral and maxillofacial pathologic conditions using pharmacologic and nonpharmacologic methods.
18. BASIC SURGICAL CARE—Provide basic surgical care.
- The new dentist must be able to:
- a. Perform uncomplicated extractions of teeth.
- b. Manage surgical extraction, as well as common intraoperative and postoperative surgical complications.
- c. Manage pathological conditions, such as lesions requiring biopsy, localized odontogenic infections, and impacted third molars.
- d. Manage patients with dentofacial deformities or patients who can benefit from preprosthetic surgery.
19. MANAGEMENT OF OCCLUSAL INSTABILITY—Recognize and manage problems related to occlusal stability.
- The new dentist must be able to:
- a. Recognize and manage occlusal discrepancies.
20. ASSESSMENT AND MANAGEMENT OF MAXILLARY AND MANDIBULAR SKELETODENTAL DISCREPANCIES—Assess and manage maxillary and mandibular skeletodental discrepancies—including space maintenance, as represented in the early, mixed, and permanent dentitions.
- The new dentist must be able to:
- a. Perform mixed dentition analyses utilizing the Moyers and Nance methods.
- b. Perform a Steiner cephalometric analysis to evaluate for individual sagittal and coronal plane skeletodental discrepancies compared to normative data.
- c. Evaluate the noncephalometric skeletodental facial esthetics of the child, adolescent, or adult patient.
- d. Manage multidisciplinary treatment cases involving orthodontics.
- e. Recognize the effects of abnormal swallowing patterns, mouth breathing, bruxism, and other parafunctional habits on the skeletodental structures; and manage treatment.
21. RESTORATION AND REPLACEMENT OF TEETH—Manage the restoration of individual teeth and the replacement of missing teeth, for proper form, function, and esthetics.
- The new dentist must be able to:
- a. Assess teeth for restorability.
- b. Assess esthetic and functional considerations.
- c. Manage preservation of space following loss of teeth or tooth structure.
- d. Select appropriate methods and restorative materials.
- e. Design fixed and removable prostheses.
- f. Implement appropriate treatment sequencing.
- g. Perform biomechanically sound preparations.
- h. Fabricate and place biomechanically sound provisional restorations.
- i. Make impressions for diagnostic and treatment casts.
- j. Obtain anatomic and occlusal relation records for articulation of casts.
- k. Prepare casts and dies for the construction of restorations and prostheses.
- l. Manage the laboratory fabrication of restorations and prostheses.
- m. Evaluate and place restorations that are clinically acceptable.
- n. Instruct patients in follow-up care of restorations and prostheses.
- o. Determine causes of postoperative problems after restoration and resolve such problems.

## DISTRIBUTION OF INSTRUCTION

### General Dentistry Program

#### First Year, Autumn Quarter

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
ANAT 511	Human Anatomy for Dentists I	40	40	—	80	5.0
DNES 708	Introduction to the Dental Profession	10	—	—	10	1.0
PHSL 503	Biochemical Foundations of Physiology	50	—	—	50	5.0

RELT 775	Spirituality and the Christian Health Professional	20	—	—	20	2.0
RES D 701	Restorative Dentistry I Lecture	20	—	—	20	2.0
RES D 701L	Restorative Dentistry I Laboratory	—	60	—	60	2.0
Totals		140	100	—	240	17.0

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
<b>Winter Quarter</b>						
ANAT 512	Human Anatomy for Dentists II	40	40	—	80	5.0
DNES 707	Personal Development	19	3	—	22	2.0
PHSL 504	Physiological Systems of the Human Body	46	6	—	52	5.0
RELE 734	Christian Ethics for Dentists	20	—	—	20	2.0
RES D 702	Restorative Dentistry II	28	—	—	28	2.0
RES D 702L	Restorative Dentistry II Laboratory	—	66	—	66	2.0
Totals		153	115	—	268	18.0

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
<b>Spring Quarter</b>						
ANAT 513	Human Anatomy for Dentists III	40	40	—	80	5.0
DNES 705	Etiology and Management of Dental Caries	22	—	—	22	2.0
PERI 705	Introduction to Periodontics	20	—	—	20	2.0
PHSL 505	Homeostatic Mechanisms of the Human Body	55	—	—	55	5.0
RES D 708	Restorative Dentistry III Lecture	20	—	—	20	2.0
RES D 708L	Restorative Dentistry III Laboratory	—	80	—	80	2.0
Totals		157	120	—	277	18.0

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
<b>Second Year, Summer Quarter</b>						
DNES 718	Communication Basics for the Dentist	10	—	—	10	1.0
ODRP 501	Principles of Microbiology DN	44	—	—	44	4.0
ODRP 701	Radiology I: Clinical Procedures	11	16	—	27	1.5
ODRP 725	Patient Assessment and Data Management	28	17	—	45	3.0
ODRP 751	General and Systemic Pathology I	40	—	—	40	4.0
PERI 742	Essential Periodontal Therapy Laboratory	10	38	—	48	2.0
RES D 709	Restorative Dentistry IV Lecture	20	—	—	20	2.0
RES D 709L	Restorative Dentistry IV Laboratory	—	60	—	60	2.0
Totals		163	131	—	294	19.5



Autumn Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
ANES 751	Dental Anesthesia: Local Anesthesia and Inhalation Sedation	33	11	—	44	4.0
ODRP 726	Patient Diagnosis and Treatment Planning	12	13	—	25	1.5
ODRP 752	General and Systemic Pathology II	40	—	—	40	4.0
ODRP 755	Radiology II: Theory and Interpretation	20	—	—	20	2.0
RESD 764	Removable Prosthodontics	44	49	—	93	5.5
RESD 771	Single Casting Technique Lecture	20	—	—	20	2.0
RESD 771L	Single Casting Technique Laboratory	—	60	—	60	2.0
SDCL 711	Clinic Orientation I	10	—	—	10	1.0
Totals		179	133	—	312	22.0

Winter Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
ODRP 761	Oral Pathology and Diagnosis	60	—	—	60	6.0
PERI 741	Essential Periodontal Therapy	20	—	—	20	2.0
RESD 772	Fixed Prosthodontics Lecture	20	—	—	20	2.0
RESD 772L	Fixed Prosthodontics Laboratory	—	60	—	60	2.0
RESD 875	Restorative Dentistry Clinic	—	—	15	15	0.5
SDCL 712	Clinic Orientation II	20	—	—	20	2.0
Totals		120	60	15	195	14.5

Spring Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNES 789	National Board Part I Review	40	—	—	40	1.0
ENDN 831	Endodontics I	10	—	—	10	1.0
ENDN 832	Endodontics II	—	60	—	60	2.0
ODRP 735	Dental Emergency Diagnosis and Treatment	10	—	—	10	1.0
ORDN 751	Principles of Orthodontics I	10	—	—	10	1.0
PEDN 753	Pediatric Dentistry I Lecture	22	—	—	22	2.0
PEDN 753L	Pediatric Dentistry I Laboratory	—	44	—	44	1.0
PHRM 501	Pharmacology and Therapeutics SD	4	—	—	4	4.0
RESD 875	Restorative Dentistry Clinic	—	—	30	30	1.0
SDCL 713	Clinic Orientation III	—	—	30	30	1.0
Totals		96	104	60	260	15.0

Third Year, Summer Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
ANES 801	Dental Anesthesia: Advanced Topics	20	—	—	20	2.0
DNES 804	Applied Statistics	22	—	—	22	2.0
DNES 806	Research Design	16	24	—	40	2.0
ODRP 825	Oral Diagnosis, Radiology, and Pathology Clinic	—	—	20	20	1.0
OMFS 805	Oral and Maxillofacial Surgery I	10	—	—	10	1.0
PEDN 825	Pediatric Dentistry Clinic	—	—	15	15	0.5
RESD 773	Fixed Prosthodontics II Lecture	11	—	—	11	2.0
RESD 773L	Fixed Prosthodontics II Laboratory	—	66	—	66	2.0
RESD 811	Dental Materials II	10	—	—	10	1.0
RESD 875	Restorative Dentistry Clinic	—	—	60	60	2.0
SDCL 801	Clinical Patient Care	10	—	44	54	2.0
Totals		99	90	139	328	17.5

Autumn Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNES 806L	Research Design Laboratory	—	33	—	33	1.0
ENDN 834	Endodontics IV	13	—	—	13	1.0
ODRP 807	Oral Medicine I: TMJ/Orofacial Pain I	10	—	—	10	1.0
ODRP 821	Special Care Dentistry	10	—	—	10	1.0
ODRP 825	Oral Diagnosis, Radiology, and Pathology Clinic	—	—	15	15	0.5
OMFS 811	Oral and Maxillofacial Surgery II	11	—	—	11	1.0
OMFS 825	Oral and Maxillofacial Surgery Clinic I	—	—	30	30	1.0
ORDN 801	Minor Tooth Movement	20	—	—	20	2.0
PEDN 825	Pediatric Dentistry Clinic	—	—	30	30	1.0
PERI 765	Special Topics in Periodontal Therapy	22	—	—	22	2.0
RELR 717	Diversity and the Christian Health Professional	22	—	—	22	2.0
RESD 854	Implant Dentistry	22	—	—	22	2.0
RESD 854L	Implant Dentistry Laboratory	—	30	—	30	1.0
RESD 875	Restorative Dentistry Clinic	—	—	60	60	2.0
SDCL 802	Clinical Patient Care	10	—	44	54	2.0
Totals		140	63	179	382	20.5

Winter Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
ODRP 808	Oral Medicine II: Medically Compromised Patient	20	—	—	20	2.0
ODRP 825	Oral Diagnosis, Radiology, and Pathology Clinic	—	—	15	15	0.5
OMFS 811	Oral and Maxillofacial Surgery II	11	—	—	11	1.0
ORDN 811	Principles of Orthodontics II	11	—	—	11	1.0

PEDN 821	Pediatric Dentistry II	10	—	—	10	1.0
PEDN 825	Pediatric Dentistry Clinic	—	—	30	30	1.0
PERI 805	Periodontal Surgical Therapy	10	—	—	10	1.0
REL_ 7__	Professional-level Religion Elective	20	—	—	20	2.0
RESO 822	Operative Dentistry II Lecture	16	—	—	16	1.0
RESO 822L	Operative Dentistry II Laboratory	—	30	—	30	1.0
RESO 875	Restorative Dentistry Clinic	—	—	60	60	2.0
SDCL 803	Clinical Patient Care	10	—	44	54	2.0
Totals		108	30	149	287	15.5

**Spring Quarter**

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNES 794	Public Health Dentistry	20	—	—	20	2.0
ODRP 811	Oral Medicine III: TMJ/Orofacial Pain II	10	—	—	10	1.0
ODRP 825	Oral Diagnosis, Radiology, and Pathology Clinic	—	—	30	30	1.0
PEDN 825	Pediatric Dentistry Clinic	—	—	30	30	1.0
PHRM 503	Clinical Pharmacology in Dentistry	20	—	—	20	2.0
RELR 749	Personal and Family Wholeness	20	—	—	20	2.0
RESO 801	Fixed Prosthodontics and Occlusion	10	—	—	10	1.0
RESO 823	Operative Dentistry III Lecture	16	—	—	16	1.0
RESO 823L	Operative Dentistry III Laboratory	—	30	—	30	1.0
RESO 875	Restorative Dentistry Clinic	—	—	60	60	2.0
SDCL 804	Clinical Patient Care	10	—	44	54	2.0
Totals		106	30	164	300	16.0

**Fourth Year, Summer Quarter**

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
ODRP 826	Oral Medicine IV: Clinical Oral Pathology and Oncology	20	—	—	20	2.0
ODRP 875	Oral Diagnosis, Radiology, and Pathology Clinic	—	—	30	30	1.0
PEDN 875	Pediatric Dentistry Clinic	—	—	10	10	0.5
PERI 875	Periodontics Clinic	—	—	60	60	2.0
RESO 875	Restorative Dentistry Clinic	—	—	210	210	7.0
SDCL 805	Clinical Patient Care	10	—	44	54	2.0
Totals		30	—	354	384	14.5

**Autumn Quarter**

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNES 807	Practice Management I	22	—	—	22	2.0
DNES 889	National Board Part II Review	50	—	—	50	2.0
ODRP 875	Oral Diagnosis, Radiology, and Pathology Clinic	—	—	30	30	1.0

PEDN 875	Pediatric Dentistry Clinic	—	—	10	10	0.5
PERI 875	Periodontics Clinic	—	—	60	60	2.0
RESD 861	Senior Topics in Removable Prosthodontics	20	—	—	20	2.0
RESD 875	Restorative Dentistry Clinic	—	—	210	210	7.0
SDCL 806	Clinical Patient Care	10	—	44	54	2.0
Totals		102	—	354	456	18.5

Winter Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNES 809	Practice Management II	22	—	—	22	2.0
DNES 851	The Dentist and the Law	22	—	—	22	2.0
ODRP 875	Oral Diagnosis, Radiology, and Pathology Clinic	—	—	30	30	1.0
PEDN 875	Pediatric Dentistry Clinic	—	—	20	20	1.0
PERI 875	Periodontics Clinic	—	—	60	60	2.0
RELR 715	Christian Dentist in Community	20	—	—	20	2.0
RESD 875	Restorative Dentistry Clinic	—	—	210	210	7.0
SDCL 807	Clinical Patient Care	10	—	44	54	2.0
Totals		74	—	364	438	19.0

Spring Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
ENDN 875	Endodontics Clinic	—	—	30	30	1.0
ODRP 875	Oral Diagnosis, Radiology, and Pathology Clinic	—	—	30	30	1.0
OMFS 875	Oral and Maxillofacial Surgery Clinic II	—	—	30	30	1.0
ORDN 875	Orthodontics Clinic	—	—	30	30	1.0
PEDN 875	Pediatric Dentistry Clinic	—	—	20	20	1.0
PERI 875	Periodontics Clinic	—	—	45	45	1.5
RESD 844	Restorative Study Club Seminar	8	—	—	8	0.5
RESD 875	Restorative Dentistry Clinic	—	—	210	210	7.0
SDCL 808	Clinical Patient Care	10	—	44	54	2.0
Totals		18	—	439	457	16.0
<b>Overall Totals</b>		<b>1,685</b>	<b>976</b>	<b>2,217</b>	<b>4,878</b>	<b>261.5</b>

### DENTAL ANESTHESIOLOGY

LARRY D. TRAPP, Director, Advanced Education Program

JOHN W. LEYMAN, Director, Special Care Dentistry Clinic

#### FACULTY

Barry K. Krall

John W. Leyman

Larry D. Trapp

The Dental Anesthesiology Department is staffed by dentists with advanced training in anesthesiology. Staff members provide didactic and clinical instruction in all areas of pain and anxiety control in dentistry. Undergraduate, predoctoral, and postdoctoral students learn techniques ranging from local anesthesia and parenteral sedation to general anesthesia. Related topics taught include physical diagnosis, clinical pharmacology, management of

medically compromised patients, and management of medical emergencies. Observation of and participation in the anesthetic management of patients in the School of Dentistry Outpatient Surgery

Center provide a unique opportunity for students to learn advanced skills in general anesthesia techniques.

#### COURSES

		Units
ANES 314	Dental Anesthesia: Local Anesthesia and Inhalation Sedation	4.0
ANES 751	Dental Anesthesia: Local Anesthesia and Inhalation Sedation	4.0
ANES 801	Dental Anesthesia: Advanced Topics	2.0

#### DENTAL EDUCATIONAL SERVICES

RONALD J. DAILEY, Chair

##### FACULTY

Ronald J. Dailey  
 Lincoln P. Edwards  
 William M. Hooker  
 Neal A. Johnson  
 Fred C. Kasischke  
 J. S. Kim  
 George M. Lessard  
 Edna M. Loveless  
 William A. Loveless  
 H. Maynard Lowry  
 Kathleen L. Moore  
 Gary M. Nelson  
 Thomas C. Rogers  
 Ronald J. Secor  
 Yanina C. Toledo  
 Robert D. Walter  
 Wu Zhang

The Division of Dental Educational Services provides instruction for a variety of nonclinical subject areas, including behavioral science, practice management, preventive and community dentistry, and service-learning. The interactions of patients, staff, and dentists are examined in light of varied personality characteristics; the art and science of establishing and operating a successful practice are examined; and preventive dentistry in the office and community is studied as the underlying philosophy of dental practice. Students are required to participate in providing dental services and dental health education in dentally underserved settings outside the dental school clinic, providing the experience of involvement in the real world "to make man whole."

#### COURSES

		Units
DNES 305	Etiology and Management of Dental Caries	2.0
DNES 504	Spanish for the Dental Professional	2.0
DNES 700	Orientation to Tooth Morphology	2.0
DNES 705	Etiology and Management of Dental Caries	2.0
DNES 707	Personal Development	2.0
DNES 708	Introduction to the Dental Profession (1)	1.0
DNES 718	Communication Skills for the Dentist	1.0
DNES 789	National Board Part I Review	1.0
DNES 794	Public Health Dentistry	2.0
DNES 804	Applied Statistics	2.0
DNES 806	Research Design	2.0
DNES 806L	Research Design Laboratory	1.0
DNES 807	Practice Management I	2.0
DNES 809	Practice Management II	2.0
DNES 817	Practice Management I for IDP	1.0
DNES 818	Practice Management II for IDP	1.0
DNES 851	The Dentist and the Law	2.0
DNES 889	National Board Part II Review	2.0

**ENDODONTICS**

ROBERT A. HANDYSIDES, Chair  
 MAHMOUD TORABINEJAD, Director, Advanced  
 Education Program

**FACULTY**

Leif K. Bakland  
 Robert A. Handysides  
 David E. Jaramillo  
 Steven G. Morrow  
 Gerardo A. M. Toledo  
 Mahmoud Torabinejad

Endodontics is the discipline of dentistry concerned with the morphology, physiology, and pathology of the human dental pulp and apical tissues. Its study and practice encompass the basic clinical science, including biology of the normal pulp; the etiology, diagnosis, prevention, and treatment of diseases and injuries of the pulp and associated apical conditions. The department faculty have developed preclinical lectures, laboratory exercises, and clinical training that cover the scope of endodontics. These experiences are coordinated and incorporated in a manner that provides patients with optimum oral health care in a setting that promotes the mission of the School of Dentistry.

**COURSES**

		<b>Units</b>
ENDN 831	Endodontics I	1.0
ENDN 832	Endodontics II (2 quarters)	2.0
ENDN 834	Endodontics IV	1.0
ENDN 875	Endodontics Clinic	1.0

**ORAL DIAGNOSIS, RADIOLOGY, AND PATHOLOGY**

LANE C. THOMSEN, Chair

**FACULTY**

Heidi L. Christensen  
 Jennifer Y. Fang  
 Neal A. Johnson  
 Heidi B. Kohltfarber  
 Hilbert Lentz, Jr.  
 Ali Makki  
 Audrey N. Mojica  
 Susan C. Richards  
 Susan Roche  
 Lane C. Thomsen

The Department of Oral Diagnosis, Radiology, and Pathology covers a variety of disciplines. The overall focus of the department is to train dental students to consider all related factors when arriving at a diagnosis and formulating a treatment plan that will best meet the needs of each patient. Courses are offered that cover aspects of general and systemic pathology, oral medicine, geriatric and special needs dentistry, emergency diagnosis and treatment, oral pathology, radiology, diagnosis, and treatment planning. The department's aim is to prepare dental students to excel in compassionate and knowledgeable service to patients that is based on a comprehensive gathering and interpretation of pertinent data.

**COURSES**

		<b>Units</b>
IDPO 534	Oral Medicine /Orofacial Pain and TMD	2.0
IDPO 535	Oral Pathology and Diagnosis	2.0
IDPO 725	Patient Assessment and Data Management for IDP	2.0
IDPO 726	Patient Diagnosis and Treatment Planning for IDP	2.0
ODRP 311	General and Oral Pathology DH	5.0
ODRP 501	Principles of Microbiology	4.0
ODRP 701	Radiology I: Clinical Procedures	1.5
ODRP 725	Patient Assessment and Data Management	3.0
ODRP 726	Patient Diagnosis and Treatment Planning	1.5
ODRP 735	Dental Emergency Diagnosis and Treatment	1.0
ODRP 751	General and Systemic Pathology I	4.0
ODRP 752	General and Systemic Pathology II	4.0
ODRP 755	Radiology II: Theory and Interpretation	2.0
ODRP 761	Oral Pathology and Diagnosis	6.0
ODRP 807	Oral Medicine I: TMJ/Orofacial Pain I	1.0
ODRP 808	Oral Medicine II: Medically Compromised Patient	2.0
ODRP 811	Oral Medicine III: TMJ/Orofacial Pain II	1.0
ODRP 821	Special Care Dentistry	1.0

ODRP 825	Oral Diagnosis, Radiology and Pathology Clinic (4 quarters/3 units required)	0.5-3.0
ODRP 826	Oral Medicine IV: Clinical Oral Pathology and Oncology	2.0
ODRP 875	Oral Diagnosis, Radiology and Pathology Clinic (4 quarters/4 units required)	1.0-4.0

### ORAL AND MAXILLOFACIAL SURGERY

ALAN S. HERFORD, Chair; Director, Advanced Education Program

WAYNE K. TANAKA, Director, Predoctoral Program

#### FACULTY

Liviu F. Eftimie  
Alan S. Herford  
Fred R. Matthews  
Wayne K. Tanaka

The predoctoral courses in the Department of Oral and Maxillofacial Surgery include didactic and clinical instruction to prepare the student for dealing with patients seen in the general practice of dentistry.

Subject matter considered includes patient evaluation prior to surgery, surgical instruments, complications and ways of preventing them, infections of the region, antibiotics, analgesic drugs to alleviate pain resulting from surgical procedures, prescription writing, and preparation of the mouth for prostheses. Oral and maxillofacial surgery procedures not done by the general dentist are included in the lectures because knowledge regarding these procedures is necessary to provide a basis for proper advice to patients with conditions that are treated by the specialist. Clinical experience ranges from a basic minimum of routine cases to more difficult, advanced cases, according to the student's demonstrated ability, perseverance, judgment, and interest in oral and maxillofacial surgery.

#### COURSES

		Units
IDPO 826	Oral and Maxillofacial Surgery for IDP	2.0
OMFS 805	Oral and Maxillofacial Surgery I	1.0
OMFS 811	Oral and Maxillofacial Surgery II (2 quarters/2 units required)	1.0-2.0
OMFS 819	Intravenous Sedation	1.5
OMFS 825	Oral and Maxillofacial Surgery Clinic I	1.0
OMFS 875	Oral and Maxillofacial Surgery Clinic II	1.0

### ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS

JOSEPH M. CARUSO, Chair

V. Leroy Leggitt, Director, Advanced Education Program

#### FACULTY

Joseph M. Caruso  
James R. Farrage  
Gabriela E. Garcia  
V. Leroy Leggitt  
Roland D. W. Neufeld  
Kitchai Rungcharassaeng  
R. David Ryneanson

The predoctoral courses in the Department of Orthodontics, as outlined by the American Dental Association, apply the knowledge derived from the basic sciences, research, and clinical treatment to the science of orthodontics so that the dental graduate will have the background necessary to recognize those conditions s/he is capable of managing. Clinical experience ranges from minor tooth movement and early treatment cases to more difficult, advanced

cases according to the student's demonstrated ability, perseverance, judgment, and interest in orthodontics.

The graduate will be able to:

1. Anticipate and detect malocclusions.
2. Take steps to prevent or intercept malocclusion where possible.
3. Use this knowledge as an adjunct to procedures in all other phases of dental practice.
4. Provide a basis for understanding the possibilities of orthodontic treatment.
5. Treat limited orthodontic problems that fall within the general dentist's sphere of knowledge and training.
6. Know the bases on which case referrals are made and how to handle a referral correctly.

**COURSES**

<b>COURSES</b>		<b>Units</b>
ORDN 751	Principles of Orthodontics I	1.0
ORDN 801	Minor Tooth Movement	2.0
ORDN 811	Principles of Orthodontics II	1.0
ORDN 875	Orthodontics Clinic	1.0

**PEDIATRIC DENTISTRY**

BONNIE A. NELSON, Chair  
 F. ROBERT TRAFICANTE, Jr., Director, Advanced Education Program

**FACULTY**

Jung-Wei Chen  
 Richard L. Grabowsky  
 J. Todd Milledge  
 Bonnie A. Nelson  
 Wesley K. Okumura  
 F. Robert Traficante, Jr.

The Department of Pediatric Dentistry is committed to teaching excellent clinical techniques in children's dentistry, and instilling within the dental student the importance of providing an emotionally healthy environment for the child patient while "at the dentist." The faculty has developed didactic, laboratory, and clinical learning environments in pediatric dentistry. This broad experience is designed to prepare the student for the general practice of dentistry for children.

**COURSES**

<b>COURSES</b>		<b>Units</b>
IDPP 755	Pediatric Dentistry Clinic for IDP	1.0
IDPP 756	Pediatric Dentistry I for IDP	2.0
IDPP 756L	Pediatric Dentistry I Laboratory for IDP	1.0
PEDN 753	Pediatric Dentistry I Lecture	2.0
PEDN 753L	Pediatric Dentistry I Laboratory	1.0
PEDN 821	Pediatric Dentistry II	1.0
PEDN 825	Pediatric Dentistry Clinic I (4 quarters/3.5 units required)	0.5-3.5
PEDN 875	Pediatric Dentistry Clinic II (4 quarters/3 units required)	0.5-3.0

**PERIODONTICS**

CRAIG M. RIRIE, Interim Chair, Department of Periodontics; Director, Predoctoral Program  
 JEFFREY M. HENKIN, Director, Advanced Education Program

**FACULTY**

Nikola Angelov  
 R. Leslie Arnett, Jr.  
 Jeffrey M. Henkin  
 Oliver C. Hoffmann  
 Yoon J. Kim  
 S. Scott Lee  
 Leticia C. Lenoir  
 Adrian Mobilia  
 Manoochehr Parsi  
 Craig M. Ririe  
 Dennis H. Smith  
 Barbara H. Valadez  
 Albert M. Weissman  
 Klaus D. Wolfram

The Department of Periodontics provides education and training for predoctoral, dental hygiene, and postgraduate students in the art and science of periodontics. Periodontics encompasses the study of the supporting structures of the teeth; as well as the etiology, pathogenesis, diagnosis, and treatment of diseases that affect the supporting structures of the teeth. The study of periodontics helps to form basic concepts of health and disease. These concepts are applied in the treatment of periodontal diseases and in the maintenance of dental health over a patient's lifetime, providing comprehensive dental therapy for the individual patient. In this way, the Department of Periodontics contributes directly to the School of Dentistry's academic and service mission "to make man whole."

**COURSES**

<b>COURSES</b>		<b>Units</b>
IDPP 754	Clinical Periodontics	2.0
IDPP 759	Special Topics in Periodontal Therapy	2.0
PERI 705	Introduction to Periodontics	2.0
PERI 741	Essential Periodontal Therapy, Lecture	2.0
PERI 742	Essential Periodontal Therapy, Laboratory	2.0



PERI 765	Special Topics in Periodontal Therapy	2.0
PERI 805	Periodontal Surgical Therapy	1.0
PERI 875	Periodontics Clinic (4 quarters/7.5 units required)	1.0-7.5

### RESTORATIVE DENTISTRY

DOUGLASS B. ROBERTS, Chair

MATHEW T. KATTADIYIL, Director, Advanced Education Program in Prosthodontics

JAIME L. LOZADA, Director, Advanced Education Program in Implant Dentistry

#### FACULTY

Daniel R. Armstrong

Frederick A. Berry

George A. Blount

David C. Brodeur

Nathan A. Dinsbach

Mark E. Estey

Michael J. Fitzpatrick

Ronald E. Forde

Belen G. Geach

Gary J. Golden

Charles J. Goodacre

B. Dan Hall

William H. Heisler

Balsam F. Jekki

Rami R. Jekki

Joseph Y. K. Kan

Mathew T. Kattadiyil

Amir H. Khatami

S. Alejandro Kleinman

Edward S. C. Ko

Doris R. Kore

Yiming Li

Jaime L. Lozada

Luminita S. Narita

Michael R. Meharry

Gregory D. Mitchell

Steven G. Morrow

Brian B. Novy

Andrew T. Ordelheide

James R. Padgett

Patricia Ramos

Paul L. Richardson

Douglass B. Roberts

Elizabeth B. Robbins

Sofia I. Rodriguez-Lopez

Clyde L. Roggenkamp

Erik F. Sahl

Jung Hwa Suh

Daniel E. Tan

L. Parnell Taylor

Anthony G. Theodorou

Marcelo G. Toledo

F. Jose Torres

Robert D. Walter

Ronald L. Young

Periza Zaninovic

The Department of Restorative Dentistry encompasses the specific disciplines of operative dentistry, fixed prosthodontics, and removable prosthodontics. It provides a home base for biomaterials research and graduate programs in implant dentistry and prosthodontics. It is the aim of the department to provide each student with a thorough understanding of both technical and clinical skills, enabling the comprehensive treatment of diseased or lost tooth structure and the replacement of missing teeth. Other goals are to instill in each student an interest in exploring new frontiers in dentistry and in recognizing the need for a continued quest for knowledge.

### COURSES

		Units
IDPR 701	Operative Dentistry I with Laboratory	2.0
IDPR 702	Operative Dentistry II with Laboratory	2.0
IDPR 704	Introduction to Occlusion	2.0
IDPR 761	Removable Prosthodontics I with Laboratory	2.0
IDPR 762	Removable Prosthodontics II with Laboratory	2.0
IDPR 763	Removable Prosthodontics III with Laboratory	2.0
IDPR 771	Fixed Prosthodontics I with Laboratory	2.0
IDPR 772	Fixed Prosthodontics II with Laboratory	2.0
IDPR 801	Fixed Prosthodontics III with Laboratory	2.0
IDPR 803	Operative Dentistry III with Laboratory	2.0
IDPR 854	Implant Dentistry with Laboratory	3.0
RESD 701	Restorative Dentistry I Lecture	2.0
RESD 701L	Restorative Dentistry I Laboratory	2.0
RESD 702	Restorative Dentistry II Lecture	2.0
RESD 702L	Restorative Dentistry II Laboratory	2.0
RESD 708	Restorative Dentistry III Lecture	2.0
RESD 708L	Restorative Dentistry III Laboratory	2.0

RESD 709	Restorative Dentistry IV Lecture	2.0
RESD 709L	Restorative Dentistry IV Laboratory	2.0
RESD 764	Removable Prosthodontics	5.5
RESD 771	Single Casting Technique Lecture	2.0
RESD 771L	Single Casting Technique Laboratory	2.0
RESD 772	Fixed Prosthodontics Lecture	2.0
RESD 772L	Fixed Prosthodontics Laboratory	2.0
RESD 773	Fixed Prosthodontics II Lecture	1.0, 2.0
RESD 773L	Fixed Prosthodontics II Laboratory	1.0, 2.0
RESD 801	Fixed Prosthodontics and Occlusion	1.0
RESD 811	Dental Materials II	1.0
RESD 822	Operative Dentistry II Lecture	1.0
RESD 822L	Operative Dentistry II Laboratory	1.0
RESD 823	Operative Dentistry III Lecture	1.0
RESD 823L	Operative Dentistry III Laboratory	1.0
RESD 844	Restorative Study Club Seminar	0.5
RESD 854	Implant Dentistry	2.0
RESD 854L	Implant Dentistry Laboratory	1.0
RESD 861	Senior Topics in Removable Prosthodontics	2.0
RESD 875	Restorative Clinic (10 quarters/37.5 units required)	0.5-7.0
SDCJ 744	Clinical Training in Advanced Restorative Dentistry	8.0
SDCL 711	Clinic Orientation I	1.0
SDCL 712	Clinic Orientation II	2.0
SDCL 713	Clinic Orientation III	1.0
SDCL 801	Clinical Patient Care	2.0
SDCL 802	Clinical Patient Care	2.0
SDCL 803	Clinical Patient Care	2.0
SDCL 804	Clinical Patient Care	2.0
SDCL 805	Clinical Patient Care	2.0
SDCL 806	Clinical Patient Care	2.0
SDCL 807	Clinical Patient Care	2.0
SDCL 808	Clinical Patient Care	2.0

# Dental Hygiene—SD

## (B.S.)

KRISTI J. WILKINS, Chair

JEAN M. HONNY, Director, Degree Completion Program

### FACULTY

Darlene A. Armstrong

Kellie R. Bergendahl

D. Darlene Cheek

Janeen C. Duff

Debra K. Friesen

Jean M. Honny

Michelle T. Hurlbutt

Shirley A. Lee

Joni A. Stephens

Kristi J. Wilkins

Colleen Whitt

Established in 1959, the Department of Dental Hygiene, the undergraduate program of the School of Dentistry, is largely focused on preventive oral health services and maintenance care. Dental science courses, preclinical lectures and seminars, laboratory exercises, and clinical assignments have been developed to provide training in the variety of procedures delegated to the dental hygienist within the dental practice setting. These experiences are sequenced in an organized manner that provides for continual growth and competency in performance of all traditional and expanded function procedures.

The purpose of the program is to develop professionals prepared for the current practice of dental hygiene, as well as graduates who are additionally prepared to deal with future changes in dentistry. Courses that encourage critical thinking and problem-solving techniques and that enhance the ability to evaluate the latest in research are important adjuncts to clinical training.

Upon completion of this curriculum, graduates will be prepared to enter a variety of career options available to a dental hygienist.

The Degree Completion Program is designed for licensed dental hygienists who graduated from an Associate in Science degree program, or its equivalent, and wish to complete the baccalaureate (B.S.) degree in dental hygiene. This program is the equivalent of one full academic year. In addition to the degree completion courses in either education or public health, the student will need to complete any remaining general education requirements needed to fulfill a baccalaureate degree.

The Degree Completion Program is designed to be completed primarily online, with a requisite teaching or public health component that may be

accomplished in the geographical area of the student. This program offers the challenge and quality of a traditional classroom, yet provides the flexibility to fit education into the life of the busy dental professional. Students can study at their own convenience, learn in small groups with expert faculty, and meet career goals at their own speed. Students who tend to be the most successful in this type of program are self-directed, computer literate, and self-motivated in their learning and study habits.

Two areas of focus are included in this program. The first is teaching and prepares the student to instruct in a dental hygiene program. The second is a public health focus, which will allow graduates to work in a community/dental public health program or will enable them to teach in a dental hygiene program.

### Philosophy

A profession in the health arts and sciences calls increasingly for persons of intelligence, integrity, responsibility, and depth of human understanding. Therefore, the program of instruction is planned on a strong liberal arts foundation. The student is encouraged to take electives that contribute to breadth of knowledge and quality of values. The choice of electives in early college work is important for many reasons.

The School of Dentistry is interested in applicants with the potential to become hygienists who are well-read and caring persons prepared to communicate effectively in professional and community relationships. They should be able to draw on knowledge of the structure and function of the human body in health and disease, applying resources based on Christian ideals and values to aid in the solution of personal problems. They should also be able to develop the attitudes and skills that will most effectively serve society.

### Goal

The goal of the Dental Hygiene Program is to educate competent, concerned, and active members of the dental hygiene profession who possess the ability to effectively perform the expanding scope of practice of the dental hygienist.

Loma Linda University emphasizes Christian values and beliefs and the concept of whole-person care. Opportunities for spiritual growth and fellowship among faculty and students are interwoven into daily academic pursuits, clinical practice, and social interactions.

The advancement of dental hygiene depends on an ever-growing body of knowledge. Therefore, this program also places great importance on providing an atmosphere in which students can develop the skills necessary to objectively assess new theories and trends in dentistry in light of scientific knowledge

and principles. By combining Christian values with an appreciation for research and the scientific method, graduates will continually apply evidence-based principles to patient care and exhibit God's love in the quality of service they render.

#### Admission

Information and procedures for applying to the Dental Hygiene Program can be found under the Application and Admissions section of the general information for the School of Dentistry in Section III.

#### Curriculum

Dental hygiene, a profession dating back to 1913, is largely concerned with preventive health services.

The hygienist works in association with the dentist in private practice offices, industrial organizations, schools, hospitals, state or federal public health services, and the armed forces.

The curriculum is organized as a four-year college program leading to the Bachelor of Science degree. The freshman and sophomore years of largely prescribed, preprofessional study may be taken at any accredited college. The professional program begins with the junior year in the School of Dentistry. The program is approved by the Commission on Dental Accreditation of the American Dental Association. The first class at this University graduated in 1961.

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
<b>Junior Year, Autumn Quarter</b>						
ANAT 301	Head and Neck Anatomy, DH	40	—	—	40	4.0
DNHY 303	Dental Materials and Techniques	20	—	—	20	2.0
DNHY 305	Dental Anatomy Lecture	22	—	—	22	2.0
DNHY 305L	Dental Anatomy Laboratory	—	44	—	44	1.0
DNHY 309	Radiology I	33	28	—	61	3.0
DNHY 321	Preclinical Dental Hygiene I Lecture	22	—	—	22	2.0
DNHY 321L	Preclinical Dental Hygiene I Laboratory	—	88	—	88	2.0
RELT 423	Loma Linda Perspectives	20	0-30	—	20-50	2.0
<b>Totals</b>		157	160-190	—	317-347	18.0

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
<b>Winter Quarter</b>						
ANAT 303	General and Oral Histology and Embryology	30	—	—	30	3.0
ANES 314	Dental Anesthesia: Local Anesthesia and Inhalation Sedation	41	14	—	55	4.0
DNHY 310	Radiology II	22	—	—	22	2.0
DNHY 322	Preclinical Dental Hygiene II Lecture	20	—	—	20	2.0
DNHY 322L	Preclinical Dental Hygiene II Laboratory	—	44	—	44	2.0
DNHY 375	Dental Hygiene Clinic	—	—	30	30	1.0
DNHY 380	Medically Compromised Patients	20	—	—	20	2.0
DNHY 381	Pharmacology for the Dental Hygienist I	44	—	—	44	2.0
<b>Totals</b>		177	58	30	265	18.0

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
<b>Spring Quarter</b>						
DNHY 323	Preclinical Dental Hygiene III	22	—	—	22	2.0
DNHY 323L	Preclinical Laboratory	—	40	—	40	1.0

DNHY 376	Dental Hygiene Clinic	—	—	120	120	4.0
DNHY 380	Medically Compromised Patients	20	—	—	20	2.0
DNHY 382	Pharmacology for the Dental Hygienist II	11	—	—	11	1.0
DNHY 405	Introduction to Periodontics	20	—	—	20	2.0
ODRP 311	General and Oral Pathology DH	50	—	—	50	5.0
RELE 457	Christian Ethics and Health Care	20-30	—	—	20-30	2.0
<b>Totals</b>		<b>143-153</b>	<b>40</b>	<b>120</b>	<b>303-313</b>	<b>19.0</b>

<b>Senior Year, Summer Quarter</b>		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNES 305	Etiology and Management of Dental Caries	16	8	—	24	2.0
DNHY 328	Dental Hygiene Portfolio Practicum	10	—	—	10	1.0
DNHY 376	Dental Hygiene Clinic	—	—	120	120	4.0
DNHY 390	Introductory Statistics	22	—	—	22	2.0
DNHY 406	Orthodontics Concepts for Dental Hygiene	10	—	—	10	1.0
DNHY 416	Dental Health Education I	20	—	—	20	2.0
DNHY 421	Research I	8	30	—	38	2.0
<b>Totals</b>		<b>86</b>	<b>38</b>	<b>120</b>	<b>244</b>	<b>14.0</b>

<b>Senior Year, Autumn Quarter</b>		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNHY 411	Dental Hygiene Topics I	22	—	—	22	2.0
DNHY 415	Applied Nutrition	22	—	—	22	2.0
DNHY 417	Dental Health Education II	20	—	—	20	2.0
DNHY 422	Research II	20	—	—	20	2.0
DNHY 435	Special Topics in Periodontal Therapy	22	—	—	22	2.0
DNHY 451	Clinical Seminar I	10	—	—	10	1.0
DNHY 475	Dental Hygiene Clinic I	—	—	176	176	4.0
DNHY 495	Dental Hygiene National Board Preparation	11-22	—	—	11-22	1.0
RELR 475	Art of Integrative Care	20-30	—	—	20-30	2.0
<b>Totals</b>		<b>147-168</b>	<b>—</b>	<b>176</b>	<b>323-344</b>	<b>18.0</b>

<b>Winter Quarter</b>		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNHY 408	Professional Ethics	22	—	—	22	2.0
DNHY 412	Dental Hygiene Topics II	22	—	—	22	2.0
DNHY 418	Critical Issues of Health Care	22	—	—	22	2.0
DNHY 431	Dental Public Health	33	—	—	33	3.0
DNHY 452	Clinical Seminar II	11	—	—	11	1.0

DNHY 476	Dental Hygiene Clinic II	—	—	176	176	4.0
DNHY 495	Dental Hygiene National Board Preparation	11-22	—	—	11-22	1.0
Totals		121-132	—	176	297-308	15.0

Spring Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNHY 409	Jurisprudence	22	—	—	22	2.0
DNHY 413	Dental Hygiene Topics III	22	—	—	22	2.0
DNHY 414	Personal Finance	20	—	—	20	2.0
DNHY 453	Clinical Seminar III	11	—	—	11	1.0
DNHY 477	Dental Hygiene Clinic III	—	—	176	176	4.0
RELR 408	Christian Perspectives on Marriage and the Family	20-30	—	—	20-30	2.0
Totals		95-105	—	176	271-281	13.0
<b>Overall Totals</b>		<b>926-978</b>	<b>296-326</b>	<b>798</b>	<b>2,020-2,102</b>	<b>115.0</b>

**DENTAL HYGIENE TEN CORE COMPETENCIES**

The curriculum is designed to ensure that by graduation all students will have the knowledge, skills, and attitudes to successfully enter the practice of dental hygiene. Students meeting graduation requirements must be able to:

- Competency 1: Apply a professional code of ethics in all patient and professional interactions.
- Competency 2: Adhere to the federal/state legal and regulatory framework in the provision of oral health care.
- Competency 3: Apply critical-thinking and problem-solving skills in the provision of oral health care to promote whole-patient health and wellness.
- Competency 4: Use evidence-based decision making and emerging treatment modalities to evaluate and incorporate accepted standards of care.
- Competency 5: Incorporate self-assessment and professional growth through lifelong learning.
- Competency 6: Advance oral health services through affiliations with professional organizations, service activities, and research.
- Competency 7: Apply quality assurance to ensure a continued commitment to accepted standards of care.
- Competency 8: Communicate effectively with diverse individuals and groups serving all persons without

discrimination by acknowledging and appreciating diversity.

- Competency 9: Provide accurate, consistent, and complete assessment, diagnosis, planning, implementation, evaluation, and documentation for the provision of all phases of the dental hygiene process of care.
- Competency 10: Provide collaborative, individualized patient care that is comprehensive and compassionate.

**Regulations**

The student is also subject to the conditions of registration, attendance, financial policy, governing practices, and graduation requirements outlined in Section II and in the School of Dentistry general information in Section III of this CATALOG.

**Employment**

Dental hygiene students may accept part-time employment during the school year after receiving approval from the department chair and the associate dean for academic affairs. Permission to work is granted on the basis of grades, class load, and health. Work hours may not interfere with class, laboratory, or clinic assignments.

**Supplies**

Dental hygiene students must have prescribed textbooks, supplies, instruments, and uniforms. The official instruments issued must be purchased from the School of Dentistry during registration. Unauthorized or incomplete equipment is not acceptable. Advance consent must be obtained for

any exception. The student must buy the professional apparel (uniforms, protective eyewear, and shoes) specified by the School of Dentistry.

**License**

To practice, the dental hygienist must pass state licensing examinations given by state and/or regional dental examining boards. The examinations are given several times each year. Credentials from the National Board of Dental Examiners are accepted in lieu of the written portion of a state examination in all states. Some states have additional written tests. Further information can be obtained from each state licensing board.

NOTE: Consult advisor regarding other courses that may be applied to the program.

**DEGREE COMPLETION PROGRAM**

- Dental Hygiene—Education Track
- Dental Hygiene—Public Health Track

Upon completion of the dental hygiene Degree Completion Program, the graduate's knowledge will be enhanced to:

1. Support the University's mission in a variety of health care, educational, community, and research settings beyond a traditional dental office setting.
2. Understand and comprehend research methodology to evaluate scientific literature.
3. Identify new products and/or techniques needed for education or public health in the field of dental health.
4. Increase awareness of ethics in the education or public health setting.

5. Develop pedagogical skills to prepare the graduate to be an educator in public health or educational settings.

**Admission**

Formal application for admission to this program must be submitted by February 1 for the class beginning in September. The program may be completed on a full- or part-time basis. Basic requirements and credentials for admission include:

- Graduation from a dental hygiene A.S. degree program accredited by the Commission on Dental Accreditation.
- Successful completion of the Dental Hygiene National Board Examination.
- Successful completion of a state or regional clinical board examination.

All applicants must provide the following:

- All college transcripts
- Applications submitted between July 1 and February 1 for admission to the online degree completion program. Application is available at <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)>.
- Three letters of reference, including one from the director of the accredited dental hygiene program from which the applicant graduated.

All students graduating from Loma Linda University with a B.S. degree in dental hygiene must have completed all of the prerequisites, including the four domains for general education. Should any prerequisite be lacking, it must be completed at a *four-year college or university* before or during the degree completion program at Loma Linda University School of Dentistry.

**Core**

Minimum grade of C- required on all the following courses including those in the concentration

		<b>Education Track</b>	<b>Public Health Track</b>
DNES 305	Etiology and Management of Dental Caries	2.0	2.0
DNHY 390	Introductory Statistics	2.0	2.0
DNHY 414	Personal Finance	2.0	2.0
DNHY 421	Research I	2.0	2.0
DNHY 422	Research II	2.0	2.0
DNHY 441	Principles of Education I	3.0	3.0
DNHY 442	Principles of Education II	3.0	3.0
DNHY 444	Teaching Practicum (3.0-4.0)	4.0	4.0
DNHY 464	Web-Based Techniques	2.0	2.0

DNHY 498	Dental Hygiene Directed Study (1.0-10.0)	To be completed in three separate 1-unit registrations	3.0	3.0
DNHY 499	Research Writing		2.0	2.0
RELE 457	Christian Ethics and Health Care (2.0-3.0)		2.0	2.0
RELT 423	Loma Linda Perspectives (2.0-3.0)		2.0	2.0
Totals			31.0	31.0

<b>Concentration</b>		<b>Education Track</b>	<b>Public Health Track</b>
DNHY 419	Essentials of Public Health for Dental Hygienists		4.0
DNHY 425	Educational Psychology for Health Professionals	3.0	
DNHY 428	Health Care Management		3.0
DNHY 436	Legal and Ethical Principles in Education	2.0	
DNHY 437	Ethical Principles in Public Health for the Dental Hygienist		2.0
DNHY 446	Principles of Clinical Instruction	3.0	
DNHY 449	Treating the Special-Needs Patient		3.0
DNHY 484	Legal Issues in Health Care		2.0
Totals		8.0	14.0
<b>Overall Totals</b>		<b>39.0</b>	<b>45.0</b>

NOTE: Consult advisor regarding other courses that may be applied to the program.

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.



# Dentistry, International Dentist Program— SD

## (D.D.S.)

MICHAEL J. FITZPATRICK, Program Director

### FACULTY

Michael J. Fitzpatrick  
Balsam F. Jekki  
Rami R. Jekki  
Gregory D. Mitchell  
Sofia I. Rodriguez-Lopez  
Marcelo G. Toledo  
Klaus D. Wolfram

The International Dentist Program, founded by Dr. Lloyd Baum in 1985, is designed to allow qualified dentists educated in countries outside the United States to earn a Doctor of Dental Surgery (D.D.S.) degree in the United States. More than 250 students from fifty countries have graduated from the program.

The D.D.S. degree from a U.S. dental college is an educational requirement for eligibility to take the dental licensure examination in many states. The program has a minimum length of two academic years (twenty-four calendar months), but may be extended, when necessary, to meet the needs of a particular student.

### Admissions

Information and procedures for applying to the International Dentist Program can be found under Application and Admissions in the School of Dentistry general information in Section III of this CATALOG.

### Regulations

The student is also subject to the conditions of registration, attendance, financial policy, governing practices, and graduation requirements outlined in Section II and in the School of Dentistry general information in Section III of this CATALOG.

Third Year, Spring Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNES 707	Personal Development	19	3	—	22	2.0
ENDN 831	Endodontics I	10	—	—	10	1.0
ENDN 832	Endodontics II	—	60	—	60	2.0
IDPG 845	Evidence-Based Dentistry	22	—	—	22	2.0
IDPO 725	Patient Assessment and Data Management	22	—	—	22	2.0
IDPO 826	Oral and Maxillofacial Surgery	11	33	—	44	2.0
IDPP 759	Special Topics in Periodontal Therapy	22	—	—	22	2.0
IDPR 701	Operative Dentistry I	11	33	—	44	2.0
IDPR 761	Removable Prosthodontics I	11	33	—	44	2.0
IDPR 771	Fixed Prosthodontics I	11	33	—	44	2.0
RELE 734	Christian Ethics for Dentists	20	—	—	20	2.0
Totals		159	195	—	354	21.0

Summer Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
IDPG 845	Evidence-Based Dentistry	22	—	—	22	2.0
IDPO 726	Patient Diagnosis and Treatment Planning	22	—	—	22	2.0
IDPO 826	Oral and Maxillofacial Surgery	11	33	—	44	2.0
IDPP 754	Clinical Periodontics	11	33	—	44	2.0

IDPP 756	Pediatric Dentistry	22	—	—	22	2.0
IDPP 756L	Pediatric Dentistry Laboratory	—	44	—	44	1.0
IDPR 702	Operative Dentistry II	11	33	—	44	2.0
IDPR 704	Introduction to Occlusion	22	—	—	22	2.0
IDPR 762	Removable Prosthodontics II	11	33	—	44	2.0
IDPR 772	Fixed Prosthodontics II	11	33	—	44	2.0
Totals		143	209	—	352	19.0

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
<b>Autumn Quarter</b>						
IDPC 825	General Clinics	—	—	240	240	8.0
IDPP 755	Pediatric Dentistry Clinic—IDP	—	—	48	48	1.0
IDPR 763	Removable Prosthodontics III	11	33	—	44	2.0
IDPR 801	Fixed Prosthodontics III	11	33	—	44	2.0
IDPR 803	Operative Dentistry III	11	33	—	44	2.0
ORDN 801	Minor Tooth Movement	20	—	—	20	2.0
Totals		53	99	288	440	17.0

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
<b>Winter Quarter</b>						
IDPC 825	General Clinics	—	—	240	240	8.0
IDPO 535	Oral Pathology and Diagnosis	22	—	—	22	2.0
IDPR 854	Implant Dentistry for the IDP Student	22	44	—	66	3.0
ORDN 811	Principles of Orthodontics II	10	—	—	10	1.0
PEDN 821	Pediatric Dentistry II	10	—	—	10	1.0
RELR 749	Personal and Family Wholeness	20	—	—	20	2.0
Totals		84	44	240	368	17.0

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
<b>Fourth Year, Spring Quarter</b>						
IDPC 835	General Clinics	—	—	240-440	240-440	12.0
Totals		—	—	240-440	240-440	12.0

		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
<b>Summer Quarter</b>						
IDPC 835	General Clinics	—	—	240-440	240-440	12.0
Totals		—	—	240-440	240-440	12.0

Autumn Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNES 817	Practice Management I for IDP Students	—	40	—	40	1.0
IDPC 845	General Clinics	—	—	240	240	8.0
IDPO 534	Oral Medicine-Orofacial Pain and TMD	20	—	—	20	2.0
RELT 717	Christian Beliefs and Life	20	—	—	20	2.0
Totals		40	40	240	320	13.0

Winter Quarter		Clock Hours				Total Units
		Lec/Sem	Lab	Clin	Total	
DNES 818	Practice Management II for IDP Students	—	40	—	40	1.0
IDPC 845	General Clinics	—	—	240	240	8.0
Totals		—	40	240	280	9.0
<b>Overall Totals</b>		<b>479</b>	<b>627</b>	<b>1,488- 1,888</b>	<b>2,594- 2,994</b>	<b>120.0</b>

## Postdoctoral Programs

There are three degree options available in advanced dental education.

- Certificate
- Master of Science (M.S.)
- Master of Science in Dentistry (M.S.D.)



# Dental Anesthesiology, Advanced—SD

## (PD Certificate, M.S.D.)

LARRY D. TRAPP, Director, Advanced Education Program

### FACULTY

Barry K. Krall  
John W. Leyman  
Larry D. Trapp

The advanced education program in dental anesthesiology is offered to dentists who desire to pursue a career in anesthesiology for dentistry. The educational design of this twenty-four month program provides a strong clinical background in anesthesiology. The program is based in the Koppel Special Care Dentistry Center (KSCDC), an outpatient facility utilizing general anesthesia for dental care. The KSCDC is located in the School of Dentistry, where approximately 4,000 patients are treated on an annual basis. Additional training at area hospitals is received in structured rotations in cardiology, internal medicine, and anesthesiology.

Didactic instruction is coordinated through the School of Dentistry's Department of Dental Anesthesiology. Residents attend an anesthesiology lecture series and weekly grand rounds at Loma Linda University Medical Center. In addition, regular meetings of the dental anesthesiology residents are held, during which a variety of contemporary topics are discussed—including a review of the current literature. Residents also participate in teaching pain control in the predoctoral curriculum.

Upon successful completion of the program, the dental anesthesiologist will be eligible to take the diplomate examination of the American Dental Board of Anesthesiology, and to apply for a general anesthesia permit in any state of the United States.

Following enrollment into the program, residents may apply for acceptance to the Master of Science in Dentistry (M.S.D.) degree track in addition to the specialty certificate. The application should be submitted at the end of the first year and be supported by the program director. Admission into the M.S.D. degree track may extend the length of study. Any additional time must be in residence, and continued financial support is not guaranteed.

### Dental anesthesiology goals

1. To provide to the dental anesthesia resident anesthesia-related skills and knowledge that are the basis for a safe and responsible practice of office- or hospital-based dental anesthesiology after completion of the training program.

2. To provide an in-depth education in acute pain and anxiety as they pertain to dental treatment and an understanding of the application of the pharmacologic and behavioral treatments of these conditions.
3. To provide a background in the health sciences and clinical medicine that allows a dentist anesthesiologist to recognize and appropriately refer the patient who is at elevated risk for anesthesia due to comorbidities.
4. To select graduates of dental schools in the United States and Canada for training in anesthesiology who have demonstrated character values that include integrity, respect for others, a willingness to work hard, compassion, and the willingness to take responsibility.

Program link: <[www.llu.edu/dentistry/anesthesia/graduateprogram.page](http://www.llu.edu/dentistry/anesthesia/graduateprogram.page)>

### Application process

The advanced education program in dental anesthesiology participates in the Postdoctoral Application Support Service (PASS) of the American Dental Education Association (ADEA), which allows applicants to apply to multiple participating institutions.

PASS applicants for the Advanced Education Program in dental anesthesiology must also complete and submit a separate online application <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)> directly to Loma Linda University.

This program also will accept direct applications for individuals who are not applying to other institutions through PASS.

### Application deadline

Application for admission should be submitted no later than September 1 of the year prior to the summer of intended enrollment.

### Tuition (2009-2010)

No tuition or fees are charged. Residents are paid a stipend during training.

### Insurance and fees (2009-2010)

\$398 Insurance per academic quarter, which is paid by the department.

\$123 Student service fees per quarter, which are paid by the department.

\$195 Information technology support fee per quarter, which is paid by the department.

<b>Major</b>		<b>Certificate</b>	<b>M.S.D.</b>
ANES 521	Principles of Medicine, Physical Diagnosis, and Hospital Protocol (1.0)	8.0	8.0
ANES 547	Anesthesia Grand Rounds (1.0)	8.0	8.0
ANES 548	Anesthesia Residents Seminar (2.0)	16.0	16.0
ANES 604	Anesthesia Literature Review (1.0)	8.0	8.0
ANES 654	Practice Teaching in Anesthesia (1.0-2.0)	6.0	6.0
ANES 696	Scholarly Activity in Dental Anesthesiology	1.0	1.0
ANES 697A	Research		1.0
ANES 697B	Research		1.0
<b>Totals</b>		<b>47.0</b>	<b>49.0</b>

<b>Interdisciplinary</b>		<b>Certificate</b>	<b>M.S.D.</b>
RELE 524	Christian Bioethics	3.0	3.0
<b>Totals</b>		<b>3.0</b>	<b>3.0</b>

**Clinical**

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		<b>Certificate</b>	<b>M.S.D.</b>
ANES 746	General Anesthesia (9.0)	72.0	72.0
<b>Totals</b>		<b>—</b>	<b>—</b>
<b>Overall Totals</b>		<b>50.0</b>	<b>52.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

# Endodontics, Advanced—SD

## (PD Certificate, M.S.D., M.S.)

MAHMOUD TORABINEJAD, Director, Advanced Education Program

### FACULTY

Leif K. Bakland  
Robert A. Handysides  
David E. Jaramillo  
Mahmoud Torabinejad

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

The goals of the advanced dental education program in endodontics include training endodontists who have:

1. The knowledge necessary to diagnose and plan treatment for various pulpal and periapical conditions, and who possess skills at the level of proficiency to treat—alone or in concert with other dental and medical practitioners—various pulpal and periapical conditions.
2. Formally taken biomedical sciences-related endodontics and health sciences courses at an advanced level.
3. Participated in endodontic research and teaching.
4. Been prepared for careers in clinical practice.

The program begins in July and requires twenty-seven months in residence for the specialty certificate.

Following enrollment into the program, students may apply for acceptance to either the Master of Science

(M.S.) or the Master of Science in Dentistry (M.S.D.) degree track in addition to the specialty certificate. The application should be submitted at the beginning of the second year and must be supported by the program director. Admission into the M.S. or the M.S.D. degree track may extend the length of study; the additional time must be in residence. The Graduate Record Examination (GRE) will be required for those who elect to pursue admission into the M.S. degree program.

Graduates in both the certificate and graduate degree programs are educationally qualified for certification by the American Board of Endodontics.

Program link: <[www.llu.edu/dentistry/endo/graduateprogram.page](http://www.llu.edu/dentistry/endo/graduateprogram.page)>.

### Application process

The advanced education program in endodontics participates in the Postdoctoral Application Support Service (PASS) of the American Dental Education Association (ADEA), which allows applicants to apply to multiple participating institutions.

PASS applicants for the advanced education program in endodontics must also complete and submit a separate online application (<http://www.llu.edu/apply>) directly to Loma Linda University.

This program also will accept direct applications for individuals who are not applying to other institutions through PASS.

### Application deadline

Application for admission should be submitted by September 15 of the year prior to the summer of intended enrollment.

### Tuition

Tuition for the 2009-2010 school year is \$10,770 per academic quarter. In addition, fees for each academic quarter include: insurance, \$398; student services, \$123; information technology support, \$195; and microsurgery fee, \$800.

### Major

Major		Certificate	M.S.D.	M.S.
ENDN 534	Endodontic Treatment Conference (2.0)	18.0	18.0	18.0
ENDN 601	Principles of Endodontics (2.0)	10.0	10.0	10.0
ENDN 604	Literature Seminar in Endodontics (2.0)	12.0	12.0	12.0
ENDN 654	Practice Teaching in Endodontics (1.0)	4.0	4.0	4.0
ENDN 697A	Research	1.0	1.0	1.0
ENDN 697B	Research (1.0-2.0)	1.0	2.0	2.0
Totals		46.0	47.0	47.0

<b>Interdisciplinary</b>		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
GRDN 514	Introduction to Biomedical Research	4.0	4.0	4.0
GRDN 535	Clinical Oral Pathology	2.0	2.0	2.0
GRDN 601	Practice Management	2.0	2.0	2.0
GRDN 609	Professional Ethics	2.0	2.0	2.0
GRDN 622	Biomedical Science I	4.0	4.0	4.0
GRDN 623	Biomedical Science II	4.0	4.0	4.0
GRDN 632	Basic Microsurgery Techniques	2.0	2.0	2.0
IMPD 611	Introduction to Implant Dentistry	2.0	2.0	2.0
IMPD 612	Advanced Implant Dentistry	2.0	2.0	2.0
ORPA 533	Radiology	2.0	2.0	2.0
PERI 624	Moderate Sedation in Periodontics	4.0	4.0	4.0
REL_ 5__	Graduate-level Religion	3.0	3.0	3.0
Totals		33.0	33.0	33.0

**Clinical**

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
ENDN 725	Clinical Practice in Endodontics (8.0)	72.0	72.0	72.0
Totals		—	—	—
<b>Overall Totals</b>		<b>79.0</b>	<b>80.0</b>	<b>80.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.



# Implant Dentistry, Advanced—SD

## (PD Certificate, M.S.D., M.S.)

JAIME L. LOZADA, Director, Advanced Education Program

### FACULTY

Aladdin J. Al-Ardah  
Yong C. Choi  
Joseph Y. K. Kan  
S. Alejandro Kleinman  
Jaime L. Lozada

The advanced dental education program in implant dentistry leads to a certificate. The postdoctoral student may also obtain a Master of Science degree. The program is designed to prepare the student for the practice of implant dentistry and to provide the foundation for the 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 these dental specialties and to 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 s/he may be qualified as an associate fellow of the American Academy of Implant Dentistry.

The program start date is July 1, and the required time in residence for the certificate is 36 months.

Following enrollment into the program, students may apply for acceptance to either the Master of Science (M.S.) or the Master of Science in Dentistry (M.S.D.) degree track in addition to the specialty certificate. The application should be submitted before the end of the first year and must be supported by the program director. Admission into the M.S. or the M.S.D. degree track may extend the length of study to complete a research project and a thesis. The additional time must be in residence. The Graduate Record Examination (GRE) will be required for those who elect to pursue admission into the M.S. degree program.

### Implant dentistry goals

1. To educate graduate students of the advanced education program in implant dentistry to the proficiency level who are capable of delivering implant dentistry treatment.
2. To provide in-depth didactic and clinical instruction in problem-based patient situations that require implant prosthodontic and surgical solutions.
3. To train graduate students of the advanced education program in implant dentistry to develop clinical practice.
4. To achieve the highest levels of patient-treatment satisfaction.
5. To educate graduate students of the advanced education program in implant dentistry to perform research and practice teaching.

Program link:  
<[www.llu.edu/dentistry/implant/graduateprogram.page](http://www.llu.edu/dentistry/implant/graduateprogram.page)>.

### Application deadline

Application for admission should be submitted by September 15 of the year prior to the spring of intended enrollment.

### Tuition

The Implant Dentistry Program commences with a residency in anesthesiology in the Spring Quarter before the program's academic year begins in the Summer Quarter.

Tuition for the 2009-2010 school year is \$10,770 per academic quarter. Additional fees for each academic quarter include insurance, \$398; student services, \$123; and information technology support, \$195.

Spring Quarter 2009-2010: For Spring Quarter, a separate fee of \$800 is charged for GRDN 632 Basic Microsurgery Technique—taken by students during the first quarter (Spring). This fee does not include instruments and textbooks. Students should plan on an annual increase consistent with inflation in the education sector.

### Major

		Certificate	M.S.D.	M.S.
IMPD 505	Patient Presentation Seminar (1.0)	10.0	10.0	10.0
IMPD 533	Applied Radiology for Implant Dentistry	1.5	1.5	1.5
IMPD 561	Dental Bioengineering	2.0	2.0	2.0
IMPD 585	Implant Prosthodontics (2.0)	10.0	10.0	10.0

IMPD 601	Literature Review in Implant Dentistry (1.0-2.0)	22.0	22.0	22.0
IMPD 604	Current Literature Review in Implant Dentistry (2.0)	20.0	20.0	20.0
IMPD 611	Introduction to Implant Dentistry	2.0	2.0	2.0
IMPD 612	Advanced Implant Dentistry	2.0	2.0	2.0
IMPD 631	Oral Implant Surgery (1.0)	11.0	11.0	11.0
IMPD 634	Diagnosis and Treatment Planning in Implant Dentistry (1.0)	10.0	10.0	10.0
IMPD 637	Peri-Implant Histopathology	1.0	1.0	1.0
IMPD 654	Practice Teaching in Implant Dentistry (1.0-3.0)	3.0	3.0	3.0
IMPD 696	Scholarly Activity in Implant Dentistry	1.0	1.0	1.0
IMPD 697A	Research		1.0	1.0
IMPD 697B	Research		2.0	2.0
Totals		95.5	98.5	98.5

**Interdisciplinary****Certificate****M.S.D.****M.S.**

GRDN 514	Introduction to Biomedical Research	4.0	4.0	4.0
GRDN 535	Clinical Oral Pathology	2.0	2.0	2.0
GRDN 609	Professional Ethics	2.0	2.0	2.0
GRDN 622	Biomedical Science I	4.0	4.0	4.0
GRDN 623	Biomedical Science II	4.0	4.0	4.0
GRDN 632	Basic Microsurgery Techniques	2.0	2.0	2.0
OMFS 604	Selected Topics in Oral and Maxillofacial Surgery (1.0)	11.0	11.0	11.0
OMFS 606	Applied Surgical Anatomy	1.0	1.0	1.0
PERI 624	Moderate Sedation in Periodontics	4.0	4.0	4.0
PROS 500	Prosthodontic Literature Review (2.0)	6.0	6.0	6.0
PROS 546	Occlusion and Morphology	2.0	2.0	2.0
PROS 547	Occlusion: Principles and Instrumentation	2.0	2.0	2.0
PROS 555	Removable Partial Prosthodontics	2.0	2.0	2.0
PROS 565	Complete Denture Prosthodontics	2.0	2.0	2.0
PROS 566	Advanced Complete Denture Prosthodontics	2.0	2.0	2.0
PROS 575	Fixed Partial Prosthodontics	2.0	2.0	2.0
PROS 576	Advanced Fixed Partial Prosthodontics I (MC Aesthetics)	2.0	2.0	2.0
PROS 595	Maxillofacial Prosthetics	2.0	2.0	2.0
RELE 524	Christian Bioethics	3.0	3.0	3.0
Totals		59.0	57.0	57.0

**Clinical**

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
IMPD 725	Clinical Practice in Implant Dentistry (4.0)	40.0	40.0	40.0
IMPD 726	Clinical Practice in Periodontics in Implant Dentistry (2.0)	4.0	4.0	4.0
IMPD 727	Clinical Practice of Prosthodontics in Implant Dentistry (2.0)	20.0	20.0	20.0
Totals		—	—	—
<b>Overall Totals</b>		<b>154.5</b>	<b>155.5</b>	<b>155.5</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

# Oral and Maxillofacial Surgery, Advanced— SD

## (PD Certificate, M.S.D., M.S., M.D.)

ALAN S. HERFORD, Director, Advanced Education Program

### FACULTY

Jeffrey S. Dean  
Liviu F. Eftimie  
Alan S. Herford  
Fred R. Matthews  
Wayne K. Tanaka

The advanced dental education program in oral and maxillofacial surgery is designed to prepare the resident for practice of the specialty and to provide the foundation for the continued acquisition of knowledge and skills. Clinical surgical health care delivery is emphasized. The resident 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.

Four-year and six-year residency programs are available. Residents in the six-year program will also complete medical school and a one-year general surgery internship. The residency begins July 1.

Following enrollment into the program, residents may apply for acceptance to either the Master of Science (M.S.) or the Master of Science in Dentistry (M.S.D.) degree track in addition to the specialty certificate. The application should be submitted before the end of the first year and must be supported by the program director. Admission into the M.S. or the M.S.D. degree track may extend the length of study; the additional time must be in residence. The Graduate Record Examination (GRE) will be required for admission into the M.S. degree program.

### Oral and maxillofacial surgery goals

1. To prepare the resident for competent delivery of health care.
2. To prepare the resident for continual acquisition of skills and knowledge to improve health care.
3. To prepare the resident for certification by the American Board of Oral and Maxillofacial Surgery.

4. To provide the background for stimulation of academic achievement should the resident wish to enter into a teaching career.
5. To enable the resident to practice the full scope of oral and maxillofacial surgery in a competent and skillful manner based on a thorough knowledge of the basic sciences.
6. To integrate oral and maxillofacial surgical care with other medical and dental specialties in the health care delivery system.
7. To conduct clinical investigation and/or research studies.
8. To encourage the resident to practice the specialty based upon the highest moral and ethical standards.
9. To provide the resident the opportunity to achieve a high degree of clinical proficiency in his/her speciality.
10. To provide extensive surgical experience of a broad nature.
11. To develop competence in the administration of inpatient and outpatient general anesthesia, local anesthesia, and sedation techniques.
12. To provide the resident with the basic skills and tools required to manage the administration of his/her practice.
13. To provide competence in resident communication skills. Training will include public speaking, lecturing, writing, and improving the resident's critical thinking—providing a foundation to become an effective student and mentor.
14. To provide residents exposure and skill to evaluate and treat patients with the maxillofacial skeletal system, including but not limited to dentoalveolar surgery, maxillofacial trauma, reconstructive, pathology and orthognathic/craniofacial surgery.
15. To demonstrate the importance of lifelong learning and to encourage promotion of faculty.

Program link: <[www.llu.edu/dentistry/oms/graduateprogram.page](http://www.llu.edu/dentistry/oms/graduateprogram.page)>.

**Application process**

The advanced education program in oral and maxillofacial surgery participates in the Postdoctoral Application Support Service (PASS) of the American Dental Education Association (ADEA), which allows applicants to apply to multiple participating institutions.

PASS applicants for the advanced education program in oral and maxillofacial surgery must also complete and submit an online application directly to Loma Linda University. PASS applicants should contact the Office of Advanced Dental Education to have a Loma Linda University application opened for them online after submitting their PASS application.

The advanced education program in oral and maxillofacial surgery also participates in the

Postdoctoral Dental Matching Program (Match). This program identifies and "matches" the preferences of applicants and the advanced education program, using a rank order list submitted by the applicant and the program.

**Application deadline**

Application for admission should be submitted by October 1 of the year prior to the summer of intended enrollment. The program participates in the Postdoctoral Application Service (PASS) and the National Match Program. Applicants to the six-year program must also apply to the School of Medicine.

**Tuition**

Tuition and fees are waived.

<b>Major</b>		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
OMFS 604	Selected Topics in Oral and Maxillofacial Surgery (1.0)	12.0	12.0	12.0
OMFS 605	Integrated Orthodontic and Surgical Correction of Dentofacial Deformities (1.0)	12.0	12.0	12.0
OMFS 606	Applied Surgical Anatomy	1.0	1.0	1.0
OMFS 607	Principles of Medical History, Physical Examination, and Clinical Medicine	2.0	2.0	2.0
OMFS 608	Surgical Oral and Maxillofacial Pathology Conference (0.5)	6.0	6.0	6.0
OMFS 609	Literature Review in Oral and Maxillofacial Surgery (0.5)	6.0	6.0	6.0
OMFS 615	Current Trends in Medicine and Surgery (2.0)	12.0	12.0	12.0
OMFS 616	Application of Surgical Principles to Orthognathic Surgery	1.0	1.0	1.0
OMFS 617	Critical Decision Making in Oral and Maxillofacial Surgery (1.0)	12.0	12.0	12.0
OMFS 618	Introduction to General Anesthesia	1.0	1.0	1.0
OMFS 696	Scholarly Activity in Oral and Maxillofacial Surgery	1.0	1.0	1.0
OMFS 697A	Research		1.0	1.0
OMFS 697B	Research (1.0-2.0)		2.0	2.0
Totals		66.0	69.0	69.0

<b>Interdisciplinary</b>		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
GRDN 601	Practice Management	2.0	2.0	2.0
GRDN 632	Basic Microsurgery Techniques	2.0	2.0	2.0
RELE 534	Ethical Issues in Public Health	3.0	3.0	3.0
Totals		7.0	7.0	7.0

**Clinical**

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
OMFS 614	Clinical Experience in Oral and Maxillofacial Surgery Practice (7.0)	70.0	70.0	70.0
Totals		—	—	—
<b>Overall Totals</b>		<b>73.0</b>	<b>76.0</b>	<b>76.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

# Orthodontics and Dentofacial Orthopedics, Advanced—SD

## (PD Certificate, M.S.)

JOSEPH M. CARUSO, Chair

V. LEROY LEGGITT, Director, Advanced Education Program

### FACULTY

Joseph M. Caruso  
James R. Farrage  
Gabriela E. Garcia  
V. Leroy Leggitt  
Roland D. W. Neufeld  
Kitichai Rungcharassaeng  
R. David Rynearson

The graduate program in orthodontics and dentofacial orthopedics is organized to provide graduates with the knowledge and skill to:

1. Develop technical competence in the skill of orthodontics.
2. Deepen understanding of the basic natural sciences and their correlation with the practice of orthodontics.
3. Develop analytical thinking.
4. Develop skills in clinical research.
5. Increase the sense of responsibility toward the patient and the community.
6. Develop increased awareness of the obligation to make contributions to the growth and stature of the profession and to coordinate with individuals in other allied professional disciplines.

All of the above goals 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 late June. Additional time may be required, depending on the research selected. The Graduate Record Examination (GRE) is required for admission into the master's degree program.

### Orthodontics and dentofacial orthopedics goals

1. Students will have course work in biomedical sciences that is intended to provide the knowledge required to practice orthodontics and dentofacial orthopedics as defined by the program's proficiency standard.
2. Students will have a clinical experience that is varied and demanding and that will prepare them for the clinical practice of orthodontics and dentofacial orthopedics, with emphasis in biopressive principles.
3. Students will perform research that provides them with experience involving problem solving, critical thinking, research methodology and scientific writing.
4. Students will be exposed to and participate in a teaching experience.
5. Students will be exposed to professional venues that encourage continued professional growth.

Program link: <[www.llu.edu/dentistry/ortho/graduateprogram.page](http://www.llu.edu/dentistry/ortho/graduateprogram.page)>.

### Application deadline

All applications for admission should be submitted to the school by August 1 of the year prior to the summer of intended enrollment.

### Tuition

Tuition for the 2009-2010 school year is \$10,770 per academic quarter. Additional fees for each academic quarter include: insurance, \$398; student services, \$123; and information technology support, \$195.

Major		Certificate	M.S.
ORDN 524	Introduction to Graduate Orthodontics	12.0	12.0
ORDN 524L	Introduction to Graduate Orthodontics Laboratory	6.0	6.0
ORDN 525	Materials Science and Mechanics	2.0	2.0
ORDN 526	Applied Anatomy	2.0	2.0
ORDN 527	Clinical Photography	1.0	1.0

ORDN 535	Advanced Cephalometrics	2.0	2.0
ORDN 536	Concepts of Physical Anthropology	2.0	2.0
ORDN 545	Growth and Development	3.0	3.0
ORDN 546	Fundamentals of Occlusion	2.0	2.0
ORDN 571	Diagnosis and Treatment Planning I	2.0	2.0
ORDN 574	Diagnosis and Treatment Planning II	2.0	2.0
ORDN 584	Current Orthodontics Literature I	2.0	2.0
ORDN 591	Current Orthodontics Literature II	2.0	2.0
ORDN 597	Orthognathic Surgery Theory and Literature Review	2.0	2.0
ORDN 604	Seminar in Orthodontics	1.0	1.0
ORDN 605	Advanced Seminar in Orthodontics (1.0)	2.0	2.0
ORDN 606	Craniofacial Genetics	2.0	2.0
ORDN 608	Physiology and Pathology of Speech	1.0	1.0
ORDN 634	Orthodontics Clinical Conference	2.0	2.0
ORDN 635	Finishing Mechanics I	2.0	2.0
ORDN 636	Finishing Mechanics II	1.0	1.0
ORDN 654	Practice Teaching in Orthodontics (1.0-4.0)	4.0	4.0
ORDN 655	Temporomandibular Function and Dysfunction	2.0	2.0
ORDN 657	Orthodontic Board Preparation (1.0-6.0)	6.0	6.0
ORDN 697A	Research	1.0	1.0
ORDN 697B	Research	1.0	2.0
Totals		67.0	68.0

**Interdisciplinary**

**Certificate M.S.**

GRDN 514	Introduction to Biomedical Research	4.0	4.0
GRDN 601	Practice Management	2.0	2.0
GRDN 609	Professional Ethics	2.0	2.0
GRDN 623	Biomedical Science II	5.0	5.0
OMFS 608	Surgical Oral and Maxillofacial Pathology Conference (0.5)	2.0	2.0
OMFS 616	Application of Surgical Principles to Orthognathic Surgery	1.0	1.0
REL_5__	Graduate-level Religion	3.0	3.0
Totals		19.0	19.0

**Clinical**

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

**Certificate M.S.**

ORDN 725	Clinical Practice in Orthodontics (7.0)	56.0	56.0
Totals		—	—
<b>Overall Totals</b>		<b>86.0</b>	<b>87.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.



# Pediatric Dentistry, Advanced—SD

## (PD Certificate, M.S.D., M.S.)

F. ROBERT TRAFICANTE, Jr., Director, Advanced Education Program

J. TODD MILLEDGE, Associate Director, Advanced Education Program

### FACULTY

Jung-Wei Chen  
Richard L. Grabowsky  
J. Todd Milledge  
Bonnie A. Nelson  
Wesley K. Okumura  
F. Robert Traficante, Jr.

The advanced dental education program in pediatric dentistry is designed to prepare the resident 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 multidisciplinary courses and seminars. There is also a research component designed to expose the resident 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 initiating the process of certification by the American Board of Pediatric Dentistry.

Following enrollment into the program, residents may apply for acceptance to either the Master of Science (M.S.) or the Master of Science in Dentistry (M.S.D.) degree track in addition to the specialty certificate. The application should be submitted before the end of the first year and must be supported by the program director. Admission into the M.S. or the M.S.D. degree track may extend the length of study; the additional time must be in residence. The Graduate Record Examination (GRE) will be required for those who elect to pursue admission into the M.S. degree program.

### Pediatric dentistry goals

1. To prepare the resident to be a specialist who is proficient in providing comprehensive, preventive, and therapeutic oral health care for infants and children

through adolescence, including those with special health care needs.

2. To provide an educational structure that complies with the standards set forth by the Commission on Dental Accreditation.
3. To prepare the resident for the practice of pediatric dentistry.
4. To train pediatric dentists who have participated in pediatric dental research.
5. To train pediatric dentists who have participated in teaching pediatric dentistry.
6. To prepare the resident for certification by the American Board of Pediatric Dentistry.

Program link: <[www.llu.edu/dentistry/pediatrics/graduateprogram.page](http://www.llu.edu/dentistry/pediatrics/graduateprogram.page)>.

### Application process

The advanced education program in pediatric dentistry participates in the Postdoctoral Application Support Service (PASS) of the American Dental Education Association (ADEA), which allows applicants to apply to multiple participating institutions.

PASS applicants for the advanced education program in pediatric dentistry must also complete and submit a separate online application <<http://www.llu.edu/central/apply/index.page>> directly to Loma Linda University.

This program also will accept direct applications for individuals who are not applying to other institutions through PASS.

### Application deadline

Application for admission should be submitted by October 15 of the year prior to the summer of intended enrollment.

### Tuition and fees

Tuition for the 2009-2010 school year is \$10,770 per academic quarter. Additional fees for each academic quarter include: insurance, \$398; student services, \$123; and information technology support, \$195.

Major		Certificate	M.S.D.	M.S.
PEDN 503	Pediatric Dental Seminar (2.0)	16.0	16.0	16.0
PEDN 508	Pediatric Hospital Dentistry Seminar	2.0	2.0	2.0
PEDN 512	Oral Sedation Seminar	2.0	2.0	2.0
PEDN 521	Principles of Medicine and Physical Diagnosis	2.0	2.0	2.0

PEDN 524	Introduction to Orthodontics	2.0	2.0	2.0
PEDN 524L	Introduction to Orthodontics Laboratory	1.0	1.0	1.0
PEDN 604	Pediatric Dental Literature (2.0-12.0)	14.0	14.0	14.0
PEDN 654	Practice Teaching for Pediatric Dentistry (1.0-5.0)	5.0	5.0	5.0
PEDN 680	Elective Study for Advanced Education Students of Pediatric Dentistry (1.0-10.0)	5.0	5.0	5.0
PEDN 696	Scholarly Activity in Pediatric Dentistry	1.0	1.0	1.0
PEDN 697A	Research		1.0	1.0
PEDN 697B	Research		1.0	1.0
Totals		50.0	52.0	52.0

**Interdisciplinary**

		Certificate	M.S.D.	M.S.
GRDN 514	Introduction to Biomedical Research	4.0	4.0	4.0
GRDN 535	Clinical Oral Pathology	2.0	2.0	2.0
GRDN 601	Practice Management	2.0	2.0	2.0
GRDN 609	Professional Ethics	2.0	2.0	2.0
GRDN 622	Biomedical Science I	4.0	4.0	4.0
GRDN 623	Biomedical Science II	4.0	4.0	4.0
ORDN 526	Applied Anatomy	2.0	2.0	2.0
ORDN 545	Growth and Development	3.0	3.0	3.0
ORDN 606	Craniofacial Genetics	2.0	2.0	2.0
ORDN 608	Physiology and Pathology of Speech	1.0	1.0	1.0
ORPA 533	Radiology	2.0	2.0	2.0
RELE 524	Christian Bioethics	3.0	3.0	3.0
Totals		31.0	31.0	31.0

**Clinical**

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		Certificate	M.S.D.	M.S.
PEDN 725	Pediatric Dental Clinic (8.0)	64.0	64.0	64.0
Totals		—	—	—
<b>Overall Totals</b>		<b>81.0</b>	<b>83.0</b>	<b>83.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

# Periodontics, Advanced—SD

## (PD Certificate, M.S.D., M.S.)

JEFFREY M. HENKIN, Program Director, Advanced Education Program

### FACULTY

Nikola Angelov  
R. Leslie Arnett  
Jeffrey M. Henkin  
Yoon J. Kim  
Craig M. Ririe  
Dennis Smith  
Albert M. Weissman

The three-year advanced dental education program in periodontics leads to a certificate in periodontics with an optional Master of Science (M.S.) or Master of Science in Dentistry (M.S.D.) degree.

The certificate in periodontics prepares the student for a specialty practice and provides the basis for continuing professional development after completion of the program. Specific emphasis is placed on various high-level technique procedures, including esthetics- and prosthetics-related mucogingival surgery, root-form implant placement, preparatory augmentation, and repairs. The program includes didactic and clinical training, as well as research in a topic selected by the student.

The student is required to complete one or more research projects and is involved in clinical and didactic predoctoral teaching activities. The Graduate Record Examination (GRE) is required for those who elect to pursue the M.S. degree program. The optional master's degree tracks are intended for the student who wishes to pursue an academic career or full-time clinical practice.

A minimum of thirty-six months in residence is required, beginning in July.

### Periodontics goals

1. To train graduate students in the science of periodontics—including contributions from the literature, an understanding of periodontal pathology, and knowledge of the history and current rationale for performing clinical procedures in periodontics.
2. To train graduate students to be able to perform at the level of proficiency the full range of clinical procedures that are considered essential to establish a specialty practice in the field of periodontics.

3. To train graduate students to be able to design, conduct, and report a periodontal research project under the guidance of and in collaboration with a graduate faculty member; and to encourage graduate students to become diplomates of the American Board of Periodontology.
4. To train graduate students to be able to teach in both didactic and clinical areas of predoctoral periodontics at the level of a junior faculty member, with the intent to enhance their ability to communicate with peers.
5. To train graduate students to be able to successfully complete the American Board of Periodontology Certification Examination.
6. To train graduate students to be able to achieve successful careers in clinical practice, research, and/or dental education.

Program link: <[www.llu.edu/dentistry/periodontics/graduateprogram.page](http://www.llu.edu/dentistry/periodontics/graduateprogram.page)>

### Application process

The advanced education program in periodontics participates in the Postdoctoral Application Support Service (PASS) of the American Dental Education Association (ADEA), which allows applicants to apply to multiple participating institutions.

PASS applicants for the advanced education program in periodontics must also complete and submit a separate online application <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)> directly to Loma Linda University.

Through a rolling admissions process, this program also will accept direct applications for individuals who are not applying to other institutions through PASS. Applicants will be selected for admission during the application period until the class is filled. Once the class has been filled, an announcement will be posted on the program's description on the Loma Linda University School of Dentistry Web site, and the admissions process will be closed for the year.

### Application deadline

Application for admission should be submitted to the program by September 1 of the year prior to the summer of intended enrollment.

### Tuition

Tuition for the 2009-2010 school year is \$10,770 per academic quarter. Additional fees for each academic quarter include: insurance, \$398; student services, \$123; and information technology support, \$195.

<b>Major</b>		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
PERI 524	The Periodontium	2.0	2.0	2.0
PERI 531	Periodontal Pathology (2.0)	10.0	10.0	10.0
PERI 601	Periodontal Therapy (2.0)	12.0	12.0	12.0
PERI 604	Current Periodontal and Implant Literature (2.0)	18.0	18.0	18.0
PERI 605	Implant Literature Review (2.0)	4.0	4.0	4.0
PERI 611	Introduction to Periodontics	2.0	2.0	2.0
PERI 614	Implant Treatment Planning (2.0)	24.0	24.0	24.0
PERI 624	Moderate Sedation in Periodontics	4.0	4.0	4.0
PERI 634	Clinical Conference (1.0-2.0)	9.0	9.0	9.0
PERI 654	Practice Teaching in Periodontics (1.0)	4.0	4.0	4.0
PERI 696	Scholarly Activity in Periodontics	1.0	1.0	1.0
PERI 697A	Research		1.0	1.0
PERI 697B	Research (1.0-2.0)		2.0	2.0
Totals		90.0	93.0	93.0

<b>Interdisciplinary</b>		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
GRDN 514	Introduction to Biomedical Research	4.0	4.0	4.0
GRDN 535	Clinical Oral Pathology	—	2.0	2.0
GRDN 609	Professional Ethics	2.0	2.0	2.0
GRDN 622	Biomedical Science I	4.0	4.0	4.0
GRDN 623	Biomedical Science II	4.0	4.0	4.0
GRDN 632	Basic Microsurgery Techniques	2.0	2.0	2.0
RELE 524	Christian Bioethics	3.0	3.0	3.0
Totals		19.0	21.0	19.0

**Clinical**

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
PERI 725	Clinical Practice in Periodontics (1.0-6.0)	72.0	72.0	72.0
PERI 726	Clinical Practice in Implant Surgery (2.0)	24.0	24.0	24.0
Totals		—	—	—
<b>Overall Totals</b>		<b>109.0</b>	<b>114.0</b>	<b>112.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

# Prosthodontics, Advanced—SD

## (PD Certificates, M.S.D., M.S.)

MATHEW T. KATTADIYIL, Director, Advanced Education Program

### FACULTY

Nadim Z. Baba  
 Charles J. Goodacre  
 B. Dan Hall  
 Joseph Y. K. Kan  
 Mathew T. Kattadiyil  
 Amir H. Khatami  
 S. Alejandro Kleinman  
 Jaime L. Lozada  
 W. Patrick Naylor  
 Paul L. Richardson  
 F. Jose Torres  
 Myron S. Winer

The School of Dentistry's advanced dental education program in prosthodontics is designed to increase the knowledge base and clinical and laboratory skills of the student 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 interdisciplinary treatment planning seminars with students and faculty of other advanced dental education programs are designed to prepare the student to interact with and coordinate the treatment of patients requiring advanced prosthodontic care.

The program begins on July 1 and requires thirty-six months in residence to complete the certificate requirements.

Following enrollment into the program, students may apply for acceptance to either the Master of Science (M.S.) or the Master of Science in Dentistry (M.S.D.) degree track in addition to the specialty certificate. The application must be supported by the program director. Admission into the M.S. or the M.S.D. degree track may extend the length of study; the additional time must also be in residence. The Graduate Record Examination (GRE) is required for those who elect to pursue the M.S. degree program.

### Prosthodontic goals

1. To educate students of the Advanced Education Program in Prosthodontics to become proficient in the delivery of prosthodontic care.

2. To train students to perform at the level of proficiency for the full range of clinical procedures that are considered an integral part of the specialty of prosthodontics; to utilize experienced, highly competent faculty who are recognized by the specialty; and to accomplish management of patients' prosthetic needs successfully so that the patients are satisfied, comfortable, and acceptably treated in a timely, efficient manner.
3. To educate students of the advanced education program in prosthodontics to perform research and practice teaching.
4. To encourage students to participate in prosthodontics dental teaching and to prepare them to continue to grow professionally and become emissaries for the School of Dentistry, the dental profession, and the specialty of prosthodontics.

Program link: <[www.llu.edu/dentistry/prostho/graduateprogram.page](http://www.llu.edu/dentistry/prostho/graduateprogram.page)>.

### Application process

The advanced education program in prosthodontics participates in the Postdoctoral Application Support Service (PASS) of the American Dental Education Association (ADEA), which allows applicants to apply to multiple participating institutions.

PASS applicants for the advanced education program in prosthodontics must also complete and submit a separate online application <[www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page)> directly to Loma Linda University.

This program also will accept direct applications for individuals who are not applying to other institutions through PASS.

### Application deadline

Application for admission should be submitted by August 15 of the year prior to the summer of intended enrollment.

### Tuition and fees

Tuition for the 2009-2010 school year is \$10,770 per academic quarter. Additional fees for each academic quarter include: insurance, \$398; student services, \$123; and information technology support, \$195.

<b>Major</b>		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
PROS 500	Prosthodontic Literature Review (2.0)	22.0	22.0	22.0
PROS 501	Removable Partial Prosthodontics Literature Review	2.0	2.0	2.0
PROS 502	Complete Denture Prosthodontics Literature Review	2.0	2.0	2.0
PROS 505	Patient Presentation Seminar (Prosthodontics, Implant, Perio) (1.0)	9.0	9.0	9.0
PROS 515	Practice Teaching in Prosthodontics (1.0-2.0)	2.0	2.0	2.0
PROS 525	Dental Materials Science	2.0	2.0	2.0
PROS 527	Clinical Application of Dental Materials	2.0	2.0	2.0
PROS 546	Occlusion and Morphology	2.0	2.0	2.0
PROS 547	Occlusion: Principles and Instrumentation	2.0	2.0	2.0
PROS 555	Removable Partial Prosthodontics	2.0	2.0	2.0
PROS 556	TMJ Function and Dysfunction	1.0	1.0	1.0
PROS 557	Advanced Removable Partial Prosthodontics	2.0	2.0	2.0
PROS 565	Complete Denture Prosthodontics	2.0	2.0	2.0
PROS 566	Advanced Complete Denture Prosthodontics	2.0	2.0	2.0
PROS 575	Fixed Partial Prosthodontics	2.0	2.0	2.0
PROS 576	Advanced Fixed Partial Prosthodontics I (MC Aesthetics)	2.0	2.0	2.0
PROS 595	Maxillofacial Prosthetics	2.0	2.0	2.0
PROS 604	Literature Review in Implant Dentistry for Prosthodontists (2.0)	16.0	16.0	16.0
PROS 634	Diagnosis and Treatment Planning (2.0)	18.0	18.0	18.0
PROS 637	Geriatric Dentistry	1.0	1.0	1.0
PROS 696	Scholarly Activity in Prosthodontics	1.0	1.0	1.0
PROS 697A	Research		1.0	1.0
PROS 697B	Research (1.0-3.0)		2.0	2.0
Totals		96.0	99.0	99.0

<b>Interdisciplinary</b>		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
GRDN 514	Introduction to Biomedical Research	4.0	4.0	4.0
GRDN 535	Clinical Oral Pathology	2.0	2.0	2.0
GRDN 601	Practice Management	2.0	2.0	2.0
GRDN 609	Professional Ethics	2.0	2.0	2.0
GRDN 622	Biomedical Science I	4.0	4.0	4.0
GRDN 623	Biomedical Science II	4.0	4.0	4.0
IMPD 533	Applied Radiology for Implant Dentistry	1.5	1.5	1.5
IMPD 561	Dental Bioengineering	2.0	2.0	2.0
IMPD 611	Introduction to Implant Dentistry	2.0	2.0	2.0
RELE 524	Christian Bioethics	3.0	3.0	3.0
Totals		24.5	24.5	24.5

**Clinical**

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		<b>Certificate</b>	<b>M.S.D.</b>	<b>M.S.</b>
PROS 710	Clinical Practice of Prosthodontics (6.0)	66.0	66.0	66.0
Totals		—	—	—
<b>Overall Totals</b>		<b>120.5</b>	<b>123.5</b>	<b>123.5</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

# Dual Major Option

Applicants to the programs in implant dentistry, periodontics, and prosthodontics have the option to select an extended program (approximately four-and-a-half years in length) to pursue dual majors in two of these areas of study.

Students must complete all the requirements of each ADA-recognized specialty program (periodontics and prosthodontics) to be eligible for board certification.

Dual credit—up to 100 units—may be awarded for courses required by the two programs.

Individuals who wish to pursue the dual-major option must indicate such an interest by completing separate applications to both programs. Applicants in one of the optional dual major programs must not only meet the admissions requirements of each program, but must also be admitted to the advanced education programs they designate.

Major		Periodontics & Prosthodontics	Periodontics & Implant Dentistry	Prosthodontics & Implant Dentistry
IMPD 505	Patient Presentation Seminar (1.0)		10.0	10.0
IMPD 533	Applied Radiology for Implant Dentistry	1.5	1.5	1.5
IMPD 561	Dental Bioengineering	2.0	2.0	2.0
IMPD 585	Implant Prosthodontics (2.0)		10.0	10.0
IMPD 601	Literature Review in Implant Dentistry (1.0-2.0)		22.0	22.0
IMPD 604	Current Literature Review in Implant Dentistry (2.0)		20.0	20.0
IMPD 611	Introduction to Implant Dentistry	2.0	2.0	2.0
IMPD 612	Advanced Implant Dentistry		2.0	2.0
IMPD 631	Oral Implant Surgery (1.0)		11.0	11.0
IMPD 634	Diagnosis and Treatment Planning in Implant Dentistry (1.0)		11.0	10.0
IMPD 637	Peri-Implant Histopathology		1.0	1.0
IMPD 654	Practice Teaching in Implant Dentistry		3.0	3.0
IMPD 696	Scholarly Activity in Implant Dentistry		1.0	1.0
PERI 524	The Periodontium	2.0	2.0	
PERI 531	Periodontal Pathology (2.0)	10.0	10.0	
PERI 601	Periodontal Therapy (2.0)	12.0	12.0	
PERI 604	Current Periodontal and Implant Literature (2.0)	18.0	18.0	
PERI 605	Implant Literature Review (2.0)	4.0	4.0	
PERI 611	Introduction to Periodontics	2.0	2.0	
PERI 614	Implant Treatment Planning (2.0)	24.0	24.0	
PERI 624	Moderate Sedation in Periodontics	4.0	4.0	4.0
PERI 634	Clinical Conference (1.0-2.0)	9.0	9.0	
PERI 654	Practice Teaching in Periodontics (1.0)	4.0	4.0	
PERI 696	Scholarly Activity in Periodontics	1.0	1.0	
PROS 500	Prosthodontic Literature Review (2.0)	22.0	6.0	22.0



PROS 501	Removable Partial Prosthodontics Literature Review	2.0		2.0
PROS 502	Complete Denture Prosthodontics Literature Review	2.0		2.0
PROS 505	Patient Presentation Seminar (Prosthodontics, Implant, Perio) (1.0)	9.0		9.0
PROS 515	Practice Teaching in Prosthodontics	2.0		2.0
PROS 525	Dental Materials Science	2.0		2.0
PROS 527	Clinical Application of Dental Materials	2.0		2.0
PROS 546	Occlusion and Morphology	2.0	2.0	2.0
PROS 547	Occlusion: Principles and Instrumentation	2.0	2.0	2.0
PROS 555	Removable Partial Prosthodontics	2.0	2.0	2.0
PROS 556	TMJ Function and Dysfunction	1.0		1.0
PROS 557	Advanced Removable Partial Prosthodontics	2.0		2.0
PROS 565	Complete Denture Prosthodontics	2.0	2.0	2.0
PROS 566	Advanced Complete Denture Prosthodontics	2.0	2.0	2.0
PROS 575	Fixed Partial Prosthodontics	2.0	2.0	2.0
PROS 576	Advanced Fixed Partial Prosthodontics I (MC Aesthetics)	2.0	2.0	2.0
PROS 595	Maxillofacial Prosthetics	2.0	2.0	2.0
PROS 604	Literature Review in Implant Dentistry for Prosthodontists (2.0)	16.0		16.0
PROS 634	Diagnosis and Treatment Planning (2.0)	18.0		18.0
PROS 637	Geriatric Dentistry	1.0		1.0
PROS 696	Scholarly Activity in Prosthodontics	1.0		1.0
Totals		191.5	208.5	195.5

**Interdisciplinary**

		Periodontics & Prosthodontics	Periodontics & Implant Dentistry	Prosthodontics & Implant Dentistry
GRDN 514	Introduction to Biomedical Research	4.0	4.0	4.0
GRDN 535	Clinical Oral Pathology	2.0	2.0	2.0
GRDN 601	Practice Management	2.0		2.0
GRDN 609	Professional Ethics	2.0	2.0	2.0
GRDN 622	Biomedical Science I	4.0	4.0	4.0
GRDN 623	Biomedical Science II	4.0	4.0	4.0
GRDN 632	Basic Microsurgery Techniques	2.0	2.0	2.0
OMFS 604	Selected Topics in Oral and Maxillofacial Surgery (1.0)		11.0	11.0
OMFS 606	Applied Surgical Anatomy		1.0	1.0
REL_ 5__	Graduate-level Religion			3.0
RELE 524	Christian Bioethics	3.0	3.0	
Totals		23.0	33.0	35.0

**Clinical**

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		<b>Periodontics &amp; Prosthodontics</b>	<b>Periodontics &amp; Implant Dentistry</b>	<b>Prosthodontics &amp; Implant Dentistry</b>
IMPD 725	Clinical Practice in Implant Dentistry (4.0)		40.0	40.0
IMPD 726	Clinical Practice in Periodontics in Implant Dentistry (2.0)		4.0	4.0
IMPD 727	Clinical Practice of Prosthodontics in Implant Dentistry (2.0)		20.0	20.0
PERI 725	Clinical Practice in Periodontics (1.0-6.0)	72.0	72.0	
PERI 726	Clinical Practice in Implant Surgery (2.0)	24.0	24.0	
PROS 710	Clinical Practice of Prosthodontics (6.0)	66.0		66.0
Totals		—	—	—
<b>Overall Totals</b>		<b>214.5</b>	<b>241.5</b>	<b>230.5</b>

# Master of Science in Dentistry (M.S.D.) Degree, Advanced—SD

Graduate students and residents enrolled in certain advanced education programs are eligible to apply for and be awarded a Master of Science in Dentistry (M.S.D.) degree, if they fulfill all of the following:

## Admission process

1. The following minimum requirements have been established for admission to the M.S.D. degree program:

### Admissions requirements

- Cumulative grade-point average (G.P.A.) of 3.0
  - Approval by the program director
  - Academic record of scholastic competence
  - Demonstrated professionalism and integrity
2. A candidate for the M.S.D. degree must complete an Loma Linda University online Application for Admission and a Part I (Application for Admission for the Master of Science in Dentistry [M.S.D.] degree) form. The Part I form can be found in the advanced education section of Blackboard. The Part I form—which can be completed online [www.llu.edu/dentistry/gradprograms/index.page](http://www.llu.edu/dentistry/gradprograms/index.page) and printed for signatures—must be accompanied by a research protocol approved by the candidate's Research Guidance Committee (RGC) and reviewed by the School of Dentistry Research Committee.
  3. The Part I form must be signed by the applicant's program director and the Research Guidance Committee (RGC) members.
  4. The completed Loma Linda University application, Part I form, and approved protocol are then reviewed for approval by the associate dean for advanced dental education to ensure all admissions requirements have been met.
  5. Accepted applicants will receive a letter of admission from the associate dean for advanced dental education. They must acknowledge acceptance of their admission

in writing to the Office of Advanced Dental Education.

## Degree requirements

1. Students must perform scholarly activity as defined by the program's director. Programs may differ in how this requirement is met in order to afford directors the opportunity to align such activity with the experience, background, and interest of each student and of the program's faculty as a worthy and achievable goal is pursued. The nature of the scholarly activity will be defined in Part II (Statement of Completion for the Master of Science in Dentistry [M.S.D.] degree) of the degree application form as submission of a formatted, publishable manuscript or an optional thesis. Should a program elect to require a thesis, the format will be prescribed by the associate dean for advanced education in conjunction with the corresponding program director.
2. Students must successfully complete all the course requirements of the certificate program, with additional units in research for the master's degree program (see individual program descriptions at [www.llu.edu/dentistry/gradprograms/index.page](http://www.llu.edu/dentistry/gradprograms/index.page)). Candidates complete sections I and II of the Part II form to indicate their anticipated degree completion date.
3. Students who do not complete the publishable paper during their program will have one year from their program end date to fulfill this requirement.
4. A publishable paper and public presentation of the research are required. The manuscript must be in a format approved by the respective program director.
5. Students who do not complete the publishable paper during their program will have one year from their program end date to fulfill this requirement.
6. After conducting an internal degree audit, the program director completes and signs Part II of the application to verify that all requirements for the M.S.D. degree have been met.
7. The associate dean for advanced education reviews the student's file and academic record (final degree audit) before signing the

Part II form, signifying approval to award the Master of Science in Dentistry (M.S.D.) degree.

The M.S.D. degree is not offered by the advanced education program in orthodontics and dentofacial orthopaedics.



# Master of Science (M.S.) Degree, Advanced—SD

Graduate students and residents enrolled in certain advanced education programs are eligible to apply for and be awarded a Master of Science (M.S.) degree, if they fulfill all of the following.

## ADMISSION PROCESS

1. The following minimum requirements have been established for admission to the M.S. degree program:

Admissions requirements

- Minimum cumulative grade-point average (G.P.A.) of 3.0
  - GRE verbal and quantitative percentile rankings must equal or exceed the 100th percentile. Furthermore, neither the verbal nor quantitative percentile ranking may be lower than the 35th percentile for that section. Only GRE scores earned within the past five years will be accepted.
  - An analytical writing score of 4.0 or higher
  - Approval by the program director
  - Academic record of scholastic competence
  - Demonstrated professionalism and integrity
2. An applicant to the M.S. degree must complete a Loma Linda University online Application for Admission, as well as a Form A (Petition for Admission to Candidacy). The online application is opened for students already enrolled in a certificate program. Form A is found on Blackboard and can be completed online and printed for signatures. This form must be accompanied by a research protocol approved by the applicant's Research Guidance Committee (RGC) and reviewed by the School of Dentistry Research Committee.
  3. Form A must be signed by the applicant's program director and Research Guidance Committee (RGC) members.
  4. The completed Loma Linda University application, Form A, and the approved

protocol are then reviewed for approval by the associate dean for advanced dental education to ensure that all admissions requirements have been met.

5. Accepted applicants will receive a letter of admission from the associate dean for advanced dental education. The prospective student must acknowledge acceptance of his/her admission in writing to the office of Advanced Dental Education.

## DEGREE REQUIREMENTS

1. Applicants must undertake scholarly activity/research as defined by each program director. Programs may differ in how this requirement is met in order to afford directors the opportunity to align such activity with the experience, background, and interest of each student and of the program's faculty as a worthy and achievable goal is pursued.
2. Students must successfully complete all course requirements of the certificate program, with additional units in research for the master's degree (see individual program descriptions online). Students must submit a completed Form C, Petition for Graduation, to indicate their anticipated degree completion date.
3. A thesis and a public thesis defense are required. The thesis must be in a format approved by the thesis editor in the Faculty of Graduate Studies (FGS).
4. Students who do not complete the thesis during their program will have five years from their program end date to fulfill this requirement.
5. After conducting a degree audit, the program director completes and signs Form D, Statement of Completion of Requirements for Degree, verifying that all requirements for the M.S. degree have been met.
6. After reviewing the student's file and academic record (final degree audit), the associate dean for advanced dental education signs Form D, indicating approval of the award of the Master of Science (M.S.) degree. Form D is then submitted to the Faculty of Graduate Studies (FGS) for final approval and degree issuance.



# School of Medicine

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- Medical Scientist—M.D. with Ph.D.
- Medicine—M.D.
- Microbiology and Molecular Genetics—M.S., Ph.D.
- Pharmacology—M.S., Ph.D.
- Physiology—M.S., Ph.D.

## Dean's Welcome

Thank you for your interest in Loma Linda University School of Medicine. This Catalog will provide you with detailed information about our people, programs, and facilities; as well as our requirements and expectations.

Medical education remains our number-one priority. The school offers quality programs in medical education for medical students, combined degrees students, house staff, alumni, and professional peers within a system of demonstrated Christian values and beliefs. Our faculty are committed to ensuring that those we educate will develop the skills and intellectual curiosity needed for success as lifelong learners in a changing world.

We welcome your interest.



A handwritten signature in cursive script that reads "Roger Hadley". The signature is written in black ink on a white background.

Roger Hadley, M.D.  
Dean, School of Medicine



# School Foundations

## HISTORY

The professional curriculum in medicine, usually requiring four academic years of study and experience in a university and hospital setting, was first offered at Loma Linda University in 1909. Ten decades later, the events since 1909 seem blurred by the rapid changes that institutions of higher learning experience in an effort to keep pace with the growth of knowledge. Nearly 10,000 students have graduated from the School of Medicine and practiced in all corners of the earth, fulfilling the University's mission—"To make man whole."



### Since 1909

The first two years of medicine were always taught on the Loma Linda campus. From 1913 to the mid-1960s, the third and fourth years were taught in Los Angeles at what is now White Memorial Medical Center (the first part of which was built in 1918) and at nearby Los Angeles County Hospital (now Los Angeles County/USC Medical Center). Construction of Loma Linda University Medical Center (inclusive of clinical, teaching, and research facilities) allowed the entire four-year curriculum to be offered on and near the Loma Linda campus, beginning with school year 1966-1967. The medical center was occupied in July 1967.

## OUR MISSION

The mission of the School of Medicine is to continue the healing and teaching ministry of Jesus Christ, "To make man whole" (Luke 9:6).

### Preparing the physician

Our purpose is the formation of Christian physicians, providing whole-person care to individuals, families, and communities. Fulfilling this responsibility requires—

### Education

Creating an environment in which medical students, graduate students, and residents will acquire the knowledge, skills, values, and attitudes appropriate to Christian health professionals and scholars.

### Research

Cultivating an atmosphere of inquiry and discovering new routes to wholeness through basic and clinical research.

### Service

Providing timely access to cost-effective, comprehensive, whole-person care for all patients, without regard for their circumstances or status.

### Developing the whole person

The Christian view of wholeness holds that the needs of patients go beyond the healing of the body, and that the development of students involves more than the training of the mind. We are dedicated to promoting physical, intellectual, social, and spiritual growth in our faculty and our students; and to transforming our daily activities into personal ministries.

### Reaching the world

Providing whole-person care wherever the opportunity arises, participating with the world community in the provision of local medical education, providing international physicians and scientists the opportunities for professional interaction and enrichment, sharing the good news of a loving God as demonstrated by the life and teachings of Jesus Christ—these are the goals of the students, faculty, and graduates of Loma Linda University School of Medicine.

## General Regulations

Students of the University are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation. Section III gives the general setting for the programs of each school and outlines the subject and unit requirements for admission to individual professional programs. It is important to review specific program requirements in the context of the general requirements applicable to all programs.



## Application and Admissions

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 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.

### THE STUDY OF MEDICINE

Preparation for the practice of medicine begins early in life and early in the student's schooling. The greater the aptitudes for and interests in learning widely and appreciatively in the major areas of knowledge—the natural sciences, the humanities, the behavioral sciences—the more able and versatile the student is likely to become.

In selecting students, the Admissions Committee of the School of Medicine looks for applicants who are best suited to fulfill the mission of the school and to successfully practice medicine. The school desires students who demonstrate ability to learn independently, to think critically, and to articulate clearly—both orally and in written form—their ideas and opinions. It is important that students in the School of Medicine demonstrate excellent interpersonal skills and show evidence of sensitivity to the needs of humanity.

The Admissions Committee of the School of Medicine puts forth considerable effort to ensure that an applicant is qualified for medical school. The applicant's credentials are reviewed to assess scholastic performance. The committee also looks for prerequisite qualities of character and personality, potential for self-direction and the use of discriminating judgment, and dedication to the ideal of service to society.

### GENERAL ENTRANCE INFORMATION

A total of 85 semester (128 quarter) units of credit from an accredited college is required for acceptance by the School of Medicine. Preference is given, however, to college graduates. Credit must be presented for the following subjects:

#### SEMESTER/QUARTER HOURS

General biology or zoology with laboratory—8/12

General or inorganic chemistry with laboratory—8/12

Organic chemistry with laboratory—8/12

Physics with laboratory—8/12

English equivalent to satisfy baccalaureate degree requirement

Religion as required by the college attended

#### REQUIRED

Keyboard and computer skills

#### RECOMMENDED

Introductory course in basic statistics

Biochemistry, strongly recommended

Science credits earned in professional schools (e.g., allied health professions, business, dentistry, nursing, or pharmacy) do not fulfill requirements for admission to medicine. CLEP and Pass/Fail performances are not acceptable for the required courses.

The Medical College Admission Test (MCAT) is required. Scores older than three years will not be considered.

### APPLICATION PROCEDURE AND ACCEPTANCE

It is important to know the specifics of the application process and to begin the application process well in advance of the date of anticipated (or desired) entrance to medical school.

#### Where to write

The School of Medicine is a member of the American Medical College Application Service (AMCAS). Applications must be submitted through AMCAS. Their application is available on the Web at <[www.aamc.org/students/amcas/application.htm](http://www.aamc.org/students/amcas/application.htm)>.

#### AMCAS deadline

Application should be made directly to AMCAS between June 1 and November 1 for entry in August of the following year.

#### Fees

The AMCAS fee is required each time an application is submitted. An additional fee to the School of Medicine is required with each supplementary application.

#### Procedure

The application procedure is as follows:

1. The applicant submits a formal application to AMCAS, with fee and requested transcripts. The applicant's verified data are forwarded to the School of Medicine by AMCAS.
2. When the application is received from AMCAS, Loma Linda University School of

Medicine requests completion of a supplementary application and reference forms. The prospective student should provide evidence of exposure to health care through personal involvement or in other ways confirming the applicant's decision to become a physician.

3. After the supplementary application and letters of reference have been submitted and reviewed, the applicant may be invited for an interview.
4. The information submitted by the applicant through AMCAS, the supplementary application, the letters of reference, and the interview reports are then evaluated by the Admissions Committee of the School of Medicine. This committee determines whether an applicant is accepted or rejected. All applicants are notified of the final decision of the Admissions Committee regarding their application. Acceptance notices are sent to regular applicants beginning December of the year preceding admission to the School of Medicine, continuing until the class is filled.
5. The accepted applicant sends a written acceptance of his/her offer of admission as a student, together with a \$100 acceptance deposit, by the announced date (about thirty days after the notification of acceptance). This deposit is refundable until May 15 of the year in which the student has been accepted for entry.
6. In summary, the Admissions Office requires the following:
  - Verified AMCAS application
  - Loma Linda University School of Medicine supplementary application and \$75.00 application fee.
  - Appraisal of the applicant's character, ability, and suitability for a medical career by persons knowledgeable about the applicant's past performance.
  - A preprofessional recommendation packet, if available, from the applicant's undergraduate college/university.
  - Applicant's availability for interviews, should an offer for an interview be extended.

#### Pre-entrance health requirement and health insurance

Students must meet the immunization requirements as stated. In addition, students are expected to have

routine dental and medical care and elective surgery attended to before registering for medical school.

All School of Medicine students are provided with a health insurance policy through the University's Department of Risk Management. This policy remains in effect for students who are regularly enrolled, provided they register and pay tuition and fees on time each quarter. Since the maximum benefit of the policy (as of the time this CATALOG went to press) is \$100,000 and does not cover preexisting illnesses or dental or optical care, students are encouraged to maintain a personal, current policy that covers preexisting illnesses and/or has a higher benefit. A student who does not have health insurance coverage for his/her spouse/children will need to purchase it through the University's Department of Risk Management at the time of registration. Government regulations prohibit the use of student loan funds to provide medical insurance or services for a student's spouse or children.

Students who wish to review a copy of the current student health plan or have further questions about the plan should call Risk Management (909/558-4386). Annual tuition also covers the cost of disability insurance. Details will be presented during orientation or upon request.

### EARLY DECISION PROGRAM

A highly qualified applicant to medical school may apply between June 1 and August 1 and be guaranteed a decision by October 1. During that period of time, the applicant may not apply to any other medical school; and if the applicant is accepted at Loma Linda University, s/he is committed to that decision. If the applicant is not accepted by October 1, s/he may apply to any school desired. An applicant not accepted by October 1 will be considered in the regular applicant pool. On the AMCAS application, the applicant indicates that s/he is an early-decision applicant and agrees to comply with the constraints of that program.

### DEADLINES

- June 1 to November 1 (of the year preceding the year of admission to the School of Medicine) is the period for submission of applications for the first-year class.
- August 1 (of the year preceding the year of admission) is the deadline for submission of application under the Early Decision Program.
- September 1 (of the year preceding the year of admission) is the deadline for submission of the supplementary application for the Early Decision Program.
- November 15 (of the year preceding the year of admission) is the deadline for receipt of

the supplementary application for the regular applicant pool.

- May 15 (of the year of admission) is the date beyond which the deposit of \$100 is not refundable.

### TRANSFER

Under exceptional circumstances, the school accepts applicants into the junior year who are transferring from other U.S. medical schools. Such transfers must be for compelling circumstances and are subject to availability of space and approval of the Loma Linda University School of Medicine Dean's Administrative Committee.

The University reserves the right to require of an applicant satisfactory completion of written or practical examinations in any course for which transfer credit is requested. Successful completion of USMLE Step I is required.

### LOMA LINDA UNIVERSITY SCHOOL OF MEDICINE TECHNICAL STANDARDS

Loma Linda University School of Medicine candidates for the M.D. degree must have abilities and skills of five varieties including observation, communication, motor, intellectual (conceptual, integrative and quantitative), behavioral and social. Technological compensation can be made for some handicaps in certain areas, but a candidate should be able to perform in a reasonably independent manner without the use of a surrogate.

**OBSERVATION:** The student must be able to observe demonstrations and experiments in the basic sciences, including but not limited to physiologic and pharmacologic demonstrations in animals, microbiologic cultures, and microscopic studies of microorganisms and tissues in normal and pathologic states. A student must be able to observe a patient accurately at a distance and close at hand. Observation necessitates the functional use of the senses of vision, touch, hearing, and somatic sensation. It is enhanced by the functional use of the sense of smell.

**COMMUNICATION:** A student must be able to speak, to hear, and to observe patients in order to elicit information; describe changes in mood, activity, and posture; and perceive nonverbal communications. A student must be able to communicate effectively and sensitively with patients, colleagues, and other personnel. Communication includes not only speech but also reading and writing. The student must be able to communicate effectively and efficiently in oral and written form with all members of the health care team.

**MOTOR:** Students should have sufficient motor function to elicit information from patients by

palpation, auscultation, percussion, and other diagnostic maneuvers. A candidate should be able to do basic laboratory tests (urinalysis, CBC, etc.); carry out diagnostic procedures (proctoscopy, paracentesis, etc.); and read EKGs and X-rays. A candidate should be able to execute motor movements reasonably required to provide general care and emergency treatment of patients. Examples of emergency treatment reasonably required of physicians are cardiopulmonary resuscitation, the administration of intravenous medication, the application of pressure to stop bleeding, the opening of obstructed airways, the suturing of simple wounds, and the performance of simple obstetrical maneuvers. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision.

**INTELLECTUAL-CONCEPTUAL INTEGRATIVE AND QUANTITATIVE ABILITIES:** These abilities include measurement, calculation, reasoning, analysis, and synthesis. Problem solving, the critical skill demanded of physicians, requires all of these intellectual abilities. In addition, the candidate should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.

**BEHAVIORAL AND SOCIAL ATTRIBUTES:** A student must possess the emotional stability required for full utilization of his/her intellectual abilities; the exercise of good judgment; the prompt completion of all responsibilities attendant to the diagnosis and care of patients; and the development of mature, sensitive and effective relationships with patients. Students must be able to tolerate physically taxing workloads and to function effectively under stress. They must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties inherent in the clinical problems of many patients. Compassion, integrity, honesty, concern for others, interpersonal skills, interest, and motivation are all personal qualities that are expected of Loma Linda University School of Medicine students.

## Student Life

The information on student life contained in this CATALOG is brief. The Loma Linda University *Student Handbook* more comprehensively addresses University and school expectations, regulations, and policies; and is available on the University Web site to each registered student and to prospective students who request a copy in writing from the School of Medicine, Office of the Associate Dean for Student Affairs. Students are expected to familiarize themselves with the contents of the *Student Handbook* and to abide by its policies. Additional information regarding policies specific to a particular school or program within the University is available from the respective school.

### Student organizations

The purpose of Loma Linda University School of Medicine student organizations is to:

- Encourage high Christian ideals among medical students.
- Involve medical students in developing and furthering their education.
- Enhance involvement in and loyalty to Loma Linda University.
- Invite medical students to seek constructive solutions to problems and foster leadership among medical students.

At registration into the School of Medicine, students automatically become members of the School of Medicine Student Association. Other student organizations that operate within the School of Medicine and that are represented on the School of Medicine Senate include the following:

1. The American Medical Association—Medical Student Section (AMA-MSS), Loma Linda University Chapter.
2. The American Medical Student Association (AMSA), Loma Linda University Chapter.
3. The Christian Medical and Dental Association (CMDA).
4. The Organization of Student Representatives (OSR) to the Association of American Medical Colleges (AAMC).
5. Student National Medical Association (SNMA) LLU Chapter.
6. Hands-On Wholeness.

## Curriculum

### WHOLE-PERSON FORMATION

Personal and professional growth for the student in medicine is the focus of the disciplines in the school, the faculty in the School of Medicine, and the School of Religion. Courses and content are offered to emphasize biblical, ethical, and relational aspects of the physician's personal and professional development. The core for whole-person formation—fourteen quarter units of religion and ethics—is provided during the first three years of the medicine curriculum.

### LEARNING OUTCOMES FOR MEDICAL STUDENT EDUCATION

#### Outcome I

Students will develop a knowledge base in the basic sciences essential for advancement to the next phase of their medical education.

#### Outcome II

Students will develop the clinical skills that are integral to the safe and competent practice of medicine.

#### Outcome III

Students will integrate basic science knowledge, clinical skills, values, and professional behaviors within the context of providing whole-person care for patients.

#### Outcomes IV

Students will develop diagnostic reasoning and analytic problem-solving skills in order to assimilate information and establish appropriate diagnoses and treatment plans.

#### Outcome V

Students will develop interpersonal and communication skills that will enable them to effectively interact with peers, faculty, patients and their families, and other health care providers—including those from diverse backgrounds (e.g., cultural, ethnicity, gender, generational, socioeconomic, and religious).

#### Outcome VI

Students will develop professionalism, excellence and scholarship, accountability and responsibility; and demonstrate altruistic behaviors.

#### Outcome VII

Students will integrate ethical and Christ-centered principles of conduct in their personal and professional lives.

## Academic Information

The academic progress of each student is monitored by the Academic Review Committee. Specific policies for handling misconduct (academic or nonacademic) are published in the *Student Handbook* 2006.

### COMMUNICATIONS

Communications to the medical student regarding academic and clinical assignments, scholarship opportunities, and other important information are routed through the Office of the Dean. The student mailboxes and bulletin board are located in the medical center. It is the responsibility of students to check their email and mailboxes and the bulletin board daily.

### REQUIRED SUPPLIES

#### Microscope

The student is expected to have access to a satisfactory compound microscope (usually one rented from the school) that meets the following requirements:

- The microscope shall be no older than fifteen years.
- The lenses shall be in good condition and shall include scanning and oil-immersion objectives.
- The equipment shall include an Abbe condenser with rack-and-pinion adjustment, an iris diaphragm, and a mechanical stage.

#### Textbooks

Students are required to purchase the textbooks adopted by the School of Medicine Curriculum Committee.

#### Instruments

Students are required to purchase the instruments adopted by the physical diagnosis course.

### PRACTICES AND REGULATIONS

#### Length of academic residence

To fulfill the degree requirement pertaining to length of academic residence, it is the usual policy that the student must be registered for full-time course work during the entire junior and senior academic years for the Doctor of Medicine degree.

#### Course exemptions

Students who seek exemption from registering for courses that they took prior to entering the School of Medicine must qualify for the exemption by passing a comprehensive examination covering the course material in question.

Should the student qualify, in lieu of the regular course the student will be required to participate in an advanced program that may include additional studies, research activities, and/or teaching. A written paper will be required from all students completing the advanced program.

The course director, the senior associate dean of medical student education, and the student will work together to determine the content of the advanced program. Full tuition, equivalent to that of the regular program, will be charged.

### Examinations

Students must take examinations at the scheduled time. Students who arrive more than fifteen minutes late to an examination—or after another student has left during the examination for any reason—will be denied the opportunity to take the examination.

Should a student miss an examination because of an excused absence, the examination cannot be made up at a later time. Instead, the comprehensive final examination in the course for which the missed examination occurred will be weighted an extra amount, proportional to the weighting of the missed examination(s). In addition, course directors may require other remediation at their discretion.

In order to have an excused absence, the student must obtain a written excuse from the Office of the Dean prior to the administration of the test in question. This written excuse must then be provided to the course director. Students missing examinations for health reasons must provide documentation from Student Health that they were indeed ill. Whether or not this documentation is an adequate excuse for missing an examination will be left to the discretion of the Office of the Dean.

Students who miss examinations without prior approval from the Office of the Dean have an unexcused absence. As a result, the student will receive a zero for the missed examination(s).

In the event of a bona fide emergency, where prior approval is not feasible, the Office of the Dean must be contacted as soon as possible. Failure to do so will result in an unexcused absence.

### Grading policy

Course directors submit grades at the end of the course, indicating the overall evaluation of the student's performance in the course. The grade reflects the success or failure of the student in meeting the objectives of the course in terms of knowledge, skills, attitudes, and values. The grade will be recorded as SATISFACTORY if the student exceeded the minimum requirements for overall performance. The grade assigned will be UNSATISFACTORY if the student did not meet the minimum requirements for overall performance. The grade assigned will be MARGINAL SATISFACTORY if the student met but

did not exceed the minimum requirements for overall performance.

Complete promotion and retention policies are distributed to each class at orientation.

### Class standing

Class standing is determined by the Office of the Senior Associate Dean for Medical Student Education and is based on student performance on in-house, faculty-generated examinations and on NBME subject examinations.

### Promotion

Promotion is contingent on satisfactory academic performance. Both cognitive and noncognitive evaluations of academic performance—as well as assessment of personal suitability to assume the responsibilities of the medical profession—are utilized in making promotion decisions. The Academic Review Committee of the School of Medicine periodically reviews student performance and progress and recommends promotion, retention, or dismissal on the basis of the overall academic record. The *Student Handbook* contains additional details regarding the criteria used by the Academic Review Committee for promotion decisions.

### Academic probation

Students whose cumulative academic record at the end of any academic year is less than satisfactory are placed on academic probation.

### Withdrawal

To withdraw from a course(s), the student must file a Change of Program form; to completely withdraw from school, a Total Withdrawal form must be completed. These forms should be completed and submitted on the last day of class attendance. The date of withdrawal used in calculating tuition refunds will be the date on which the properly completed form is submitted to the Office of University Records.

### USMLE Steps I and II policy

States vary in the number of times a student can attempt USMLE examinations and still be eligible for licensure. A significant number of states allow no more than three attempts. The school has defined its own limits for number of attempts allowed. School policy requires students enrolled in the Loma Linda University School of Medicine to pass Step I in no more than three attempts.

Students must complete the clinical course work required for graduation within three years of starting the clinical curriculum; they are permitted a maximum of four sequential attempts to pass Step II of the USMLE. The student's first attempt at passing Step II of the USMLE must take place only after s/he has satisfactorily passed all junior clerkships and prior to his/her completion of all required senior clinical course work.

A student who has failed Step II but who has completed all course curriculum requirements must remain enrolled in the School of Medicine as a directed-study student until s/he either has passed Step II of the USMLE or failed Step II of the USMLE for the fourth time. During this directed study, the student will be charged tuition.

### DOCTOR OF MEDICINE DEGREE REQUIREMENTS

The School of Medicine requires that a candidate for a degree or certificate from the school must have met the following requirements for the Doctor of Medicine degree:

- Completed all requirements for admission.
- Attended an accredited medical school for four academic years, the last two of which must have been spent at this school.
- Completed honorably all requirements of the curriculum, including specified attendance, level of scholarship, length of academic residence, and credit units.
- Completed additional special examinations covering any or all subjects of the medical curriculum, as may be required.
- Successfully completed USMLE examinations (Steps I and II), as specified—both clinical skills and knowledge components.
- Given evidence of moral character, of due regard for Christian citizenship, and of consistent responsiveness to the established aims of the University and of the school.
- Discharged financial obligations to the University.

The candidate is required to participate in graduation exercises upon completion of the academic program. If the candidate is out of sequence with his/her current class but would like to participate in the commencement exercises, s/he must have completed a minimum of three months of the required senior clerkships, i.e., medicine, surgery, family medicine, neurology, ambulatory care, and intensive care/emergency medicine by April 1 of the year of graduation. Consent for the student to be absent, granted by the president of the University, is contingent on the recommendation of the dean to the president.

The families and friends of graduates are invited to be present at the official conferring of degrees service.

### DOCTOR OF MEDICINE/ORAL AND MAXILLOFACIAL SURGERY DEGREE REQUIREMENTS

The Doctor of Medicine / Oral and Maxillofacial Surgery Program (M.D./OMS) is designed to provide an opportunity for qualified dentists to obtain the Doctor of Medicine degree in a customized, three-year period. Clinical surgical health care delivery is emphasized. The content of the program conforms to the Standards of the Commission on Accreditation and is designed to prepare the oral surgeon for certification by the American Board of Oral and Maxillofacial Surgery. Oral and maxillofacial surgery residents begin their residency program on the OMS service. They subsequently enter the second year at Loma Linda University School of Medicine with advanced standing. The residents then complete the second, third, and fourth years of medical school. The third year of the M.D./OMS curriculum consists of required clerkships in acute care, neurology, a subinternship in ENT, and preventive and community medicine. An additional 30 units of electives, which include anesthesia and oral and maxillofacial surgery, complete the final year of the medical program. The graduate then enters a one-year general surgery internship, followed by two years of oral and maxillofacial surgery residency.

### GRADUATE COMBINED DEGREES PROGRAMS

Loma Linda University is committed to fostering the investigative skills of its medical students. Students interested in pursuing careers in academic medicine and medical research may wish to enroll in *one of the combined degrees programs*.

#### Combined degrees (M.D./M.S. or M.D./Ph.D.)—SM/GS

The M.D./Ph.D. combined degrees program is available through the School of Medicine. It includes many of the features of the Medical Scientist Program. Students in the combined degrees program complete the first two years of the standard medical curriculum. This is followed by three or more years of graduate course work and research to qualify for a Ph.D. degree, or at least one year for an M.S. degree, before commencing the last two years of the medical school curriculum—the clinical training—for the Doctor of Medicine degree. Majors are offered in anatomy, biochemistry, microbiology and molecular genetics, physiology, and pharmacology.

For the M.D./M.S. and M.D./Ph.D. combined degrees programs, the prerequisites and Graduate Record Examination requirements are similar to those described for the Medical Scientist Program, except that biochemistry is not required.

#### Medical Scientist Program (M.D./Ph.D.)

Loma Linda University is committed to fostering the investigative skills of its medical students. Students interested in pursuing careers in academic medicine



and medical research may wish to enroll in the Medical Scientist Program.

The Medical Scientist Program is designed to develop a student's independence and competence as an investigative scientist and clinician. It provides students with a broad educational base for the practice of medicine and medically-related research. The program is administered by the School of Medicine in cooperation with the Faculty of Graduate Studies. (See Medical Scientist Program in the combined-degrees programs after the general information for the School of Medicine.)

## LICENSING EXAMINATIONS

### National

The graduate who holds credentials from the USMLE may be granted a license by endorsement of the examining board of most states. Additional requirements made by some states are given in a pamphlet that may be obtained from the Office of the Dean or from the Federation of State Medical Boards, 400 Fuller Wisser Road, Suite 300, Euless, TX 76039-3855.

## GRADUATE SPECIALTY MEDICAL-EDUCATION RESIDENCIES

Loma Linda University Medical Center and other hospitals affiliated with Loma Linda University School of Medicine sponsor a variety of accredited graduate medical education programs. These include: anesthesiology, adult cardiothoracic anesthesiology, pediatric anesthesiology, anesthesiology critical care medicine, dermatology, procedural dermatology, emergency medicine, pediatric emergency medicine, family medicine, family medicine-rural track, internal medicine, cardiovascular disease, gastroenterology, nephrology, rheumatology, pulmonary disease and critical care medicine, neurological surgery, neurology, child neurology, clinical neurophysiology, obstetrics and gynecology, ophthalmology, orthopaedic surgery, otolaryngology, pathology— anatomic and clinical, pediatrics, pediatric critical care medicine, neonatal-perinatal medicine, physical medicine and rehabilitation, plastic surgery, preventive medicine, occupational medicine, psychiatry, radiology—diagnostic, neuroradiology, pediatric radiology, vascular and interventional radiology, radiation oncology, surgery, vascular surgery, thoracic surgery, urology, pain medicine, and internal medicine—pediatrics. A combined program in family medicine and preventive medicine is also available. Various nonaccredited fellowships are also offered.

Graduate physicians wishing to apply for entrance into these programs should apply through the director of each of the programs.

## POSTGRADUATE TRAINING

In harmony with the needs of medicine today, the curriculum leading to the Doctor of Medicine degree is planned with the assumption that all students will take standard postgraduate training in one of the fields of medicine. This means serving as a resident for a minimum of three years in a hospital approved for this training by the Council of Medical Education and Hospitals of the American Medical Association.

The Office of the Senior Associate Dean for Medical Student Education supplies information and assistance for the arrangement of residencies. Since the school participates in the National Residency Matching Program, selection through this means constitutes approval by the School of Medicine.

## CONTINUING MEDICAL EDUCATION

Recognizing the imperative of lifelong learning for professionals, the School of Medicine supports a program of continuing medical education for physicians beyond their formal postgraduate years. The Office of Continuing Medical Education is accredited by the Accreditation Council for Continuing Medical Education to provide Category I continuing medical-education credit for physicians. Course offerings include weekly, bi-weekly, and monthly School of Medicine departmental grand rounds and a large number of one-day and multiday conferences and workshops that are presented locally and nationally for School of Medicine faculty, alumni, and practicing physicians within the geographic area in which the conferences are presented.

For more information please write to:

Melodee Newbold, Director of Continuing Medical Education  
Loma Linda University School of Medicine  
11234 Anderson Street, Room A537  
Loma Linda, CA 92354  
909-558-4968  
909-558-0330 fax  
<mnewbold@llu.edu>

## CLINICAL FACILITIES

Clinical instruction takes place primarily at Loma Linda University Medical Center, which includes the Loma Linda University Children's Hospital, Loma Linda University East Campus Specialty Hospital, Loma Linda University Heart and Surgical Hospital, Faculty Medical Offices (FMO), and the Loma Linda University Behavioral Medicine Center. Additional local training sites include the Jerry L. Pettis Memorial Veterans Medical Center, Riverside County Regional Medical Center, and White Memorial Medical Center. Also utilized are Arrowhead Regional Medical Center; Kaiser Permanente; and Kettering Medical Center in Dayton, Ohio.

## THE INSTRUCTIONAL RESOURCES

### Loma Linda University Medical Center (LLUMC)

Loma Linda University Medical Center is a major teaching center serving San Bernardino and Riverside counties. In addition to its large population of referred patients, the medical center is also the Level 1 trauma center for the region and is a tertiary-care center for high-risk obstetrics and neonatal intensive care. An extension houses the Loma Linda Cancer Center and the Proton Treatment Center for cancer therapy. Patients in the medical center are available for medical student, resident, and fellowship training.

### Loma Linda University Children's Hospital

The Loma Linda University Children's Hospital provides a single, centralized location where newborns, infants, and children can receive comprehensive medical care. Being seen at a comprehensive center for children's health care assures parents and their children that all aspects of the child's health will be closely monitored and understood. Loma Linda University Children's Hospital staff—pediatric nurses, physicians, surgeons, anesthesiologists, radiologists, and other professionals—work together to assure that every patient receives the highest possible quality of medical attention.

The organization of a children's hospital also means that the hospital's staff is chosen from among people who are specially trained and have a deep interest in children's health care. Every Loma Linda University Children's Hospital employee is highly skilled in dealing with children and has made the care of children a personal priority. The children's hospital is known as "the place for little faces."

### Loma Linda University East Campus Specialty Hospital

The East Campus Specialty Hospital (the former Loma Linda Community Hospital) is a teaching resource for students in family medicine, physical medicine and rehabilitation, orthopaedics, and clinical neuroscience. In addition, it serves as the primary inpatient training site for house staff in family medicine.

### Loma Linda Heart and Surgical Hospital

Loma Linda University Heart & Surgical Hospital is a specialty hospital that will serve as a teaching resource in the specialties of urology, gynecology, otolaryngology, and cardiovascular disorders.

### Faculty Medical Offices

The Faculty Medical Offices include facilities for multiple specialties and an outpatient surgery suite that handles approximately 30 percent of all the surgery done at the Loma Linda University Medical Center. The FMO is utilized for students' outpatient experience in nearly all specialties.

### Jerry L. Pettis Memorial Veterans Center

The Jerry L. Pettis Memorial Veterans Medical Center serves a wide geographic area and cares for a large

population of veterans. Outpatient clinics and inpatient wards are available for student and resident teaching. The residency programs are integrated with the Loma Linda University Medical Center and are under the supervision of the faculty of the School of Medicine.

### Riverside County Regional Medical Center

The Riverside County Regional Medical Center is located ten miles southeast of Loma Linda in the city of Moreno Valley. The patient population reflects an inner-city profile with a large concentration of urgent medical and surgical, trauma, obstetrics, and pediatrics cases. Patients are available for student, resident, and fellowship training.

### Loma Linda University Behavioral Medicine Center

The Loma Linda University Behavioral Medicine Center—a freestanding, full-service psychiatric hospital—opened in early 1991. Loma Linda University Behavioral Medicine Center offers adult, child, adolescent, and chemical-dependency services—including inpatient and partial hospitalization. Special emphasis is given to services that provide the integration of Christian faith with psychiatric care for patients desiring such.

### White Memorial Medical Center

The White Memorial Medical Center is located approximately sixty miles west of Loma Linda in the city of Los Angeles. The patient population reflects an inner-city profile with a large concentration of urgent medical and surgical, trauma, obstetrics, and pediatrics cases. Patients are available for student, resident, and fellowship training.

## Research Centers

Basic science investigation is advanced, and patient treatment is enhanced through the ground-breaking research conducted at the four centers of the School of Medicine.

### CENTER FOR HEALTH DISPARITIES AND MOLECULAR MEDICINE

The objective of the Center for Health Disparities and Molecular Medicine is to use cutting-edge molecular genetics and cellular techniques to study the influence of the augmented state of cellular oxidative stress (ASCOS) and inflammatory pathways on cell death and survival as it pertains to chronic health-disparities diseases such as cancer and diabetes. The education mission of the center is to train a diverse group of graduate students, medical students, and postdoctoral scientists who are involved in health-disparities research in Loma Linda University School of Medicine. The community outreach objective of the center is to develop community trust and establish strong partnerships and outreach for community-based participatory research and education.

### CENTER FOR PERINATAL BIOLOGY

The primary research focus of the Center for Perinatal Biology is investigation of developmental fetal and neonatal biology and physiology. The majority of the funding to support this research is derived from competitive grants awarded by the National Institutes of Health; additional funding is provided by the National Science Foundation, the American Heart Association, the March of Dimes Birth Defects Foundation, and other agencies. The biomedical scientists in this internationally renowned research center also teach basic science courses in the School of Medicine; as well as graduate courses in their disciplines: physiology/pharmacology, gynecology/obstetrics, pathology/human anatomy, biochemistry/microbiology, and pediatrics.

For the graduate students, postdoctoral fellows, and beginning investigators—who spend from two-to-four years in research and training in fields related to developmental physiology—the center is an ideal environment. A number of visiting scholars from other universities also work in the center during sabbaticals or other interims.

### NEUROSURGERY CENTER FOR RESEARCH, TRAINING, AND EDUCATION

The Neurosurgery Center for Research, Training, and Education has as its primary focus the improvement of patient care by conducting translational research. These goals are met by the research and development of new biologically and technologically advanced diagnostic procedures, minimally invasive surgical

techniques, and innovative instrumentation. The center functions in collaboration with many well known institutions such as George Mason University, UCLA, Rensselaer Polytechnic Institute and Wadsworth Center in New York.

The center has been recipients of a five-year NIH competitive grant to determine the role of iron perturbations in metabolism in the pathogenesis of Alzheimer's disease as well as grants for proteomic study of schizophrenia. Our multidisciplinary work involves the Departments of Biochemistry, Radiology, Cell and Molecular Biology, Radiobiology, Psychiatry, Geriatric Medicine, and Biostatistics. The center is also interested in the development of new hemostatic agents that involve the control of hemorrhage. To this end it has developed new procoagulants and surgical devices in collaboration with industry. The center works in close collaboration with industrial resources for both testing and development of new surgical instrumentation. The director and associate director of the center hold numerous international and United States patents on surgical instruments and other devices.

- Opportunities for predoctoral and postdoctoral training in both biochemistry and cell biology, particularly as it relates to neurodegenerative disease.
- A computerized data bank, which is currently accessing cases of mild cognitive impairment, looking for determinants that lead to the development of Alzheimer's disease.
- We are proud of our student (medical, predoctoral) mentoring. Two recent Ph.D. recipients in biochemistry worked in our Biochemistry Laboratory. They were both selected for the Dean's Award as "Best Graduate Student."

The Neurosurgery Center for Research, Training, and Education plays an important role in multidisciplinary research, interfacing with many other departments within the school as well as with outside institutions—such as the National Institutes of Health and foreign medical institutions, including the Freie University of Berlin and Nanjing University.

## Financial Information

The Office of the Dean is the final authority in all financial matters and is charged with the interpretation of all financial policies. Any exceptions to published policy regarding reduction or reimbursement of tuition must be approved by the dean. Any statement by individual faculty members, program directors, or department chairs regarding these matters is not binding on the school or the University unless approved by the dean.

Registration is not complete until tuition and fees on the required installment are paid; therefore, the student should be prepared to make these payments during scheduled registration for each academic year. There may be adjustments in tuition and fees as economic conditions warrant.

### GENERAL FINANCIAL PRACTICES

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

### VETERAN'S BENEFITS

A student eligible to receive veteran's benefits under the current enactment should—

- Contact the Office of University Records within the first week following registration, and
- Have a certificate of eligibility sent to the Office of Admissions and Records at Loma Linda University.

In order for a medical student to be eligible to receive educational assistance from the Department of Veteran's Affairs, s/he must maintain a satisfactory grade for all required courses in the School of Medicine for the year that s/he is currently enrolled. If the student's grades reflect unsatisfactory progress, the student will not be certified for the Department of Veteran's Affairs educational benefits until his/her probationary status has been removed and s/he is certified to be in good and regular standing.

Under Title 38 of the U.S. Code, Loma Linda University is approved for the training of veterans and other eligible persons. Information regarding eligibility for any of these programs may be obtained by calling 1-888/GIBILL1. Students receiving veteran's benefits but who fail for three consecutive quarters to maintain the required cumulative grade-point average (G.P.A.) for graduation will have their benefits interrupted, and the Veterans Administration (VA) office will be notified.

Application for benefits must be made directly to the VA and may be done via the Web. The Office of

University Records serves as the certifying official for Loma Linda University. Students should contact the certifying official prior to their first enrollment certification. For more information, open links to the VA Web site ("Students" and "Prospective Students") on the University home Web page at <[www.llu.edu](http://www.llu.edu)>.

### SCHEDULE OF CHARGES

#### TUITION

\$38,400	Full time
\$9,600	Full time, per quarter

#### FEES

\$643	per quarter: student services, health insurance, etc.
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#### SUPPLIES AND INSTRUMENTS (ESTIMATED)

\$3,200	Per school-calendar year
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### LIVING EXPENSES (ESTIMATED)

\$12,430	Dormitory student, per school-calendar year
\$9,240	Off-campus student living with parent or relative, per school calendar year
\$16,170	Community student providing own housing, per school-calendar year

#### On- and off-campus student housing

Students may go to <[www.llu.edu/central/housing/index.page](http://www.llu.edu/central/housing/index.page)> for housing information and a housing application form.

### SPECIAL CHARGES 2009-2010

\$75	Supplemental application (nonrefundable), in addition to AMCAS fee
\$100	Acceptance deposit
\$50	Late-payment fee
cost	Health care items not covered by health fee or insurance
cost	Library fine or loss, parking fine, property breakage or loss
cost	Health coverage for spouse and family
\$50	Late registration (beginning first day after published registration date)
\$25	Returned-check fee

### AWARDS

#### Bernard D. Briggs Award

The Bernard D. Briggs Award is presented to an outstanding medical student entering the field of anesthesiology who exhibits the dedication, enthusiasm, and commitment of the visionary physician and distinguished mentor for whom it is named.

#### Robert F. Chinnock Award

The Robert F. Chinnock Award is presented annually to a student who has demonstrated outstanding performance in clinical and academic pediatrics.

**Daniel D. Comstock Award**

The Daniel D. Comstock Award is given annually to the senior student with the most distinguished performance in internal medicine. Selection is based on scholarship, interest in science, skill, devotion to patient care, and personal attributes of dependability and integrity—as demonstrated by the physician, Daniel D. Comstock, for whom the award is named.

**Donald E. Griggs Award**

The Donald E. Griggs Award is presented annually to a senior student selected for meritorious scholarship and service—the highest grade in the clinical rotations of medicine—reflecting those qualities demonstrated by the physician and teacher for whom the award is named.

**David B. Hinshaw, Sr., Award**

The David B. Hinshaw, Sr., Award is presented annually to a senior student who has demonstrated outstanding qualities of leadership and scholarship and who is entering a categorical surgery residency program with the intention of pursuing a career in general surgery.

**Guy M. Hunt Award**

The Guy M. Hunt Award is presented annually by the Department of Neurology to a senior student who combines outstanding academic achievement and the spirit of gentle caring that was exemplified by Dr. Hunt.

**Harold J. Hoxie Award**

The Harold J. Hoxie Award is presented by the Department of Medicine to a senior medical student whose meritorious scholarship, exceptional performance in medicine with emphasis in research, and service reflect those qualities demonstrated by the physician and teacher for whom the award is named.

**Benjamin Kovitz Award**

The Benjamin Kovitz Award is presented to a senior medical student who has demonstrated qualities of leadership and scholarship in the field of psychiatry.

**Walter P. Ordelheide Award**

The Walter P. Ordelheide Award is given annually by the Department of Family Medicine to a senior student who has demonstrated outstanding scholarship and leadership, and who has fostered the promotion and advancement of family medicine.

**President's Award**

The President's Award, established in 1960, is presented annually in recognition of superior scholastic attainment and active participation in the student community, within the framework of Christian commitment. One recipient is selected from each school of the University.

**Society for Academic Emergency Medicine Award**

The Society for Academic Emergency Medicine Award is presented to the senior medical student who

has demonstrated excellence in the specialty of emergency medicine.

**Varner J. Johns, Jr., Award**

The Varner J. Johns, Jr., Award is given to a graduating senior who is recognized as an outstanding student with the potential of becoming a future faculty member in the Department of Medicine.

**Alumni Association—Herber Award**

The School of Medicine Alumni Association Award is given annually to students who demonstrate outstanding leadership in furthering the mission of Loma Linda University School of Medicine.

**Wil Alexander Whole-Person Care Award**

The Wil Alexander Whole-Person Care Award recognizes a senior medical student who, during the clinical years, has demonstrated to his/her peers and colleagues a growing excellence in the physical, mental, emotional, spiritual, and relational care of his/her patients as part of the art of medical practice.

**Alpha Omega Alpha Honor Society**

Fourth-year students are recommended for membership in the national honor medical society, Alpha Omega Alpha. Membership is determined based on scholastic, professional, and personal performance. The School of Medicine was granted a charter for establishing the Epsilon Chapter on April 1, 1957.

**Roger W. Barnes Award**

The Roger W. Barnes Award is presented to a senior student who has demonstrated to an unusual degree the qualities of compassion, kindness, and humility—as exhibited by the physician and teacher for whom the award is named.

**Harold F. Ziprick Award**

The Harold F. Ziprick Award is presented annually by the Department of Gynecology and Obstetrics to a senior student in recognition of overall academic achievement and clinical performance in gynecology and obstetrics, as demonstrated by the physician and teacher for whom the award is named.

**Distinguished Student in Emergency Medicine Award**

The Distinguished Student in Emergency Medicine Award is given by the department to a senior student who is devoted to emergency medicine and committed to pursuing it as a career.

**Distinguished Student in Preventive Medicine Award**

The Distinguished Student in Preventive Medicine Award is given to a senior student who has demonstrated exceptional performance in preventive medicine and is committed to pursuing it as a career.

**Philip H. Reiswig Award**

The Philip H. Reiswig Award is presented to a senior student entering the field of orthopaedic surgery who exhibits the dedication, enthusiasm, and commitment of the physician-leader for whom it is named.

**ADDITIONAL REQUIREMENTS**

For additional policies governing Loma Linda University students, see Section II of this CATALOG, as well as the University *Student Handbook*. Students are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation.



# Anatomy—SM

(M.S., Ph.D.)

KENNETH R. WRIGHT, Program Coordinator

## FACULTY

### PRIMARY APPOINTMENTS

Denise L. Bellinger  
 Brad A. Cole  
 Bertha C. Escobar-Poni  
 Michael A. Kirby  
 Anissa Y. LaCount  
 Pedro B. Nava  
 Kerby C. Oberg  
 Kimberly J. Payne

### SECONDARY AND ADJUNCT APPOINTMENTS

Marino De Leon  
 William M. Hooker  
 Paul J. McMillan  
 Steven M. Yellon

It is the mission of the Loma Linda University basic science programs to further the teaching and healing ministry of Jesus Christ by fostering scholarly excellence leading to the discovery, integration, and dissemination of biomedical knowledge.

The basic sciences of the School of Medicine offer graduate programs with emphases in anatomy, biochemistry, microbiology, pharmacology, and physiology. The Ph.D. degree curriculum is designed to prepare students for a career in independent research and teaching in an academic or biotechnology setting. Students may enter any of these five Ph.D. degree programs by applying to the Integrated Biomedical Graduate Studies Program. After completing a common first-year core curriculum, students will select a program and a mentor for the completion of their studies, during which advanced courses and laboratory work allow them to fully develop an area of research interest and expertise. Students usually rotate through up to three research laboratories before selecting a research advisor.

The M.S. degree course of study provides education appropriate for technicians involved in biomedical research and for medical technologists seeking career advancement. A pathway to combined M.D./Ph.D. degrees is also offered.

The School of Medicine through its Division of Human Anatomy in the Department of Pathology and Human Anatomy, along 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. These departments are active participants in the systems biology curricula, which consist of interdisciplinary courses

and seminars coordinated by the faculties of the Departments of Anatomy, of Physiology and Pharmacology, and of Biochemistry and Microbiology in the School of Medicine. The degree programs provide opportunities for qualified students to prepare for careers in teaching and research.

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 through scientific literature and the laboratory, while working on a significant research 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.

The program outcomes of the Anatomy Program are as follows:

1. Students will demonstrate a broad knowledge of the biomedical sciences and subject mastery of the anatomical disciplines.
2. Students will be able to interpret current literature in their discipline.
3. Students will be able to apply the scientific method.
4. Students will understand the need to practice scientific and professional ethics.
5. \*Students will understand the process of applying for external funding.

\* This objective is not applicable to M.S. degree students.

## M.S. AND PH.D. DEGREES

The School of Medicine's Division of Biochemistry offers study in the Biochemistry Program leading to the Master of Science and the Doctor of Philosophy degrees. These degree programs provide a broad biochemical background while allowing the student to fully develop a special area of research 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 is designed to prepare the graduate for a career in independent research and teaching in university, clinical, biotechnological, or government environments. Ph.D. degree students are expected to

develop creativity and independence, in addition to technical skills.

### Combined degrees

Combined degree (Ph.D./M.D. and M.S./M.D.) options are also available. The combination of an M.S. degree with a professional degree provides additional content and research experience as a 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.

The combined degrees are described at the end of Section III in this CATALOG.

### PREREQUISITE COURSES

Applicants must have a bachelor's degree from an accredited U.S. college or the equivalent from a foreign university. Foreign applicants must have their transcripts evaluated by an accredited agency for equivalency to a U.S. degree. Entrance requirements include a full year of each of the following undergraduate courses: general biology, general chemistry, organic chemistry, and general physics. Upper division biology (such as cell and molecular biology) and chemistry (such as biochemistry) are strongly recommended. Calculus is also recommended. Results of the general test of the Graduate Record Examination (GRE) must be submitted. Applicants whose first language is not English must submit scores from the TOEFL (Test of English as a Foreign Language). The program reserves the right to decide on the equivalence of courses presented by the applicant.

### First-year curriculum

The first-year curriculum includes a course sequence taught by interdisciplinary faculty that integrates all the disciplines of the biomedical basic science areas—moving from molecules through cellular mechanisms to integrated systems. In addition, a supplemental course covers research-related topics—such as scientific communication and integrity, information handling, and statistics; as well as successful grant writing. Students learn of new developments in the biomedical sciences through weekly seminars, and they gain presentation skills of their own in a weekly student presentation seminar series. During the subsequent years, formal courses continue to broaden and integrate into a meaningful whole an understanding of the clinical consequences of cellular events.

### Religion requirement

Students in the Master of Science (M.S.) programs are required to complete one 3-unit, graduate level

religion class (RELT 617 Seminar in Religion and the Sciences). Students in the Ph.D. degree program are required to complete 3 graduate level religion courses of three or more units each. These must include RELT 617; as well as RELE 525 Ethics for Scientists and RELR 588 Personal and Family Wholeness. A course in biblical studies (RELT 588, RELT 559, RELT 560, RELT 564, or RELT 565) may be substituted for either the ethical or relational course.

### Research/Dissertation or Thesis

A student will at all times have registration in research units. An IP will be assigned until the student registers for new units. The units should be spread out over the course of time it takes to complete thesis or dissertation research satisfactorily. An IP may not be carried for longer than five quarters.

### ANATOMY—M.S.

A minimum of 45 units is required for the M.S. degree, as detailed in the table below. Two options, a research track and a course work track, are available. Students must maintain a G.P.A. of at least 3.0. Students must adhere to all University and program policies as published in the *Student Handbook*, University CATALOG, or "Student Guide." Policies and requirements are subject to change.

#### Course work track

Under this plan, the student fulfills the total unit requirement by taking additional electives. The student takes a comprehensive written examination over the graduate course work in lieu of preparing a thesis.

#### Research track

Under this plan, the student fulfills the core requirements and also carries out research that culminates in a thesis. The student must pass an oral examination given by his/her graduate guidance committee after the thesis has been completed.

### ANATOMY—PH.D.

For the Ph.D. degree, students must complete a minimum of 88 units, as detailed in the table below, and must maintain a G.P.A. of at least 3.0. In addition, doctoral students are required to pass both written and oral comprehensive examinations in order to advance to candidacy. They must successfully defend the dissertation to their guidance committee before being awarded the Ph.D. degree. Students must adhere to all University and program policies as published in the *Student Handbook*, University CATALOG, or "Student Guide." Policies and requirements are subject to change.



<b>Basic science core</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 501	Biomedical Communication and Integrity	2.0	2.0	2.0
IBGS 502	Biomedical Information and Statistics	2.0	2.0	2.0
IBGS 503	Biomedical Grant Writing			2.0
IBGS 511	Cellular Mechanisms and Integrated Systems I			8.0
IBGS 512	Cellular Mechanisms and Integrated Systems II			8.0
IBGS 513	Cellular Mechanisms and Integrated Systems III			8.0
IBGS 521	Cellular Mechanisms and Integrated Systems I Journal Club			2.0
IBGS 522	Cellular Mechanisms and Integrated Systems II Journal Club			2.0
IBGS 523	Cellular Mechanisms and Integrated Systems III Journal Club			2.0
Totals		4.0	4.0	36.0

<b>Major</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
ANAT 516	Neuroscience GS	6.0	6.0	6.0
ANAT 541	Gross Anatomy GS	10.0	10.0	10.0
ANAT 542	Cell, Tissue, and Organ Biology	5.0	5.0	5.0
ANAT 544	Human Embryology Lecture	2.0	2.0	2.0
Totals		23.0	23.0	23.0

<b>Seminars</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 604	Introduction to Integrative Biology Presentation Seminar	1.0	1.0	1.0
IBGS 605	Integrative Biology Presentation Seminar (1.0)		1.0	2.0
IBGS 607	Integrated Biomedical Graduate Studies Seminar (1.0)	—	—	—
Totals		1.0	2.0	3.0

<b>Religion</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
RELE 525	Ethics for Scientists			3.0
RELR 549	Personal and Family Wholeness			3.0
RELT 617	Seminar in Religion and the Sciences	3.0	3.0	3.0
Totals		3.0	3.0	9.0

<b>Electives</b>			<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
ANAT ___	Graduate Anatomy Elective	Electives in anatomy / embryology	14.0		
Totals			14.0	—	—

<b>Research/Dissertation or Thesis</b>			<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
ANAT 697	Research (1.0-8.0)			13.0	15.0
IBGS 696	Research Rotations (1.0)				2.0
Totals			—	—	17.0
<b>Overall Totals</b>			<b>45.0</b>	<b>45.0</b>	<b>88.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

# Biochemistry—SM

## (M.S., Ph.D.)

PENELOPE DUERKSEN-HUGHES, Program  
Coordinator

### FACULTY

#### PRIMARY APPOINTMENTS

Danilo Boskovic  
Penelope Duerksen-Hughes  
Wolff M. Kirsch  
William H. R. Langridge  
Jonathan W. Neidigh  
Michael Pecaut  
Christopher Perry  
Lawrence C. Sowers  
Nathan Wall  
R. Bruce Wilcox

#### SECONDARY AND ADJUNCT APPOINTMENTS

Carlos A. Casiano  
Hansel M. Fletcher  
Daila Gridley  
Clifford Herrmann  
David A. Hessinger  
Mark S. Johnson  
Kin-Hing William Lau  
Thomas A. Linkhart  
Subburaman Mohan  
William J. Pearce  
John J. Rossi  
Lawrence B. Sandberg  
Donna D. Strong  
Barry L. Taylor

It is the mission of the Loma Linda University basic science programs to further the teaching and healing ministry of Jesus Christ by fostering scholarly excellence leading to the discovery, integration, and dissemination of biomedical knowledge.

The basic sciences of the School of Medicine offer graduate programs with emphases in anatomy, biochemistry, microbiology, pharmacology, and physiology. The Ph.D. degree curriculum is designed to prepare students for a career in independent research and teaching in an academic or biotechnology setting. Students may enter any of these five Ph.D. degree programs by applying to the Integrated Biomedical Graduate Studies Program. After completing a common first-year core curriculum, students will select a program and a mentor for the completion of their studies, during which advanced courses and laboratory work allow the student to fully develop an area of research interest and expertise. Students usually rotate through up to three research laboratories before selecting a research advisor.

The M.S. degree course of study provides education appropriate for technicians involved in biomedical research and for medical technologists seeking career advancement. A pathway to combined M.D./Ph.D. degrees is also offered.

The School of Medicine's Division of Biochemistry offers programs leading to the Doctor of Philosophy and Master of Science degrees. These programs include a core curriculum that provides a broad background in biochemistry-related issues and approaches. Advanced courses allow each student to develop fully an area of interest. Research strengths of the department include: cancer biology, DNA damage and repair, measurement of thyroid hormones, coagulation, neurobiology, peptide structure, vaccine development, and radiation biology.

The program outcomes of the Biochemistry Program are as follows:

1. Students will demonstrate a broad knowledge of the biomedical sciences and subject mastery in molecular, cellular and integrative aspects of biochemistry.
2. Students will be able to interpret current literature in their discipline.
3. Students will be able to apply the scientific method.
4. Students will understand the need to practice scientific and professional ethics.
5. \*Students will understand the process of applying for external funding.

\* This objective is not applicable to M.S. degree students

### M.S. and Ph.D. degrees

The School of Medicine's Division of Biochemistry offers study in the Biochemistry Program leading to the Master of Science and the Doctor of Philosophy degrees. These degree programs provide a broad biochemical background while allowing the student to fully develop a special area of research 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 is designed to prepare the graduate for a career in independent research and teaching in university, clinical, biotechnological, or government environments. Ph.D. degree students are expected to develop creativity and independence, in addition to technical skills.

**Combined degrees**

Combined degree (Ph.D. /M.D. and M.S. /M.D.) options are also available. The combination of an M.S. degree with a professional degree provides additional content and research experience as a 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.

The combined degrees are described at the end of Section III in this CATALOG.

**PREREQUISITE COURSES**

Applicants must have a bachelor's degree from an accredited U.S. college or the equivalent from a foreign university. Foreign applicants must have their transcripts evaluated by an accredited agency for equivalency to a U.S. degree. Entrance requirements include a full year of each of the following undergraduate courses: general biology, general chemistry, organic chemistry, and general physics. Upper division biology (such as cell and molecular biology) and chemistry (such as biochemistry) are strongly recommended. Calculus is also recommended. Results of the general test of the Graduate Record Examination (GRE) must be submitted. Applicants whose first language is not English must submit scores from the TOEFL (Test of English as a Foreign Language). The program reserves the right to decide on the equivalence of courses presented by the applicant.

**First-year curriculum**

The first-year curriculum includes a course sequence, taught by interdisciplinary faculty that integrates all the disciplines of the biomedical basic science areas—moving from molecules through cellular mechanisms to integrated systems. In addition, a supplemental course covers research-related topics such as scientific communication and integrity, information handling, and statistics; as well as successful grant writing. Students learn of new developments in the biomedical sciences through weekly seminars, and they gain presentation skills of their own in a weekly student presentation-seminar series. During the subsequent years, formal courses continue to broaden and integrate into a meaningful whole an understanding of the clinical consequences of cellular events.

**Religion requirement**

Students in the Master of Science (M.S.) degree programs are required to complete one 3-unit, graduate level religion class (RELT 617 Seminar in Religion and the Sciences). Students in the Ph.D.

degree program are required to complete 3 graduate level religion courses of three or more units each. These must include RELT 617; as well as RELE 525 Ethics for Scientists and RELR 588 Personal and Family Wholeness. A course in biblical studies (RELT 588, RELT 559, RELT 560, RELT 564, or RELT 565) may be substituted for either the ethical or relational course.

**Research/Dissertation or Thesis**

A student will at all times have registration in research units. An IP will be assigned until the student registers for new units. The units should be spread out over the course of time it takes to complete thesis or dissertation research satisfactorily. An IP may not be carried for longer than five quarters.

**BIOCHEMISTRY—M.S.**

A minimum of 45 units is required for the M.S. degree, as detailed in the table below. Two options, a research track and a course work track, are available. Students must maintain a GPA of at least 3.0. Students must adhere to all University and program policies as published in the Student Handbook, University CATALOG, or "Student Guide." Policies and requirements are subject to change.

**Course work track**

Under this plan, the student fulfills the total unit requirement by taking additional biochemistry electives. The student takes a comprehensive written examination over the graduate course work in lieu of preparing a thesis.

**Research track**

Under this plan, the student fulfills the core requirements and also carries out research that culminates in a thesis. The student must pass an oral examination given by his/her graduate guidance committee after the thesis has been completed.

**BIOCHEMISTRY—PH.D.**

For the Ph.D. degree, students must complete a minimum of 78 units, as detailed in the table below, and must maintain a G.P.A. of at least 3.0. In addition, doctoral students are required to pass both written and oral comprehensive examinations in order to advance to candidacy. They must successfully defend the dissertation to their guidance committee before being awarded the Ph.D. degree. Students must adhere to all University and program policies as published in the *Student Handbook*, University CATALOG, or "Student Guide." Policies and requirements are subject to change.

<b>Basic science core</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 501	Biomedical Communication and Integrity	2.0	2.0	2.0
IBGS 502	Biomedical Information and Statistics	2.0	2.0	2.0
IBGS 503	Biomedical Grant Writing			2.0
IBGS 511	Cellular Mechanisms and Integrated Systems I	8.0	8.0	8.0
IBGS 512	Cellular Mechanisms and Integrated Systems II	8.0	8.0	8.0
IBGS 513	Cellular Mechanisms and Integrated Systems III	8.0	8.0	8.0
IBGS 521	Cellular Mechanisms and Integrated Systems I Journal Club	2.0	2.0	2.0
IBGS 522	Cellular Mechanisms and Integrated Systems II Journal Club	2.0	2.0	2.0
IBGS 523	Cellular Mechanisms and Integrated Systems III Journal Club	2.0	2.0	2.0
Totals		34.0	34.0	36.0

<b>Major</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
BCHM ____	Graduate Biochemistry Elective	Elective courses in biochemistry. At least two units must be in a techniques course and 2 units in a didactic literature based course.	7.0	12.0
Totals		7.0	—	12.0

<b>Seminars</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 604	Introduction to Integrative Biology Presentation Seminar	1.0	1.0	1.0
IBGS 605	Integrative Biology Presentation Seminar (1.0)		1.0	2.0
IBGS 607	Integrated Biomedical Graduate Studies Seminar (1.0)	Registration and attendance required every quarter in residence, but units do not count toward total required for graduation.	—	—
Totals		1.0	2.0	3.0

<b>Religion</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
RELE 525	Ethics for Scientists			3.0
RELR 549	Personal and Family Wholeness			3.0
RELT 617	Seminar in Religion and the Sciences	3.0	3.0	3.0
Totals		3.0	3.0	9.0

<b>Research/Dissertation or Thesis</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
BCHM 697	Research (1.0-10.0)		6.0	15.0
IBGS 696	Research Rotations (1.0)			2.0
Totals		—	6.0	17.0
<b>Overall Totals</b>		<b>45.0</b>	<b>45.0</b>	<b>77.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

# Medical Scientist—SM

## (M.D. with Ph.D.)

LAWRENCE C. SOWERS, Program Director

### Objectives

Loma Linda University is committed to fostering the investigative skills of its medical students. Students interested in pursuing careers in academic medicine and medical research may wish to enroll in one of the combined degrees programs.

The Medical Scientist Program is designed to develop a student's independence and competence as an investigative scientist and clinician. It provides students with a broad educational base for the practice of medicine and medically related research. The program is administered by the School of Medicine in cooperation with the Faculty of Graduate Studies.

### Program description

The program is designed to attract students who are energized by doing research and want to contribute substantially to this enterprise.

Students enter this combined degrees program through the graduate program. In the first year, students participate in a new and revised, scientifically integrated program that includes biochemistry, molecular biology, physiology, pharmacology, and anatomy. While in the first year, students also rotate through the laboratories of selected faculty members.

In the second year, students increase their involvement with individual laboratory projects while continuing to complete graduate course requirements. Students in selected areas may also be asked to serve as teaching assistants for graduate or medical classes. Students pursuing the combined degrees will also be involved with joint basic science and clinical meetings and conferences with the aim of understanding the interrelationships between laboratory-based and clinical research.

Upon demonstration of laboratory success, as indicated by completion of a first-author manuscript, the student will continue on to the traditional first two years of the medical school curriculum. It is anticipated that the amount of time required to demonstrate laboratory success will be two-to-three years. Successful students who have acquired essential laboratory skills should continue their affiliation with the host laboratory and continue research progress as time permits while in the medical school curriculum.

Upon successful completion of the first two years of the medical curriculum and Step 1 of the USMLE,

students will begin a series of rotations between the clinical sciences and the research laboratory. During these later years, students will complete all of the standard clinical rotations and continue progress on laboratory projects. It is the intent of this program that students will acquire the requisite skills needed for a successful career at the interface of laboratory-based and clinical research.

### Program admission

Admission into the Medical Scientist Program is competitive and requires evidence that the student is likely to develop into a successful medical scientist. The student must submit separate applications to the School of Medicine for both the M.D. and the Ph.D. degree programs, and meet the stated admissions requirements for each of these programs. The application package for the Ph.D. degree program requires scores for the general test of the Graduate Record Examination. Both programs must accept the student scores before the student is admitted to the Medical Scientist Program. Students entering the M.D./Ph.D. combined degrees program who determine that a research career is inappropriate may elect to complete the M.D. degree program independently. Students entering the Ph.D. degree program who desire a career in academic medicine may choose to apply for admission to the M.D./Ph.D. combined degrees program at a point after their entry into the Ph.D. degree program; however, the standard medical school application process will be required at that point.

### Financial assistance

Financial assistance to students in the Medical Scientist Program may provide:

1. Cost-of-living stipends during those periods in which students are most directly involved in graduate education. The amount of the stipend is equivalent to that available to Ph.D. degree students in the basic science graduate programs.\*
2. Tuition waivers for all graduate program course work.
3. Tuition deferment for the freshman and sophomore years of the M.D. degree curriculum. When a student completes an M.S. or Ph.D. degree, tuition deferred from the freshman and sophomore years is canceled.
4. Tuition waiver for both the junior and senior years of the M.D. curriculum, upon completion of a Ph.D. degree.

M.D./Ph.D. students are ordinarily expected to complete their Ph.D. degree before beginning the third year of medical school. Students who have not

completed the Ph.D. degree may apply for a tuition deferment for their junior year of the medical curriculum, and, in unusual cases, for the first quarter of their senior year. Applications for tuition deferment beyond the first two years must be approved by the student's dissertation committee and signed by the dissertation advisor, the associate dean for basic sciences, and the dean of the School of Medicine. Under no circumstances will a student be granted a tuition deferment or be allowed to register for the last two quarters of medical school until s/he have finished the requirements for the Ph.D degree. If a student withdraws from the Ph.D. degree program his/her tuition deferments will be converted to a

loan. 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.

*\* Stipends from the School of Medicine will be awarded for the first two years of the graduate program, provided that the student makes satisfactory academic process and remains in good and regular standing. Stipends covering study beyond the first two years should ordinarily be obtained from the individual laboratories or departments in which the student conducts research.*



# Biomedical Sciences—SM

## (Postbaccalaureate Certificate)

KENNETH WRIGHT, Program Coordinator

### FACULTY

Students accepted into the postbaccalaureate certificate Biomedical Sciences Program enroll in basic science courses with first-year medical students. Faculty responsible for teaching students in the biomedical sciences program will be those who teach these first-year basic science courses.

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.

### Admission

Applicants to the Biomedical Sciences Program must satisfy the same requirements as those applying to medicine at Loma Linda University; that is, they will have completed a baccalaureate degree (or its equivalent) with a course of study that includes a year each of general biology, general chemistry, organic chemistry and general physics. Applicants are required to take the Medical College Acceptance Test

(MCAT) with no score less than 6 and an aggregate score greater than 20.

### Course of study

Students are currently required to complete 36 units selected from courses indicated by the program coordinator. These courses will include 3 units of religion, with the remaining units selected from the first-year medical curriculum.

The curriculum followed by the biomedical certificate students will be developed in consultation with the program director, and will typically include gross anatomy, physiology, and either cell structure and function or biochemistry and neuroscience. In addition, students are asked to enroll in a critical-thinking course, and in one religion course. The total number of units for which students enroll during a school year is approximately 36.

In special circumstances, students might be able to transfer course credits obtained in the Biomedical Sciences Program to a master's degree program in the basic sciences. In order to transfer credit to a master's degree program, the student must obtain a letter grade of B or better in a given course.

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

### First Year, Summer Quarter

		Units
ANAT 550	Gross Anatomy/Embryology	1.0
BCHM 511	Medical Biochemistry, Molecular Biology, and Genetics I	1.0
MDCJ 504	Cell Structure and Function	2.0
PHSL 521	Medical Physiology GS I	1.0
STCJ 501	Critical Thinking	4.0
Totals		9.0

### Autumn Quarter

		Units
ANAT 551	Medical Gross Anatomy/Embryology II	5.0
BCHM 512	Medical Biochemistry, Molecular Biology, and Genetics II	3.0
MDCJ 505	Cell Structure and Function	3.0
PHSL 522	Medical Physiology GS II	1.0
Totals		12.0

<b>Winter Quarter</b>		Units
ANAT 552	Medical Gross Anatomy /Embryology III	2.0
MDCJ 506	Cell Structure and Function	2.0
PHSL 523	Medical Physiology GS III	5.0
Totals		9.0

<b>Spring Quarter</b>		Units
ANAT 553	Medical Gross Anatomy /Embryology IV	1.0
MDCJ 507	Cell Structure and Function	2.0
PHSL 524	Medical Physiology GS IV	1.0
REL_ 5__	Graduate-level Religion	3.0
Totals		7.0
<b>Overall Totals</b>		<b>37.0</b>

# Medicine—SM

(M.D.)

H. ROGER HADLEY, Dean, School of Medicine

## CURRICULUM

The curriculum in medicine consists of four academic years. Instruction is on the quarter system. The first eight quarters are oriented to the sciences basic to the practice of medicine; the remaining two academic years are made up of clinically oriented core instruction and up to eighteen weeks of clinical electives.

THE FIRST YEAR of medical education will begin to establish a foundation in the sciences basic to the practice of medicine—with emphasis on the principles and mechanisms of normal development, structure, and function—including the normal changes of aging and the behavioral considerations that influence normal development. Course content will be organized around individual organ systems whenever possible. The first year will also begin to develop the skills, values, attitudes, and professional behaviors that are integral to the safe, competent, compassionate, ethical and Christian practice of medicine both now and in the future. The educational program will make use of a wide variety of pedagogical methods—including but not limited to traditional lecture, small group, problem-based and case-based learning, personalized computer-based instruction, quantitative laboratory experiences, and patient-care experiences.

THE SECOND YEAR of medical education will continue to establish a foundation in the sciences basic to the practice of medicine—with emphasis on the principles and mechanisms of abnormal structure and function, principles of therapy, and behavioral considerations that affect disease treatment and prevention. Course content will be organized according to individual organ systems whenever possible. The second year will continue to develop the skills, values, attitudes, and behaviors that are integral to the safe, competent, compassionate, ethical, and Christian practice of medicine both now and in the future. The educational program will make use of a wide variety of pedagogical methods, including but not limited to traditional lecture; small group, problem-based, and case-based learning; personalized computer-based instruction; quantitative laboratory experiences; and longitudinal patient-care experiences.

THE THIRD YEAR of medical education will establish a body of knowledge, skills, values, attitudes, and behaviors in six core clinical science

disciplines to build a foundation for patient care in ambulatory and hospital based settings. Students will attain this foundation through a process of self-directed learning, independent study, and guided supervision and teaching by house staff and faculty. Students will have ample opportunity to learn the value of honor, shared responsibility, and accountability by directly participating in patient-care activities as junior colleagues on the health care team.

The didactic program will emphasize: a) understanding the pathophysiology of disease; b) establishing diagnoses through interpretation of physical examination and diagnostic data; and c) applying management principles to patients with acute and chronic conditions. Recurring experiences in whole-person care, medical ethics, laboratory medicine, health maintenance, and disease prevention will be integrated into the six core disciplines. Students will have the opportunity to explore an area of interest during an elective experience for the purpose of beginning the process of choosing a career in medicine.

THE FOURTH YEAR of medical education will require students to integrate the entirety of their medical knowledge, skills, values, and attitudes gained during the first three years and apply it more autonomously to patient care. Students will participate in supervised patient-care experiences in neurology or family medicine, emergency medicine, intensive care medicine, and a subintern-level experience in medicine, surgery, or pediatrics. Although repetitive clinical duties during the fourth year are a necessary part of preparing students for the rigors of postgraduate training, students will still have ample opportunity to pursue individual interests during a minimum eighteen weeks of elective rotations. To reestablish the importance of science in medical practice, at least one month of elective may be in the basic science discipline of the student's choosing. Students will have adequate vacation time to study for Step II of the USMLE and successfully participate in the residency selection process.

## WHOLE-PERSON FORMATION

Personal and professional growth for the student in medicine is the focus of the disciplines in the school, the faculty in the School of Medicine, and the School of Religion. Courses and content are offered to emphasize biblical, ethical, and relational aspects of the physician's personal and professional development. The core for whole-person formation—14 quarter units of religion and ethics—is provided during the first three years of the medicine curriculum.

**CURRICULUM OUTLINE****First Year, Summer Quarter**

Units

ANAT 521	Gross Anatomy/Embryology	1.0
BCHM 521	Fundamentals of Human Biochemistry SM	1.0
MDCJ 543	Medical Neuroscience	1.0
MDCJ 553	Cell Structure and Function	2.0
MDCJ 561	Physical Diagnosis	1.0
MDCJ 566	Evidence-Based Medicine and Information Sciences	1.0
MNES 501	Orientation to Medicine	2.0
PHSL 515	Medical Physiology	1.0
Totals		10.0

**Autumn Quarter**

Units

ANAT 522	Gross Anatomy/Embryology II	5.0
BCHM 522	Fundamentals of Human Biochemistry SM	3.0
MDCJ 554	Cell Structure and Function	3.0
MDCJ 562	Physical Diagnosis	2.0
MDCJ 567	Evidence-Based Medicine and Information Sciences	2.0
PHSL 516	Medical Physiology	1.0
Totals		16.0

**Winter Quarter**

Units

ANAT 523	Gross Anatomy/Embryology III	2.0
MDCJ 544	Medical Neuroscience	3.0
MDCJ 555	Cell Structure and Function	2.0
MDCJ 563	Physical Diagnosis	3.0
MDCJ 568	Evidence-Based Medicine and Information Sciences	1.0
PHSL 517	Medical Physiology	5.0
PSYT 521	Fundamentals of Behavioral Science	2.0
Totals		18.0

**Spring Quarter**

Units

ANAT 524	Gross Anatomy/Embryology IV	1.0
MDCJ 544	Medical Neuroscience	1.0
MDCJ 556	Cell Structure and Function	2.0
MDCJ 564	Physical Diagnosis	1.0

MDCJ 569	Evidence-Based Medicine and Information Sciences	1.0
MNES 502	Orientation to Medicine	4.0
PHSL 518	Medical Physiology	1.0
PSYT 522	Fundamentals of Behavioral Science	1.0
Totals		12.0

**Second Year, Summer Quarter**

Units

MDCJ 524	Pathophysiology and Applied Physical Diagnosis	1.0
MICR 511	Medical Microbiology	1.0
PATH 514	Human Systemic Pathology	2.0
PHRM 511	Medical Pharmacology	1.0
PSYT 514	Psychopathology	1.0
Totals		6.0

**Autumn Quarter**

Units

BCHM 531	Biochemical Basis of Human Disease SM	1.0
MDCJ 524	Pathophysiology and Applied Physical Diagnosis	3.0
MDCJ 571	Diseases of Neuroscience	3.0
MICR 512	Medical Microbiology	2.0
PATH 514	Human Systemic Pathology	2.0
PHRM 512	Medical Pharmacology	3.0
PRVM 514	Clinical Preventive Medicine	1.0
PSYT 514	Psychopathology	3.0
Totals		18.0

**Winter Quarter**

Units

BCHM 532	Biochemical Basis of Human Disease SM	1.0
MDCJ 525	Pathophysiology and Applied Physical Diagnosis	4.0
MICR 513	Medical Microbiology	3.0
PATH 515	Human Systemic Pathology	6.0
PHRM 513	Medical Pharmacology	2.0
PRVM 515	Clinical Preventive Medicine	1.0
Totals		17.0

**Spring Quarter**

Units

BCHM 533	Biochemical Basis of Human Disease SM	1.0
MDCJ 526	Pathophysiology and Applied Physical Diagnosis	2.0
MDCJ 572	Diseases of Neuroscience II	1.0
MICR 514	Medical Microbiology	1.0

PATH 516	Human Systemic Pathology		4.0
PHRM 514	Medical Pharmacology		1.0
PRVM 516	Clinical Preventive Medicine		2.0
Totals			12.0

**Third Year**

1.5 units = 1 week of clinical clerkship

Units

GYOB 701	Gynecology and Obstetrics Clerkship	(6 weeks)	9.0
MEDN 701	Medicine Clerkship	(12 weeks)	18.0
MNES 791	Third-year Elective	(2 weeks)	3.0
PEDS 701	Pediatrics Clerkship	(8 weeks)	12.0
PSYT 701	Psychiatry Clerkship	(6 weeks)	9.0
SURG 701	Surgery Clerkship	(12 weeks)	18.0
FMDN 701	Family Medicine Clerkship (6)	Choose one rotation (4 weeks)	6.0
NEUR 701	Neurology Clerkship (6)		
Totals			75.0

**Fourth Year**

Clinical clerkships

Units

EMDN 821	Emergency Medicine Clerkship	(2 weeks)	3.0
MDCJ 821	Preventive and Community Medicine	(4 weeks)	6.0
ANAT 891	Anatomy Elective (1.5 to 18)	Elective rotations (18 weeks = 27 units)	27.0
ANES 891	Anesthesiology Elective (1.5 to 18)		
DERM 891	Dermatology Elective (1.5 to 18)		
EMDN 891	Emergency Medicine Elective (1.5 to 18)		
FMDN 891	Family Medicine Elective (General Family Medicine) (1.5 to 18)		
GYOB 891	Gynecology and Obstetrics Elective (1.5 to 18)		
MDCJ 891	Whole-Person Care (1.5 to 12)		
MEDN 891	Medicine Elective (1.5 to 18)		
NEUR 891	Neurology Elective (1.5 to 18)		
NEUS 891	Neurosurgery Elective (1.5 to 18)		
OPHM 891	Ophthalmology Elective (1.5 to 18)		
ORTH 891	Orthopaedic Surgery Elective (1.5 to 18)		
OTOL 891	Otolaryngology Elective (1.5 to 18)		
PATH 891	Pathology Elective (1.5 to 18)		
PEDS 891	Pediatrics Elective (1.5 to 18)		
PHRM 891	Pharmacology Elective (1.5 to 12)		
PHSL 891	Physiology Elective (1.5 to 12)		

PMRH 891	Physical Medicine and Rehabilitation Elective (1.5 to 18)		
PRVM 891	Preventive Medicine Elective (1.5 to 18)		
PSYT 891	Psychiatry Elective (1.5 to 18)		
RADS 891	Radiology Elective (1.5 to 18)		
RDMN 891	Radiation Medicine Elective (1.5 to 18)		
SURG 891	Surgery Elective (1.5 to 18)		
UROL 891	Urology Elective (1.5 to 18)		
FMDN 701	Family Medicine Clerkship (6)	Choose one rotation (4 weeks)	6.0
NEUR 701	Neurology Clerkship (6)		
MEDN 822	Medicine Intensive Care (1.5)	Choose one rotation (2 weeks)	3.0
PEDS 822	Pediatrics Intensive Care (3)		
SURG 822	Surgery ICU (3)		
FMDN 821	Family Medicine Subinternship (6)	Subinternship: Choose one rotation (4 weeks)	6.0
MEDN 821	Medicine Subinternship (6)		
PEDS 821	Pediatrics Subinternship (6)		
SURG 821	Surgery Subinternship (6)		
Totals			51.0
<b>Overall Totals</b>			<b>235.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

### Residency programs

Loma Linda University Medical Center sponsors a variety of accredited residency programs. These include residencies in anesthesiology, pediatric anesthesiology, dermatology, procedural dermatology, emergency medicine, pediatric emergency medicine, family medicine, internal medicine, internal medicine—pediatrics, cardiology, gastroenterology, pulmonary/critical care medicine, rheumatology, neurology, child neurology, clinical neurophysiology, neurological surgery, obstetrics and gynecology, ophthalmology, orthopaedic surgery, otolaryngology, clinical and anatomic pathology, pediatrics, critical care pediatrics, neonatology, physical medicine and rehabilitation, pain management, plastic surgery, preventive medicine, occupational medicine, psychiatry, radiation oncology, radiology, neuroradiology, pediatric radiology, surgery, thoracic surgery and general vascular surgery. Additional nonaccredited fellowships are available.

Graduate physicians wishing to apply for entrance into these programs should contact the director of the program.

Graduate dentists who seek residencies in dental anesthesia, endodontics, oral implantology,

orthodontics, pediatric dentistry, periodontics, and prosthodontics should apply directly to the School of Dentistry.

### Continuing medical education

Recognizing the imperative of life-long learning for professionals, the School of Medicine supports a program of continuing medical education for physicians beyond their formal postgraduate years. The Office of Continuing Medical Education is accredited by the Accreditation Council for Continuing Medical Education to provide Category I continuing medical education credit for physicians. Course offerings include weekly, biweekly, and monthly School of Medicine departmental grand rounds and a large number of one-day and multiday conferences and workshops that are presented locally and nationally for School of Medicine faculty, alumni, and practicing physicians within the geographic area in which the conferences are presented.

For more information, please write to:

Melodee Newbold, Director of Continuing Medical Education  
Loma Linda University School of Medicine  
11234 Anderson Street, Room A537  
Loma Linda, CA 92354; or telephone 909/558-4968

## THE DEPARTMENTS OF THE SCHOOL OF MEDICINE

The twenty-two departments of the School of Medicine are:

- Anesthesiology
- Basic Science
- Cardiovascular and Thoracic Surgery
- Dermatology
- Emergency Medicine
- Family Medicine
- General and Trauma Surgery
- Gynecology and Obstetrics
- Medicine
- Neurology
- Neurosurgery
- Ophthalmology
- Orthopaedic Surgery
- Otolaryngology: Head and Neck Surgery
- Pathology and Human Anatomy
- Pediatrics
- Physical Medicine and Rehabilitation
- Plastic and Reconstructive Surgery
- Preventive Medicine
- Psychiatry
- Radiation Medicine
- Radiology
- Urology

### ANESTHESIOLOGY

ROBERT D. MARTIN, Chair

RICHARD L. APPLGATE, II, Vice Chair

### DIVISIONS

#### CRITICAL CARE

GARY STIER, Head

#### PEDIATRICS

LINDA MASON, Head

#### CARDIAC

STANLEY BRAUER, Head

### FACULTY

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 Donald Lynn Anderson  
 Richard L. Applegate II  
 Sherif A. Azer  
 Bernard J. Brandstater  
 Allen L. Brandt  
 Stanley D. Brauer  
 Burton A. Briggs  
 Douglas C. Brockmann  
 Maureen H. Bull  
 Edward R. Campbell  
 Deborah M. Chung  
 Anne T. Cipta

Carl E. Collier  
 Francis L. Comunale  
 Mark E. Comunale  
 Jennifer B. Cristall  
 Ihab Dorotta  
 Elizabeth Ghazal  
 Brenna L. Gustafson-Jackson  
 Erlinda Guzon-Castro  
 Marsha S. Jacksteit  
 Penny L. Kimball-Jones  
 Carol A. Lau  
 Ryan E. Lauer  
 Charles Lee  
 Sandra H. Lee  
 John Lenart  
 Marina J. Liu  
 Samuel J. Loh  
 Mark R. Macknet  
 Robert D. Martin  
 Linda J. Mason  
 Deborah McIvor  
 James A. Meyer  
 Leander L. Moncur  
 Phebe E. Mosaad  
 Shannon M. Mulder-Michaelson  
 Monica M. Neumann  
 Rebecca J. Patchin  
 Paul I. Patel  
 Thomas Rasmussen  
 B. B. Roberson  
 Heidi A. Robertson  
 Abdul R. Samady  
 Michelle L. Schlunt  
 Valeria A. Seabaugh  
 Jean E. Sprengel  
 Gary R. Stier  
 Donald L. Stilson  
 Shirley Tan  
 Teresa L. Thompson-Razzouk  
 Sidney E. Torres  
 John F. Viljoen  
 Linda I. Wat  
 John H. Zhang

The goals of the Department of Anesthesiology are to:

1. Provide necessary anesthesia, analgesia, pain control, and intensive care of the highest caliber and with Christian empathy to patients of Loma Linda University Medical Center and its affiliated facilities.
2. Educate medical students, dentists, and anesthesiology residents in the fields of anesthesia, critical care, and pain control.
3. Increase knowledge of the use of anesthetic and analgetic agents.



**BASIC SCIENCE**

LAWRENCE C. SOWERS, Chair  
 PENELOPE J. DUERKSEN-HUGHES, Vice Chair

**DIVISIONS****BIOCHEMISTRY**

PENELOPE J. DUERKSEN-HUGHES, Head

**MICROBIOLOGY**

HANSEL M. FLETCHER, Head

**PHARMACOLOGY**

JOHN BUCHHOLZ, Head

**PHYSIOLOGY**

JOHN H. ZHANG, Head

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 Richard E. Beltz  
 Danilo Boskovic  
 Eileen J. Brantley  
 Leonard R. Bullas  
 John N. Buchholz  
 Edouard M. Canton  
 Carlos A. Casiano  
 Daniela Castanotto  
 Philip J. Chan  
 Shin Tai Chen  
 Marino A. De Leon  
 Daisy D. De Leon  
 Charles A. Ducsay  
 Penelope J. Duerksen-Hughes  
 Lincoln P. Edwards  
 Alan P. Escher  
 John R. Farley  
 Ronald R. Fiscus  
 Hansel M. Fletcher  
 Istvan Fodor  
 Steven C. Forland  
 Ian M. Fraser  
 Ramon R. Gonzalez, Jr.  
 Lora M. Green  
 Daila S. Gridley  
 Jean-Claude Hage  
 Raymond G. Hall, Jr.  
 E. Clifford Herrmann  
 David A. Hessinger  
 Sandra R. Hilliker  
 George R. Javor  
 Mark S. Johnson  
 James D. Kettering  
 Wolff M. Kirsch  
 William H. Langridge  
 Benjamin H. S. Lau  
 George M. Lessard  
 John E. Lewis  
 Yi Ming Li  
 Michael B. Lilly  
 Ren Jang Lin  
 Thomas A. Linkhart  
 Lawrence D. Longo  
 Monica M. Lurtz

Michael Mashni  
 Eugenia I. Mata-Greenwood  
 Subburaman Mohan  
 Giuseppe A. Molinaro  
 Jonathan W. Neidigh  
 Stephen A. Nyirady  
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 Michael J. Pecaut  
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 John J. Rossi  
 Raymond E. Ryckman  
 Hobe J. Schroder  
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 Ubaldo A. Soto-Wegner  
 Lawrence C. Sowers  
 Donna D. Strong  
 Shruti Subramaniam  
 Allen Strother  
 Jiping Tang  
 Barry L. Taylor  
 Robert W. Teel  
 Nathan R. Wall  
 Kylie J. Watts  
 Jon E. Wergedal  
 Leonard S. Werner  
 R. Bruce Wilcox  
 Sean M. Wilson  
 David L. Wolf  
 DaLiao Xiao  
 Zhice Xu  
 Steven M. Yellon  
 Kangling Zhang  
 John H. Zhang  
 Lubo Zhang  
 Anthony J. Zuccarelli

The goals of the Department of Basic Science are to:

1. Offer relevant course work for the various professional curricula that will provide essential foundational content, an understanding of the current state of the field, and the skills required to maintain currency.
2. Offer a graduate curriculum leading to M.S. and Ph.D. degrees that are designed to provide graduate students with the information and tools needed to succeed as independent educators and investigators.
3. Conduct and publish peer-reviewed research that contributes to knowledge in the biomedical sciences.
4. Support Loma Linda University colleagues through collaborations and consultations that will assist in research and instruction.

**CARDIOVASCULAR AND THORACIC SURGERY**

ANEES J. RAZZOUK, Chair

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**VASCULAR**

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 Nan Wang  
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**DERMATOLOGY**

ABEL TORRES, Chair

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 Abel Torres  
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**EMERGENCY MEDICINE**

KATHLEEN J. CLEM, Chair

**PEDIATRIC EMERGENCY MEDICINE DIVISION**

LANCE E. BROWN, Head

**FACULTY**

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 Besh R. Barcega  
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 Ryan Brenchley  
 Lance A. Brown  
 Joseph W. Burris  
 Sean P. Bush  
 Bharath Chakravarthy  
 Eugene T. Chan  
 Deepak N. Chandwani  
 Samuel C. Chua  
 Kathleen J. Clem  
 Stephen W. Corbett  
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 Carrie E. Davis  
 T. Kent Denmark  
 David M. Englander  
 Michelle R. Gill  
 Jeffrey T. Grange  
 Steven M. Green  
 Gregory T. Guldner  
 Richard H. Guth  
 Melvyn L. Harris  
 Korbin N. Haycock  
 Julie K. Kasarjian  
 Aqeel S. Khan  
 Grace J. Kim  
 Tae Jee-Eun Kim  
 Tommy Y. Kim  
 Eduardo D. Lam  
 Victor D. Levine  
 Jennifer J. Lim  
 Ross D. Luther  
 Guisou Mahmoud  
 Timothy G. McNaughton  
 Lilit Minasyan  
 Ameer P. Mody  
 James A. Moynihan  
 Dan Nadler  
 John C. Naftel  
 Timothy P. Nesper  
 H. Bryant Nguyen  
 Kenneth L. Nickson  
 Humberto R. Ochoa  
 Kellie M. Olson  
 John E. Osborne  
 Stephen C. Patterson  
 Edward A. Pillar  
 Waayl A. Salih  
 Eric Siedenburh  
 Dustin D. Smith  
 Robert Steele  
 Gail M. Stewart  
 Carl B. Stilson  
 Matthew K. Stilson  
 David H. Tang  
 Milton R. Teske  
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Tamara L. Thomas  
 Andrea S. Thorp  
 David D. Tito  
 Louis P. Tran  
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 Reza Vaezazizi  
 Edward J. Vargas  
 Marcus T. Voth  
 Robert K. Wagner  
 E. Lea Walters  
 Deborah L. Washke  
 Samuel G. Wilson  
 William A. Wittlake  
 Kelvin L. Wong  
 Ernest S. Woodhouse  
 Kimberly R. Zimmerman

The philosophy of the Department of Emergency Medicine centers on a commitment to quality in its service, teaching, and research missions. This department functions as a crossroads interface between the community and the medical center services—providing a point of access to medical care for many people who are seriously and unexpectedly ill, and whose condition may be compromised by geographic isolation and socioeconomic disadvantage.

The objectives of the department are to:

1. Provide and coordinate cost-effective, empathic, and compassionate prehospital, emergency, and trauma services of excellent quality.
2. Support and contribute to the achievement of medical education competency for all categories of emergency care professionals.
3. Develop initiatives that promote increased understanding of and improved techniques and skills in emergency care practice, heighten positive perception of this specialty, and contribute to quality research in this area.
4. Promote teamwork skills among the various services and professionals comprising the emergency medical system.

## **FAMILY MEDICINE**

JOHN K. TESTERMAN, Chair

### **FACULTY**

Travis B. Adelman  
 Will Alexander  
 Y. Paul Aoyagi  
 James Appel  
 Javier A. Armijo  
 Randy A. Beddoe  
 Andre V. Blaylock  
 Lisa Bolla  
 Ron K. Brathwaite  
 Zachary J. Cash

Romeo Castillo  
 Vanessa A. Castro  
 Suneeta Choudhary  
 Warren B. Churg  
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 F. Daniel Cruz  
 Janet A. Cunningham  
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 Dai Vien Du  
 Wayne Dysinger  
 Daniel L. Engleberg  
 Christy L. Eskes  
 Allen C. Felix  
 Linda H. Ferry  
 John Fleming  
 Christopher V. Flores  
 Daniel Franco  
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 Herbert N. Giebel  
 Cynthia J. Glasgow  
 David F. Glossbrenner  
 Jean-Claude Hage  
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 Tina M. Haller-Wade  
 Jean E. Haynes-Lee  
 Kevin R. Herrick  
 Jonathan Horstmann  
 Ming Chang Isinhue  
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 Jennifer A. Keehbauch  
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 Maria B. Lohr  
 Tarek Z. Mahdi  
 Manoucher Manoucheri  
 Jennifer Martin  
 Gary E. Marais  
 Kenneth D. McCarty  
 Laurie P. McNaughton  
 Elliot A. Meltzer  
 Renu Mittal  
 Gina J. Mohr  
 Walter C. Morgan  
 Kelly Morton  
 Timothy E. Neufeld  
 Anh Thi Nguyen  
 Hieu T.M. Nguyen  
 Samuel S. Oh  
 Michael R. Oliverio  
 Michelle T. Opsahl  
 Robert D. Orr

Barbara J. Orr  
 Jamie S. Osborn  
 Shantharam R. Pai  
 Erik G. Palmer  
 Lien T. Pham  
 Gordon D. Phillips  
 R. Steven Pulverman  
 Robert Quigley  
 Michelle E. Reeves  
 Magda L. Robinson  
 Ann M. Ronan  
 Steve Salzman  
 Katherine R. Schlaerth  
 Kendall G. Scott  
 Audrey F. Shank  
 Michael D. Shepherd  
 Khwaja A. Siddiqui  
 Lauren M. Simon  
 Grace E. Song  
 Ruth Stanhiser  
 Mark S. Sutton  
 John K. Testerman  
 Nancy Testerman  
 Jeffrey R. Unger  
 Erik G. Walsh  
 Leonard S. Werner  
 John D. Wilson  
 Esther U. Won  
 Robert K. Yamada  
 Jack Yu

The objectives of the Department of Family Medicine are to:

1. Provide medical students and residents with education and training that exemplifies excellence, compassion, and wholeness in the specialty of family medicine.
2. Educate students and residents to provide evidence-based, best practice, chronic disease care that spans the arc of care—from prevention to management to palliative care.
3. Teach students to evaluate and manage common problems at the primary care level, providing continuing and comprehensive health care for individuals of both genders and all ages.
4. Teach students and residents the skills necessary to take a spiritual history and incorporate the spiritual and psychosocial into the biomedical aspects of clinical care.
5. Introduce students and residents to the use of a systems approach and quality improvement techniques to improve patient safety and assure the delivery of best practice, evidence-based care to a population of patients.
6. Introduce students to family physician role models so that students will be able to make informed choices regarding family medicine as a career option.

## GENERAL AND TRAUMA SURGERY

ANTONIO E. ROBLES, Interim Chair

### DIVISIONS

#### COLORECTAL

#### GENERAL

ANTONIO E. ROBLES, Head

#### PEDIATRIC

DONALD C. MOORES, Head

#### TRANSPLANT

#### TRAUMA

RICHARD D. CATALANO, Head

### FACULTY

Yousef G. Amaar  
 Marvin J. Atchison  
 Joanne E. Baerg  
 Pedro W. Baron  
 Jack L. Bennett  
 Philip J. Boyne  
 James A. Brown  
 Richard D. Catalano  
 Lori J. H. Chow  
 N. Eugene Cleek  
 Waldo Concepcion  
 John T. Culhane  
 Joseph V. Davis III  
 Clifford C. Eke  
 Edson S. Franco  
 Carlos A. Garberoglio  
 Fekede W. Gemechu  
 Gerald Gollin  
 Lawrence A. Harms  
 Lawrence E. Heiskell  
 David B. Hinshaw, Sr.  
 Alan S. Herford  
 Charles Kung Cha Hu  
 Farabi M. Hussain  
 Janet K. Ihde  
 Victor C. Joe  
 Samir D. Johna  
 Simon M. Keushkerian  
 Faisal A. Khan  
 Arputharaj Higgins Kore  
 Fariborz Lalazarzadeh  
 Uriel R. Limjoco  
 Jerrold K. Longersbeam  
 H. Daniel Ludi  
 Sharron S. J. Lum  
 M. C. Theodore Mackett  
 Lester L. Mohr  
 Donald C. Moores  
 Andre C. Nguyen  
 Thomas A. O'Callaghan  
 Okechukwu N. Ojogho  
 Clifton D. Reeves  
 Mark E. Reeves  
 Stewart E. Rendon  
 Jorge L. Rivera  
 Antonio E. Robles  
 Frank A. Rogers

Sharmila Roy-Chowdhury  
 Gisella L. Sandy  
 Gregory S. Shank  
 Gruce C. Steffes  
 Arnold D. Tabuenca  
 Derya U. Tagge  
 Edward P. Tagge  
 Matthew S. Tan  
 Ralph J. Thompson  
 Keir J. Thelander  
 David C. Thompson  
 Noel Victor  
 Hansen S. Wang  
 David Tai Wai Wong  
 Jan H. Wong  
 J. Frank Yamanishi  
 Robert M. Yuhan

### **GYNECOLOGY AND OBSTETRICS**

WILLIAM C. PATTON, Chair

BRYAN T. OSHIRO, Vice Chair

#### **FACULTY**

Brian D. Acacio  
 Teresa P. Avants  
 Kevin C. Balli  
 Barry S. Block  
 Harbinder S. Brar  
 Angela S. Caffrey  
 Emerald B. Caruso  
 Philip J. Chan  
 Ai-Mae Chee-Watkins  
 Chul Choi  
 Sandy S. Chaun  
 Johannah Corselli  
 Shirley A. Fong  
 George J. Gilson  
 Yvonne G. Gollin  
 Wilbert Gonzalez  
 Jeffrey S. Hardesty  
 Elaine E. Hart  
 Marilyn Herber  
 John D. Jacobson  
 Ronald B. Johnson  
 Lisa A. Kairis  
 Elden D. Keeney  
 Melissa Y. Kidder  
 John J. Kim  
 J. Dee Lansing  
 Kathleen M. Lau  
 Elisa M. Lindley  
 Lawrence D. Longo  
 Laurel J. Munson  
 Rick D. Murray  
 Masao Nakamoto  
 Bryan T. Oshiro  
 Karen N. Oshiro  
 William C. Patton  
 Gordon G. Power  
 Harold V. Racine  
 Leroy A. Reese  
 Elmar P. Sakala

Herminia S. Salvador  
 Danielle Sawyer-Macknet  
 Hyun S. Shvartsman  
 Dominique Shaw  
 Kathryn Shaw  
 Sam Siddighi  
 Mary L. Small  
 E. Laurence Spencer-Smith  
 Darrell L. Vaughan  
 Robert J. Wagner  
 Clifford A. Walters  
 Kim Warner  
 Cinna T. Wohlmuth  
 Kenneth H. Wong

The purpose of the Department of Gynecology and Obstetrics is to provide an academic environment that encourages learning, teaching, and research.

The objectives of the department are to:

1. Provide medical students with a broad base of knowledge in obstetrics and gynecology for entrance into a primary care specialty.
2. Instill a standard of medical excellence that will lead to a continuing program of medical education reaching through and beyond the residency years.
3. Provide faculty who function as role models for the students and residents.

### **MEDICINE**

DOUGLAS R. HEGSTAD, M.D., Chair

PHILIP M. GOLD, Executive Vice Chair, Department of Medicine

PHILIP J. ROOS, Vice Chair, Jerry L. Pettis Memorial Veterans Medical Center

DANIEL I.S. KIM, Vice Chair, Riverside County Regional Medical Center

RAYMOND Y. WONG, Associate Chair for Student Education

LAWRENCE K. LOO, Associate Chair for Resident Education

DANIEL I. KIM, Associate Chair for Resident Education

MICHAEL H. WALTER, Associate Chair for Finance and Development

KEITH K. COLBURN, Associate Chair for Research

### **DIVISIONS**

#### **CARDIOLOGY**

KENNETH R. JUTZY, Head

#### **ENDOCRINOLOGY**

J. LAMONT MURDOCH, Head

#### **GASTROENTEROLOGY**

TERENCE D. LEWIS, Head

**GENERAL INTERNAL MEDICINE AND  
GERIATRIC MEDICINE**

RAYMOND Y. WONG, Head

**INFECTIOUS DISEASE**

JAMES J. COUPERUS, Head

**NEPHROLOGY**

SIEGMUND TEICHMAN, Head

**ONCOLOGY-HEMATOLOGY**

CHIEN-SHING CHEN, Head

**PULMONARY AND CRITICAL CARE MEDICINE**

PHILIP M. GOLD, Head

**RHEUMATOLOGY AND IMMUNOLOGY**

KEITH K. COLBURN, Head

**FACULTY**

Ramadas Abboy

Imdad Ahmad

Shobha S. Aiyar

Haris Ali

Bradley T. Anderson

James D. Anholm

Patricia J. Applegate

Mihran H. Ask

H. Helen Baek

Ramesh C. Bansal

Daljeet B. Bansal

Rebekah Bartos-Specht

Stephen B. Bartsch

Samuel Baz

David J. Baylink

David M. Bee

Diane J. Berriman

Joann K. Bischoff

Michael F. Bishara

Moe H. Bishara

Patricia S. Blakely

David Bland

Ingrid K. Blomquist

Reiner Bonnet

Daniel L. Bouland

Charles H. Brinegar, Jr.

Gary W. Brown

Vickie D. Brown-Harrell

Evert A. Bruckner

John M. Byrne

Elber S. Camacho

Cynthia R. Canga-Siao

Kenneth A. Cantos

Moises R. Carpio

Ethelred E. Carter

Carlos Casiano

Daniel Castro

Robert B. Chadwick

Bobby S. Chan

Francis D. W. Chan

Suzanne E. Chang

William Wei-Ming Chang

Zeno L. Charles-Marcel

Gregory Cheek

Chien-Shing Chen

Shaw S. Chen

Jun R. Chiong

Steven W. Chong

Morteza Chitsazan

C. Joan Coggin

Keith K. Colburn

Stanley C. Condon

David S. Condon

Adrian N. Cotton

Alfred C. Cottrell

James J. Couperus

Debra D. Craig

Milton G. Crane

Raymond B. Crawford

Chitra Damodaran

Nagamani Dandamudi

Lino J. DeGuzman

Thomas K. Denmark

James R. Dexter

Beverly K. Dolberg

Ralph Downey III

James P. Drinkard

Lida Eatedali

Bertram H. Eckmann

Bouchra Edderkaoui

Harvey A. Elder

Gilbert P. Eng

Suzanne Enlow-Whitaker

Dwight C. Evans

J. Robert Evans

Basem R. Farag

Ramiz A. Fargo

John R. Farley

Marian A. Fedak

Earl W. Ferguson

Ronald S. Fernando

David R. Ferry

J. Michael Finley

Anthony F. Firek

Franz P. Fisher

Steven C. Forland

Glenn L. Foster

Gary E. Fraser

Gerald S. Friedman

Helmuth F. Fritz

Geir P. Frivold

Roger C. Garrison

Thomas E. Godfrey

Philip M. Gold

Alma A. Gonzaga

Eduardo J. Gonzaga

Alan Gorenberg

Daniel Gorenberg

Walter S. Graf

George M. Grames

Daila Gridley

Margaret A. Griffin

Ronald Griffin

Jocelyn Gunnarsson

Mouna E. Haddad-Wilson

Susan L. Hall

Paul G. S. J. Hammond

Steven B. Hardin

William H. Hardt, Jr.

L. Julian Haywood  
 Douglas R. Hegstad  
 Vickie V. Height  
 Nancy J. Heine  
 Raymond Herber  
 Jan M. Herrmann  
 Kathy A. Herzberger  
 J. Thomas Heywood  
 Donald J. Hillebrand  
 Dennis A. Hilliard  
 Su Su Hline  
 Andrew T. Ho  
 Thanh X. Hoang  
 Christian S. Holland  
 Frank D. Howard IV  
 Russell E. Hoxie  
 Chung-Tsen Hsueh  
 Galen C. L. Huang  
 James J. Huang  
 Arnando J. Huaringa  
 Enacio G. Hunt  
 Waleed A. Ibrahim  
 Michael B. Ing  
 George M. Isaac  
 Dale M. Isaef  
 Mohamed H. Ismail  
 Jay T. Jablow  
 Christian S. Jackson  
 Alan K. Jacobson  
 Mehdi S. Jahromi  
 Navin Jaipaul  
 G. David Jang  
 Geun C. Jang  
 John C. Jennings  
 Suchaya Jinamornphongs  
 Donald L. John  
 Torbjorn I. Jorteg  
 Roy V. Jutzy  
 Kenneth R. Jutzy  
 Jay Kahng  
 Rahul M. Kale  
 Joanne S. Kang  
 Vikram V. Kamdar  
 Emmanuel P. Katsaros  
 Jeffery M. Katz  
 Brent W. Kay  
 Zeid Kayali  
 Kenneth L. Kelln  
 Casey M. Kennedy  
 Todd S. Kessler  
 Sherif F. Khalil  
 Balram S. Khehra  
 Daniel I. S. Kim  
 Dennis Y. Kim  
 Mi Ye Kim  
 Ook Kim  
 Faher Koteira  
 Edwin H. Krick  
 Rajagopal Krishnan  
 Irvin N. Kuhn  
 Ashok Kumar  
 Mei Y. Lai  
 Trang Lam  
 Euly M. Langga-Sharifi  
 Wilson D. Lao  
 James P. Larsen  
 Alan C. K. Lau  
 Francis Y. K. Lau  
 Kin-Hing W. Lau  
 Susie H. Lau  
 Scott W. Lee  
 Steve S Lee  
 Sonny C. Y. Lee  
 Paul A. Levine  
 Terence D. Lewis  
 Michael B. Lilly  
 Nelson H. Lim  
 Ju-an Lin  
 Takkin Lo  
 Evelyn B. Lomarda  
 Lawrence K. Loo  
 Barbara E. Loughman  
 Adam A. Lyko  
 Kanwaljeet K. Maken  
 Ariel Malamud  
 Nirav M. Mamdani  
 Priya Malik  
 Ramesh K. Manchanda  
 Ravi Mandapati  
 Gary E. Marais  
 H. John Marais  
 Robert J. Marsa  
 J. Todd Martell  
 Axa I. Newball Martell  
 John D. McCracken  
 David D. McFadden  
 James I. McMillan  
 Arther Mehboob  
 Sukh S. R. Mehta  
 Leonidas V. Mejia  
 Michel H. Mendler  
 Alan W. Michel  
 Hamid R Mirshahidi  
 Robert D. Mitchell  
 Subburaman Mohan  
 Ioana Moldovan  
 Patrick M. Moloney  
 Ashis Mukherjee  
 Malwinder K. Multani  
 J. Lamont Murdoch  
 Eduardo J. Nam  
 Daniel A. Nash  
 Krishna S. Nayak  
 Jerald C. Nelson  
 Sherlene Ng  
 Phat H. Ngo  
 Hoa T. Nguyen  
 Annette T. Nitta  
 Pushpa Nowrangi  
 Ikechi O. Obiocha  
 Snorri Olafsson  
 Suma Oommen  
 Takahiro Otsuka  
 Ramdas G. Pai  
 Sudha Pai  
 Seekook Park  
 Jigar D. Patel  
 Mark C. Patuszynski  
 Jon. G. Persichino  
 Prashant V. Phatak

Sonal V. Phatak  
 Gerald M. Pohost  
 Gordon G. Power  
 Gilbert J. Putnok  
 Xue Zhong Qin  
 Walter Quan, Jr.  
 Gulnara Rackauskas  
 John A. Rambharose  
 Shyia Rasool  
 Syed J. Raza  
 Maher A. Rezkalla  
 Teri L. Rhetta  
 Herman H. Ricketts  
 Rhodes L. Rigsby  
 Suzanne S. Rizkalla  
 Maher A. Roman  
 Thomas J. Romano  
 Philip J. Roos  
 Carolann R. Rosario  
 Katja Ruh  
 Cynthia C. Ruiz  
 Charles H. Rundle  
 Bruce A. Runyon  
 Tisha L. Salary  
 Seyed-Ali Sadjadi  
 Lawrence B. Sandberg  
 Allen L. Schwandt  
 Roger D. Seheult  
 Cynthia L. Serabyn  
 Edward R. Serros  
 Luis A. Servin-Abad  
 Stewart W. Shankel  
 Tamara M. Shankel  
 Tahseen N. Shareef  
 Richard L. Sheldon  
 Matilda H. Sheng  
 Vasthi V. Silva  
 Helme Silvet  
 Ajeet R. Singhvi  
 Lynnetta S. Skoretz  
 Robert E. Soderblom  
 Mehul S. Sonawala  
 Lawrence C. Sowers  
 N. Lennard Specht  
 Malathy Sriskandarajah  
 Apurva Srivastava  
 Betty Stepien  
 Liset N. Stoletniy  
 Debra D. Stottlemeyer  
 Donna D. Strong  
 Richard M. Strong  
 Chao H. Sun  
 Made Sujita  
 Richard J. Swabb  
 Linda Giles Tan  
 Shirley M. Tan  
 Siegmund Teichman  
 Douglas W. Teller  
 Mie Mie Thinn  
 Kim M. Thomas  
 Gary J. Thompson  
 Conny Tiraman-Sie  
 Bhoodev Tiwari  
 Sigve K. Tonstad  
 Vilma Torres

Denise L. Townsend  
 James Y Tsai  
 Leah A. Tudtud-Hans  
 Wilfredo M. Tupas  
 Padmini Varadarajan  
 Ashok K. Verma  
 Madhavi Vesta  
 Bertrand H. Vipond  
 Sukhpreets Walia  
 Michael H. Walter  
 Jon E. Wergedal  
 Leonard S. Werner  
 David W. Wilbur  
 Sean M. Wilson  
 Brian A. Wong  
 Raymond Y. Wong  
 Sammy S. Wong  
 Michael K. Woo  
 Sidney S. C. Wu  
 Weirong Xing  
 Wilson J. Yap  
 Yasmin A. Yusufaly  
 Yan Shi Zhao

The motto of Loma Linda University, "To make man whole," is central to achieving the objectives of the Department of Medicine. These objectives include progressing in the science of medicine while maintaining the art of medicine—the caring attitude that is so important to the well-being of physicians and of patients.

The objectives of the department are to:

1. Train medical students in the highest tradition of medical education—both the art and the science of medicine.
2. Train resident physicians in the art, science, and practice of internal medicine consistent with the high ideals of this school and of the American College of Physicians.
3. Disseminate to colleagues new and recent discoveries in the science of medicine.
4. Be actively involved in the study of basic pathophysiology of disease processes.
5. Care for patients with expertise and compassion in the highest Christian tradition.

#### NEUROLOGY

BRYAN E. TSAO, Chair

#### FACULTY

William S. Baek  
 Thomas W. Bohr  
 Jeffrey A. Bounds  
 Mary E. Brandstater  
 Jack J. Chen  
 Bradley A. Cole  
 Dorothee Cole  
 Khashayer Dashtipour



Sandra E. DeWolf-Estrada  
 Ralph Downey  
 Rodolfo O. Escutin  
 Wesley E. Fleming  
 Daniel W. Giang  
 Shawn K. Higuchi  
 Izabelle Isaac  
 Robert A. Klein  
 Antonio K. Liu  
 Travis E. Losey  
 Donald Miller  
 Laura D. Nist  
 Donald I. Peterson  
 Gordon W. Peterson  
 Judy K. Racine  
 Sarah M. Roddy  
 Michael T. Ropacki  
 A. Dean Sherzai  
 R. Richard Sloop  
 David M. Swope  
 Bryan E. Tsao  
 Lori D. Uber-Zak  
 Sarah Uffindell  
 Paul J. Zak

Neurologic disorders are common, and it is essential that students learn to recognize and treat them. The objective of the four-week course is for the student to further God's work of restoring wholeness to people through excellence in neuroscientific education, investigation, and clinical care.

#### **NEUROSURGERY**

AUSTIN R. T. COLOHAN, Chair

#### **FACULTY**

Farbod Asgarzadie  
 Traian T. Cojocaru  
 Austin R. T. Colohan  
 Lloyd A. Dayes  
 Meghan Galloway  
 Frank P. K. Hsu  
 Walter D. Johnson  
 Michael E. Kirby  
 Wolff M. Kirsch  
 Findlay E. Russell  
 Shokei Yamada  
 John H. Zhang  
 Yong Hua Zhu  
 Alexander Zouros

#### **OPHTHALMOLOGY**

HOWARD V. GIMBEL, Chair

ERNEST S. ZANE, Vice Chair

#### **FACULTY**

Madhu Agarwal  
 Sandra M. Akamine-Davidson  
 Marco Barrera  
 Pamela Y. Bekendam  
 Peter D. Bekendam

Paul A. Blacharski  
 Larry D. Bowes  
 Leslie A. Bruce-Lyle  
 John P. Carlson  
 Clement K. Chan  
 David Choi  
 Paul Y. Chung  
 William R. Clegg  
 Denis J. Cline  
 Jan L. Cooper  
 Carlindo da Reitz Pereira  
 James L. Davidian  
 Loren L. Denler  
 Andrew P. Doan  
 Jesse A. Dovich  
 Jennifer A. Dunbar  
 Joseph Fan  
 Eric J. Friedrichsen  
 Arthur W. Giebel  
 Howard V. Gimbel  
 James Guzek  
 Elizabeth Hofmeister  
 Kenneth Houchin  
 Gary G. Huffaker  
 Jeffrey J. Ing  
 Wayne B. Isaeff  
 Shyun Jeng  
 Leila M. Khazaeni  
 William H. Kiernan  
 Harvey M. Lashier  
 Gary M. Levin  
 Glenville M. March  
 Patrick G. McCaffery  
 Sharon McCaffery  
 Scott K. McClatchey  
 David R. McGrew  
 James I. McNeill  
 Julio Narvaez  
 Young-Hyun Oh  
 Richard D. Pesavento  
 Barratt L. Phillips  
 Corinna M. Pokorny  
 Michael E. Rauser  
 Steven O. Rimmer  
 Robert C. Rosenquist, Jr.  
 Nathan J. Rudometkin  
 Kimber L. Schneider  
 Gerald R. Schultz  
 Mark D. Sherman  
 Jodi O. Smith  
 Balachandran Srinivasan  
 Charles M. Stephenson, Sr.  
 Kris J. Storkersen  
 Mukesh B. Suthar  
 Sharon M. Takayesu  
 Richard R. Tamesis  
 David J. Tanzer  
 Khaled A. Tawansy  
 Donald G. Tohm  
 Tom Tooma  
 P. Harold Wallar  
 Izak F. Wessels  
 David L. Wilkins  
 Brian R. Will  
 Robert R. Wresch

Jeanine N. Yamanaka  
 Patricia S. Yoon  
 Ernest S. Zane  
 Steven E. Zane

The Department of Ophthalmology is committed to:

1. Provide an academic environment that will foster an in-depth understanding of the specialty of ophthalmology.
2. Provide education for students, residents, and fellows that prepares them for an academic, community, or mission practice.
3. Encourage and support clinical research.
4. Inspire students and residents to promote preventive ophthalmology.

#### **ORTHOPAEDIC SURGERY**

CHRISTOPHER M. JOBE, Chair

M. DANIEL WONGWORAWAT, Assistant Chair

#### **FACULTY**

Alan M. Afsari  
 Karim Abdollahi  
 David V. Anderson  
 William W. Bowen  
 John G. Bowsher  
 William P. Bunnell  
 Paul D. Burton  
 Wayne K. Cheng  
 Gurbir Chhabra  
 John M. Chrisler  
 Ian C. Clarke  
 Michael J. Coen  
 Terry J. Dietrich  
 Vincent J. Devlin  
 Thomas K. Donaldson  
 Brian S. Doyle  
 Gary K. Frykman  
 Navid Ghalambor  
 Ronny G. Ghazal  
 Barry S. Grames  
 G. Allen Gustafson  
 Gail E. Hopkins  
 Bradley R. Hotchner  
 Mary E. Hurley  
 Claran H. Jesse  
 Christopher M. Jobe  
 D. Robert Johnson  
 Nakul V. Karkare  
 Imran A. Khan  
 Shyam Kishan  
 Martin Koffman  
 Eric K. B. Lim  
 Paul C. W. Liu  
 D. Allan MacKenzie  
 James D. Matiko  
 Thomas W. McIndoe  
 Clifford D. Merkel  
 Kenneth Mudge  
 Walter C. Nash

Scott C. Nelson  
 Matilal C. Patel  
 Timothy A. Peppers  
 Giuseppe Pezzotti  
 Wesley P. Phipanatakul  
 Eskild A. Reinhold  
 Philip H. Reiswig  
 Roy M. Rusch  
 Herman R. Schoene  
 Hiromu Shoji  
 James E. Shook  
 John C. Steinman  
 Gurvinder S. Uppal  
 G. Carleton Wallace  
 Barry E. Watkins  
 James R. Watson  
 George J. Wiesseman  
 Paul Williams  
 M. Daniel Wongworawat  
 Virchel E. Wood  
 David L. Wood  
 Steven R. Yegge  
 Leisure Yu

The Department of Orthopaedic Surgery provides a lecture series to junior medical students. The objectives of the series are to:

1. Introduce the specialty of orthopaedic surgery.
2. Teach physical diagnosis of the musculoskeletal system.
3. Review care of common orthopaedic conditions.
4. Survey orthopaedic subspecialties and orthopaedic surgery.
5. Stimulate students to consider a career in orthopaedic surgery.

#### **OTOLARYNGOLOGY AND HEAD AND NECK SURGERY**

ALFRED A. SIMENTAL, Chair

#### **FACULTY**

Dennis F. Chang  
 George D. Chonkich  
 Christopher A. Church  
 Laurence D. Fechter  
 Timothy Jung  
 Paul D. G. Kim  
 John Y. G. Kim  
 Miguel Krishnan  
 Brenda Lonsbury-Martin  
 Glen K. Martin  
 David G. McGann  
 George H. Petti, Jr.  
 Mark Rowe  
 Robert P. Rowe

Alfred A. Simental  
 Charles E. Stewart III  
 Charles E. Stewart IV  
 Helen Xu

#### **PATHOLOGY AND HUMAN ANATOMY**

BRIAN S. BULL, Chair

#### **ANATOMY DIVISION**

##### **HUMAN ANATOMY**

PEDRO B. NAVA, JR., Vice Chair

#### **PATHOLOGY DIVISION**

##### **PATHOLOGY**

DARRYL G. HEUSTIS, Vice Chair

##### **ANATOMIC PATHOLOGY**

G. WILLIAM SAUKEL, Head

##### **PEDIATRIC PATHOLOGY**

CRAIG W. ZUPPAN, Head

##### **LABORATORY MEDICINE**

JAMES M. PAPPAS, Head

##### **BLOOD BANK AND TRANSFUSION MEDICINE**

WESLEY TAIT STEVENS, Head

#### **FACULTY**

##### **ANATOMY DIVISION**

Denise Bellingier

Bradley A. Cole

Bertha C. Escobar-Poni

William M. Hooker

Michael A. Kirby

Paul J. McMillan

Kenneth P. Moses

Pedro B. Nava

Kerby C. Oberg

Kimberly J. Payne

Darrell K. Petersen

Walter H. B. Roberts

William Wagner

Donald R. Wilson

Kenneth R. Wright

##### **PATHOLOGY DIVISION**

M. Rose Akin

J. Bruce Beckwith

Lee Berk

Brian S. Bull

Kenneth A. Cantos

Jeffrey D. Cao

Donald R. Chase

Resa L. Chase

Evelyn B. Choo

Camilla J. Cobb

Joseph I. Cohen

Diane K. Eklund

Joy I. Fridey

G. Gordon Hadley

Arthur J. Hauck

Paul C. Herrmann

Darryl G. Heustis

Richard W. Hubbard

W. William Hughes III

Yuichi Iwaki  
 Julie D. Kingery  
 Michael A. Kirby  
 Ralph A. Korpman  
 John E. Lewis  
 Roland E. Lonser  
 Amita T. Mistry  
 Robert E. Moncrieff  
 Jerald C. Nelson  
 James M. Pappas  
 Norman H. Peckham  
 Mia C. N. Perez  
 Ravi Raghavan  
 Anwar S. S. Raza  
 Heather L. Rojas  
 Edward H. Rowsell  
 Lawrence B. Sandberg  
 G. William Saukel  
 Frank R. Sheridan  
 Fred F. Soeprono  
 W. Tait Stevens  
 Mildred L. Stilson  
 Kevin S. Thompson  
 Steven J. Trenkle  
 Jun Wang  
 Bo Ying Wat  
 Pamela J. Wat  
 Rodney E. Willard  
 Craig W. Zuppan

The primary goal of the Department of Pathology and Human Anatomy is to educate capable, compassionate, scientifically minded physicians dedicated to the mission and objectives of Loma Linda University School of Medicine. The courses offered by the department provide a bridge to the clinical sciences, spanning the entire two years of the preclinical curriculum—from foundational principles of gross, microscopic, and developmental anatomy to modern pathophysiologic concepts. Progressive emphasis is placed on cultivating the student's ability to integrate basic knowledge of structure, function, and dysfunction of the human body with analytical skills in solving clinical problems.

The department is strongly committed to facilitating the development of both teaching and investigative skills on the part of faculty, graduate students, and residents.

#### **PEDIATRICS**

RICHARD E. CHINNOCK, Chair

#### **DIVISIONS**

##### **ALLERGY/PULMONARY**

YVONNE FANOUS, Head

##### **CARDIOLOGY**

RANAE L. LARSEN, Head

**CRITICAL CARE**

SHAMEL A. ABD-ALLAH, Head

**ENDOCRINOLOGY**

EBA H. HATHOUT, Head

**GASTROENTEROLOGY**

MANOJ C. SHAH, Head

**GENERAL PEDIATRICS**

RAVINDRA RAO, Head

**ADOLESCENT MEDICINE**

PUSHPA NOWRANGI, Section Chief

**FORENSIC MEDICINE**

CLARE M. SHERIDAN-MATNEY, Section Chief

**GENETICS**

ROBIN CLARK, Head

**HEMATOLOGY/ONCOLOGY**

ANTRANIK A. BEDROS, Head

**INFECTIOUS DISEASE**

JANE BORK, Head

**NEONATOLOGY**

RICARDO L. PEVERINI, Head

**NEPHROLOGY**

SHOBHA SAHNEY, Head

**NEUROLOGY**

STEPHEN ASHWAL, Head

**RESEARCH**

MICHAEL KIRBY, Head

**RHEUMATOLOGY**

WENDY DE LA PENA, Head

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Borhaan S. Ahmad

D. Jeanne Andrews

Stephen Ashwal

Joanne E. Baerg

Barbara K. Ariue

Freddie B. Balguma

Thomas J. Bahk

Besh R. Barcega

Nerida T. Bates

Marti Baum

Jimmy B. Beck

Antranik A. Bedros

B. Lyn Behrens

Bruce Beckwith

Anna Bernus

Dilip R. Bhatt

Arlin B. Blood

Dominic J. Blurton

Jane Bork

Danielle L. Borut

Lance E. Brown

Hong D. Bui

William P. Bunnell

Samuel R. Catalon

Chul C. Cha

Francis D. W. Chan

Thomas J. Chen

Richard E. Chinnock

Alexandra M. Clark

Robin D. Clark

Stephen W. Corbett

Ernesto Cruz

Jill R. Cuni

Drew Cutler

Vo Minh Dai

Anthony Dajnowicz

Althea P. Daniel

Wendy L. De la Pena

Douglas Deming

Debra S. Demos

Thomas K. Denmark

Laurie Dickson-Gillespie

David K. Dong

Jimmy H. Eguchi

Janeth C. Ejike

Edward Elmendorf

Yvonne Fanous

Wise M. Fargo

Elba E. S. Fayard

Nancy R. Fernando

Ross Fisher

Mary -Catherin Freier

Laura Funkhouser

Maria C. Garberoglio

Mitchell R. Goldstein

Gerald Gollin

Steven M. Green

Agnes S. Guban

Shilpa Gupta

Gregory T. Guldner

Ernie Guzman

Janet E. Halverson

Eba H. Hathout

Aihaz Hashmi

Heather E. Henken

Andrew O. Hopper

Kristen T. Hougland

Wen-Hsiung L. Huang

Carol Y. Im

Donald L. Janner

Nin Yeh K. Jiffry

Leo C. Jeng

Leela Job

Pejman Katiraei

Olga Kalbermatter

Thomas A. Kaleita

William A. Kennedy

Aqeel S. Khan

Albert Kheradpour

Grace Jee-Eun Kim

Soo Youn Kim

Sunhwa J. Kim

Tommy Y. H. Kim

Michael A. Kirby

Marquelle J. Klooster

Michael Kuhn  
 Mary Lam  
 Ranae L. Larsen  
 Caroline H. Lee  
 Sonny C. Y. Lee  
 Thomas A. Linkhart  
 Michelle H. Loh  
 M. Eliana Lois-Wenzel  
 Lawrence D. Longo  
 Merrick R. Lopez  
 John W. Mace  
 Fataneh F. Majlessipour  
 Ravi Mandapati  
 Lily B. Martorell-Bendezy  
 Jeffrey N. Mar  
 Linda J. Mason  
 Liesl A. Mathias  
 Mudit Mathur  
 Jorge R. Mazlumian  
 Chalmers D. McClure III  
 Thurman A. Merritt  
 David J. Michelson  
 Farrukh Mirza  
 Donald C. Moores  
 Christopher L. Morris  
 Joan Morris  
 James A. Moynihan  
 Jonathan J. Mthombeni  
 Neda F. Mulla  
 James L. Munson  
 Cinda L. Nauez  
 Maily T. Nguyen  
 Thieu P. Nguyen  
 Janet Ninnis  
 Pushpa Nowrangi  
 Grace C. Oei  
 Charalambos Opsimos  
 Kimberly N. Otsuka  
 Kimberly C. Owen  
 Sonal R. Patel  
 Ricardo L. Peverini  
 Jonnel W. Pomeroy  
 Emmeline Pulido  
 Charles D. Pumphrey  
 Sonea I Qureshi  
 Ravindra Rao  
 Sharon K. Riesen  
 Martha E. Rivera  
 Mark R. Rowe  
 Sarah M. Roddy  
 Israel Rubenstein  
 Kiarash Sadrieh  
 Shobha Sahney  
 Gerald Saks  
 Constance J. Sandlin  
 Phisit Saphyakhajon  
 Laura J. Schilling  
 George A. Segura  
 Manoj C. Shah  
 Praful C. Shah  
 Tamara M. Shankel  
 Clare M. Sheridan-Matney  
 Thomas S. Sherwin  
 Joan L. Shu  
 Stanford K. Shu

Melissa D. Siccama  
 Mary T. Silva  
 Gail M. Stewart  
 James D. Swift  
 Catherine A. Tan  
 Andrea W. Thorp  
 Cynthia H. Tinsley  
 Stephen Treiman  
 Diana L. Trupp  
 Rosemarie Tweed  
 Edward J. Vargas  
 Daved W. van Stralen  
 Hansen Wang  
 Timothy Watson  
 Stacey D. Wiles  
 Traci H. Williams  
 Karen A. Winston  
 William A. Wittlake  
 Valerie Y. Wong  
 Sidney S. C. Wu  
 George S. Yanni  
 Kim Yee-Hamai  
 Steven M. Yellon  
 Sherri E. Yhip  
 Darlene M. Zaft  
 Lisa Yu  
 Kimberly R. Zimmerman

The mission of the Department of Pediatrics is to provide patient services, educational programs, research endeavors, child advocacy, and community service in a manner consistent not only with state-of-the-art science but also with Judeo-Christian values.

#### **PHYSICAL MEDICINE AND REHABILITATION**

MURRAY E. BRANDSTATER, Chair

#### **DIVISION**

PAIN CONTROL

LOWELL W. REYNOLDS, Head

#### **FACULTY**

Ziyad Ayyoub  
 Murray E. Brandstater  
 Beryl H. Bull  
 Anne T. Cipta  
 Kevan Z. Craig  
 Michael J. Davidson  
 Keith L. Drieberg  
 Travis G. Fogel  
 Michael J. Gilewski  
 Gerald R. Goodlow  
 Yvette A. Holness  
 Divakara Kedlaya  
 Jien Sup Kim  
 Robertus H. Kounang  
 Daniel M. Kwon  
 Joan T. Le  
 Esther C. Lee  
 Jonathan C. Lee  
 Artemio R. Martin  
 Cid Nazir

John E. Owens  
Anita M. Pai  
Lowell W. Reynolds  
Michael D. Scott  
Scott R. Strum

The Department of Physical Medicine and Rehabilitation was established to develop clinical services in rehabilitation medicine and to offer resources for teaching and research in the field of rehabilitation. These clinical and academic activities cover a wide spectrum of clinical medicine but have as a central basis the notion that rehabilitation is a complex process involving not only multiple disciplines but also consideration of the patient in the broader context of the family and community. The psychosocial-spiritual aspects of rehabilitation complete the whole-person focus, thus providing an opportunity for faculty and students to observe and experience patient care while meeting the goals and objectives of the School of Medicine.

#### PSYCHIATRY

WILLIAM G. MURDOCH, JR., Chair

WILLIAM H. MCGHEE, Vice Chair

#### FACULTY

Julie C. Albert  
Louis R. Alvarez  
Donald L. Anderson  
Karole S. Avila  
Nenita Belen  
Venkatesh G. Bhat  
Andrew C. Blaine  
Stephanie L. Bolton  
William G. Britt III  
Roger J. Cabansag  
Clarence Carnahan, Jr.  
Anca Chiritescu  
Caron S. I. Christison  
George W. Christison  
Herman R. Clements  
Richard T. Cranston  
Scott M. Davis  
Lorie T. DeCarvalho  
Ramila Duwal  
Kari M. Enge  
Nabil S. Faltas  
Mubashir A. Farooqi  
Carlos R. Fayard  
Ron Foo  
Teresa Frausto  
Monika Gierz  
Raafat W. Girgis  
George T. Harding IV  
Mark G. Haviland  
Jerry D. Hoyle  
Durand F. Jacobs  
Cameron J. Johnson  
J. Patrick Johnson  
Y. William Kim

Marilyn H. Kimura  
Kevin M. Kinback  
Winifred L. Klop  
George Kopiloff  
Maher S. Kozman  
Donald J. Kurth  
Henry L. Lamberton  
Larry C. Lawrence  
William A. Lawrence  
Anne E. Linton  
Regina G. Liwnicz  
Michael B. Maskin  
J. Stephen Maurer  
William H. McGhee  
Charles Merideth  
Magdi Mikhael  
Olga Mora-Aldrich  
Wadsworth H. Murad  
William G. Murdoch  
Alan A. Nelson  
Thuy-Huynh T. Nguyen  
Jay M. Otero  
Faye D. Owen  
Bipin L. Patel  
Peter R. Przekop  
George J. Proctor  
Viswanatha Reddy  
John P. Riesenman  
Patricia J. D. Roth  
William G. Roth  
Neeta C. Saheba  
Mary Ann Schaepper  
Gregg A. Sentenn  
Conrado C. Sevilla  
Anthony S. Shin  
Diana Simon  
William R. Simpson  
John C. Stockdale  
Ahmad K. Tarar  
John D. F. Tarr  
John T. Thiel  
Mary E. Tysor-Tetley  
Khushro Unwalla  
Nicholaas-John Van Nieuwenhuysen  
E. Ray Verde  
Ronald Warnell  
Deane L. Wolcott  
April Wursten  
Eugene Y. Young

The Department of Psychiatry provides educational programs that include clinical training and research for medical students, psychiatry residents, and psychiatry fellows.

During the first and second years, the Department of Psychiatry directs the teaching of the behavioral sciences courses. In these interdisciplinary courses, lectures and demonstrations cover a broad range of human behavioral determinants—including the biology, psychology, sociology, and psychopathology of behavior. A holistic concept of behavior, including its spiritual components, is taught.

The third-year, six-week psychiatry clerkship includes: five weeks divided between two psychiatry treatment sites; and one week at an addiction treatment site. These clerkship experiences offer broad and varied training in the treatment of psychiatric problems of adults and children. Students also participate in an interactive, case-based seminar series.

Fourth-year medical students have the opportunity to take electives with psychiatry faculty in child and adult settings, as well as an intensive reading/discussion course in religion and psychiatry.

## PREVENTIVE MEDICINE

WAYNE S. DYSINGER, Chair

### FACULTY

David Abbey  
 Mihran H. Ask  
 Frederick M. Bischoff  
 Arlene F. Braham  
 Marcus A. Braham  
 Gilbert M. Burnham  
 Michael A. Caruso  
 Bonnie I. Chi-Lum  
 Joseph H. Cummings  
 T. Allan Darnell  
 Ann L. Dew  
 Hans A. Diehl  
 David T. Dyjack  
 P. William Dysinger  
 Wayne S. Dysinger  
 Linda H. Ferry  
 Diana J. Fleming  
 Dominique Fradin-Read  
 Gary E. Fraser  
 Eric K. Frykman  
 Andrew H. Guo  
 George E. Guthrie  
 David Z. Hall  
 Richard H. Hart  
 Kenneth W. Hart  
 Ronald P. Hattis  
 Ionela O. Hubbard  
 Jayakaran S. Job  
 John H. Kelly  
 Synnove M. F. Knutsen  
 Stephen K. Kumar  
 Louise McNitt  
 Susanne B. Montgomery  
 Eric Ngo  
 Warren R. Peters  
 Floyd E. Petersen  
 Ernest J. Prochazka  
 Alfred K. Quansah  
 John W. Rhee  
 Douglas C. Richards  
 Paula D. Scariati  
 Stuart A. Seale  
 Wilfred Shiu  
 Heather T. Shover  
 Kimberly L. Siegel

Katherine E. Sljuka  
 Bruce E. Smith  
 Victor Sulit  
 Larry L. Thomas  
 Serena Tonstad  
 Juna Tsao  
 Loretta Wilber  
 Dave A. Williams  
 April E. Wilson

The Department of Preventive Medicine is involved in preventive medicine training and research and in patient and community service activities for the School of Medicine. The Department provides a comprehensive four-year preventive medicine curriculum to all medical students. Graduate medical education training is available in a general preventive medicine residency, an occupational medicine residency, and an addiction medicine fellowship. The department works with and supports the School of Public Health as well as various other Loma Linda programs in health promotion and epidemiology research projects, the most prominent of which is the Adventist Health Study. Preventive medicine faculty direct clinical services at the Center for Health Promotion, the Social Action Community (SAC) Health System clinics, Empire Occupational Medicine, and five separate Inland Empire University health services. A diverse faculty focus primary activities through the School of Medicine, the School of Public Health, the Jerry L. Pettis Memorial Veterans Medical Center, the San Bernardino County Health Department, and various other regional/community entities.

## RADIATION MEDICINE

JERRY D. SLATER, Chair

DAVID A. BUSH, Vice Chair

### FACULTY

John O. Archambeau  
 Vladimir Bashkirov  
 Eleanor A. Blakely  
 Nathan R. Brandstater  
 David A. Bush  
 Dongrak Choi  
 James E. Currier  
 John F. Dicello  
 Cecile J. Favre  
 Lora M. Green  
 Daila S. Gridley  
 Ryan S. Grover  
 B. Rodney Jabola  
 Adeel Kaiser  
 Richard P. Levy  
 Venkata Lingampally  
 Lilia N. Loredo  
 Xian Luo  
 Xiao Wen Mao  
 Daniel W. Miller  
 Ivan Namihias

Gregory A. Nelson  
 Ying Nie  
 Andre Obenaus  
 Baldev R. Patyal  
 Michael J. Pecaut  
 William Preston  
 Carl J. Rossi, Jr.  
 Reinhard W. Schulte  
 James M. Slater  
 Jerry D. Slater  
 Diane C. Tsai  
 Roman Vlkolinsky  
 Ning Wang  
 Jerry R. Williams  
 Andrew J. Wroe

The purpose of the Department of Radiation Medicine is to provide superior patient services, education, and research using methods supportive of the Loma Linda University School of Medicine.

**RADIOLOGY**

DAVID B. HINSHAW, JR., Chair

**DIVISIONS**

**ABDOMINAL IMAGING**

GREGORY E. WATKINS, Acting Head

**DIAGNOSTIC RADIOLOGY**

HANS SAATY, Head

**COMMUNITY RADIOLOGY**

RICHARD J. TULLY, Head

**COMPUTED BODY TOMOGRAPHY**

PHIROZE BILLIMORIA, Head

**OUTPATIENT DIAGNOSTIC RADIOLOGY**

(FMO)

WON-CHUL BAE, Head

RICHARD. D. DUNBAR, Co-Head

**DIAGNOSTIC ULTRASOUND**

**INPATIENT ULTRASOUND**

GLENN A. ROUSE, Head

**OUTPATIENT ULTRASOUND**

GERALD GRUBE, Head

**ENT RADIOLOGY**

NATHANIEL D. WYCLIFFE, Head

**ANGIO/INTERVENTIONAL RADIOLOGY**

DOUGLAS C. SMITH, Head

**MAGNETIC RESONANCE SCIENCES**

DAVID B. HINSHAW, JR., Head

**MUSCULOSKELETAL**

ALEXANDER J. CHIEN, Head

**NEURORADIOLOGY**

DANIEL K. KIDO, Head

**INTERVENTIONAL NEURORADIOLOGY**

J. PAUL JACOBSON, Head

**NUCLEAR RADIOLOGY**

GERALD A. KIRK, Head

**PEDIATRIC RADIOLOGY**

LIONEL W. YOUNG, Head

**FACULTY**

Bruce T. Austin  
 Won-Chul Bae  
 Donald T. Barnes  
 Brenda L. Bartnik  
 Phiroze Billimoria  
 J. Timothy Blackwelder  
 Dale R. Broome  
 Patrick J. Bryan  
 Jerome Burstein  
 Alexander J. Chien  
 Christopher D. Cumings  
 Richard D. Dunbar  
 John F. Feller  
 Kendra L. Fisher  
 Peggy J. Fritzsche  
 Edward Gabriel  
 Geoffrey A. Gardiner  
 Arnold Z. Geller  
 David W. Gentry  
 Liliane H. Gibbs  
 Gerald Grube  
 Kathlene E. Guth  
 E. Mark Haacke  
 Sheri L. Harder  
 Anton N. Hasso  
 Bernard W. Hindman  
 David B. Hinshaw, Jr.  
 Barbara Holshouser  
 J. Paul Jacobson  
 Carl Jansen  
 Daniel K. Kido  
 Monika L. Kief-Garcia  
 Gerald A. Kirk  
 Shannon Kirk  
 Evert Kuester  
 Joseph G. Llaurodo  
 George Y. Luh  
 Jeanine A. McNeill  
 Jon M. Miller  
 M. John H. Miller  
 Theodore R. Miller  
 Michael Neglio  
 Andre Obenaus  
 Shailendri E. Philip  
 Moussa Raiszadeh  
 Glenn A. Rouse  
 Hans Saaty  
 Isaac Sanders  
 Eloy E. Schulz  
 James B. Slater  
 Douglas C. Smith



Jason C. Smith  
 Walter L. Stilson  
 Charles E. Stout  
 Joseph R. Thompson  
 Karen A. Tong  
 Richard J. Tully  
 Joseph S. Unis  
 Alix Vincent  
 Gregory Watkins  
 Michael A. Winkler  
 James Wolfson  
 Beverly Wood  
 Nathaniel D. Wycliffe  
 Lionel W. Young

The purposes of the Department of Radiology are to provide:

1. Excellent patient services through imaging studies, special diagnostic procedures, and interventional procedures.
2. Educational programs that include research and clinical training for technologists, dosimetrists, physicists, medical students, postdoctoral fellows, radiology residents and fellows.
3. Research support through laboratory facilities and clinical facilities.

#### **PLASTIC AND RECONSTRUCTIVE SURGERY**

SUBHAS C. GUPTA, Chair

#### **FACULTY**

Ghada Y. Afifi  
 Dennis K. Anderson  
 Troy J. Andreasen  
 Walter T. Y. Chang  
 James Chui  
 Norberto E. Collins  
 Grace Elias  
 Allen Gabriel  
 Subhas C. Gupta

Robert A. Hardesty  
 Michael E. Hill  
 Sharon L. Kalina  
 Ravi V. Kiran  
 Gurmander S. Kohli  
 Ka Ming Li  
 Mark C. Martin  
 G. Patrick Maxwell  
 Duncan A. G. Miles  
 Daniel C. Mills  
 Michael C. Pickart  
 Anil P. Punjabi  
 Andrea O. Ray  
 Charlotte Resch  
 Frank R. Rogers  
 Gordon H. Sasaki  
 Mohan K. Sehdev  
 Norman Y. Sogioka  
 Maya C. Spaeth  
 Stephen S. West  
 A. Andrew Wongworawat

#### **UROLOGY**

HERBERT C. RUCKLE, Chair

#### **FACULTY**

D. Duane Baldwin  
 Gary A. Barker  
 David A. Chamberlin  
 Minh-Hang Chau  
 Victor C. Ching  
 Kamyar Y. Ebrahimi  
 H. Roger Hadley  
 Noel T. C. Hui  
 Howard Landa  
 Paul Lui  
 J. David Moorhead  
 John C. Prince  
 Herbert C. Ruckle  
 Kristin M. Sanderson  
 Michael A. Sanford  
 Steven C. Stewart  
 Robert R. Torrey, Jr.  
 Christopher Tsai

# Microbiology and Molecular Genetics—SM

**(M.S., Ph.D.)**

HANSEL M. FLETCHER, Program Coordinator

## FACULTY

### PRIMARY APPOINTMENTS

Carlos A. Casiano  
Istvan Fodor  
Lora M. Green  
Daila S. Gridley  
Mark S. Johnson  
Ubaldo Soto  
Lawrence Sowers  
Barry L. Taylor  
Kylie J. Watts  
Anthony J. Zuccarelli

### SECONDARY AND ADJUNCT APPOINTMENTS

Edouard M. Cantin  
Daniela Castanotto  
Alan P. Escher  
William H. R. Langridge  
John E. Lewis  
Yiming Li  
Michael B. Lilly  
Ren-Jang Lin  
Giuseppe A. Molinaro  
John J. Rossi  
Donna D. Strong  
Nathan Wall

It is the mission of the Loma Linda University basic science programs to further the teaching and healing ministry of Jesus Christ by fostering scholarly excellence leading to the discovery, integration, and dissemination of biomedical knowledge.

The basic sciences of the School of Medicine offer graduate programs with emphases in anatomy, biochemistry, microbiology, pharmacology, and physiology. The Ph.D. degree curriculum is designed to prepare students for a career in independent research and teaching in an academic, clinical, or biotechnology setting. Students may enter any of these five Ph.D. degree programs by applying to the Integrated Biomedical Graduate Studies Program. After completing a common first-year core curriculum, students will select a program and a mentor for the completion of their studies, during which advanced courses and laboratory work allow students to fully develop an area of research interest and expertise. Students usually rotate through up to three research laboratories before selecting a research advisor. The M.S. degree course of study provides education appropriate for technicians involved in biomedical research and for medical technologists seeking career advancement. A pathway to combined M.D./Ph.D. degrees is also offered.

The School of Medicine's Division 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, molecular genetics of virulence in bacteria, mechanisms of oxidative stress resistance, mechanisms of cell death, cellular and tumor immunology, autoimmunity, chaperonins and protein folding, mechanisms of posttranslational modification, cancer biology, and DNA restriction modification.

The program outcomes of the Microbiology and Medical Genetics Program are as follows:

1. Students will demonstrate a broad knowledge of the biomedical sciences and subject mastery in molecular, cellular, and integrative aspects of microbiology and molecular genetics.
2. Students will be able to interpret current literature in their discipline.
3. Students will be able to apply the scientific method.
4. Students will understand the need to practice scientific and professional ethics.
5. \*Students will understand the process of applying for external funding.

\* This objective is not applicable to M.S. students

## M.S. AND PH.D. DEGREES

The School of Medicine's Division of Microbiology and Molecular Genetics offers study in the Microbiology and Molecular Genetics Program leading to the Master of Science and the Doctor of Philosophy degrees. These degree programs provide a broad microbiology and molecular genetics background while allowing the student to develop fully a special area of research interest.

The thesis or research Master of Science degree provides training for individuals 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.

The Doctor of Philosophy degree is designed to prepare students for a career of independent research and teaching in a university, clinical, or biotechnology environment. Students are expected to develop creativity and independence in addition to technical skills.

#### **Combined degrees**

Combined-degree (Ph.D./M.D. and M.S./M.D.) options are also available. The combination of an M.S. degree with a professional degree provides additional content and research experience as a 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.

The combined degrees are described at the end of Section III in this CATALOG.

#### **PREREQUISITE COURSES**

Applicants must have a bachelor's degree from an accredited U.S. college or the equivalent from a foreign university. Foreign applicants must have their transcripts evaluated by an accredited agency for equivalency to a U.S. degree. Entrance requirements include a full year of each of the following undergraduate courses: general biology, general chemistry, organic chemistry, and general physics. Upper division biology (such as cell and molecular biology) and chemistry (such as biochemistry) are strongly recommended. Calculus is also recommended. Results of the general test of the Graduate Record Examination (GRE) must be submitted. Applicants whose first language is not English must submit scores from the TOEFL (Test of English as a Foreign Language). The program reserves the right to decide on the equivalence of courses presented by the applicant.

#### **First-year curriculum**

The first-year curriculum includes a course sequence taught by interdisciplinary faculty that integrates all the disciplines of the biomedical basic science areas—moving from molecules through cellular mechanisms to integrated systems. In addition, a supplemental course covers research-related topics—such as scientific communication and integrity, information handling, and statistics; as well as successful grant writing. Students learn of new developments in the biomedical sciences through weekly seminars, and they gain presentation skills of their own in a weekly student presentation seminar series. During the subsequent years, formal courses continue to broaden and integrate into a meaningful whole an understanding of the clinical consequences of cellular events.

#### **Religion requirement**

Students in the Master of Science (M.S.) degree programs are required to complete one 3-unit, graduate level religion class (RELT 617 Seminar in Religion and the Sciences). Students in the Ph.D. degree program are required to complete three graduate level religion courses of 3 or more units each. These must include RELT 617; as well as RELE 525 Ethics for Scientists and RELR 588 Personal and Family Wholeness. A course in biblical studies (RELT 588, RELT 559, RELT 560, RELT 564, or RELT 565) may be substituted for either the ethical or relational course.

### **MICROBIOLOGY AND MOLECULAR GENETICS—M.S.**

A minimum of 45 units is required for the M.S. degree, as detailed in the table below. Two options, a research track and a course work track, are available. Students must maintain a G.P.A. of at least 3.0.

#### **Course work track**

Under this plan, the student fulfills the total unit requirement by taking additional microbiology and molecular genetics electives. The student takes a comprehensive written examination over the graduate course work in lieu of preparing a thesis. Students must adhere to all University and program policies as published in the *Student Handbook*, University CATALOG, or "Student Guide." Policies and requirements are subject to change.

#### **Research track**

Under this plan, the student fulfills the core requirements and also carries out research that culminates in a thesis. The student must pass an oral examination given by his/her graduate guidance committee after the thesis has been completed.

#### **Research/Dissertation or Thesis**

A student will at all times have registration in research units. An IP will be assigned until the student registers for new units. The units should be spread out over the course of time it takes to complete thesis or dissertation research satisfactorily. An IP may not be carried for longer than five quarters.

### **MICROBIOLOGY AND MOLECULAR GENETICS—PH.D.**

For the Ph.D. degree, students must complete a minimum of 78 units, as detailed in the table below, and must maintain a GPA of at least 3.0. In addition, doctoral students are required to pass both written and oral comprehensive examinations in order to advance to candidacy. They must successfully defend the dissertation to their guidance committee before being awarded the Ph.D. degree. Students must adhere to all University and program policies as published in the *Student Handbook*, University CATALOG, or "Student Guide." Policies and requirements are subject to change.

<b>Basic science core</b>			<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 501	Biomedical Communication and Integrity		2.0	2.0	2.0
IBGS 502	Biomedical Information and Statistics		2.0	2.0	2.0
IBGS 503	Biomedical Grant Writing				2.0
IBGS 511	Cellular Mechanisms and Integrated Systems I		8.0	8.0	8.0
IBGS 512	Cellular Mechanisms and Integrated Systems II		8.0	8.0	8.0
IBGS 513	Cellular Mechanisms and Integrated Systems III		8.0	8.0	8.0
IBGS 521	Cellular Mechanisms and Integrated Systems I Journal Club		2.0	2.0	2.0
IBGS 522	Cellular Mechanisms and Integrated Systems II Journal Club		2.0	2.0	2.0
IBGS 523	Cellular Mechanisms and Integrated Systems III Journal Club		2.0	2.0	2.0
Totals			34.0	34.0	36.0

<b>Major</b>			<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
MICR ____	Graduate Microbiology Elective (—)	Must include at least 6 units in a didactic, literature-based course	7.0		9.0
MICR 530	Immunology				3.0
Totals			7.0	—	12.0

<b>Seminars</b>			<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 604	Introduction to Integrative Biology Presentation Seminar		1.0	1.0	1.0
IBGS 605	Integrative Biology Presentation Seminar (1.0)			1.0	2.0
IBGS 607	Integrated Biomedical Graduate Studies Seminar	Registration and attendance required every quarter in residence, but units do not count toward total required for graduation	1.0	—	—
Totals			2.0	2.0	3.0

<b>Religion</b>			<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
RELE 525	Ethics for Scientists				3.0
RELR 549	Personal and Family Wholeness				3.0
RELT 617	Seminar in Religion and the Sciences		3.0	3.0	3.0
Totals			3.0	3.0	9.0

<b>Research/Dissertation or Thesis</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 696	Research Rotations (1.0)			2.0
MICR 697	Research (1.0-7.0)		6.0	15.0
Totals		—	6.0	17.0
<b>Overall Totals</b>		<b>46.0</b>	<b>45.0</b>	<b>77.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

# Pharmacology—SM

(M.S., Ph.D.)

JOHN BUCHHOLZ, Program Coordinator

## FACULTY

### PRIMARY APPOINTMENTS

Eileen Brantley  
John Buchholz  
Sean M. Wilson  
Kangling Zhang  
Lubo Zhang

### SECONDARY AND ADJUNCT APPOINTMENTS

Lincoln P. Edwards  
David A. Hessinger  
William Pearce  
Lawrence Sowers  
Jiping Tang

It is the mission of the Loma Linda University basic science programs to further the teaching and healing ministry of Jesus Christ by fostering scholarly excellence leading to the discovery, integration, and dissemination of biomedical knowledge.

The basic sciences of the School of Medicine offer graduate programs with emphases in anatomy, biochemistry, microbiology, pharmacology, and physiology. The Ph.D. degree curriculum is designed to prepare students for a career in independent research and teaching in an academic or biotechnology setting. Students may enter any of these five Ph.D. degree programs by applying to the Integrated Biomedical Graduate Studies Program. After completing a common first-year core curriculum, students will select a program and a mentor for the completion of their studies, during which advanced courses and laboratory work allow the student to fully develop an area of research interest and expertise. Students usually rotate through up to three research laboratories before selecting a research advisor.

The M.S. degree course of study provides education appropriate for technicians involved in biomedical research and for medical technologists seeking career advancement. A pathway to combined M.D./Ph.D. degrees is also offered.

The School of Medicine's Division of Pharmacology offers programs leading to the Doctor of Philosophy and Master of Science degrees. These programs include a core curriculum that provides a broad background in pharmacology-related issues and approaches. Advanced courses allow each student to develop fully an area of interest. Research strengths of the program include: cardiovascular, neurological,

developmental, pulmonary, and molecular pharmacology.

The program outcomes of the Pharmacology Program are as follows:

1. Students will demonstrate a broad knowledge of the biomedical sciences and subject mastery in molecular, cellular, and integrative aspects of pharmacology.
2. Students will be able to interpret current literature in their discipline.
3. Students will be able to apply the scientific method.
4. Students will understand the need to practice scientific and professional ethics.
5. \*Students will understand the process of applying for external funding.

\* This objective is not applicable to M.S. degree students

## M.S. AND PH.D. DEGREES

The School of Medicine's Division of Pharmacology offers study in the Pharmacology Program leading to the Master of Science and the Doctor of Philosophy degrees. The Master of Science degree is not available as an option for entering students. These degree programs provide a broad biochemical background while allowing the student to fully develop a special area of research 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 is designed to prepare the graduate for a career in independent research and teaching in university, clinical, biotechnological, or government environments. Ph.D. degree students are expected to develop creativity and independence in addition to technical skills.

### Combined degrees

Combined degree (Ph.D./M.D. and M.S./M.D.) options are also available. The combination of an M.S. degree with a professional degree provides additional content and research experience as a 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.

The combined degrees are described at the end of Section III in this CATALOG.

**Research/Dissertation or Thesis**

A student will at all times have registration in research units. An IP will be assigned until the student registers for new units. The units should be spread out over the course of time it takes to complete thesis or dissertation research satisfactorily. An IP may not be carried for longer than five quarters.

**PREREQUISITE COURSES**

Applicants must have a bachelor's degree from an accredited U.S. college or the equivalent from a foreign university. Foreign applicants must have their transcripts evaluated by an accredited agency for equivalency to a U.S. degree. Entrance requirements include a full year of each of the following undergraduate courses: general biology, general chemistry, organic chemistry, and general physics. Upper division biology (such as cell and molecular biology) and chemistry (such as biochemistry) are strongly recommended. Calculus is also recommended. Results of the general test of the Graduate Record Examination (GRE) must be submitted. Applicants whose first language is not English must submit scores from the TOEFL (Test of English as a Foreign Language). The program reserves the right to decide on the equivalence of courses presented by the applicant.

**First-year curriculum**

The first-year curriculum includes a course sequence taught by interdisciplinary faculty that integrates all the disciplines of the biomedical basic science areas—moving from molecules through cellular mechanisms to integrated systems. In addition, a supplemental course covers research-related topics—such as scientific communication and integrity, information handling, and statistics; as well as successful grant writing. Students learn of new developments in the biomedical sciences through weekly seminars, and they gain presentation skills of their own in a weekly student presentation seminar series. During the subsequent years, formal courses continue to broaden and integrate into a meaningful whole an understanding of the clinical consequences of cellular events.

**Religion requirement**

Students in the Master of Science (M.S.) degree programs are required to complete one 3-unit, graduate level religion class (RELT 617 Seminar in

Religion and the Sciences). Students in the Ph.D. degree program are required to complete 3 graduate level religion courses of three or more units each. These must include RELT 617; as well as RELE 525 Ethics for Scientists and RELR 588 Personal and Family Wholeness. A course in biblical studies (RELT 588, RELT 559, RELT 560, RELT 564, or RELT 565) may be substituted for either the ethical or relational course.

**PHARMACOLOGY—M.S.**

Two options, a research track and a course work track, are available. A minimum of 48 (research track) or 49 (course work track) units is required for the M.S. degree, as detailed in the table below. Students must maintain a G.P.A. of at least 3.0, and they must adhere to all University and program policies as published in the *Student Handbook*, University CATALOG, or "Student Guide." Policies and requirements are subject to change.

**Course work track**

Under this plan, the student fulfills the total unit requirements by taking additional electives. The student takes a comprehensive written examination over the graduate course work in lieu of preparing a thesis.

**Research track**

Under this plan, the student fulfills the core requirements and also carries out research that culminates in a thesis. The student must pass an oral examination given by his/her graduate guidance committee after the thesis has been completed.

**PHARMACOLOGY—PH.D.**

For the Ph.D. degree, students must complete a minimum of 75 units, as detailed in the table below, and must maintain a G.P.A. of at least 3.0. In addition, doctoral students are required to pass both written and oral comprehensive examinations in order to advance to candidacy; and they must successfully defend the dissertation to their guidance committee before being awarded the Ph.D. degree. Students must adhere to all University and program policies as published in the *Student Handbook*, University CATALOG, or "Student Guide." Policies and requirements are subject to change.

Basic science core		M.S. Coursework	M.S. Research	Ph.D.
IBGS 501	Biomedical Communication and Integrity	2.0	2.0	2.0
IBGS 502	Biomedical Information and Statistics	2.0	2.0	2.0
IBGS 503	Biomedical Grant Writing			2.0
IBGS 511	Cellular Mechanisms and Integrated Systems I	8.0	8.0	8.0
IBGS 512	Cellular Mechanisms and Integrated Systems II	8.0	8.0	8.0
IBGS 513	Cellular Mechanisms and Integrated Systems III	8.0	8.0	8.0

IBGS 521	Cellular Mechanisms and Integrated Systems I Journal Club	2.0	2.0	2.0
IBGS 522	Cellular Mechanisms and Integrated Systems II Journal Club	2.0	2.0	2.0
IBGS 523	Cellular Mechanisms and Integrated Systems III Journal Club	2.0	2.0	2.0
Totals		34.0	34.0	36.0

<b>Major</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
PHRM 554	Neuropharmacology	4.0		4.0
PHRM 564	Cardiovascular and Renal Pharmacology	3.0		3.0
PHRM 584	Drug Metabolism and Biochemical Pharmacology	4.0	4.0	4.0
Totals		11.0	4.0	11.0

<b>Seminars</b>			<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 604	Introduction to Integrative Biology Presentation Seminar		1.0	1.0	1.0
IBGS 605	Integrative Biology Presentation Seminar (1.0)			1.0	2.0
IBGS 607	Integrated Biomedical Graduate Studies Seminar (1.0)	Registration and attendance required every quarter in residence, but units do not count toward total required for graduation.	—	—	—
Totals			1.0	2.0	3.0

<b>Religion</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
RELE 525	Ethics for Scientists			3.0
RELR 549	Personal and Family Wholeness			3.0
RELT 617	Seminar in Religion and the Sciences	3.0	3.0	3.0
Totals		3.0	3.0	9.0

<b>Research/Dissertation or Thesis</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 696	Research Rotations (1.0)			2.0
PHRM 697	Research (1.0-6.0)		6.0	15.0
Totals		—	—	—
<b>Overall Totals</b>		<b>49.0</b>	<b>49.0</b>	<b>76.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.



# Physiology—SM

(M.S., Ph.D.)

JOHN H. ZHANG, Program Coordinator

## FACULTY

### PRIMARY APPOINTMENTS

Danilyn M. Angeles  
 Daisy De Leon  
 Marino De Leon  
 Charles A. Ducsay  
 Raymond G. Hall, Jr.  
 David A. Hessinger  
 Lawrence D. Longo  
 Eugenia Mata-Greenwood  
 William J. Pearce  
 Gordon G. Power  
 Jiping Tang  
 Steven M. Yellon  
 John Zhang

### SECONDARY AND ADJUNCT APPOINTMENTS

Stephen Ashwal  
 Eileen Brantley  
 John N. Buchholz  
 Subburaman Mohan  
 Andre Obenaus  
 Philip J. Roos  
 Leonard Werner  
 Sean M. Wilson  
 Lubo Zhang

It is the mission of the Loma Linda University basic science programs to further the teaching and healing ministry of Jesus Christ by fostering scholarly excellence leading to the discovery, integration, and dissemination of biomedical knowledge.

The basic sciences of the School of Medicine offer graduate programs with emphases in anatomy, biochemistry, microbiology, pharmacology, and physiology. The Ph.D. degree curriculum is designed to prepare students for a career in independent research and teaching in an academic or biotechnology setting. Students may enter any of these five Ph.D. degree programs by applying to the Integrated Biomedical Graduate Studies Program. After completing a common first-year core curriculum, the student selects a program and a mentor for the completion of his or her studies, during which advanced courses and laboratory work allow the student to fully develop an area of research interest and expertise. Students usually rotate through up to three research laboratories before selecting a research advisor.

The M.S. degree course of study provides education appropriate for technicians involved in biomedical research and for medical technologists seeking career

advancement. A pathway to combined M.D./Ph.D. degrees is also offered.

The School of Medicine's Physiology Program offers programs leading to the Doctor of Philosophy and Master of Science degrees. The graduate program in physiology provides a Christian environment in which students may pursue curricula oriented to their specific interests. Individual attention is assured by maintenance of a small student/faculty ratio. A research-oriented graduate curriculum leading to the Ph.D. degree is designed to provide graduate students with the information and tools needed to succeed as independent lifelong learners and investigators. The School of Medicine's Division of Physiology provides unique research training opportunities in the biomedical sciences for graduate students. Areas of research excellence that are supported by nationally competitive extramural funding include: perinatal biology, health disparities, neurosciences, and cardiovascular science.

The program outcomes of the Physiology Program are as follows:

1. Students will demonstrate a broad knowledge of the biomedical sciences and subject mastery in molecular, cellular, and integrative aspects of physiology.
2. Students will be able to interpret current literature in their discipline.
3. Students will be able to apply the scientific method.
4. Students will understand the need to practice scientific and professional ethics.
5. \*Students will understand the process of applying for external funding.

\* This objective is not applicable to M.S. degree students

## M.S. AND PH.D. DEGREES

The School of Medicine's Division of Physiology offers study in the Physiology Program leading to the Master of Science and the Doctor of Philosophy degrees. These degree programs provide a broad physiology background education and cutting-edge research opportunities for students to develop in specific research areas.

The goal of the thesis or research Master of Science degree is to provide training opportunities for individuals who will pursue technical jobs in biomedical research laboratories either in universities or in biotechnology industry, or for students who will

continue education in other professional schools including medicine or dentistry.

The goal of the Doctor of Philosophy degree is to optimize opportunities for students for academic or industry success following graduation. Students will be trained and prepared to be independent research leaders.

#### **Combined degrees**

Combined degree (Ph.D./M.D. and M.S./M.D.) options are also available. The combination of an M.S. degree with a professional degree provides additional content and research experience as a 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.

The combined degrees are described at the end of Section III in this CATALOG.

#### **PREREQUISITE COURSES**

Applicants must have a Bachelor degree from an accredited U.S. college or the equivalent from a foreign university. Foreign applicants must have their transcripts evaluated by an accredited agency for equivalency to a U.S. degree. Entrance requirements include a full year of each of the following undergraduate courses: General Biology, General Chemistry, Organic Chemistry, and General Physics. Upper division Biology (such as Cell and Molecular Biology) and Chemistry (such as Biochemistry) are strongly recommended. Calculus is also recommended. Results of the general test of the Graduate Record Examination (GRE) must be submitted. Applicants whose first language is not English must submit scores from the TOEFL (Test of English as a foreign language). The program reserves the right to decide on the equivalence of courses presented by the applicant.

#### **First-year curriculum**

The first-year curriculum includes a course sequence taught by interdisciplinary faculty that integrates all the disciplines of the biomedical basic science areas—moving from molecules through cellular mechanisms to integrated systems. In addition, a supplemental course covers research-related topics—such as scientific communication and integrity, information handling, and statistics; as well as successful grant writing. Students learn of new developments in the biomedical sciences through weekly seminars, and they gain presentation skills of their own in a weekly student presentation seminar series. During the subsequent years, formal courses continue to broaden and integrate into a meaningful whole an understanding of the clinical consequences of cellular events.

#### **Religion requirement**

Students in the Master of Science (M.S.) programs are required to complete one 3-unit, graduate level religion class (RELT 617, Seminar in Religion and the Sciences). Students in the Ph.D. program are required to complete three graduate level religion courses of three or more units each. These must include RELT 617 as well as RELE 525, Ethics for Scientists and RELR 588, Personal and Family Wholeness. A course in biblical studies (RELT 588, RELT 559, RELT 560, RELT 564, or RELT 565) may be substituted for either the ethical or relational course.

#### **Research/Dissertation or Thesis**

A student will at all times have registration in research units. An IP will be assigned until the student registers for new units. The units should be spread out over the course of time it takes to complete thesis or dissertation research satisfactorily. An IP may not be carried for longer than 5 quarters.

#### **PHYSIOLOGY—M.S.**

A minimum of 45 units is required for the M.S. degree, as detailed in the table below. Two options, a research track and a course work track, are available. Students must maintain a G.P.A. of at least 3.0. Students must adhere to all University and program policies as published in the *Student Handbook*, University CATALOG, or "Student Guide." Policies and requirements are subject to change.

##### **Course work track**

Under this plan, the student fulfills the total unit requirement by taking additional electives. The student takes a comprehensive written examination over the graduate course work in lieu of preparing a thesis.

##### **Research track**

Under this plan, the student fulfills the core requirements and also carries out research that culminates in a thesis. The student must pass an oral examination given by his/her graduate guidance committee after the thesis has been completed.

#### **PHYSIOLOGY—PH.D.**

For the Ph.D. degree, students must complete a minimum of 76 units, as detailed in the table below, and must maintain a G.P.A. of at least 3.0. In addition, doctoral students are required to pass both written and oral comprehensive examinations in order to advance to candidacy. They must successfully defend the dissertation to their guidance committee before being awarded the Ph.D. degree. Students must adhere to all University and program policies as published in the *Student Handbook*, University CATALOG, or "Student Guide." Policies and requirements are subject to change.

<b>Basic science core</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 501	Biomedical Communication and Integrity	2.0	2.0	2.0
IBGS 502	Biomedical Information and Statistics	2.0	2.0	2.0
IBGS 503	Biomedical Grant Writing			2.0
IBGS 511	Cellular Mechanisms and Integrated Systems I	8.0	8.0	8.0
IBGS 512	Cellular Mechanisms and Integrated Systems II	8.0	8.0	8.0
IBGS 513	Cellular Mechanisms and Integrated Systems III	8.0	8.0	8.0
IBGS 521	Cellular Mechanisms and Integrated Systems I Journal Club	2.0	2.0	2.0
IBGS 522	Cellular Mechanisms and Integrated Systems II Journal Club	2.0	2.0	2.0
IBGS 523	Cellular Mechanisms and Integrated Systems III Journal Club	2.0	2.0	2.0
Totals		34.0	34.0	36.0

<b>Major</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
PHSL ____	Graduate Physiology and/or statistics courses. Elective	6.0		10.0
Totals		6.0	—	10.0

<b>Seminars</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 604	Introduction to Integrative Biology Presentation Seminar	1.0	1.0	1.0
IBGS 605	Integrative Biology Presentation Seminar (1.0)		1.0	2.0
IBGS 607	Integrated Biomedical Graduate Studies Seminar (1.0) Registration and attendance required every quarter in residence, but units do not count toward total required for graduation.	—	—	—
Totals		1.0	2.0	3.0

<b>Religion</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
RELE 525	Ethics for Scientists			3.0
RELR 549	Personal and Family Wholeness			3.0
RELT 617	Seminar in Religion and the Sciences	3.0	3.0	3.0
Totals		3.0	3.0	9.0

<b>Research/Dissertation or Thesis</b>		<b>M.S. Coursework</b>	<b>M.S. Research</b>	<b>Ph.D.</b>
IBGS 696	Research Rotations (1.0)			2.0
PHSL 697	Research (1.0-8.0)		6.0	15.0
Totals		—	—	—
<b>Overall Totals</b>		<b>44.0</b>	<b>45.0</b>	<b>75.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

# School of Nursing

## Dean's Welcome

## School Foundations

- History
- Agency membership

## Our Mission

## Learning Outcomes

- Undergraduate department
- Graduate department

## Philosophy

- Philosophy of nursing education

## General Regulations

- Student policies

## Application and Admissions— Undergraduate and Graduate

- Application deadlines, fees, skills prerequisites
- Admission requirements
- Undergraduate department admission criteria
  - Generic baccalaureate nursing program
  - Accelerated baccalaureate nursing program
- Program requirements for students with nursing licenses
  - Licensed vocational nurse
  - Registered nurse
  - Transitional RN to M.S. (available for the RN with a B.S. or B.A. degree in another area)
- Graduate department admission criteria
  - Master of Science degree admission criteria
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- Programs of study
- Student involvement
- Student organizations
- Honor society

## Academic Policies and Practices

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- Academic residence
- Nursing course grades
- Percentage breakdown for grading
- Nursing courses
- Clinical experiences
- Licensure
- Credit by examination
- Challenge/Equivalency examination
- Advanced placement
- Academic progression
- Withdrawing from a course
- Repeating a course
- Probation status
- Graduation requirements

## GRADUATE DEPARTMENT

- Academic residence
- Transfer credits
- Nondegree student credit
- Academic standing
- Clinical probation
- Application for candidacy
- Time limits
- Statistics and research prerequisites
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- Practicum experiences
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- Thesis and dissertation
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## Financial Information

- General financial practices
- Schedule of charges/Tuition 2009-2010
- Other academic charges/expenses
- Other academic charges
- On- and off-campus student housing
- Nursing and government loans
- Nursing loan repayment
- Awards honoring excellence
- Scholarships
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## Programs, Degrees, and Certificates

UNDERGRADUATE DEPARTMENT

- Undergraduate curricula overview
- Undergraduate courses
  - A.S. degree
  - B.S. degree
- Undergraduate curriculum sequence
- Three B.S. degree options
  - Standard B.S. degree program
  - Returning RN (RN/B.S.) program
  - B.S. degree for licensed vocational nurse
- General education requirements
- Precourse preparation for nursing (optional)
- Accelerated B.S. degree programs
- Intensive B.S. degree program
- Nondegree Options
  - The 45-unit RN licensure option
  - Transitional RN to M.S. degree

## GRADUATE DEPARTMENT

- Graduate programs, degrees, and certificates
  - Adult Nurse Practitioner (M.S.)
  - Adult Nurse Practitioner (Postmaster's certificate)
  - Family Nurse Practitioner (M.S.)
  - Family Nurse Practitioner (Postmaster's certificate)
  - Pediatric Nurse Practitioner (M.S.)
  - Pediatric Nurse Practitioner (Postmaster's certificate)
  - Neonatal Nurse Practitioner (M.S.)
  - Neonatal Nurse Practitioner (Postmaster's certificate)

Clinical Nurse Specialist: Adult and  
Aging Family (M.S.)  
Clinical Nurse Specialist: Adult and  
Aging Family (Postmaster's  
certificate)  
Clinical Nurse Specialist: Growing  
Family (M.S.)  
Clinical Nurse Specialist: Growing  
Family (Postmaster's certificate)  
Nursing Administration (M.S.)  
Nurse Educator: Growing Family  
Nurse Educator: Adult and Aging  
Family  
Dual degree (M.S./M.A.)  
Master of Science degree as clinical  
specialist  
Master of Arts degree in clinical ethics  
Doctoral Program  
Ph.D. degree

## Dean's Welcome

Welcome to the School of Nursing, where you will receive an education that will prepare you for a life of Christian service. This Catalog will introduce you to the programs of the school and give you information on progression and services available to help you reach your goal.

For more than 100 years, the school has educated nurses to serve the needs of humanity. We look forward to working with you on your academic journey here at the school.

Our goal is to provide an environment where you can gain the knowledge and skills to become a caring, competent, professional nurse. The faculty, staff, and administration are committed to ensuring that those who study here will develop to the fullest potential and become nurses capable of fulfilling the University's mission—with God's help—"To make man whole."



*Marilyn M. Herrmann*

Marilyn Herrmann, Ph.D., RN  
Dean, School of Nursing

## School Foundations

### HISTORY

The School of Nursing, established in 1905, was the first in a group of schools that in 1961 became Loma Linda University. In 1907, the first class to graduate included seven students—five women and two men. As the school developed and became a college-based program rather than a hospital diploma program, the baccalaureate degree commenced in 1949. The Master of Science degree was granted in 1957. The Doctor of Philosophy degree was added to the existing programs of the school, with the first class starting in 2002.

The School of Nursing programs received accreditation by the National League for Nursing (NLN) (61 Broadway, New York, NY 10006) in 1951. The most recent accreditation for the B.S. and M.S. degree programs (1999) was by the Commission on Collegiate Nursing Education (CCNE) (One Dupont Circle NW, Suite 530, Washington, DC 20036-1120) in 1999. The California Board of Registered Nursing (P. O. Box 944210, Sacramento, CA 94244-2100) granted continuing approval in 2008. Consumers are encouraged to contact CCNE or BRN with comments about the program.

### AGENCY MEMBERSHIP

The School of Nursing holds agency memberships and actively participates in the following major professional organizations: American Association of Colleges of Nursing, National League for Nursing, and Western Institute for Nursing.

## Our Mission

The mission of the School of Nursing, in accord with the comprehensive mission of Loma Linda University, is the education of professional nurses who are dedicated to excellence in nursing science. Individuals from diverse ethnic, cultural, and racial backgrounds are encouraged to embrace opportunities for lifelong growth and satisfaction from a career committed to health care. Baccalaureate and graduate nursing programs contribute to the development of expert clinicians, educators, administrators, and researchers who benefit society by providing and improving delivery of whole-person care to clients—individuals, families, groups, and communities. Committed to Christian service and distinctive Seventh-day Adventist ideals, the school seeks to reflect God's love through its teaching and healing ministry.





# Learning Outcomes

## UNDERGRADUATE DEPARTMENT

The learning outcomes of the baccalaureate degree program are designed to prepare competent nurses who are committed to compassionate, Christian service. Upon completion of the baccalaureate degree, the nurse will be able to:

1. Respect the universality of humanity and the uniqueness of physiological, psychological, spiritual, sociocultural, developmental perspectives; and recognize the individual's right to self-determination.
2. Demonstrate professional competence, technical skills, and the appropriate functioning in roles essential for promotion of optimal wellness for self and clients.
3. Contribute to society by demonstrating continued growth in personal and professional competence and Christ-centered values.
4. Engage in critical thinking for clinical decision making in professional nursing practice.
5. Participate in efforts to improve professional nursing and health care delivery, including the use of current and emerging technology.
6. Integrate principles and concepts from nursing, the sciences, and the humanities to critically evaluate and utilize research knowledge for evidence-based nursing practice.
7. Demonstrate oral and written skills to communicate effectively.
8. Provide sensitive and culturally appropriate client care in a variety of settings.
9. Engage in effective leadership and management, and participate in interdisciplinary collaboration to provide optimum nursing care to clients.
10. Demonstrate an academic foundation for lifelong learning and preparation for graduate study.

## GRADUATE DEPARTMENT

The learning outcomes of the master's degree program are designed to prepare nurse leaders with a Christian perspective to enable them to contribute to professional nursing through clinical practice, teaching, administration, and research. Upon completion of the Master of Science degree, the graduate will:

1. Apply specialized knowledge and expertise in a selected clinical area, demonstrating the advanced nursing role.
2. Synthesize and guide appropriate applications of research findings as the foundation for evidence-based practice.
3. Collaborate with clients, health professionals, organizations, and other stakeholders for the purpose of improving the quality and delivery of health care and influencing health policy.
4. Develop personal and professional wholeness through life-long inquiry, scholarly endeavor, and healthful living.
5. Demonstrate and promote ethical and compassionate Christian service respecting the diverse experiences of others.
6. Have a foundation for doctoral studies.

The primary learning outcomes of the doctoral program are designed to prepare nurse scientists and scholars with a Christian perspective for leadership in education, health care administration, and research within a global community. Upon completion of the Ph.D. degree, the nurse will.

1. Provide leadership in research, education, and/or health care administration within a global community.
2. Generate and disseminate knowledge relevant to the development of nursing science and practice.
3. Meet challenges with a wholistic perspective that encompasses social, cultural, political, ethical, and spiritual dimensions in the practice of scholarship.
4. Engage in interdisciplinary discourse and scholarship.

Further, upon completion of the Doctor of Philosophy degree, the nurse will have become a nurse-scholar-scientist.

## Philosophy

In harmony with Loma Linda University and the Seventh-day Adventist Church, the School of Nursing believes that the aim of education and health care is the development of wholeness in those served. Individuals, created to reflect the wholeness of God's character, have been impaired by the entrance of sin, disease, and death. God's purpose is the restoration of each person to the original state at Creation. God works through human agencies to facilitate individual wholeness.

Nursing functions to assist individuals and societal groups to attain their highest potential of wholeness. Through a variety of roles, nurses put into practice a body of knowledge and a repertoire of skills to assist the human system with health problems. The School of Nursing provides an environment in which students and faculty can grow in professional competence and Christian grace.

In support of the philosophy, mission, and values of Loma Linda University and the philosophy, mission, and values of the School of Nursing, the faculty affirms the following beliefs:

1. Learning is an interactive process that involves all of the learner's faculties.
2. A learning environment nurtures the development of potential, promotes maturation of values, cultivates the ability to think critically and independently, and encourages a spirit of inquiry.
3. Clinical experiences are essential to the development of professional and technical nursing competence.
4. Students—influenced by the effect of physiological, psychological, sociocultural, developmental, and spiritual variables on their lives—learn in different ways and bring different meanings to the learning experience.
5. Students participate in development of the science and practice of nursing.

## General Regulations

Students of the University are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation. Section III gives the general setting for the programs of each school and outlines the subject and unit requirements for admission to individual professional options. It is important to review the requirements of specific options in the context of the general requirements applicable to all programs.

### STUDENT POLICIES

School of Nursing students are expected to adhere to the policies of the University as presented in the *Student Handbook* under the heading "Standards of Academic Conduct Policy."

# Application and Admissions

The programs 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 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

Applications are invited from those interested in attending a Christian school of nursing and whose beliefs are consistent with the mission of Loma Linda University and the School of Nursing. Priority will be given to those coming from within the Seventh-day Adventist educational system.

Admission application information is located at <nursing.llu.edu>.

### Application deadlines for Undergraduate Department

Applicants seeking undergraduate admission must have the application process completed by the dates indicated in the following.

- Fall Quarter—March 31
- Winter Quarter—September 1
- Spring Quarter—December 1

### Application deadlines for Graduate Department

Applicants seeking graduate admission must have the application process completed by the dates indicated in the following.

- Fall Quarter—August 1
- Winter Quarter—November 1
- Spring Quarter—February 1

### Application fees

An application fee of \$60 is charged. For generic undergraduate, there is an additional \$60 examination fee. Other fees are itemized under the Schedule of Charges in the Financial Information section.

### Essential skills—undergraduate and graduate

The practice of professional nursing has minimum entry qualifications. Registered nurses are expected to have certain physical abilities, as well as competencies in reasoning and thinking. The skills considered essential to the practice of nursing are skills required

of all applicants to the School of Nursing. These include the abilities indicated in the following four areas:

- Psychomotor (physical) skills
  - Work with inanimate objects—including setting up, operating (controlling), manipulating, and handling.
  - Stand, walk, carry, sit, lift up to fifty pounds, push, pull, climb, balance, stoop, crouch, kneel, turn, twist, crawl, and reach—within a clinical setting.
  - Assess and intervene in the care of patients, using the physical senses—sight, touch, taste, smell, and hearing.
- Cognitive (thinking) skills
  - Perform mental cognition tasks—including problem solving, prioritizing, and accurate measuring; follow instructions; and use cognitive skills to synthesize, coordinate, analyze, compile, compute, copy, and compare.
  - Communicate with others, using verbal and nonverbal skills; recall written and verbal instructions, read and comprehend, and write clearly; negotiate, instruct, explain, persuade, and supervise.
- Affective (human relations) skills
  - Interact positively with individuals and groups of people, directly and indirectly.
  - Control emotions appropriately and cope with stressful situations.
  - Respond appropriately to criticism and take responsibility for one's own actions, behaviors, and learning.
  - Evaluate issues and make decisions without immediate supervision.
- Task (work function) skills
  - Function independently on work tasks.
  - Demonstrate safety awareness.
  - Recognize potential hazards.

- Respond appropriately to changes in work conditions.
  - Maintain attention and concentration for necessary periods.
  - Perform tasks that require set limits.
  - Ask questions and request assistance appropriately.
  - Perform within a schedule requiring attendance.
  - Carry a normal work load.
- Introduction to physics (or high school physics)
  - Anatomy and physiology I and II (with laboratories)
  - Introduction to organic and biochemistry (with laboratories)
  - Microbiology (with laboratories)
  - Freshman English (one year)
  - General psychology
  - Introduction to sociology or anthropology
  - Physical education (two activity classes)
  - Humanities (16 units)
  - Development psychology (life span)

### ADMISSION REQUIREMENTS

Students entering the School of Nursing must meet complete Loma Linda University background check requirements, as indicated in Section II of this CATALOG; as well as health requirements, including immunizations. In addition, all School of Nursing students are required to have a valid cardiopulmonary resuscitation (CPR) certificate approved by the American Heart Association in order to take clinical nursing courses. Students are responsible for the annual renewal of their CPR cards. Before beginning the undergraduate clinical sequence, students must have a current first aid card.

International students, whose native language is not English, must take a test of English fluency. Minimum scores are: TOEFL, paper based—550; TOEFL, computer based—213; TOEFL, Internet-based—80; IELTS—6.0; METLAB—76.

### UNDERGRADUATE DEPARTMENT ADMISSION CRITERIA

#### Generic baccalaureate nursing program

The following are considered prerequisites for admission to the baccalaureate program in nursing:

1. A high school diploma or its equivalent from an accredited secondary school.
2. A completed background check and health clearance, including immunizations as outlined in the "Admission Policies and Information" in Section II.
3. A current first aid certificate.
4. Current cardiopulmonary resuscitation (CPR) certificate approved by American Heart Association.
5. Prerequisite courses—
  - Intermediate algebra (or high school algebra II)
6. Basic computer literacy.
7. Cumulative G.P.A. of 3.0 on all college course work. Grades below a C are nontransferable.
  - Course descriptions or outlines will be required for clinical nursing courses in order for the school to determine the amount of transfer credit to be granted.
  - Science courses must have been taken within five years or validated at Loma Linda University.
8. Entrance tests required of all incoming students who are not registered nurses. These examinations must be taken through the Loma Linda University School of Nursing.
9. For international students, all requirements indicated under "International Students" in Section II.
10. An interview with the director of admissions and an onsite essay are required. The Admissions Committee is looking for individuals who reflect a high degree of personal integrity, dependability, self-discipline, intellectual vigor, and a caring and thoughtful manner.

**Accelerated baccalaureate nursing program**

This track is designed for the student with a bachelor's degree in another field or a student who has completed all pre-/corequirements.

In addition to the prerequisites listed above, students seeking this track must have the following:

- G.P.A. of 3.3 on college work
- Statistics

**PROGRAMS/REQUIREMENTS FOR STUDENTS WITH NURSING LICENSES****Licensed vocational nurse**

In addition to prerequisites listed for students admitted to the baccalaureate program without a previous college degree, the following information is applicable:

1. The applicant must be a licensed vocational nurse in the state of California.
2. Course work will be evaluated to determine transfer status in clinical nursing classes.
3. The licensed vocational nurse may choose to complete a bachelor's degree or the 45 quarter units of nursing as prescribed by the California State Board of Registered Nursing and be eligible to sit for the NCLEX-RN. This second option does not meet degree requirements.

For information and assistance regarding entrance, the student is invited to contact the School of Nursing Office of Admissions.

**Registered nurse**

The applicant must have the following:

1. A high school diploma or its equivalent from an accredited secondary school.
2. All college/nursing transcripts with a 2.5 cumulative G.P.A. Grades below a C are nontransferable. Courses taken more than five years ago may not be accepted for transfer unless the registered nurse has been in active practice for at least one year during the past three years.
3. An interview with the RN-BS Recruiter. The Admissions Committee is looking for individuals who reflect a high degree of personal integrity, dependability, self-discipline, intellectual vigor, and a caring and thoughtful manner.
4. Compliance with all requirements indicated under "International Students" in Section II.

5. An Associate in Science degree or diploma from an accredited school of nursing.
6. A license to practice nursing in California as a registered nurse.
7. Completed all nonnursing requirements or their equivalents on the lower division level. The applicant must have a minimum of 87 quarter (61 semester) units to be eligible for upper division status.

If the registered nurse (RN) is a graduate of an accredited nursing program, the nursing credits will be accepted as equivalent to the School of Nursing lower division courses. For unaccredited schools, or for additional information regarding transfer credit, see section on "Transfer Credit." Credit for 300-level nursing courses will be granted upon satisfactory completion of NRS 337.

**Transitional RN to M.S. (available for the RN with a B.S. or B.A. degree in another area)**

In addition to the foregoing requirements, the following are also required for this track:

1. Grade-point average: minimum cumulative G.P.A. of 3.0 for all college course work.
2. Current California RN license.
3. A minimum of one year current experience as an RN.

**GRADUATE DEPARTMENT ADMISSIONS CRITERIA****Master of Science degree admissions criteria**

The following criteria are required for admission to the Master of Science degree program in nursing:

1. A baccalaureate degree in nursing or its equivalent from an accredited program.
2. A 3.00 undergraduate G.P.A. (on a 4.00 scale), both cumulative and in the nursing major.
3. A standardized interview with graduate nursing faculty members.
4. Current registered nurse license.
5. Current California registered nurse license before enrollment in clinical nursing courses.
6. Nursing experience in the area of the desired major prior to beginning graduate study. Minimum of one year full-time experience as RN before beginning clinical courses. Minimum of two years of current experience in a Level III NICU for neonatal nurse practitioner applicants.

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| <ul style="list-style-type: none"> <li>7. Prerequisites: undergraduate statistics and research with satisfactory grades.</li> <li>8. The Health Science Reasoning Test (HSRT), a test of critical-thinking skills, must be taken within the past year.</li> <li>9. An onsite essay required as part of the admissions packet. If the outcome is less than satisfactory, a graduate-level writing course will be required.</li> </ul> | <ul style="list-style-type: none"> <li>computer based—213; TOEFL, Internet-based—80; IELTS—6.0; METLAB—76.</li> <li>5. A personal interview is required.</li> <li>6. Evidence of scholarly work must be provided.</li> </ul> |
|--|--|

**Post-master's certificate programs admissions criteria**

- 1. Completion of a master's degree in nursing with a clinical major from a program approved by the Commission on Collegiate Nursing Education (CCNE) or the National League for Nursing (NLN).
- 2. Current California RN licensure.
- 3. Each applicant's clinical experience will be individually evaluated. Minimum of one year of full-time experience in a tertiary or community setting. A minimum of two years of current experience in a Level III NICU for neonatal nurse practitioner applicants. Prerequisites: Graduate-level physiology and advanced physical assessment. Each applicant's clinical experience will be individually evaluated.

**Doctor of Philosophy degree program admissions criteria**

- 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 degree level.
- 3. The Graduate Record Examination (GRE) must have been taken within the past five years, with satisfactory scores indicating advanced verbal skills, quantitative skills, and analytic writing skills.

GRE (Ph.D. degree only) scores that equal or exceed the sum of scores corresponding to the 50th percentile for the verbal and quantitative scores, with neither lower than the 35th percentile; as well as a writing score that equals or exceeds 4.0.

NOTE: Generally, but not always, scores in the range of 500 verbal, 500 quantitative, and 4.0 writing assessment are approximately at the 35th percentile.

- 4. International students whose native language is not English must take a test of English fluency. Minimum scores are: TOEFL, paper based—550; TOEFL,

## Student Life

Please refer to the *Student Handbook* for a more comprehensive discussion of University and school expectations, regulations, and policies. Students need to familiarize themselves with the contents of the *Student Handbook*, which can be found online.

### PROGRAMS OF STUDY

The School of Nursing offers a baccalaureate degree program that is designed to prepare competent, beginning-level professional nurses who are committed to excellence in practice and to Christian principles. For those desiring it, an Associate in Science degree is available at the end of five-to-six quarters when the student meets the requirements of the California Board of Registered Nursing. Continuing-education programs are approved by the California Board of Registered Nursing for continuing-education requirements.

The master's degree program in nursing offered by the School of Nursing is designed to prepare nurses for Christian leadership in clinical practice, teaching, administration, or research.

The Doctor of Philosophy degree program is designed to prepare nurse scholars for education, administration, and research.

### STUDENT INVOLVEMENT

Students are encouraged to become actively involved in the Associated Students of Nursing. Student representatives are members of the Undergraduate Faculty Council, Master's Faculty Council, Doctoral Faculty Council, Spiritual Life and Wholeness Committee, and Diversity Committee. Students may contribute to the administrative decision-making process formally or informally.

### STUDENT ORGANIZATIONS

The following student organizations enable the student to participate in cultural, social, professional, and citizenship aspects of University life.

#### Associated Students of Nursing (ASN)

The ASN is a student organization that is sanctioned by the School of Nursing. This association is comprised of all the students of nursing and is administered by elected students and two faculty sponsors. The objectives of this organization are to serve as a channel for communication between students and faculty, and to facilitate personal and professional growth by meaningful participation in all aspects of student life.

#### Loma Linda University Student Association (LLUSA)

The LLUSA has three purposes: to promote communication among students, to present students'

views to the administration, and to assist in the programming of social and religious activities. The LLUSA provides opportunities to develop and refine a wide range of professional leadership and fellowship skills. The office is located in the Drayson Center. For more information, call 909/558-4978.

#### Class organizations

The members of each year level organize in the baccalaureate program, elect officers, and promote such projects and activities as constitute their major interests and concerns.

### HONOR SOCIETY: SIGMA THETA TAU INTERNATIONAL

In 1975, LLUSN became an official chapter of Sigma Theta Tau International—the honor society for nursing. Students, faculty of the School of Nursing, and other community nurses—upon meeting the established criteria—may, by invitation, become members of the Gamma Alpha Chapter of Sigma Theta Tau International.

# Academic Policies and Practices

## UNDERGRADUATE DEPARTMENT

### Academic residence

To qualify for an undergraduate degree from Loma Linda University, the student must take a minimum of 32 of the last 48 units—or a minimum of 45 total units—while in residence. A minimum of three clinical nursing courses is required as part of these units.

## NURSING COURSES

### Nursing course grades

Most nursing courses in the undergraduate curriculum are divided into approximately equal components of theory and clinical laboratory practice. A grade for a nursing course represents a combination of the theory and the clinical laboratory grades. In order to pass a nursing course, a student must receive a grade equivalent to a C or above in both the theory and clinical laboratory sections of the course. To receive a passing grade in theory, the student must obtain a cumulative score of at least 76 percent on examinations within that course. A grade of C- or below places the student on provisional status and requires that the student repeat the course.

### Percentage breakdown for grading

The undergraduate division of the School of Nursing uses the following percentages for computing grades:

95-100%	A
92-94%	A-
88-91%	B+
85-87%	B
82-84%	B-
79-81%	C+
76-78%	C
71-75%	C-
68-70%	D+
63-67%	D
Below 62%	F

### Clinical experiences

Clinical experiences are under the direction of the course coordinator. The student has supervised experience under a clinical instructor in the care of patients. Tardiness or unexcused absences from clinical laboratory is cause for failure. Students must make up for absences due to extenuating circumstances (e.g., personal illness or death in the family). A fee of \$50 will be charged for make-up of clinical laboratory during nonclinical time.

Nursing students are required to practice in client-care settings under the supervision of a registered nurse. Each student will be expected to be able to

apply basic theoretical concepts to clinical practice by assessing; planning; implementing nursing procedures; and evaluating the care of individuals, families, and communities. In the performance of routine nursing care, all students will function within the policies of the clinical agency and demonstrate the professional behavior outlined in the University CATALOG and the University *Student Handbook*.

Students are expected to be knowledgeable about clients and their problems and about the plans for care prior to actually giving care. They must come prepared for the clinical experience and must adequately assess a client, using the Neuman Systems Model. Students are expected to perform skills safely. Students whose performance is deemed unsafe may be dropped from the clinical course.

### Licensure

To be eligible to write the NCLEX-RN examination, the student must have completed all required nursing course work listed in this CATALOG. Further, the student needs to be aware that, under the laws of California, a candidate for the examination is required to report all misdemeanor and felony convictions. If a candidate has a criminal history, the California Board of Registered Nursing will determine the eligibility of that individual to write the licensing examination.

## CREDIT BY EXAMINATION

### Challenge/Equivalency examination

An undergraduate student may meet academic requirements by passing an examination at least equal in scope and difficulty to examinations in the course. Undergraduate students with prior education in nursing or in another health care profession are eligible to challenge nursing courses required for California state licensure. The applicant's background in health care theory and clinical experience must be commensurate with the theory and skills required for the course.

Challenge examinations in nursing courses include both a written examination covering theory and an examination of clinical competence. A fee is charged for a challenge examination. See the "Schedule of Charges" in this section for fees.

Progression to the next level in the program is permissible only after successful completion of the challenge examination. A grade of S is recorded for challenge credit earned by examination only after the student has successfully completed a minimum of 12 units of credit at this University with a G.P.A. of 2.0 or above.

### Advanced placement

Credit toward graduation may be accepted by the school for an entering student who has passed one or more Advanced Placement (AP) examinations with a score of 3, 4, or 5. Records for AP courses must be sent directly from the College Board to University Records.



For specific policy and time limits regarding CLEP examinations, see "Academic Policies" in the University section of the CATALOG.

## ACADEMIC PROGRESSION AND FINANCIAL AID

Progression is contingent on satisfactory scholastic and clinical performance and the student's responsiveness to the established aims of the school and the nursing profession.

Students are considered to be making satisfactory progress as long as they maintain a C average (2.0 G.P.A.) and complete the total number of units required per year:

YEAR	CUMULATIVE TOTAL
1st	29
2nd	48
3rd	96
4th	144
5th	193

### Withdrawing from a course

A nursing student may withdraw (W) only once from a nursing or named cognate course. A student may withdraw failing from no more than two quarters.

### Repeating a course

A grade of C (2.0) is the minimum passing grade for nursing and required cognate courses. Required cognates include: epidemiology, ethics, nutrition, statistics, and writing. Any nursing or named cognate course taken while a student at Loma Linda University School of Nursing in which the earned grade is C- or lower must be repeated before the student can progress to another course. A nursing course or required cognate may be repeated only once. When a student repeats a course, both the original and repeat grades are entered on the student's permanent record; but only the repeat grade and credit are computed in the grade-point average and included in the total units earned.

### Probation status

Students whose cumulative G.P.A. at the end of any quarter is less than 2.0, or who have received a C- or below in a nursing course or named cognate, or who have withdrawn (W) due to failing are placed on academic probation. Students on probation status will be required to take NRSG 244 Skills for Academic Success and to communicate regularly with the academic advisor. Students on probation status may take only one clinical nursing course at a time and no more than 12 units. When the course work has been repeated successfully, the student is returned to regular status. Enrollment in the School of Nursing will be terminated if a student receives two grades of C- or below in nursing or required cognates. See *Student Handbook* for grievance procedure.

## GRADUATION REQUIREMENTS

A candidate must complete the undergraduate "Intent to Graduate" form two quarters prior to completion of degree.

A degree will be granted when the student has met the following requirements:

1. Completed all requirements for admission to the respective curriculum.
2. Honorably completed all requirements of the curriculum, including specified attendance, level of scholarship, and length of academic residence.
3. Completed a minimum of 193.0 quarter units for the baccalaureate degree or 140.0 quarter units for the associate degree, with a minimum G.P.A. of 2.0 overall and in nursing.
4. Given evidence of moral character, of due regard for Christian citizenship, and of consistent responsiveness to the established aims of the University and of the respective discipline.
5. Discharged financial obligations to the University.

It is the responsibility of the student to see that all requirements have been met.

A student who completes the requirements for a degree at the end of the Spring Quarter is expected to be present at the University's ceremony for conferring of degrees and presenting of diplomas. Permission for the conferral of a degree in absentia is granted by the University upon recommendation of the dean of the school.

A student who completes the requirements for a degree at the end of the Summer, Autumn, or Winter quarter is invited, but not required, to participate in the subsequent conferring of degrees. Degrees are conferred at graduations only.

The University reserves the right to prohibit participation in commencement exercises by a candidate who has not satisfactorily complied with all requirements.

## GRADUATE DEPARTMENT

### Academic residence

To qualify for a degree from the graduate department in nursing at Loma Linda University, the student must take a minimum of 80 percent of the academic curriculum while in residence at the University. For the master's degree, this would be 42-58 units, depending on the selected concentration area. For the Doctor of Philosophy degree, this would be 72 units.

**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 9 quarter units that have been previously applied to another degree may be accepted as transfer credits upon petition.

**Nondegree student credit**

A maximum of 12 units may be taken by permission of the instructors prior to acceptance into the program. If these courses are part of the curricular plan for the selected concentration area, and if the grade earned is B or higher, the credits may be applied toward that degree.

**Academic standing**

Students are expected to maintain a G.P.A. of 3.0 (B average).

- A. Course grades
  1. The expected earned grade level for graduate studies is a cumulative grade-point average of 3.0 (B average) or higher.
  2. Students must have at least a B- (82%) in all courses. If less than a B- is the earned grade, the course must be repeated.
  3. Any core or concentration course in which the earned grade is B- or lower must be repeated.
- B. At the end of each quarter, student G.P.A.s will be reviewed. Students who have a G.P.A. of less than 3.0 cumulative or in the nursing major:
  1. Will be placed on probationary status.
  2. May not take the clinical focus courses.
  3. May not take the comprehensive examination.
- C. Withdrawal from courses
  1. A student may withdraw only once from a core, concentration, or clinical course.
  2. A student may withdraw failing for no more than two quarters.
- D. Repeating courses
  1. A student may repeat a course only one time.
  2. A student may repeat no more than two courses in the program.

## E. Academic probation

Students will be placed on academic probation if they:

1. Have earned a cumulative G.P.A. below a 3.0, and/or
2. Have received a B- or below in a clinical nursing course.

Academic probation may be removed by:

1. Raising the G.P.A. to 3.0 or higher the next quarter, if the G.P.A. was below 3.0, or
2. Retaking the course in which a grade lower than B was earned in order to raise the earned grade the next time the course is offered.

NOTE: If the grade of B- or lower occurred in a clinical course, that course must be retaken and a grade of B or higher earned before proceeding in the clinical sequence. This will necessitate waiting until the course is again offered and has space.

If the G.P.A. is raised to 3.0 or above and any clinical grade of B- or lower has been raised, the student will be returned to regular status. Enrollment in the School of Nursing will be terminated otherwise.

**Clinical probation**

Clinical work must be evaluated as satisfactory. Faculty may recommend that the student be placed on clinical probation. While on probation, the student must demonstrate satisfactory clinical work as stipulated by the faculty; or the student will be dismissed from the school.

**Application for candidacy**

A student in the master's degree program will apply for candidacy on Form A after completing at least 25 units of required graduate course work. A doctoral student will be advanced to candidacy after successful defense of the dissertation proposal.

**Time limits**

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 doctoral degree, seven years are allowed after the date of admission. A student desiring reinstatement must reapply to the dean. This procedure implies a re-evaluation of the student's total academic plan.

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 doctoral degree is nullified eight years from the date when the course was completed.

**Statistics and research prerequisites**

Introduction to statistics and research courses are a prerequisite to entry. The courses STAT 414, 509 and NRSG 429—described in the University CATALOG—fulfill the prerequisite requirement.

**SCHOLASTIC STANDING****Grade scale**

The graduate department in nursing uses the following percentages for determining grades:

95-100%	A
92-94%	A-
88-91%	B+
85-87%	B
82-84%	B-
79-81%	C+
76-78%	C
71-75%	C-
68-70%	D+
63-67%	D
Below 62%	F

**PRACTICUM EXPERIENCES**

Practicum experiences shall be individually structured to meet students' needs and program requirements. Practicum experiences are arranged by practicum faculty after consultation with advisors and appropriate agency personnel. Off-campus placement is formalized through written contract or letter of agreement. This process may take as long as six months. Students requesting practicum experiences at sites that will require additional costs—such as faculty travel, phone calls, or legal advice—are responsible for this expense.

**COMPREHENSIVE EXAMINATION**

A written, comprehensive examination is required of all students. The student is expected to integrate, evaluate, and apply theories and concepts covered in graduate study. The examination must be taken after a substantial portion of the clinical work is completed and before enrolling for the last 8 units of the program.

**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. Thesis is optional for the M.S. degree.

**Handbook**

Instructions for the preparation and format of the thesis or dissertation are in the "Thesis and Dissertation Format Guide," available at the Faculty

of Graduate Studies Office. Consultation with the Faculty of Graduate Studies office is encouraged to help the student avoid formatting errors that would require him/her to edit large sections of manuscript. The last day for submitting the final approved copy is determined by the Faculty of Graduate Studies office. (See FGS policies.)

**Binding**

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

**GRADUATION REQUIREMENTS**

A candidate for a degree shall have:

1. Completed all requirements for admission to the respective curriculum.
2. Completed honorably all requirements of the curriculum, including required course work, specified attendance, level of scholarship, and length of residence.
3. Given evidence of moral character, of due regard for Christian citizenship, and of consistent responsiveness to the established aims of the University and of the respective discipline.
4. Discharged financial obligations to the University.

It is the responsibility of the student to see that all requirements have been met.

A student who completes the requirements for a degree at the end of the Spring Quarter is expected to be present at the University's ceremony for conferring of degrees and the presenting of diplomas. Permission for the conferral of a degree in absentia is granted by the University upon recommendation of the dean of the school.

A student who completes the requirements for a degree at the end of the Summer, Autumn, or Winter quarter is invited, but not required, to participate in the subsequent conferring of degrees. Degrees are conferred at graduations only. See Section II of the Academic Policies.

The University reserves the right to prohibit participation in commencement exercises by a candidate who has not satisfactorily complied with all requirements.

## Financial Information

The Office of the Dean is the final authority in all financial matters and is charged with the interpretation of all financial policies. Any exceptions to published policy in regard to reduction or reimbursement of tuition must be approved by the dean. Any statement by individual faculty members, program directors, or department chairs in regard to these matters is not binding on the school or the University unless approved by the dean.

Registration is not complete until tuition and fees for the required installment are paid; therefore, the student should be prepared to make these payments during scheduled registration for each academic year. There may be adjustments in tuition and fees as economic conditions warrant.

### GENERAL FINANCIAL PRACTICES

Before the beginning of each school year, the student is expected to arrange for financial resources to cover all expenses. Previous accounts with other schools or with the University must have been settled.

### SCHEDULE OF CHARGES 2009-2010

The charges that follow are subject to change without notice.

#### TUITION

##### Tuition charge—undergraduate nonclinical, special, certificate, and part-time students

- \$525 Credit, per unit—Clinical course fees \$110 per clinical course
- 262.50 Audit, per unit

##### Tuition charge—graduate

- \$605 Credit, per unit—Clinical course fees \$110 per clinical course
- 302.50 Audit, per unit

##### Applied music charges

- varies School of Nursing tuition does not include applied music charges.

#### OTHER ACADEMIC CHARGES (Application nonrefundable)

- \$60 Testing fee (undergraduate only)
- 60 Regular
- 200 Deposit to hold place in class (undergraduate only)

#### Examinations

- \$262.50 Undergraduate per unit credit (challenge, equivalency)
- 302.50 Graduate
- 50 Early examination
- \$40 Application to change program or degree

#### Special fees

- \$525 Per quarter for NRSG 497 Advanced Clinical Experience

#### Finance

- \$50 Tuition installment
- 50 Late payment
- 25 Returned check

#### Registration

- \$50 Late registration fee
- 2 Per copy of regular student transcript

#### Miscellaneous expenses

- \$2,250 Estimated annual expense for items such as textbooks, supplies, student uniforms, equipment, etc.

#### Licensing examinations

- Registration and certification examinations and license fees are set by the state.

#### OTHER CHARGES

- \$50 Laboratory make-up fee

### ON- AND OFF-CAMPUS STUDENT HOUSING

Students may go to [www.llu.edu/central/housing/index.page](http://www.llu.edu/central/housing/index.page) for housing information and a housing application form.

### NURSING AND GOVERNMENT LOANS

Loans are available both to undergraduate and graduate nursing students who are eligible to participate in government loan programs such as Stafford and Nursing Student Loan Program. Contact Financial Aid for details at 909/558-4509. (See Academic Progression Section.)

### NURSING EDUCATION LOAN REPAYMENT PROGRAM

The Nursing Education Loan Repayment Program (NELRP) offers registered nurses substantial assistance (up to 85 percent) to repay educational loans in exchange for service in eligible facilities located in areas experiencing a shortage of nurses. For eligibility information for this program and for the list of eligible health care facilities, check [bhpr.hrsa.gov/nursing/loanrepay.htm](http://bhpr.hrsa.gov/nursing/loanrepay.htm).

### AWARDS HONORING EXCELLENCE

Awards for excellence in nursing, scholastic attainment, and leadership ability are made available to students whose performance and attitudes reflect well the ideals and purposes of the school. Selection of students is based on the recommendation of the faculty to the dean.

**President's award**

The President's Award, established in 1960, is presented annually in recognition of superior scholastic attainment and active participation in the student community, within the framework of Christian commitment. One recipient is selected from each school of the University.

**Dean's award**

The Dean's Award, established in 1971, is presented to an outstanding student in each program on the basis of the student's demonstrated commitment to academic excellence and to the objectives of the school.

**Fineman award**

The Allan Fineman Memorial Award, established in 1974, is presented by the Fineman family in honor of their father, who was a patient in the University Medical Center. This award is based on outstanding caring traits in rendering professional nursing service.

**Helen Emori King leadership award**

The Helen Emori King Professional Leadership Award is presented to a graduate student who demonstrates outstanding leadership ability in nursing.

**RNBS award**

The RNBS (Registered Nurse / Bachelor of Science) Award is presented to the senior registered nurse student who has demonstrated exceptional competence in scholarship and in the clinical practice of nursing.

**SCHOLARSHIPS**

The School of Nursing has a variety of scholarships that have been endowed by alumni and friends. Most

of the scholarships are awarded on the basis of academic/clinical performance, financial need, and citizenship. The Office of the Dean can provide the student with more information about each scholarship, as well as with application forms.

Alumni Scholarship  
 Catherine Christiansen Scholarship  
 Charlie Jo Morgan Student Scholarship  
 Class of 1966 Mentor Scholarship  
 Dean's Nursing Scholarship  
 Ellen Rickard Memorial Scholarship  
 Emori Nursing Scholarship  
 Halpenny Memorial Scholarship  
 Harry M. Woodall Scholarship  
 Hispanic Student Scholarship  
 Isabelle Wilson Rees Scholarship  
 Karen J. Radke Doctoral Student Fellowship  
 Lucile Lewis Scholarship  
 Marjorie D. Jesse Scholarship  
 Maxwell/Martin Scholarship  
 Nelson Nursing Scholarship  
 Rosie Voss Worthy Nursing Scholarship  
 School of Nursing Scholarship  
 School of Nursing Undergraduate Scholarship  
 Webb Scholarship  
 Weingart Scholarship

**ADDITIONAL REQUIREMENTS/POLICIES**

For additional policies governing Loma Linda University students, see Section II of this CATALOG, as well as the University *Student Handbook*. Students are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation.

# Nursing—SN

**(A.S., B.S., M.S., PM certificate, Ph.D. in nursing)**

MARILYN M. HERRMANN, Dean

DYNNETTE HART, Associate Dean, Student Affairs and Undergraduate Nursing

ELIZABETH BOSSERT, Associate Dean, Academic Affairs and Graduate Nursing

PATRICIA S. JONES, Director, Office of International Nursing

## FACULTY EMERITUS

Jeanette Earnhardt  
Patricia Foster  
Anabelle Mills Hills  
Helen E. King  
Lucile L. Lewis  
Eva Miller  
Penny Gustafson Miller  
Lois H. Van Cleve  
Ruth S. Weber  
Clarice W. Woodward

## FULL-TIME FACULTY

Jeanne Beckner  
Elizabeth A. Bossert  
Brenda Boyle  
Shirley Bristol  
Michelle Buckman  
Margaret Burns  
Karen G. Carrigg  
Vaneta M. Condon  
Sally Curnow  
Ellen D'Errico  
Sabine Dunbar  
Katty Joy French  
Eileen Fry-Bowers  
Nalo Hamilton  
Dynnnette E. Hart  
Marilyn M. Herrmann  
Catherine K. Horinouchi  
Kathie Ingram  
Patricia S. Jones  
Lana S. Kanacki  
Lorna Kendrick  
Nancy Kofoed  
Marian Llaguno  
Susan Lloyd  
Bonnie Meyer  
Deborah Monson  
Christine Neish  
Chie Newsom  
Jan Marie Nick  
Barbara Ninan  
Laura Nyirady  
Nancy Parmenter  
Judith Peters  
Anna Berit Petersen  
Patricia T. Pothier

Edelweiss Ramal  
Karen Ripley  
Hannah Sandy  
Nancy Sarpy  
Joanna Shedd  
Sylvia Stewart  
Nancy Testerman  
Mary Jo Vollmer-Sandholm  
Betty Winslow  
Dolores J. Wright  
Ann Ekroth Yukl  
Zelne Zamora

## PART-TIME FACULTY

Kari Firestone  
Helen E. King  
Keri L. Medina  
Elizabeth Johnston Taylor  
Lois H. Van Cleve

## FACULTY WITH SECONDARY APPOINTMENTS

Floyd Petersen

## VOLUNTARY APPOINTMENTS

Elva Abogado  
Danilyn Angeles  
Shayne Bigelow-Price  
Christina Bivona-Tellez  
Cora Caballero  
Elizabeth J. Dickinson  
Jane Doetsch  
Donna Edmundson  
Anne M. Gillespie  
Sharon Goodrich  
Marie Hodgkins  
Bernadine L. Irwin  
Margaret (Peggy) Jewell  
Angela Jones  
Susan L. Krider  
Jan Kroetz  
Beverly Monti  
Jean L. Newbold  
Nancy Oakley  
Pauline Park  
Judith Perrotte  
Sofia Puerto  
Patricia A. Radovich  
Patricia Sorenson  
Helen Staples-Evans  
Debra J. Stelmach  
Cora Lou (Penny) Stone  
Patricia Townsend  
Joanna J. Yang  
Glenda Yetter  
Janice R. Zumwalt

## ADJUNCT FACULTY

Wendell Hom  
Marilyn Savedra  
Jeannine Sharkey

## UNDERGRADUATE DEPARTMENT

### Undergraduate curricula overview

The sections that follow describe the undergraduate curricula offered by the School of Nursing and list the courses each student must complete. Students are expected to operate under the general policies of the University and school and the specific policies of the degree program in which they are enrolled. The school reserves the right to update and modify the curriculum to keep current with trends in health care.

#### A.S. degree

Applications are not accepted to the Associate in Science (A.S.) degree program. This degree is awarded only in route to the Bachelor of Science (B.S.) degree. This degree is not accredited by CCNE.

#### B.S. degree

The primary aim of the School of Nursing baccalaureate nursing program is to prepare competent practitioners who are committed to excellence in practice and to Christian principles. The faculty believe that baccalaureate education in nursing is the basis for professional practice. However, in response to both societal and students' needs, an Associate in Science (A.S.) degree option is provided for students after they have completed all nursing and general education content necessary to prepare for licensure as registered nurses in California.

The basic professional curriculum leading to a Bachelor of Science (B.S.) degree in nursing is consistent with the faculty belief that students should be broadly educated. The focus is on the synthesis of nursing knowledge and skills with knowledge and skills from the humanities and sciences. Preparation for practice includes experiences in primary, secondary, and tertiary health care with clients from various age and cultural groups and socioeconomic strata. The curriculum is based on the Neuman Systems Model, which addresses stressors to the client system.

#### Undergraduate curriculum sequence

The undergraduate curriculum begins with four quarters of preclinical work, which forms the general

education and science base for nursing. These quarters may be completed at any accredited college or university. After completion of an additional eight quarters at Loma Linda University, the student is eligible to receive the B.S. degree and is prepared for professional nursing practice at the baccalaureate level. The clinical experience develops the student's technical and theoretical capabilities in a progressive manner and within the context of the nursing process: assessment, analysis, planning, implementing, evaluating. Most of the baccalaureate nursing major is in the upper division, where clinical experience is gained in a broad variety of settings. Integral components of upper division courses are leadership concepts and skills, research, health promotion, and activities that foster collaboration in planning health care with the family and all members of the health care team.

#### Three B.S. degree options

1. Standard (generic) B.S. degree program

Students must complete all prerequisite courses prior to starting clinical courses

2. Returning RN (RN/B.S.) program

The returning RN may complete a baccalaureate degree in four quarters of full-time course work. Part-time schooling is also possible. In addition, to prerequisite courses, the returning RN must meet the following noncourse requirements:

- Current RN license
- A.S. degree or diploma in nursing

3. B.S. degree for the licensed vocational nurse

In addition to prerequisite courses, the LVN must also meet the following noncourse requirements:

- Overall G.P.A. of 3.0
- An LVN license (skills will need to be validated)

**GENERAL EDUCATION REQUIREMENTS**

(Must be completed prior to enrolling at LLU, unless otherwise noted.)

	Units required			
	A.S.	B.S.	RN/B.S.	LVN/B.S.
<b>DOMAIN 1: RELIGION AND HUMANITIES</b> (28-32 quarter units)	18*	28*	28*	28*
<b>Religion</b> 4 units of religion per year of attendance at a Seventh-day Adventist college or university	×	×	×	×
<b>Humanities</b> Minimum of 12 units selected from at least three of the following areas: modern languages (required; Spanish preferred), civilization/history, fine arts, literature, philosophy, or performing/visual arts (not to exceed 4 quarter units)				
<b>DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS</b> (43 quarter units)				
<b>Natural Sciences (31-unit minimum)</b>				
Intermediate algebra (or high school algebra II)—not counted toward domain total	×	×		×
Introduction to physics (or high school physics)	4	4		4
Human anatomy and physiology with laboratory, complete sequence	8	8	8	8
Introduction to organic chemistry and biochemistry	8	8		8
Introduction to chemistry with laboratory, one quarter/semester			4	
Basic medical microbiology with laboratory	5	5	5	5
<b>Social Sciences (12-unit minimum)</b>				
Sociology or anthropology	4	4	4	4
General psychology	4	4	4	4
Developmental psychology (lifespan development)	4	4	4	4
<b>DOMAIN 3: COMMUNICATION</b> (13 quarter units)				
English composition, complete sequence	9	9	9	9
Speech	4	4	4	4
<b>DOMAIN 4: HEALTH AND WELLNESS</b> (2-6 quarter units)				
Physical education (two separate physical activity courses)	1	1	1	1
Nutrition (taken at LLU)				
<b>DOMAIN 5: ELECTIVES</b>				
To meet total GE requirements of 68 quarter units and total degree requirements of 193 quarter units.				

\* These may be completed while a student at LLU.



**PRECOURSE PREPARATION FOR NURSING (OPTIONAL)**

These courses—required for students in the Pipeline Program—prepare disadvantaged students to be successful in regular baccalaureate nursing classes. These courses do not count toward the nursing major. A course grade below 3.0 will drop the student from Loma Linda University School of Nursing.

NRSB 101	Critical Thinking and Learning Strategies for Nursing	2.0
NRSB 102	Science Principles Applied to Nursing	2.0
NRSB 103	Introduction to Math for Nursing	1.0
NRSB 104	Medical Terminology for Nursing	2.0
NRSB 105	Writing for Nursing	3.0
NRSB 106	Reading in Nursing	2.0

**Sophomore Year**

For admission to clinical nursing courses, all prerequisite courses must be successfully completed.

			<b>A.S.</b>	<b>B.S.</b>	<b>RN / B.S.</b>	<b>LVN/B.S.</b>
DTCS 311	Human and Clinical Nutrition for Nursing		4.0	4.0		4.0
NRSG 214	Fundamentals of Professional Nursing		8.0	8.0		
NRSG 216	Basic Nursing Skills and Health Assessment		4.0	4.0		
NRSG 217	Psychiatric Mental Health Nursing	May be taken concurrently while at junior-level status	6.0	6.0		6.0
NRSG 224	Nursing Pathophysiology		4.0	4.0		4.0
NRSG 225	LVN Bridge Course	Upon successful completion, students are credited with NRSG 214 (8 units), NRSG 216 (2 units), and NRSG 309 (2 units)				4.0
RELT 406	Adventist Beliefs and Life (2.0)	Religion selective: choose one course	2.0	2.0	2.0	2.0
RELT 423	Loma Linda Perspectives (2.0)					
RELT 436	Adventist Heritage and Health (2.0)					
RELT 437	Current Issues in Adventism (2.0)					
<b>Totals</b>			<b>28.0</b>	<b>28.0</b>	<b>2.0</b>	<b>20.0</b>

**Junior Year**

For admission to junior-level nursing courses, the following courses must be successfully completed: NRSG 214, 216, 224.

			<b>A.S.</b>	<b>B.S.</b>	<b>RN / B.S.</b>	<b>LVN/B.S.</b>
NRSG 305	Nursing Pharmacology		3.0	3.0		3.0
NRSG 308	Nursing of the Adult and Aging Client		8.0	8.0		8.0
NRSG 309	Nursing of the Older Adult		4.0	4.0		
NRSG 314	Nursing of the Childbearing Family		6.0	6.0		6.0
NRSG 315	Child Health Nursing		6.0	6.0		6.0
NRSG 316	Health Promotion across the Lifespan		4.0	4.0		4.0
NRSG 317	Nursing of the Adult and Aging Family I		8.0	8.0		8.0

RELE 4__	Upper Division Ethics	2.0	2.0	2.0	2.0
RELR 4__	Upper Division Relational		2.0	2.0	2.0
STAT 414	Introduction to Biostatistics I		3.0	3.0	3.0
STAT 415	Computer Applications in Biostatistics		1.0	1.0	1.0
WRIT 324	Writing for Health Care Professionals	2.0	2.0	2.0	2.0
Totals		43.0	49.0	10.0	45.5

**Senior Year**

For admission to senior-level courses, sophomore- and junior-year nursing courses must be successfully completed.

		A.S.	B.S.	RN / B.S.	LVN/B.S.
EPDM 414	Introduction to Epidemiology		3.0	3.0	3.0
NRSG 337	Strategies for Professional Transition			4.0	
NRSG 407	Integration of Essential Concepts			6.0	
NRSG 408	Nursing of the Adult and Aging Family II	6.0	6.0		6.0
NRSG 409	Home Health	3.0	3.0		3.0
NRSG 410	Professional Nursing Issues	2.0	2.0		2.0
NRSG 414	Nursing Management With appropriate experience, this course may be challenged		6.0	6.0	6.0
NRSG 415	Community Mental Health Nursing		4.0	4.0	4.0
NRSG 416	Public Health Nursing		8.0	8.0	8.0
NRSG 417	Professional Nursing-Practice Elective		7.0	7.0	7.0
NRSG 429	Clinical Nursing Research		4.0	4.0	4.0
REL_ 4__	Upper Division Religion		4.0	4.0	4.0
Totals		11.0	47.0	46.0	47.0
<b>Overall Totals</b>		<b>96.0</b>	<b>193.0</b>	<b>193.0</b>	<b>193.0</b>

**ACCELERATED B.S. DEGREE PROGRAMS**  
[FOR GENERIC STUDENT WITH NO NURSING DEGREE OR LICENSE]

A student who has completed all humanities, social sciences, and statistics courses with an overall G.P.A. of 3.3 and who has received no provisional grades may accelerate by joining the B.S./B.A. degree track. Any student in this track who receives a grade of B- or below will be returned to the regular schedule (the standard Bachelor of Science degree program) at the beginning of the next quarter.

**INTENSIVE B.S. DEGREE PROGRAM**  
[FOR STUDENT ENTERING WITH NONNURSING BACHELOR'S DEGREE]

Students who have completed a B.S. or B.A. degree with a minimum of a 3.3 G.P.A. in a field other than nursing have two options. One option leads to a baccalaureate degree in nursing; the other option permits the student to go directly to the M.S. degree upon completion of A.S. degree requirements and

prerequisite course Transitional RN to M.S. track. Applicants to either of these tracks should expect to carry very intensive academic loads. Because of this, students in these tracks must maintain a 3.0 G.P.A. each quarter. Any student in this track who receives a grade of B- or below will be returned to the regular schedule (the standard Bachelor of Science degree program) at the beginning of the next quarter.

**PREREQUISITE**

In addition to prerequisites for admission to the generic baccalaureate program, applicants will need the following:

Bachelor's degree with a 3.3 G.P.A.  
Statistics  
Research (or taken at Loma Linda University)

If these courses have not been taken, the time needed to complete the program may be extended.

**NONDEGREE OPTIONS****THE 45-UNIT RN LICENSURE OPTION**

The 45-unit option is open to all LVNs who seek only the RN license. Since the LVN choosing this option will not meet the requirements for the Associate in Science degree as outlined by the school, no degree or certificate will be issued; no graduation exercise will be included; nor will the student be eligible to wear the school pin, cap, or other insignia. In addition, an

RN license obtained through this option is valid only in California and is not transferable to other states.

**PREREQUISITE**

High school diploma  
Current LVN license in California (skills will need to be validated)  
Completion of physiology and microbiology with a grade of C or better  
G.P.A. of at least 2.0

**ACADEMIC PLAN****Required courses**

NRSG 217	Psychiatric Mental Health Nursing I	6.0
#NRSG 308	Nursing of the Adult and Aging Client	8.0
+NRSG 225	LVN Bridge Course	4.0
NRSG 317	Nursing of the Adult and Aging Family I	8.0
NRSG 410	Professional Issues	2.0
Totals		28.0

**Optional courses (to complete 45 units)**

NRSG 314	Nursing of the Childbearing Family	6.0
NRSG 315	Child Health Nursing	6.0
NRSG 316	Health Promotion across the Lifespan	4.0
NRSG 318	Nursing of the Adult and Aging Family II	6.0
NRSG 319	Home Health	3.0
Overall Totals		45.0

+ Upon completion of this course, students are credited with NRSG 214 (8 units), NRSG 216 (2 units), and NRSG 309 (2 units).

# This course may be challenged.

NOTE: The student in this 45-unit RN option must maintain a G.P.A. of at least 2.0 and earn a grade of at least a C in each course throughout enrollment at Loma Linda University. A grade below a C will cause the student to be dropped from LLU School of Nursing.

**TRANSITIONAL RN TO M.S. DEGREE**

This entry point is designed for the RN practicing in California who has a B.S. or B.A. degree in a field of study other than nursing. This option will give the necessary content in upper division nursing while allowing the student to move into the master's degree program of study as quickly as possible, dependent on prior course work and full- or part-time study.

Note: The student will **not** earn a B.S. degree in nursing by this method of study.

**Entrance requirements**

Minimum of one year of experience as an RN with direct patient care or the equivalent  
Grade-point average: Minimum cumulative G.P.A. of 3.0 is required on all college course work  
Current California RN license  
Current experience as an RN

<b>Prerequisite courses (may be taken at another college/university)</b>	<b>Loma Linda University equivalent</b>
Statistics with computer application	STAT 414 Introduction to Biostatistics and STAT 415 Computer Applications in Biostatistics
Introduction to research methods	NRSG 429 Clinical Nursing Research
Epidemiology	EPDM 414 Introduction to Epidemiology

**Required undergraduate nursing courses**

NRSG 416	Public Health Nursing	8.0
NRSG 337	Transition to Professional Nursing	4.0
*NRSG 414	Nursing Management	2.0-6.0
REL _ _	Religion	2.0

\* If the RN has previous experience or course work in clinical management, this may be evaluated; and a directed study course, NRSG 499 Directed Study in Nursing Management, may be taken instead of NRSG 414.

**GRADUATE DEPARTMENT**

**Overview**

The sections that follow describe the master's and doctoral degrees offered by the School of Nursing and list the courses for each. In graduate education, the student has opportunity for the intense pursuit of knowledge in a chosen field of interest. Programs of study focus on attainment of knowledge and development of advanced intellectual, clinical, leadership, and investigative skills. School of Nursing students are expected to operate under the general policies of the University and school and the specific policies of the degree or certificate option in which they are enrolled. The school reserves the right to

update and modify the curriculum to keep current with trends in health care.

**NURSING—M.S.**

The School of Nursing at Loma Linda University offers a Master of Science degree with preparation for advanced nursing practice, nursing education, or nursing administration. Two dual degree options are offered, combining 1) the Master of Science degree in nursing (clinical nurse specialist focus) with a Master of Arts (M.A.) degree in clinical bioethics or 2) The Master of Science degree in nursing (clinical nurse specialist) with the Master of Public Health (M.P.H.) degree in health education.

Prerequisite courses for M.S.

Units

Introduction to statistics (descriptive and beginning inferential)	3.0
Introduction to research methods	2.0

(These courses often have been taken as a part of the baccalaureate undergraduate curriculum for nursing.)

**Application and class scheduling**

Ideally, the sequence for the M.S. degree begins in the Autumn Quarter but may begin any term during the year. For doctoral students, it is necessary to begin the program Summer Quarter of odd years. Applications may be submitted throughout the year. Up to 12 units may be taken with the consent of the instructor as a nondegree student while the application submission and review are in progress. Students may complete the program on a full-time or part-time basis. Core nursing courses are scheduled to accommodate working nurses.

**Curriculum change**

To maintain quality education, the curriculum is subject to change without prior notice. Students in continuous attendance will meet graduation requirements of the CATALOG under which they enter the School of Nursing.

**General requirements**

For information about requirements and practices to which all graduate students are subject, the student should consult Section II and the School of Nursing general information in Section III of this CATALOG.

**MASTER'S DEGREE AND POST-MASTER'S CERTIFICATE OPTIONS AVAILABLE**

- Adult nurse practitioner, M.S. degree and post-M.S. certificate
- Family nurse practitioner M.S. degree and post-M.S. certificate
- Pediatric nurse practitioner M.S. degree and post-M.S. certificate
- Neonatal nurse practitioner M.S. degree and post-M.S. certificate (not open to admissions)
- Clinical nurse specialist: Adult and aging family M.S. degree and post-M.S. certificate
- Clinical nurse specialist: Growing family M.S. degree and post-M.S. certificate
- Nurse educator: Adult and aging family
- Nurse educator: Growing family
- Nursing administration
- Clinical nurse specialist and bioethical and clinical ethics (dual M.S./M.A. degrees)
- Clinical nurse specialist and M.P.H. degree: health education (dual M.S./M.P.H. degrees)

**ADULT NURSE PRACTITIONER (M.S.)**  
(OFFERED EVERY OTHER YEAR OR WHEN THE STUDENT POOL IS SUFFICIENT)

The adult nurse practitioner clinical option prepares the nurse to exercise independent judgment in

assessment, supervision, and management of the primary health care needs of adults, in consultation and collaboration with primary-care physicians. The curriculum prepares the student to be certified by the state of California and the American Nurses Certification Corporation as a nurse practitioner.

Core			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 515	Health Policy: Issues and Process		2.0	20	—	—	2.0
NRSG 516	Advanced Role Development		2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice		4.0	40	—	—	4.0
NRSG 547	Management: Principles and Practices		3.0	30	—	—	3.0
NRSG 680	Intermediate Statistics		3.0	30	—	—	3.0
NRSG 684	Research Methods (2.0)		4.0	40	—	—	4.0
RELE 524	Christian Bioethics (3.0-4.0)		3.0	30	—	—	3.0
Totals			21.0	210	—	—	21.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3 to 4)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—

Concentration			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 544	Teaching and Learning Theory		3.0	30	—	—	3.0
NRSG 555	Pharmacology in Advanced Practice I		3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II		2.0	20	—	—	2.0
NRSG 624	The Adult and Aging Family I	Offered alternate years	2.0	20	—	—	2.0
PHSL 588	Pathophysiology		4.0	40	—	—	4.0
Totals			14.0	140	—	—	14.0

Clinical		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 561	Adult Primary Health Care I	2.0	20	2.0	60	4.0
NRSG 562	Adult Primary Health Care II	3.0	30	3.0	90	6.0
NRSG 563	Adult Primary Health Care III	3.0	30	3.0	90	6.0
NRSG 564	Adult Primary Health Care IV	3.0	30	4.0	120	7.0
NRSG 565	Adult Primary Health Care V	—	—	6.0	180	6.0
NRSG 651	Advanced Physical Assessment	2.0	20	1.0	30	3.0
Totals		13.0	130	19.0	570	32.0

Thesis option Units are in addition to minimum required for the degree		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 697	Research	3.0	40-160	—	—	3.0
Totals		—	—	—	—	—
<b>Overall Totals</b>		<b>48.0</b>	<b>480</b>	<b>19.0</b>	<b>570</b>	<b>67.0</b>

**ADULT NURSE PRACTITIONER—POST-MASTER'S CERTIFICATE**

The adult nurse practitioner post-master's certificate track 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 and by the American Nurses Certification Corporation.

**PREREQUISITE**

Graduate-level pathophysiology course  
Advanced physical assessment

Core			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 555	Pharmacology in Advanced Practice I		3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II		2.0	20	—	—	2.0
RELE 524	Christian Bioethics (3.0-4.0)		3.0	30	—	—	3.0
NRSG 517	Theoretical Foundations for Advanced Practice (4)	Choose one course	2.0-4.0	—	—	—	2.0-4.0
NRSG 624	The Adult and Aging Family I (2)						
Totals			10.0-12.0	80	—	—	10.0-12.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3 to 4)						
Totals			—	—	—	—	—

Clinical		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 561	Adult Primary Health Care I	2.0	20	2.0	60	4.0
NRSG 562	Adult Primary Health Care II	3.0	30	3.0	90	6.0
NRSG 563	Adult Primary Health Care III	3.0	30	3.0	90	6.0
NRSG 564	Adult Primary Health Care IV	3.0	30	4.0	120	7.0
NRSG 565	Adult Primary Health Care V	—	—	6.0	180	6.0
Totals		11.0	110	18.0	540	29.0
<b>Overall Totals</b>		<b>21.0-23.0</b>	<b>190</b>	<b>18.0</b>	<b>540</b>	<b>39.0-41.0</b>

**FAMILY NURSE PRACTITIONER (M.S.)**

The family nurse practitioner clinical option prepares the nurse to exercise independent judgment in assessment, supervision, and management of the primary health care needs of family members from

newborn through elders, in consultation and collaboration with family practice physicians. The curriculum prepares the student to be certified by the state of California and the American Nurses Certification Corporation as a nurse practitioner.

Core		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 515	Health Policy: Issues and Process	2.0	20	—	—	2.0
NRSG 516	Advanced Role Development	2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice	4.0	40	—	—	4.0
NRSG 547	Management: Principles and Practices	3.0	30	—	—	3.0
NRSG 680	Intermediate Statistics	3.0	30	—	—	3.0
NRSG 684	Research Methods (2.0)	4.0	40	—	—	4.0
RELE 524	Christian Bioethics (3.0-4.0)	3.0	30	—	—	3.0
Totals		21.0	210	—	—	21.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—

Concentration		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 544	Teaching and Learning Theory	3.0	30	—	—	3.0
NRSG 555	Pharmacology in Advanced Practice I	3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II	2.0	20	—	—	2.0
PHSL 588	Pathophysiology	4.0	40	—	—	4.0
Totals		12.0	120	—	—	12.0

Clinical		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 651	Advanced Physical Assessment	2.0	20	1.0	30	3.0
NRSG 652	Family Primary Health Care I	2.0	20	2.0	60	4.0
NRSG 653	Family Primary Health Care II	4.0	40	3.0	90	7.0
NRSG 654	Family Primary Health Care III	3.0	30	4.0	120	7.0
NRSG 655	Family Primary Health Care IV	3.0	30	4.0	120	7.0
NRSG 656	Family Primary Health Care V	—	—	7.0	210	7.0
Totals		14.0	140	21.0	630	35.0

Thesis option Units are in addition to minimum required for the degree		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 697	Research (1.0-4.0)	5.0	200	—	—	5.0
Totals		—	—	—	—	—
<b>Overall Totals</b>		<b>47.0</b>	<b>470</b>	<b>21.0</b>	<b>630</b>	<b>68.0</b>

**FAMILY NURSE PRACTITIONER—POST-MASTER’S CERTIFICATE**

The family nurse practitioner post-master’s certificate track 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 and by the American Nurses Certification Corporation.

**PREREQUISITE**

Graduate-level pathophysiology course  
Advanced physical assessment

Core		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 517	Theoretical Foundations for Advanced Practice	4.0	40	—	—	4.0
NRSG 555	Pharmacology in Advanced Practice I	3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II	2.0	20	—	—	2.0
RELE 524	Christian Bioethics (3.0-4.0)	3.0	30	—	—	3.0
Totals		12.0	120	—	—	12.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—



Clinical		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 652	Family Primary Health Care I	2.0	20	2.0	60	4.0
NRSG 653	Family Primary Health Care II	4.0	40	3.0	90	7.0
NRSG 654	Family Primary Health Care III	3.0	30	4.0	120	7.0
NRSG 655	Family Primary Health Care IV	3.0	30	4.0	120	7.0
NRSG 656	Family Primary Health Care V	—	—	7.0	210	7.0
Totals		12.0	120	20.0	600	32.0
<b>Overall Totals</b>		<b>24.0</b>	<b>240</b>	<b>20.0</b>	<b>600</b>	<b>44.0</b>

### PEDIATRIC NURSE PRACTITIONER (M.S.)

The pediatric nurse practitioner clinical option prepares the nurse to exercise independent judgment in assessment, supervision, and management of

primary health care needs of children from birth through adolescence in consultation and collaboration with physicians. The curriculum prepares the student to be certified by the state of California, the American Nurses Certification Corporation, and by the Pediatric Nursing Certification Board as a nurse practitioner.

Core		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 515	Health Policy: Issues and Process	2.0	20	—	—	2.0
NRSG 516	Advanced Role Development	2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice	4.0	40	—	—	4.0
NRSG 547	Management: Principles and Practices	3.0	30	—	—	3.0
NRSG 680	Intermediate Statistics	3.0	30	—	—	3.0
NRSG 684	Research Methods (2.0)	4.0	40	—	—	4.0
RELE 524	Christian Bioethics (3.0-4.0)	3.0	30	—	—	3.0
Totals		21.0	210	—	—	21.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—

Concentration		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 544	Teaching and Learning Theory	3.0	30	—	—	3.0
NRSG 555	Pharmacology in Advanced Practice I	3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II	2.0	20	—	—	2.0

NRSG 645	Growing Family I	Offered every other year or when the student pool is sufficient	2.0	20	—	—	2.0
PHSL 588	Pathophysiology		4.0	40	—	—	4.0
Totals			14.0	140	—	—	14.0

Clinical			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 551	Pediatric Primary Health Care I	Offered alternate years	3.0	30	1.0	30	4.0
NRSG 552	Pediatric Primary Health Care II	Offered alternate years	3.0	30	3.0	90	6.0
NRSG 553	Pediatric Primary Health Care III	Offered alternate years	3.0	30	4.0	120	7.0
NRSG 554	Pediatric Primary Health Care IV	Offered alternate years	2.0	20	5.0	150	7.0
NRSG 557	Pediatric Primary Health Care V	Offered alternate years	—	—	5.0	150	5.0
NRSG 651	Advanced Physical Assessment		2.0	20	1.0	30	3.0
Totals			13.0	130	19.0	570	32.0

Thesis option Units are in addition to minimum required for the degree			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 697	Research		3.0	40-160	—	—	3.0
Totals			—	—	—	—	—
<b>Overall Totals</b>			<b>48.0</b>	<b>480</b>	<b>19.0</b>	<b>570</b>	<b>67.0</b>

**PEDIATRIC NURSE PRACTITIONER—  
POST-MASTER'S CERTIFICATE**

The pediatric nurse practitioner post-master's certificate track is designed to prepare the nurse with a master's degree in a clinical area of nursing to be certified as a nurse practitioner by the Board of

Registered Nursing in the state of California, by the American Nurses Certification Corporation, and by the Pediatric Nursing Certification Board.

**PREREQUISITE**

Graduate-level pathophysiology  
Advanced physical assessment

Core			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 555	Pharmacology in Advanced Practice I		3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II		2.0	20	—	—	2.0
RELE 524	Christian Bioethics (3.0-4.0)		3.0	30	—	—	3.0

NRSG 517	Theoretical Foundations for Advanced Practice (4)	Choose one course	2.0-4.0	—	—	—	2.0-4.0
NRSG 645	Growing Family I (2) <i>Offered alternate years</i>						
Totals			10.0-12.0	80	—	—	10.0-12.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)						
Totals			—	—	—	—	—

Clinical			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 551	Pediatric Primary Health Care I	Offered alternate years	3.0	30	1.0	30	4.0
NRSG 552	Pediatric Primary Health Care II	Offered alternate years	3.0	30	3.0	90	6.0
NRSG 553	Pediatric Primary Health Care III	Offered alternate years	3.0	30	4.0	120	7.0
NRSG 554	Pediatric Primary Health Care IV	Offered alternate years	2.0	20	5.0	150	7.0
NRSG 557	Pediatric Primary Health Care V	Offered alternate years	—	—	5.0	150	5.0
Totals			11.0	110	18.0	540	29.0
<b>Overall Totals</b>			<b>21.0-23.0</b>	<b>190</b>	<b>18.0</b>	<b>540</b>	<b>39.0-41.0</b>

### NEONATAL NURSE PRACTITIONER (M.S.)

(NOT OPEN TO ADMISSIONS)

The neonatal nurse practitioner clinical option specializes in the theory and practice of neonatal intensive-care patient management. The curriculum

prepares the nurse to exercise independent judgment in assessment, supervision, and management of sick newborns—with consultation and collaboration of neonatologists. The curriculum prepares the graduate to be certified as a nurse practitioner by the state of California and as a neonatal nurse practitioner by the National Certification Corporation.

Core			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 515	Health Policy: Issues and Process		2.0	20	—	—	2.0
NRSG 516	Advanced Role Development		2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice		4.0	40	—	—	4.0
NRSG 547	Management: Principles and Practices		3.0	30	—	—	3.0

NRSG 680	Intermediate Statistics	3.0	30	—	—	3.0
NRSG 684	Research Methods (2.0)	4.0	40	—	—	4.0
RELE 524	Christian Bioethics (3.0-4.0)	3.0	30	—	—	3.0
Totals		21.0	210	—	—	21.0

<b>Religion</b>			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—

<b>Concentration</b>			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 544	Teaching and Learning Theory	3.0	30	—	—	3.0	
NRSG 555	Pharmacology in Advanced Practice I	3.0	30	—	—	3.0	
NRSG 560	Neonatal Pharmacology	2.0	20	—	—	2.0	
PHSL 588	Pathophysiology	4.0	40	—	—	4.0	
Totals			12.0	120	—	—	12.0

<b>Clinical</b>			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 619	Neonatal Critical Care I: Neonatal Advanced Physical Assessment	Offered alternate years	3.0	30	—	—	3.0
NRSG 620	Neonatal Nurse Practitioner II	Offered alternate years	4.0	40	1.0	30	5.0
NRSG 621	Neonatal Nurse Practitioner III	Offered alternate years	5.0	50	3.0	90	8.0
NRSG 622	Neonatal Nurse Practitioner IV: Practicum	Offered alternate years	6.0	60	3.0	90	9.0
NRSG 623	Neonatal Nurse Practitioner V: Practicum	Offered alternate years	—	—	13.0	390	13.0
Totals			18.0	180	20.0	600	38.0

<b>Thesis option</b> Units are in addition to minimum required for the degree			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 697	Research (1.0-4.0)	5.0	200	—	—	5.0	
Totals			—	—	—	—	—
<b>Overall Totals</b>			<b>51.0</b>	<b>510</b>	<b>20.0</b>	<b>600</b>	<b>71.0</b>

**NEONATAL NURSE PRACTITIONER—  
POST-MASTER'S CERTIFICATE**  
(NOT OPEN TO ADMISSIONS)

The neonatal nurse practitioner post-master's certificate track is designed to prepare the nurse with a master's degree in parent/child nursing (or

equivalent to Loma Linda University School of Nursing's clinical major in growing family) to become certified as a nurse practitioner by the state of California and as a neonatal nurse practitioner by the National Certification Corporations.

**PREREQUISITE**

Graduate-level pathophysiology and pharmacology

Core		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
RELE 524	Christian Bioethics (3.0-4.0)	3.0	30	—	—	3.0
Totals		3.0	30	—	—	3.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—

Clinical			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 560	Neonatal Pharmacology		2.0	20	—	—	2.0
NRSG 619	Neonatal Critical Care I: Neonatal Advanced Physical Assessment	Offered alternate years	3.0	30	—	—	3.0
NRSG 620	Neonatal Nurse Practitioner II	Offered alternate years	4.0	40	1.0	30	5.0
NRSG 621	Neonatal Nurse Practitioner III	Offered alternate years	5.0	50	3.0	90	8.0
NRSG 622	Neonatal Nurse Practitioner IV: Practicum	Offered alternate years	6.0	60	3.0	90	9.0
NRSG 623	Neonatal Nurse Practitioner V: Practicum	Offered alternate years	—	—	13.0	390	13.0
Totals			20.0	200	20.0	600	40.0
<b>Overall Totals</b>			<b>23.0</b>	<b>230</b>	<b>20.0</b>	<b>600</b>	<b>43.0</b>

**CLINICAL NURSE SPECIALIST: ADULT AND AGING FAMILY (M.S.)**

The clinical nurse specialist: adult and aging family clinical option prepares students for leadership roles as clinical nurse specialists. Clinical and theoretical content focuses on adult and aging clients and families. The curriculum offers opportunity for

students to choose an emphasis providing advanced nursing care to families experiencing health care needs. The curriculum include 500 hours of clinical practicum in preparation for certification by the American Nurses Certification Corporation as a clinical nurse specialist in either medical-surgical nursing or gerontological nursing after completing the required practice hours.

Core			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 515	Health Policy: Issues and Process		2.0	20	—	—	2.0
NRSG 516	Advanced Role Development		2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice		4.0	40	—	—	4.0
NRSG 547	Management: Principles and Practices		3.0	30	—	—	3.0
NRSG 680	Intermediate Statistics		3.0	30	—	—	3.0
NRSG 684	Research Methods (2.0)		4.0	40	—	—	4.0
RELE 524	Christian Bioethics (3.0-4.0)		3.0	30	—	—	3.0
Totals			21.0	210	—	—	21.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—

Concentration			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 544	Teaching and Learning Theory		3.0	30	—	—	3.0
NRSG 555	Pharmacology in Advanced Practice I		3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II		2.0	20	—	—	2.0
PHSL 588	Pathophysiology		4.0	40	—	—	4.0
_____	Elective (3)	Take one course	3.0	—	—	—	3.0
NRSG 545	Teaching Practicum (3)						
NRSG 546	Curriculum Development in Higher Education (3)						
Totals			15.0	120	—	—	15.0

Clinical			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 624	The Adult and Aging Family I	Offered alternate years	2.0	20	2.0	60	4.0

NRSG 626	The Adult and Aging Family II	Offered alternate years	2.0	20	1.0	30	3.0
NRSG 628	Clinical Practicum: Adult and Aging Family	Offered alternate years	—	—	13.0	390	13.0
NRSG 651	Advanced Physical Assessment		2.0	20	1.0	30	3.0
Totals			6.0	60	17.0	510	23.0

Thesis option Units are in addition to minimum required for the degree		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 697	Research (1.0-4.0)	5.0	200	—	—	5.0
Totals		—	—	—	—	—
<b>Overall Totals</b>		<b>42.0</b>	<b>390</b>	<b>17.0</b>	<b>510</b>	<b>59.0</b>

### CLINICAL NURSE SPECIALIST: ADULT AND AGING FAMILY—POST-MASTER'S CERTIFICATE

#### PREREQUISITE

Graduate-level pathophysiology  
Advanced physical assessment

Core		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 516	Advanced Role Development	2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice	4.0	40	—	—	4.0
NRSG 555	Pharmacology in Advanced Practice I	3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II	2.0	20	—	—	2.0
RELE 524	Christian Bioethics (3.0-4.0)	3.0	30	—	—	3.0
Totals		14.0	140	—	—	14.0

Religion		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—
Totals		—	—	—	—	—

Clinical		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 624	The Adult and Aging Family I	2.0	20	2.0	60	4.0
NRSG 626	The Adult and Aging Family II	2.0	20	1.0	30	3.0
NRSG 628	Clinical Practicum: Adult and Aging Family	12.0	—	—	60-360	12.0
Totals		16.0	40	3.0	150-450	19.0
<b>Overall Totals</b>		<b>30.0</b>	<b>180</b>	<b>3.0</b>	<b>150-450</b>	<b>33.0</b>

**CLINICAL NURSE SPECIALIST:  
GROWING FAMILY (M.S.)**

The clinical nurse specialist: growing family concentration area prepares students for leadership roles as clinical nurse specialists. 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 care of children. The curriculum includes 500 hours of clinical practicum in preparation for certification by the American Nurses Certification Corporation as a clinical nurse specialist in child and adolescent health care or in maternal and child health.

Core		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 515	Health Policy: Issues and Process	2.0	20	—	—	2.0
NRSG 516	Advanced Role Development	2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice	4.0	40	—	—	4.0
NRSG 547	Management: Principles and Practices	3.0	30	—	—	3.0
NRSG 680	Intermediate Statistics	3.0	30	—	—	3.0
NRSG 684	Research Methods (2.0)	4.0	40	—	—	4.0
RELE 524	Christian Bioethics (3.0-4.0)	3.0	30	—	—	3.0
Totals		21.0	210	—	—	21.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—

Concentration			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 544	Teaching and Learning Theory		3.0	30	—	—	3.0
NRSG 555	Pharmacology in Advanced Practice I		3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II		2.0	20	—	—	2.0
PHSL 588	Pathophysiology		4.0	40	—	—	4.0
_____	Elective (3)	Take one course	3.0	—	—	—	3.0
NRSG 545	Teaching Practicum (3)						
NRSG 546	Curriculum Development in Higher Education (3)						
Totals			15.0	120	—	—	15.0



Clinical			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 617	Clinical Practicum: Growing Family (2.0-12.0)	Offered alternate years	—	—	13.0	390	13.0
NRSG 645	Growing Family I	Offered alternate years	2.0	20	2.0	60	4.0
NRSG 646	Growing Family II	Offered alternate years	2.0	20	1.0	30	3.0
NRSG 651	Advanced Physical Assessment		2.0	20	1.0	30	3.0
Totals			6.0	60	17.0	510	23.0

Thesis option Units are in addition to minimum required for the degree			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 697	Research (1.0-4.0)		5.0	20	—	—	5.0
Totals			—	—	—	—	—
<b>Overall Totals</b>			<b>42.0</b>	<b>390</b>	<b>17.0</b>	<b>510</b>	<b>59.0</b>

### CLINICAL NURSE SPECIALIST: GROWING FAMILY—POST-MASTER'S CERTIFICATE

#### PREREQUISITE

Graduate-level pathophysiology  
Advanced physical assessment

Core			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 516	Advanced Role Development		2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice		4.0	40	—	—	4.0
NRSG 555	Pharmacology in Advanced Practice I		3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II		2.0	20	—	—	2.0
RELE 524	Christian Bioethics (3.0-4.0)		3.0	30	—	—	3.0
Totals			14.0	140	—	—	14.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—

Clinical			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 617	Clinical Practicum: Growing Family (2.0-12.0)		—	—	15.0	450	15.0
NRSG 645	Growing Family I		2.0	20	2.0	60	4.0

NRSG 646	Growing Family II	2.0	20	1.0	30	3.0
Totals		4.0	40	18.0	540	22.0
<b>Overall Totals</b>		<b>18.0</b>	<b>180</b>	<b>18.0</b>	<b>540</b>	<b>36.0</b>

**NURSING ADMINISTRATION (M.S.)**

The nursing administration option prepares nurses for leadership in a variety of organizational settings. The M.S. degree curriculum draws from the practice

of nursing, management, and related fields; and includes administration, research, and clinical components.

Core		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 515	Health Policy: Issues and Process	2.0	20	—	—	2.0
NRSG 516	Advanced Role Development	2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice	4.0	40	—	—	4.0
NRSG 547	Management: Principles and Practices	3.0	30	—	—	3.0
NRSG 680	Intermediate Statistics	3.0	30	—	—	3.0
NRSG 684	Research Methods (2.0)	4.0	40	—	—	4.0
RELE 524	Christian Bioethics (3.0-4.0)	3.0	30	—	—	3.0
Totals		21.0	210	—	—	21.0

Religion			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—

Concentration		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
HADM 528	Organizational Behavior in Health Care	3.0	30	—	—	3.0
HADM 534	Health Care Law	3.0	30	—	—	3.0
HADM 542	Managerial Accounting for Health Care Organizations	3.0	30	—	—	3.0
HADM 605	Health Care Quality Management	3.0	30	—	—	3.0
HADM 514	Health Care Economic Policy (3)	Take three courses	9.0	—	—	9.0
HADM 529	Health Care Negotiations and Conflict Resolution (3)					
HADM 545	Government Policy and Health Disparities (3)					
HADM 559	Health Care Marketing (3)					
HADM 564	Health Care Finance (3)					

HADM 574	Managing Human Resources in Health Care Organizations (3)						
HADM 575	Management Information Systems in Health Care (3)						
HADM 604	Health Systems Strategic Planning (3)						
<b>Totals</b>			21.0	120	—	—	21.0

<b>Clinical</b>			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 548	Nursing Administration Practicum	Offered every other year or when the student pool sufficient	—	—	8.0	240	8.0
NRSG 624	The Adult and Aging Family I (2) <i>Offered alternate years</i>	Take one course	—	—	2.0	—	2.0
NRSG 626	The Adult and Aging Family II (2) <i>Offered alternate years</i>						
NRSG 645	Growing Family I (2) <i>Offered alternate years</i>						
NRSG 646	Growing Family II (2) <i>Offered alternate years</i>						
<b>Totals</b>			—	—	10.0	240	10.0

<b>Thesis option</b> Units are in addition to minimum required for the degree			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 697	Research (1.0-4.0)		5.0	200	—	—	5.0
<b>Totals</b>			—	—	—	—	—
<b>Overall Totals</b>			<b>42.0</b>	<b>330</b>	<b>10.0</b>	<b>240</b>	<b>52.0</b>

### NURSE EDUCATOR CONCENTRATION AREA (M.S.)

The nurse educator option prepares faculty for educational programs in nursing. The student will select either the adult and aging family or the

growing family as a focus area for clinical work. Additional course work includes education courses, research, and other core courses. The curriculum prepares the graduate to take the NLN Certified Nurse Educator Examination.

### NURSE EDUCATOR: GROWING FAMILY

<b>Core</b>			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 515	Health Policy: Issues and Process		2.0	20	—	—	2.0
NRSG 516	Advanced Role Development		2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice		4.0	40	—	—	4.0
NRSG 547	Management: Principles and Practices		3.0	30	—	—	3.0

NRSG 680	Intermediate Statistics	3.0	30	—	—	3.0
NRSG 684	Research Methods (2.0)	4.0	40	—	—	4.0
RELE 524	Christian Bioethics (3.0-4.0)	3.0	30	—	—	3.0
Totals		21.0	210	—	—	21.0

			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
Totals			—	—	—	—	—

			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
AHCJ 506	Educational Evaluation and Clinical Assessment		3.0	30	—	—	3.0
NRSG 544	Teaching and Learning Theory		3.0	30	—	—	3.0
NRSG 545	Teaching Practicum (3.0-4.0)		—	—	3.0	90	3.0
NRSG 546	Curriculum Development in Higher Education		3.0	30	—	—	3.0
NRSG 555	Pharmacology in Advanced Practice I		3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II		2.0	20	—	—	2.0
PHSL 588	Pathophysiology		4.0	40	—	—	4.0
Totals			18.0	180	3.0	90	21.0

			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 617	Clinical Practicum: Growing Family	Offered alternate years	—	—	3.0	90	3.0
NRSG 645	Growing Family I	Offered alternate years	2.0	20	1.0	30	3.0
NRSG 646	Growing Family II	Offered alternate years	2.0	20	1.0	30	3.0
NRSG 651	Advanced Physical Assessment		2.0	20	1.0	30	3.0
Totals			6.0	60	6.0	180	12.0

Thesis option Units are in addition to minimum required for the degree			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
NRSG 697	Research		3.0	40-160	—	—	3.0
Totals			—	—	—	—	—
<b>Overall Totals</b>			<b>45.0</b>	<b>450</b>	<b>9.0</b>	<b>270</b>	<b>54.0</b>

**NURSE EDUCATOR: ADULT AND AGING FAMILY**

<b>Core</b>		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 515	Health Policy: Issues and Process	2.0	20	—	—	2.0
NRSG 516	Advanced Role Development	2.0	20	—	—	2.0
NRSG 517	Theoretical Foundations for Advanced Practice	4.0	40	—	—	4.0
NRSG 547	Management: Principles and Practices	3.0	30	—	—	3.0
NRSG 680	Intermediate Statistics	3.0	30	—	—	3.0
NRSG 684	Research Methods (2.0)	4.0	40	—	—	4.0
RELE 524	Christian Bioethics (3.0-4.0)	3.0	30	—	—	3.0
<b>Totals</b>		21.0	210	—	—	21.0

<b>Religion</b>			Theory		Clinical		Total Units
			Units	Hours	Units	Hours	
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)		—	—	—	—	—
<b>Totals</b>			—	—	—	—	—

<b>Concentration</b>		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
AHCJ 506	Educational Evaluation and Clinical Assessment	3.0	30	—	—	3.0
NRSG 544	Teaching and Learning Theory	3.0	30	—	—	3.0
NRSG 545	Teaching Practicum	—	—	3.0	90	3.0
NRSG 546	Curriculum Development in Higher Education	3.0	30	—	—	3.0
NRSG 555	Pharmacology in Advanced Practice I	3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II	2.0	20	—	—	2.0
PHSL 588	Pathophysiology	4.0	40	—	—	4.0
<b>Totals</b>		18.0	180	3.0	90	21.0

<b>Clinical</b>		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 624	The Adult and Aging Family I	2.0	20	1.0	30	3.0
NRSG 626	The Adult and Aging Family II	2.0	20	1.0	30	3.0
NRSG 628	Clinical Practicum: Adult and Aging Family	—	—	3.0	90	3.0
NRSG 651	Advanced Physical Assessment	2.0	20	1.0	30	3.0
<b>Totals</b>		6.0	60	6.0	180	12.0

Thesis option Units are in addition to minimum required for the degree		Theory		Clinical		Total Units
		Units	Hours	Units	Hours	
NRSG 697	Research	4.0	40-160	—	—	4.0
Totals		—	—	—	—	—
<b>Overall Totals</b>		<b>45.0</b>	<b>450</b>	<b>9.0</b>	<b>270</b>	<b>54.0</b>

**DUAL DEGREE: M.S. / M.A.****MASTER OF SCIENCE DEGREE AS CLINICAL NURSE SPECIALIST\*****MASTER OF ARTS DEGREE IN CLINICAL ETHICS**

\* Either the growing family or the adult and aging family area may be selected.

**Core courses**

NRSG 517	Theoretical Foundations for Advanced Practice	4.0
NRSG 515	Health Policy: Issues and Process	2.0
NRSG 516	Advanced Practice Role Development	2.0
NRSG 547	Management: Principles and Practice	3.0
NRSG 555	Pharmacology in Advanced Practice I	3.0
NRSG 556	Pharmacology in Advanced Practice II	2.0
PHSL 588	Pathophysiology	4.0
NRSG 680	Intermediate Statistics	3.0
NRSG 684	Research Methods	4.0
NRSG 651	Advanced Physical Assessment	3.0
Totals		30.0

**ADVANCED PRACTICE NURSING****ADULT AND AGING FAMILY or GROWING FAMILY**

*NRSG 624	Adult and Aging Family I	4.0
*NRSG 626	Adult and Aging Family II	3.0
*NRSG 628 or NRSG 645	Clinical Practicum: Adult and Aging Growing Family I	9.0 4.0
*NRSG 646	Growing Family II	3.0
*NRSG 617	Clinical Practicum: Growing Family	9.0
Electives from biomedical and clinical ethics		12.0
Clinical hours from nursing = 390		
Totals		35.0-40.0

**CLINICAL ETHICS**

RELR 504	Research Methods	4.0
RELE 554	Clinical Ethics Practicum I	4.0
RELE 555	Clinical Ethics Practicum II	4.0
RELE 577	Theological Ethics	4.0

RELE 588	Philosophical Ethics	4.0
RELE 589	Biblical Ethics	4.0
RELE 524	Christian Bioethics	4.0
RELE 527	Crisis Counseling	3.0
RELE 548	Christian Social Ethics	4.0
Electives applied from Nursing		13.0
Clinical hours from ethics = 120		—
Totals		48.0

### DOCTOR OF PHILOSOPHY DEGREE PROGRAM IN NURSING

The aim of the doctoral program in nursing is to prepare nurse scholars for leadership in education, health care administration, 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 Ph.D. degree is offered as a summers-only program on campus at Loma Linda University; with selected online courses during the academic year; completion of dissertation to follow. This schedule is designed to accommodate the needs of adult learners who are either full-time students or part-time students with ongoing commitment to professional work during the academic year. The core courses of the program are taught during four summer intensive sessions. Concentration and elective courses may be taken at Loma Linda University or through the \*NEXus partnership; or a limited number of approved units may be transferred from another university.

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 established research

programs of School of Nursing faculty and may also take advantage of graduate courses throughout the University.

The credit requirement is 90 quarter units beyond the Master of Science degree. Additionally, LLU Scholars Seminar is required during the academic year while away from the Loma Linda University campus. The seminar focus is to integrate concentration and elective courses in the foundation for a dissertation at the University and to maintain momentum during the program. The program may be completed in four to seven years.

NEXus is a partnership among select Western Institute of Nursing institutions to facilitate enrollment in doctoral courses not available on the student's home campus. Through NEXus, the institutions have identified courses that are available at a distance and open for enrollments from partner institutions.

#### 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 academic plan 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.

Refer to guidelines from the Faculty of Graduate Studies for dissertation-format requirements.

#### Philosophy of science and nursing

Philosophy of science and nursing		Units
NRSG 574	Philosophical Foundations of Nursing Science	2.0
PHIL 616	Seminar in the Philosophy of Science (2.0-4.0)	2.0
Totals		4.0

**Theory development** Units

NRSG 575	Strategies for Theory Development in Nursing (2.0)	4.0
Totals		4.0

**Research and statistics** Units

_____	Elective	Selected analytical topic	4.0
NRSG 636	Methods of Disciplined Inquiry		2.0
NRSG 660	Qualitative Research Methods I		4.0
NRSG 686	Advanced Quantitative Research Methods		4.0
NRSG 696	Directed Research (2.0)		4.0
NRSG 697	Research (1.0-4.0)		20.0
PSYC 501	Advanced Statistics I		4.0
PSYC 502	Advanced Statistics II		4.0
PSYC 503	Advanced Multivariate Statistics		4.0
Totals			52.0

**Cognates** Units

NRSG 664	Nursing Science Seminar (1.0)		3.0
RELE 5__	Graduate-level Ethics		3.0
RELR 5__	Graduate-level Relational		3.0
RELT 5__	Graduate-level Theological		3.0
Totals			12.0

**Electives** Units

_____	Elective	Focus courses (10-12 units) and general electives (8-10 units)	20.0
Totals			20.0
<b>Overall Totals</b>			<b>90.0</b>



# School of Pharmacy

## Dean's Welcome

## School Foundations

## Mission, Goals, and Values

## General Regulations

## Application and Admissions

- General entrance information
- Required courses
- Recommended courses
- Recommended experience
- Application procedure and acceptance
- International applicants
- Admission deadline
- Pre-entrance health and background requirement
  - Immunizations
  - Physical examinations
  - Background checks
  - Pharmacy intern license
- Rolling admission program
- Transfer credit hours
- Computer competency

## Student Life

## General Expectations and Academic Policies

- General expectations
  - Professional integrity
  - Code of conduct
  - CPR and first aid certification
  - Class attendance
  - Chapel
  - Pharmacy forum
- Student organizations
  - Professional organizations
  - Recognized student organizations/Student pharmacists association
  - Organization membership by invitation
  - Class leadership

- Academic policies and procedures
  - Curriculum outcome objectives
  - Student progression
  - End-of-year assessment examinations
- Grading system
  - Grades and grade points
  - Incomplete grade
  - Grade changes
  - Grade appeals
  - Dean's List and honor roll
  - Honors and awards
- Performance levels
  - Good academic standing
- Academic probation
- Academic dismissal
- Readmission of dismissed students
- Withdrawal from the program
- Experiential education
  - Experiential education requirements
  - Pharmacy-practice experience
  - Introductory pharmacy-practice experience
  - Advanced pharmacy practice experience
  - Prerequisites for advanced pharmacy-practice experiences
- Licensing
  - Pharmacy intern license
  - Pharmacy intern hours
- Graduation requirements

## Financial Information

- General financial practices
- Schedule of charges, tuition, and fees (2009-2010)
- On- and off-campus student housing
- Additional requirements
- Awards honoring excellence

## Degree Offered

- Pharm.D.

## Dean's Welcome

Welcome to the Loma Linda University School of Pharmacy. The program of study leading to the Pharm.D. degree is the only such program within the world wide network of Seventh-day Adventist higher education institutions. While at Loma Linda University, your studies will be filled with introductions to the various pharmacy disciplines (biomedical sciences, pharmaceutical sciences, and social and administrative sciences; as well as the pharmacy-practice areas of therapeutics, drug information, pharmaceutical care, and experiential education).

Classroom studies are only a part of what it takes to prepare a future pharmacist. Ample opportunities are in place for students to experience the real world of pharmacy and to hone their sense of professionalism and service. I encourage you to take full advantage of all that comes your way. "By giving more to your profession, you reap far more in return." On a global scale, as well as on campus, there are opportunities for students and faculty to participate in outreach and service programs with populations underserved by the health care system. This ability to perform meaningful service is a gift that enhances the lives of those being served and of those serving.

The University motto, "To make man whole," combined with the mission to continue the teaching and healing ministry of Jesus Christ is foundational to all programs. The school's faculty, staff, and I are fully dedicated to excellence in pharmacy education, research, and service. During your four years of study, you are invited to learn more about the profession of pharmacy and value-added aspects abundant at Loma Linda University. I am delighted that you have chosen to explore our program and look forward to facilitating your journey towards a rewarding and fulfilling professional career in pharmacy.



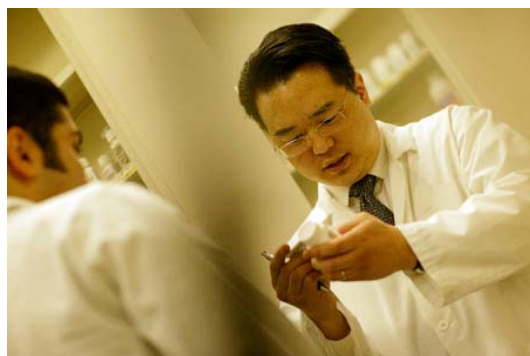
A handwritten signature in black ink, appearing to read "W. William Hughes". The signature is fluid and cursive, with a large initial "W" and a long, sweeping underline.

W. William Hughes, Ph.D.  
Dean, School of Pharmacy

# School Foundations

## HISTORY

In 1994, a school of pharmacy was proposed to the Loma Linda University Board of Trustees, and in 1995 the board voted to continue to approve in principle the establishment of a School of Pharmacy. On September 19, 2002, the pioneering class of 2006 began their study in the new School of Pharmacy. In July 2007, the Accreditation Council for Pharmacy Education granted full accreditation status to the School of Pharmacy.



# Mission, Goals, and Values

## OUR MISSION

The mission of the Loma Linda University School of Pharmacy is to continue the teaching and healing ministry of Jesus by:

- Educating competent, caring pharmacists who will serve as integral members of the health care team;
- Expanding through research the development of therapeutic regimens that will advance the knowledge and technology available for the treatment of disease; and
- Providing high-quality pharmaceutical care to all those within the global sphere of influence of Loma Linda University.

The School of Pharmacy is committed to the education of pharmacists of the highest ethical and professional standards to deliver competent and compassionate pharmaceutical care. A diverse and dynamic educational environment produces students who are practitioners, health professionals, and providers of humanitarian service to a global community. Graduates will be dedicated to lifelong learning; developing new knowledge; advancing standards of practice; and integrating physical, mental, social, and spiritual dimensions of health.

## OUR GOALS

The goals of the Loma Linda University School of Pharmacy are to:

- Provide pharmaceutical care in a global community.
- Expand and disseminate pharmaceutical knowledge through research and scholarly activities.
- Promote integrity and high ethical standards in conjunction with empathic attitudes that contribute to the well-being of patients and society.
- Engender and nurture the desire to serve mankind.
- Create an educational environment supportive of diverse populations and learning styles.
- Demonstrate pharmacy leadership within the University and the region.

- Encourage cultivation of self-education habits that foster lifelong learning.
- Instill positive personal health lifestyles that promote wholeness, wellness, and spiritual values.
- Incorporate educational techniques and technologies that best serve student learning.
- Promote responsible management of health care resources and the environment.

## OUR VALUES

The School of Pharmacy centers its academic and cocurricular activities around seven values. These are:

- Compassion
- Excellence
- Humility
- Integrity
- Purity
- Freedom
- Justice

## General Regulations

Students of the University are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation. Section III provides the general setting for the programs of each school and outlines the subject and unit requirements for admission to individual professional programs. It is important to review specific program requirements in the context of the general requirements applicable to all programs.

### APPLICATION AND ADMISSIONS— GENERAL ENTRANCE INFORMATION

Applicants to the School of Pharmacy must fulfill the prerequisite course requirements listed below. For a course to fulfill the biology, chemistry, organic chemistry, and physics prerequisite, it must be taken at the level of those required for a science major in the field. Introductory courses are not acceptable. Courses accepted to fulfill the prerequisites for biochemistry, microbiology, and human anatomy may be taken at any level as long as the unit requirements are fulfilled.

The minimum cumulative G.P.A. and cumulative mathematics/science G.P.A. considered for acceptance to the School of Pharmacy is a 2.75 on a 4.00 scale.

Required Courses	Semester Hours	Quarter Hours
General biology, with laboratory	8*	12*
General chemistry, with laboratory	8*	12*
Organic chemistry, with laboratory	8*	12*
General physics, with laboratory	8*	12*
General biochemistry	3	4
General microbiology	3	4
Human anatomy**	3	4
Calculus (integral and differential)	4	6
Speech communication	3	4
Economics (macro or micro)	3	4
General psychology	3	4

\*The semester and quarter hours listed above (for general biology, general chemistry, organic chemistry, and general physics) are the **minimum** number of units that must be completed to fulfill the prerequisite requirements. Some applicants may be required to complete more than the minimum number of units to satisfy the content requirement of the subject area.

\*\* The requirement for human anatomy can be met with a combined human anatomy and physiology course. Courses that only cover human physiology will not be accepted to fulfill this prerequisite.

In rare circumstances will a student who has not completed a bachelor's degree be considered for admission into the School of Pharmacy. Applicants without a bachelor's degree must complete an additional 6 semester or 9 quarter units of course work in social and behavioral sciences, an additional 12 semester or 18 quarter units of course work in humanities and fine arts, and an additional 6 semester or 9 quarter units of English composition.

Decisions regarding the final determination of acceptability of courses as prerequisites reside with the School of Pharmacy Admissions Committee in collaboration with the Loma Linda University registrar.

## RECOMMENDED COURSES

Cellular and molecular biology  
Histology  
Immunology  
Physiology

### Recommended experience

It is highly recommended that applicants obtain volunteer or pharmacy work experience.

## APPLICATION PROCEDURE AND ACCEPTANCE

The School of Pharmacy only accepts on-line applications. The application and other required forms are available on-line at [www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page).

A complete package includes:

- Online submission of Doctor of Pharmacy application
- Official academic transcripts from all colleges and universities the applicant has attended (Loma Linda University is not a PharmCAS institution and therefore does not require either the PharmCAS or the PCAT for admission)
- Three online letters of recommendation from previous instructors, employers (pharmacist employer if possible), and/or the applicant's pastor
- Written personal statement (answer all questions in two pages or less)
- Projected College Work form (if applicable)
- Completed Prerequisite Record Form (available after the application is submitted)

- Payment of the \$60 application fee by check or credit card submitted with the online application.

Applications are only processed upon receipt of a complete application and payment of the application fee.

### International applicants

International applicants must have their transcripts reviewed by one of the following evaluation services prior to applying:

- American Association of Collegiate Registrars and Admissions Officers (AACRAO) [www.aacrao.org/international/foreignEdCred.cfm](http://www.aacrao.org/international/foreignEdCred.cfm)
- Educational Credential Evaluators, Inc. (ECE) [www.ece.org/](http://www.ece.org/)
- World Education Services (WES) [www.wes.org/](http://www.wes.org/)

If the applicant's native language is not English, or if most education was completed in a non-English program, a score of at least 79 (Internet-based) or 213 (computer-based) on the Test of English as a Foreign Language (TOEFL) is required. Some consideration is given to applicants who have earned a college degree in an English-speaking country. Please visit [www.TOEFL.org](http://www.TOEFL.org) for more information.

## ADMISSION DEADLINE

The School of Pharmacy accepts applications from June 1 through November 2 for entry in September of the following year.

Transcripts, evaluation of international transcripts (if applicable), and TOEFL scores (if applicable) should be mailed to the following address:

Loma Linda University  
Admissions Processing  
Loma Linda, CA 92350

Letters of recommendation are now only accepted through the online application. Instructions for online letters is given once an application has been started.

## PRE-ENTRANCE HEALTH AND BACKGROUND REQUIREMENT

All new students are required to have the immunizations listed below completed before their first registration. Students will not be allowed to register without a valid and completed immunization record. It is strongly recommended that all required immunizations and physical examinations be obtained by the student before arrival on campus. All of these immunizations, except the third hepatitis B,

can be completed in one month. Many county health departments offer these immunizations at a reduced cost.

#### **Immunizations**

- Measles, mumps, rubella (MMR)—Series of two injections, must be current after 1980 or a positive MMR titer.
- Tdap (Tetanus/Diphtheria)—Must be current within ten years. (Note: Tetanus-only immunization does not meet the requirement.)
- Hepatitis B—Series of three injections, Recombinant form-Engerix-B.
- Tuberculosis skin test (PPD Mantoux)—Must be current within six months. (If you test positive, a chest X-ray report done within the past year is required.)
- Varicella (chickenpox)—Must show proof of either a series of two injections or a positive Varicella titer.

A completed immunization record form must be submitted to the School of Pharmacy Office of Student Affairs as well as to the Student Health Service. A valid and completed immunization record is required before the student can register.

#### **Physical examination**

Required for entrance into the program.

For additional information, please contact Student Health Service directly at 909/558-8770.

#### **Background checks**

Students are required to pass a background check prior to the first registration in order to comply with clinical site regulations. Applicants receive detailed information through the applicant portal regarding the process for obtaining the background check.

#### **Pharmacy intern license**

California law requires that all pharmacy students be licensed as interns before participating in any pharmacy practice experience. Consequently, all enrolled students must possess a valid, nonprobationary intern pharmacist license to participate in the experiential components of the Pharm.D. program. Application for this license is part of the orientation program scheduled prior to the start of the PY1 year.

#### **ROLLING ADMISSION PROGRAM**

The School of Pharmacy has a rolling admission policy in which completed applications are reviewed and students are accepted on a continual basis within the period from November to March.

The School of Pharmacy will not consider:

- Applications that are incomplete
- Application materials submitted or postmarked after the deadline of November 1. (Loma Linda University is not responsible for delays in mail delivery. Students are encouraged to apply and submit all application materials early and monitor the application checklist online).

Documents that are not received or postmarked by November 1 are late and will not be reviewed.

Applicants are reminded that transcripts and letters of recommendation frequently take weeks or even months to obtain; this is especially true of international course work. Deadlines cannot be extended for students whose documents are delayed due to backlog or mishandling by the recommenders or schools.

#### **TRANSFER CREDIT HOURS**

The School of Pharmacy does not accept students with advanced status in the Pharm.D. Program.

#### **COMPUTER COMPETENCY**

Students must have computer proficiency prior to enrollment which includes use of an e-mail system (including attaching a document); basic skills using a word processing program (Word, WordPerfect), a presentation program (PowerPoint), and a spreadsheet program (Excel). Students must also be capable of searching the Internet.

## Student Life

The information on student life contained in this CATALOG is brief. The University *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.

The School of Pharmacy prepares the school-specific *Policy and Procedure Manual*, which is provided to all pharmacy students. Regulations, policies, procedures, and other program requirements are contained in this manual.

## General Expectations and Academic Policies

### PROFESSIONAL INTEGRITY

Loma Linda University seeks to educate ethical and proficient pharmacists in a Christian paradigm. Fundamental core values of compassion, integrity, freedom, excellence, justice, purity, and humility are expected of each student attending the School of Pharmacy. Integrity is important in upholding the standards of professional and personal conduct and is consistent with the oath that is taken upon graduation. It includes being accountable for one's own conduct, as well as assuming responsibility for the professional behavior of one's colleagues within the profession. Professionalism involves treating others with courtesy and respect. It is expected that all School of Pharmacy students will exhibit conduct in which respect is shown to others at all times.

### CODE OF CONDUCT

In harmony with the goals of Loma Linda University, students are expected to demonstrate a pattern of personal discipline with lifestyle expectations that are consistent with those of the Seventh-day Adventist Church. Joining the Loma Linda University family is an honor and requires each individual to uphold the policies, regulations, and guidelines established for all members of the University team. The following are expected of each member of the Loma Linda University family:

- To respect themselves.
- To respect the dignity, feelings, worth, and values of others.
- To respect the rights and property of others and to discourage vandalism and theft.
- To prohibit discrimination, while striving to learn from differences in people, ideas, and opinions.
- To practice personal, professional, and academic integrity; and to discourage all forms of dishonesty, plagiarism, deceit, and disloyalty to the code of conduct.
- To foster a personal, professional work ethic within the Loma Linda University family.
- To foster an open, fair, and caring environment.
- To be fully responsible for upholding the Loma Linda University code.

Specific policies are outlined in greater detail in the University *Student Handbook*.

## CPR AND FIRST AID CERTIFICATION

All students must be currently certified in cardiopulmonary resuscitation (CPR) and first aid during their enrollment in the School of Pharmacy. School policy requires that students must successfully complete the CPR and first aid provider training at the LLU Life Support Education Center. This certification ensures consistency in the education and training, which is necessary to fulfill School obligations to our preceptors and sites per affiliation agreements. All PY1 students are scheduled for CPR and first aid certification courses during orientation. PY3 students must renew their CPR and first aid at the start of the PY3 Fall Quarter, and all PY3 students must participate in the recertification class scheduled at the Life Support Education Center by the Office of Student Affairs. Attendance is mandatory for all students, even if they have had prior CPR and first aid training classes at other facilities. The School of Pharmacy will pay for both initial and renewal courses for all students.

## CLASS ATTENDANCE

Student attendance in classes is considered to be the cornerstone of professional behavior and is expected in all classes. Instructors may require attendance in class as a condition of passing a course or as part of the grade a student earns.

## CHAPEL

In keeping with the commitment to the mission of the University, all School of Pharmacy students are required to attend a weekly chapel service. The chapel service is a core component of the wholeness curriculum at Loma Linda University. By setting aside time each week for a chapel program, the University seeks to emphasize the value it places on spiritual development, corporate worship, and community. This also reaffirms the University's commitment to the ideals upon which it was founded. Chapel services provide opportunities for members of the University community to benefit from programming that integrates faith and learning. Regular attendance is required at the weekly chapel services, as well as the daily services during the quarterly Week of Devotion. Students are expected to fulfill this requirement as they would any other component of the curriculum.

## PHARMACY FORUM

Pharmacy forum is a scheduled time where professors and students come together to discuss pertinent issues and address professional topics that enhance the student's academic and professional experience. This is considered part of the pharmacy curriculum, and each quarter students receive a Satisfactory or Unsatisfactory grade for forum. Attendance is required and is a component of the forum grade.

## STUDENT ORGANIZATIONS

### Professional development

Participation in the professional development sequence each academic quarter is part of the curriculum for the School of Pharmacy. The purpose of professional development is to encourage student participation that develops leadership skills in student organizations, the School of Pharmacy, and University activities. Students are expected to actively participate in a minimum of one student organization or leadership position each term.

### Professional organizations

Involvement in professional organizations is an integral part of the educational and professional process within the School of Pharmacy. Active involvement and networking with local and state leaders within the professional organizations enhances the overall educational experience and provides opportunities for career development. Active participation in a variety of professional societies is expected of all students.

Recognized student professional societies include:

- American Pharmacists Association (APhA-ASP)
- California Pharmacists Association (CPhA)
- California Society of Health Systems Pharmacists (CSHP)
- American Society of Health System Pharmacists (ASHP)
- Student National Pharmacists Association (SNPhA)
- Academy of Managed Care Pharmacy (AMCP)
- National Community Pharmacist Association (NCPA)
- Christian Pharmacist Fellowship International (CPFI)
- Student National Pharmaceutical Association (SNPhA)

### Organization membership by invitation

The School of Pharmacy endorses three organizations in which student membership is by invitation only. Membership in these organizations is seen as prestigious and indicative of superior academic achievement and leadership.

- California Pharmacy Student Leadership (CAPSLEAD)
- Rho Chi Pharmaceutical Honor Society (RX)



- Phi Lambda Sigma National Pharmacy Leadership Society (PLS)

### Class leadership

Each class elects leaders to serve as student representatives to administration and to guide the class in addressing student-related issues. The Office of Student Affairs works closely with class leaders—assisting with class issues, helping to plan events, and facilitating a strong communication link to and from students. Each class also elects a full-time faculty member to serve as class advisor. The advisor's function is to serve as mentor, keep abreast of class issues, and maintain an open communication link with the director of the Office of Student Affairs.

## ACADEMIC POLICIES AND PROCEDURES

### Curriculum outcome objectives

The Loma Linda University School of Pharmacy student learning outcomes are to:

- Perform the functions necessary to provide patient-centered care.
- Perform the functions necessary to provide population-based care.
- Perform safe medication distribution and handling.
- Provide public health services.
- Apply the Loma Linda University philosophy of wholeness in their personal and professional lives.
- Apply core biomedical knowledge to patient-centered care.

### Student progression

The curriculum is designed to be followed in a stepwise, block manner. All prerequisites must be completed before a student can enroll in a course. Students must pass all of the professional courses in each year before enrolling in courses in the next year. In addition, each student must pass the end-of-year comprehensive assessment examination. The academic standing of each student is reviewed quarterly by the Office of Academic Affairs. Students who fail to meet the minimum standards will be notified, in writing, by the Office of Academic Affairs.

A minimum grade of C- is required to pass all pharmacy courses and electives. Following a course failure, a student's progression will stop; and s/he will be placed on leave-of-absence status for two academic quarters (not including summer). The student is responsible for completing and filing with the Office of University Records the appropriate paperwork. Failure to do so may result in administrative dismissal.

A student will have a maximum of six calendar years from the initial date of matriculation to complete the Doctor of Pharmacy degree.

### End-of-year assessment examinations

One of the requirements for progressing from one professional year to the next is passing a comprehensive, year-end, qualifying examination. These examinations are prepared by curricular year-specific teams of faculty members. The results of the end-of-year assessment examination will be communicated by the PY1, PY2, PY3 curricular year team chair to the Office of Academic Affairs for communication to individual students. Failure to pass these examinations will delay progression and enrollment in the subsequent year.

- Students who fail the end-of-year-assessment examination on the first attempt will retake a different, but similar in difficulty, examination as scheduled by the Assessment Committee.
- Students who fail the second attempt (first retake) must complete an oral examination (second retake) administered per the Assessment Committee's requirements. The oral examination will be conducted by the curricular year-specific team of faculty members. The oral examination will focus on establishing a student's competency in the subject matter for the PY1, PY2, PY3 curricular year as appropriate to the specific students. The results will be communicated in writing to the associate dean for academic affairs.
- Students who fail the third attempt (the oral examination) will **not** progress to the next professional year.

## GRADING SYSTEM

### Grade and grade points

The following grades and grade points are used in the School of Pharmacy. All courses taught are approved for letter grades only. The exceptions are forum and professional development, which will be graded on a S/U (satisfactory/ unsatisfactory) basis. The grades and corresponding grade-point scales are:

93-100	A	4.0	Outstanding performance
90-92	A-	3.7	
87-89	B+	3.3	
83-86	B	3.0	Satisfactory performance
80-82	B-	2.7	
77-79	C+	2.3	
73-76	C	2.0	
70-72	C-	1.7	Marginal performance
67-69	D+	1.3	Unsatisfactory performance
60-66	D	1.0	

<60 F	0.0	
S	0.0	Satisfactory performance in pharmacy forum or professional development.
U	0.0	Unsatisfactory performance in pharmacy forum or professional development.

### Incomplete grade

The notation "I" (incomplete) in a course is given only for circumstances beyond a student's control. It will not be granted as a remedy for course overload, failure on a final examination, absence from a final examination for other than an emergency situation, or a low grade to be raised with extra work.

In order to receive an incomplete, the student must initiate a request to receive a grade of "I" by completing a "Petition to Receive Incomplete Grade" form, and state the reason for the request. If this request is approved, the instructor will report an "I" as well as the grade the student will receive if the deficiency is not removed within the prescribed time limit.

An "I" notation must be changed to an earned letter grade before the end of the following term (excluding a summer session). Failure to complete course requirements will cause the incomplete work to be counted as a zero and factored in with the existing grade to calculate the final grade for the course.

### Grade changes

A grade may not be changed except when an error has been made in computing or recording a grade. Such changes may be processed only up to the end of the following term.

In order to satisfactorily complete a course for which a grade of less than C- has been earned, the student must repeat the course. This includes attending lecture and/or laboratory sessions as required, completing the assigned work, and taking any required examinations. Both the original and repeat course grades are entered on the permanent transcript record, but only the second (repeat) course grade is used to compute the grade-point average (G.P.A.). A course may be repeated only once.

### Grade appeals

Every student has a right to receive a grade assigned upon a fair and unprejudiced evaluation based on a method that is neither arbitrary nor capricious. Furthermore, instructors have the right to assign a grade based on any method that is professionally acceptable, communicated to all students in the course syllabus, and applied equally.

Instructors have the responsibility to provide careful evaluation and timely assignment of appropriate grades. Course and project grading methods should be explained to students at the beginning of the term. Academic integrity assumes that the judgment of the

instructor of record is authoritative and that the final grades assigned are correct.

A grade appeal is confined to charges of unfair action toward an individual student and may not involve a challenge of an instructor's grading standard. A student has a right to expect thoughtful and clearly defined approaches to grading, but it must be recognized that varied standards and individual approaches to grading are valid. The grade appeal considers whether a grade was determined in a fair and appropriate manner; it does not attempt to grade or regrade individual assignments or projects. It is incumbent on the student to substantiate the claim that his or her final grade represents unfair treatment. Only the final grade in a course may be appealed. In the absence of compelling reasons—such as clerical error, prejudice, or arbitrariness—the grade assigned by the instructor of record is to be considered final.

In a grade appeal, only arbitrariness, prejudice, and/or error will be considered as legitimate grounds for an appeal.

- **Arbitrariness:** The grade awarded represents such a substantial departure from accepted academic norms as to demonstrate that the instructor did not actually exercise professional judgment.
- **Prejudice:** The grade awarded was motivated by ill will and is not indicative of the student's academic performance.
- **Error:** The instructor made a mistake in fact.

The grade-appeal procedure applies only when a student initiates a grade appeal and not when the instructor decides to change a grade on his or her own initiative. This procedure does not cover instances where students have been assigned grades based on academic dishonesty or academic misconduct. Also excluded from this procedure are grade appeals alleging discrimination, harassment, or retaliation in violation of Loma Linda University's sexual harassment policy.

The grade appeal procedure strives to resolve a disagreement between student and instructor concerning the assignment of a grade in a collegial manner. The intent is to provide a mechanism for the informal discussion of differences of opinion and for the formal adjudication by a grade appeal panel only when necessary. In all instances, students who believe that an appropriate grade has not been assigned must first seek to resolve the matter informally with the instructor of record. If the matter cannot be resolved informally, the student must proceed with a grade appeal in the procedure outlined below. The grade appeal process must be started within ten working days after the end of the academic quarter in which the disputed grade is received.

## STUDENT GRADE-APPEAL PROCESS

Step 1. A student who wishes to question a grade must discuss the matter first with the instructor within ten working days after the end of the academic quarter in which the disputed grade is received. In most cases, the discussion between the student and the instructor should suffice, and the matter will not need to be carried further. The student should be aware that the only valid basis for grade appeal beyond Step 1 is to establish that an instructor assigned a grade that was arbitrary, prejudiced, or in error.

Step 2. If the student's concerns remain unresolved after Step 1, the student may submit a written request to meet with the appropriate department chair within five working days of speaking with the instructor. In situations where the instructor of record is a department chair or associate dean, then the dean will serve as the appropriate department head in this step. The appropriate department chair will meet within five working days with the student, and, if the department chair believes that the complaint may have merit, s/he will meet with the instructor. After consultation with the department chair, the instructor may choose to let the grade remain, or to change a course grade. The department head will communicate the result to the student and instructor.

Step 3. If the matter remains unresolved after Step 2, the student should submit to the dean within five working days a written request that includes all supporting documents. The dean will appoint a grade appeal panel to review the request. The panel may require any or all individuals associated with the appeal to appear. The panel is charged to determine whether the grade was assigned in a fair and appropriate manner, or whether clear and convincing evidence of unfair treatment—such as arbitrariness, prejudice, and/or error—might justify changing the grade. The panel will make its decisions based on a majority vote. If the panel concludes that the grade was assigned in a fair and appropriate manner, it will report its conclusion in writing to the student and instructor, and the matter will be considered closed. If the panel determines that compelling reasons exist for changing the grade, it would request that the instructor make the change, providing the instructor with a written explanation of its reasons. Should the instructor decline, s/he must provide a written explanation for refusing. If the panel after considering the instructor's explanation and upon again concluding that it would be unjust to allow the original grade to stand, will then determine what grade is to be assigned. The new grade may be higher than, the same as, or lower than the original grade. Having made this determination, each panel member will sign the grade-change form and transmit it to the Office of University Records. The instructor and the student will be advised of the new grade. Under no circumstances may the grade be changed except by the original faculty member or the panel. Should the panel conclude that the instructor's written explanation justifies the original grade, the panel will

report this in writing to the student and instructor; and the matter will be closed.

## DEAN'S LIST AND HONOR ROLL

The Office of Academic Affairs compiles a list of students who have demonstrated their academic excellence by achieving an outstanding grade point average each quarter. A student who earns a 3.30-3.69 grade point average, with no incomplete grades, during a term is given Honor Roll standing. A student who earns a 3.70 or better grade-point average, with no incomplete grades, is given Dean's List standing.

## HONORS AND AWARDS

The School of Pharmacy awards excellence in scholastic attainment and leadership abilities. Awards are available to students whose performance and attitudes reflect the mission and goals of Loma Linda University and the School of Pharmacy. Selection of award recipients is a function of the Honors and Awards Committee. The annual honors and awards event is scheduled during the Spring Quarter.

## PERFORMANCE LEVELS

### Good academic standing

To remain in good academic standing, pharmacy students must maintain a minimum cumulative grade-point average of 2.30. Failure to maintain good academic standing will result in action by the Office of Academic Affairs. In addition to the cumulative G.P.A., a grade of at least a C- must be earned in any course for which credit is to be applied towards completion of the requirements of the Doctor of Pharmacy degree.

## ACADEMIC PROBATION

Each student's academic status will be reviewed at the end of every academic quarter, including cumulative G.P.A. as reported by the Office of University Records. A student with a cumulative G.P.A. of less than 2.30 will be placed on academic probation and will receive a letter from the Office of Academic Affairs. This written notice of academic probation will also include a notice that failure to reach the required G.P.A. by the end of the next two successive academic terms will result in the student being dismissed from the school. Academic probation will also result when a student receives less than a C- in any advanced pharmacy practice experience (APPE) during the PY4 year.

Each student on academic probation is required to meet with her/his faculty advisor by the end of the second week of the probationary term to develop and agree to, in writing, an academic improvement plan (AIP). The AIP may include mandatory study/advising sessions, mandatory class attendance, and/or other stipulations aimed at encouraging and

supporting student academic success. A copy of a student's AIP will be maintained in his/her advising folder, and a copy of the AIP will also be forwarded to the Office of Academic Affairs. The faculty advisor is expected to inform the Office of Academic Affairs of the student's compliance with this policy and his/her academic progress. Failure by the student to seek appropriate assistance from his/her faculty advisor will not be accepted as a valid reason to stop the imposition of the appropriate academic probationary or other status.

Academic probation status will remain in effect for the two consecutive academic quarters. Upon completion of each academic quarter, a student on academic probation will receive in writing, from the Office of Academic Affairs a notice of his/her current standing. It is expected that students on probation make progress toward good academic standing at the conclusion of each academic quarter. At the conclusion of the second consecutive academic quarter, the student must have achieved good academic standing. Failure to do so will result in dismissal.

Academic probation will be lifted when the student's cumulative G.P.A. rises above 2.30 or when the student successfully completes the type of APPE course previously failed. There is no appeal process associated with academic probation.

### ACADEMIC DISMISSAL

Since courses may not be attempted more than twice (i.e., a course may be repeated only once)—including APPEs—grades of D+, D, D-, F, and W are considered to be attempts to complete degree program courses. Failure to complete any course in the program within the limits of good academic standing will result in dismissal from the program.

A dismissed student will receive written notification from the dean of the School of Pharmacy. The notice will include procedures for appeal; and notice of loss of registration, financial aid, housing, etc. It is the student's responsibility to arrange with the Office of University Records for formal withdrawal within one week of receiving the written notification. Dismissed students are required to turn in any school or University ID badges and vacate University residence halls. The school will also notify the California State Board of Pharmacy for termination of the student's pharmacy-intern license.

### READMISSION OF DISMISSED STUDENTS

A dismissed student may reapply and be considered for readmission. To be considered for readmission, the student must petition (in writing) the Academic Standing and Professionalism Committee. Petitions are due in the dean's office by the designated date (following each term), as published and sent to each dismissed student. After review of the written appeal,

the Academic Standing and Professionalism Committee may uphold the dismissal or may recommend the student for readmission with or without conditions/stipulations. The Admissions Committee reviews each case separately and reserves the right to determine the provisions/conditions for each individual situation.

A student who has been dismissed twice is not eligible for readmission to the same degree program for a period of twelve months, or until s/he demonstrates the ability to succeed through course work taken at another institution. Following this twelve-month period, a student may apply for readmission by following the above procedures. The dismissal decisions made by the Academic Standing and Professionalism Committee may be appealed. All appeals must be in writing and submitted to the dean of the School of Pharmacy by the established/stated deadline. A student who questions whether the School of Pharmacy has followed prescribed process with regard to his/her grievance may request the Office of the President to conduct a review.

### WITHDRAWAL FROM THE PROGRAM

It is the student's responsibility to begin the withdrawal process from a course or the curriculum in a timely manner. It is important for the student to seek counseling or guidance from his/her faculty advisor or other administrative persons regarding a situation that may negatively impact upon academic performance. Failure to seek appropriate assistance will not be accepted as a valid reason to stop the imposition of the appropriate academic penalties.

If a student finds it necessary to withdraw during the course of a quarter, the Office of Student Affairs must be notified in writing. Arrangements for formal withdrawal must then be made in the Office of University Records by completing and submitting a "Withdrawal from the Program" form. Courses dropped during the first two weeks of the term are not included in the student's permanent record, and tuition is refunded. Refer to the University's refund policy in the Financial Information section of the *Student Handbook* for information that applies after the first two weeks of the quarter. An exit interview with the School of Pharmacy administration is required.

### EXPERIENTIAL EDUCATION

The School of Pharmacy participates in the California Board of Pharmacy's approved supervised experiential program. The school will certify 600 of the required 1,500 hours of supervised experience required to sit for the licensing examination. Successful completion of the School of Pharmacy's didactic and experiential programs, and passing scores on the North American Pharmacist Licensure Examination (NAPLEX) and a law examination or equivalent, are required in order to become a registered pharmacist (RPh) in the state(s) of choice.

The experiential program consists of a variety of introductory and advanced pharmacy practice experiences designed to provide the student with professional experience through the use of a structured and supervised program of study. Students participating in the experiential program will receive a Loma Linda University School of Pharmacy *Experiential Program Manual*. Guidelines and policies are listed in this manual and must be adhered to in order to successfully complete the program.

Didactic education is a systematic approach intended to convey instruction and information (classroom, laboratory, recitation, etc.). Experiential education is related to or derived from providing experiences in real-life professional settings. In pharmacy education, the experiential component is designed to provide in-depth exposure to and active participation in selected pharmacy practice settings. Pharmacy students are exposed to prescription processing, compounding, documenting services, obtaining drug histories, drug therapy monitoring, counseling, evaluating drug usage, drug distribution systems, and other relevant pharmacy practice activities.

Under the philosophy of pharmaceutical care, the School of Pharmacy offers introductory pharmacy practice experiences (IPPE) in the PYs 1-3 to enhance practice skills and prepare students to function as members of a health care team. The advanced pharmacy practice experiences (APPE) in the PY4 are designed to help students integrate and refine the skills learned in the first three years of pharmacy (didactic) course work.

The purpose of the experiential education program is to apply didactic knowledge to pharmacy practice. The ultimate goal of the experiential program is to produce well-rounded, competent, caring, and responsible pharmacists who can deliver exemplary pharmaceutical care, as well as communicate effectively with diverse patients and colleagues.

#### **Experiential education requirements**

The majority of the student's time during experiential courses is out-of-the-classroom activity under the direct supervision of a School of Pharmacy preceptor. When a student is off campus during an IPPE or APPE rotation, Loma Linda University's code of conduct and the guidelines found in the *School of Pharmacy Student Policies and Procedures Manual* are still in effect throughout the completion of this experience. If experiential site regulations and policies differ from University policies, the site policies supersede. In addition to the above-mentioned guidelines, the following items are to be followed by all professional pharmacy students assigned to experiential sites or rotations.

- Attendance is mandatory. Punctuality is expected, and excessive tardiness will not be tolerated.

- Students must maintain their University email account and are required to check the account at least daily to keep apprised of important information or announcements.
- All experiential educational assignments are made through the Division of Experiential Education and are the responsibility of the directors of experiential education. No student is allowed to change rotation sites.
- Students are not to function as an agent or employee of the site. They must identify themselves as pharmacy students from Loma Linda University School of Pharmacy. While participating in this graded experience, students shall not, under any circumstances, receive financial remuneration from the experiential site. Failure to adhere to this policy will result in suspension and removal from the rotation and receipt of a failing grade in the course.

All financial obligations associated with the student's pharmacy education are the responsibility of the student. These responsibilities include transportation, food, lodging, and any other incidental costs related to off-site assignments. Concurrent employment during the experiential experience does not exclude or excuse students from any responsibilities associated with course requirements. The student must possess a valid driver's license and is responsible for transportation to and from sites.

Loma Linda University School of Pharmacy students are required to dress and act professionally at all times. This expectation extends to experiential educational activities where the student is not physically on the campus but receives instruction and guidance through a School of Pharmacy preceptor.

The Division of Experiential Education requires all students to adhere to the School of Pharmacy dress code and to wear their Loma Linda University identification card and short white laboratory coat at all times while at the experiential site. The laboratory coat must be white, clean, and freshly pressed/ironed. Students who attend out of dress code will be considered absent by the preceptor and sent home to fulfill dress code requirements *prior to returning* to the practice site.

In addition to the general school requirements, other rules may apply for students who are off site. If the experiential site has special attire or dress-code requirements, the more stringent of the dress-code requirements prevails, whether that of Loma Linda University or of the off-site institution.

#### **Pharmacy practice experience**

In order to complete the curriculum successfully, graduate from the School of Pharmacy, and become a licensed pharmacist, the student is required to complete a minimum of 1,500 hours of practice

experiences. The directors of experiential education coordinate both introductory pharmacy practice experience (IPPE) and advanced pharmacy practice experience (APPE).

#### **Introductory pharmacy practice experience (IPPE)**

The goals of the introductory pharmacy practice experience are to sharpen students' clinical skills through direct patient-care activities in community, institutional, and ambulatory care settings; to introduce the student to different career opportunities in pharmacy; and to assist them in determining their career choices. Under the tutelage of a School of Pharmacy preceptor, who is also a licensed pharmacist, the student will be provided opportunities to apply didactic knowledge to patient care in community, institutional, and ambulatory care settings early on. These experiences will enhance communication, problem-solving, critical-thinking, and decision-making skills through direct patient-care activities.

#### **Advanced pharmacy practice experience (APPE)**

Students are required to complete a total of six advanced pharmacy practice experiences in specific clinical areas. Four experiences (each lasting six weeks) will be in required fields of hospital practice, ambulatory care, internal medicine, and clinical community practice. Two experiences will be in elective fields (see curriculum section).

#### **Prerequisites for advanced pharmacy practice experiences**

In order to progress to the advanced pharmacy practice experiences, a student must meet the following requirements:

- **Assessment examination:** Students must pass the PY3 end-of-year comprehensive assessment examination.
- **PY4 standing:** Students must achieve PY4 standing as defined by the School of Pharmacy. The Office of Student and Professional Affairs will notify the director of experiential education when students successfully complete all PY3 work.
- **Immunizations:** Students must safeguard themselves and be sure that all University-required immunizations are up to date. Students are responsible for keeping the records of their own immunizations accessible. For the protection of patients and the students themselves, it is highly recommended that students receive the influenza vaccine in October during their PY4 year. Some sites may require this immunization.
- **HIPAA certificate:** All students are required to complete HIPAA training and obtain a certificate of completion annually.

- **Tuberculosis screening:** Students must be screened and cleared for tuberculosis (complete a one or two-step PPD test PPD test, depending on the practice site requirement) during summer of PY4. A chest x-ray may also be required. Students shall follow specific instructions provided by the Division of Experiential Education. A record of tuberculosis-screening clearance must be on file in the office of the director of experiential education.
- **Background check:** Facilities require a background check of all personnel, including students who are placed on site for experiential education. Some institutions may require the student to sign a confidentiality agreement or disclosure statement. Background checks are required for entry into the School of Pharmacy. Periodic review and update may be required during the program. Additionally, an updated background check is required prior to starting APPE.
- **Random drug screening:** Random drug screening may be required for some practice settings. This screening may be above and beyond school-mandated screening.
- **Intern license:** Students must hold a valid California pharmacist intern license throughout the advanced pharmacy practice experiences.
- **CPR/First aid:** Students must hold valid certification in both CPR and first aid. Effective dates must be current through the PY4.
- **Student health card:** Students must carry the Loma Linda University student health insurance card with them at all times.
- **CV:** Students must present a copy of their professional CV to the site preceptor at each APPE location.

## **LICENSING**

### **Pharmacy intern license**

All School of Pharmacy students must have a current California pharmacist intern license. Students begin the application process prior to the start of PY1. During the first-year orientation, applications for this license are completed, including a \$75 payment by check to the California Board of Pharmacy. The Office of Student Affairs submits these applications to the California Board of Pharmacy. All students involved in introductory pharmacy practice experiences (IPPE) and advanced pharmacy practice experiences (APPE) must hold a current pharmacy intern license. Information about the pharmacy intern license can be found on the web page.

<[www.pharmacy.ca.gov/pdfs2/intern\\_application\\_pkt.pdf](http://www.pharmacy.ca.gov/pdfs2/intern_application_pkt.pdf)>.

It is the student's responsibility to keep his/her pharmacy intern license current and valid. The Board of Pharmacy must be notified of any address, student status, or name change. A photocopy of the student's valid pharmacy intern license must be on file in the school's Division of Experiential Education.

#### **Pharmacy intern hours**

The California State Board of Pharmacy requires each student to accrue 1,500 hours of acceptable intern experience. The School of Pharmacy's advanced pharmacy practice experiences (APPE) will fulfill 600 of these hours. The remaining 900 hours must be completed outside the School of Pharmacy curriculum and must consist of employment in a pharmacy under the immediate, direct, and personal supervision of a pharmacist. This experience must be predominately related to preparing, processing, and dispensing prescription products; compounding prescriptions; keeping records; and making reports required by California and federal regulations.

### **GRADUATION REQUIREMENTS**

A candidate for the degree of Doctor of Pharmacy at Loma Linda University shall meet all of the following requirements:

- Satisfaction of all requirements for admission.
- Satisfactory completion of *all* requirements of the curriculum, including:
  - Specified attendance at chapel and forum.
  - The total number of credit units.
  - All specified didactic and experiential course work.
  - All applicable qualifying and comprehensive assessment examinations successfully passed.
- A cumulative grade-point average of 2.3 or higher for the total degree program.
- Evidence of personal character that is in line with the mission of Loma Linda University School of Pharmacy.
- Evidence of good professional behavior through organizational activities, outreach involvement, and personal conduct.
- Discharge of all financial obligations to the University and the school.

- Completion of an exit interview with the University Office of Student Finance, the Financial Aid Office, and School of Pharmacy administration.

A student failing to meet any of these requirements may not graduate until such time as all requirements are met.

Students may not participate in commencement exercises until all course work has been satisfactorily completed. Students with a maximum of one APPE to complete after the commencement date will be allowed to participate in commencement exercises. Receipt of the degree and certification of completion will occur only when all course work is completed satisfactorily and degree requirements are met.

## Financial Information

The Office of the Dean is the final authority on all financial matters and is charged with the interpretation of all financial policies. Any exceptions to published policy in regard to reduction or reimbursement of tuition must be approved by the dean. Any statement by individual faculty members, program directors, or department chairs in regard to these matters is not binding on the school or the University unless approved by the dean.

Registration is not complete until tuition and fees on the required installment are paid; therefore, the student should be prepared to make these payments during scheduled registration for each academic year. There may be adjustments in tuition and fees as economic conditions warrant.

### GENERAL FINANCIAL PRACTICES

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

#### Deposits

Upon notification of acceptance, the applicant must deposit \$500 to hold a place in the class. This amount is deducted from the tuition and fees due at registration and is non-refundable should an applicant decide not to register.

Foreign student deposit: A deposit in the amount of the first full year of tuition is required of all students entering Loma Linda University School of Pharmacy who are not U.S. citizens or permanent residents. This deposit will be applied to the student's account for education costs during their last term of enrollment. A foreign student's deposit will be refunded if a student visa is not obtained.

### SCHEDULE OF CHARGES

The charges that follow are subject to change without notice.

#### TUTION

- \$35,580 Annual block tuition
- \$11,860 Per quarter

#### FEEES

- \$520 Per quarter, University enrollment fee: health care insurance, Drayson Center membership, student activities, and publications

#### MISCELLANEOUS

- \$60 Application fee
- \$500 Acceptance deposit: nonrefundable, applicable to first quarter's tuition
- \$500 Per quarter, estimated books and supplies
- \$25 Returned check processing fee
- \$50 Late fee

#### OTHER CHARGES

- \$75 California Board of Pharmacy internship license (application, examination, fingerprinting, interim practice permit)

### ON- AND OFF-CAMPUS STUDENT HOUSING

Students may go to <[www.llu.edu/central/housing/index.page](http://www.llu.edu/central/housing/index.page)> for housing information and a housing application form.

### ADDITIONAL REQUIREMENTS

For additional policies governing Loma Linda University students, see Section II of this CATALOG, as well as the University *Student Handbook*. Students are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation.

### AWARDS HONORING EXCELLENCE

Awards for excellence in pharmacy, scholastic attainment, and leadership ability are made available to students whose performance and attitudes reflect well the ideals and purposes of the school. Selection of students is based on the recommendation of the faculty to the dean and the Honors and Awards Committee.



# Pharmacy—SP

## (Pharm.D.)

W. WILLIAM HUGHES, Ph.D., Dean

### FACULTY

Eileen J. Brantley  
 Jack J. Chen  
 Rebecca J. Cheung  
 Michael P. Coronado  
 Linda I. Davis  
 Willie L. Davis  
 Carl P. Dominguez  
 Naomi R. Florea  
 Steven P. Forland  
 Yvonne J. Furr  
 Hyma P. Gogineni  
 Rebecca J. Gryka  
 Sharlyn R. Guillema  
 Mary Gutierrez  
 Norman M. Hamada  
 Elvin A. Hernandez  
 LaDonna M. Jones  
 Nancy E. Kawahara  
 Kathryn T. Knecht  
 John L. Krstenansky  
 Jerika T. Lam  
 Anh-Vuong Ngo Ly  
 Eric J. Mack  
 Jocelyn A. Mallari

Richard Maskiewicz  
 Victoria Maskiewicz  
 Wayne R. Matthews  
 Lori L. Mendoza  
 Rashid Mosavin  
 Lee H. Nguyen  
 Paul M. Norris  
 Nathan A. Painter  
 James Pinder  
 Shastin L. Rains  
 Wei-Xing Shi  
 Michelle M. Spencer-Safier  
 Javad Tafreshi  
 S. Reza Taheri  
 Robert Tan  
 Stanley C. Weisser  
 Sompon Wanwimolruk  
 David Weldon  
 Linda M. Williams

The curriculum at Loma Linda University School of Pharmacy is dynamic. This is due partly to the changing nature of the profession, and partly to the newness of the program. The school reserves the right to change the curriculum after due deliberation of the Curriculum Committee and the Executive Committee. Students will be notified of all changes.

### First Year, Autumn Quarter

		Units
RELT 706	Adventist Beliefs and Life	2.0
RXPC 561	Pharmaceutical Care I	4.0
RXPS 511	Pharmaceutics I	3.0
RXPS 524	Physiology I	3.0
RXPS 581	Biochemistry I	3.0
RXRX 501	School of Pharmacy Forum	—
RXRX 507	Professional Development	—
RXSA 545	Public Health and Lifestyles	3.0
Totals		18.0

### Winter Quarter

		Units
RXEE 562	Pharmacist Guided Self-Care 1	3.0
RXEE 591	Introduction to Community Pharmacy Practice I	2.0
RXPS 512	Pharmaceutics II	4.0
RXPS 515	Pharmaceutics Laboratory I	0.5
RXPS 525	Physiology II	3.0
RXPS 582	Biochemistry II	3.0

RXRX 501	School of Pharmacy Forum	—
RXRX 507	Professional Development	—
RXSA 547	Pharmacy Law	3.0
Totals		18.5

**Spring Quarter**

Units

RELE 705	Ethics in Pharmacy Practice	3.0
RELT 740	World Religions and Human Health	3.0
RXEE 563	Pharmacist Guided Self-Care 2	3.0
RXEE 592	Introduction to Community Pharmacy Practice II	2.0
RXPS 513	Pharmaceutics III	3.0
RXPS 516	Pharmaceutics Laboratory II	0.5
RXRX 501	School of Pharmacy Forum	—
RXRX 507	Professional Development	—
RXTH 670	IPDM I: Principles of Pharmacology	2.0
Totals		16.5

**Second Year, Autumn Quarter**

Units

RXPS 610	Pharmacokinetics	4.0
RXPS 651	Principles of Medicinal Chemistry I	3.0
RXRX 601	School of Pharmacy Forum	—
RXRX 604	Professional Development	—
RXSA 640	Epidemiology and Biostatistics	3.0
RXSA 646	Principles of Management	3.0
RXTH 671	IPDM II: Fluids and Electrolytes	2.5
Totals		15.5

**Winter Quarter**

Units

RXDI 664	Drug Information and Literature Evaluation	3.0
RXPS 652	Principles of Medicinal Chemistry II	4.0
RXRX 601	School of Pharmacy Forum	—
RXRX 604	Professional Development	—
RXTH 683	IPDM IV: Endocrine	3.5
RXTH 684	IPDM III: Cardiovascular I	3.5
Totals		14.0

**Spring Quarter**

Units

RELR 709	Christian Perspectives on Death and Dying	2.0
RXPS 653	Principles of Medicinal Chemistry III	3.0

RXRX 601	School of Pharmacy Forum	—
RXRX 604	Professional Development	—
RXSA 751	Social-Behavioral Aspects of Pharmacy Practice	3.0
RXTH 674	IPDM IV: Renal and Respiratory Diseases	3.5
RXTH 685	IPDM V: Cardiovascular II	3.5
Totals		15.0

**To be taken either Autumn, Winter, or Spring quarter of the second year**

Units

RXEE 690	Introduction to Hospital Pharmacy Practice	2.0
Totals		2.0

**Third Year, Autumn Quarter**

Units

RELE 706	Advanced Ethics in Pharmacy Practice	2.0
RXPC 761	Pharmaceutical Care Laboratory I	4.0
RXRX 701	School of Pharmacy Forum	—
RXRX 704	Professional Development	—
RXTH 770	IPDM VII: Infectious Diseases I	3.5
RXTH 773	IPDM VIII: Psychiatry	4.5
Totals		14.0

**Winter Quarter**

Units

RXPC 760	Clinical Pharmacokinetics	2.0
RXPC 762	Pharmaceutical Care Laboratory II	3.0
RXRX 701	School of Pharmacy Forum	—
RXRX 704	Professional Development	—
RXTH 771	IPDM X: Neurology	4.5
RXTH 772	IPDM IX: Infectious Diseases II	4.5
Totals		14.0

**Spring Quarter**

Units

RXPC 763	Pharmaceutical Care Laboratory III	4.0
RXRX 701	School of Pharmacy Forum	—
RXRX 704	Professional Development	—
RXSA 743	Health Systems, Reimbursement, and Pharmacoeconomics	3.0
RXTH 774	IPDM XII: Miscellaneous Conditions and GI Disorders	3.5
RXTH 775	IPDM XI: Oncology /Transplant	2.5
Totals		13.0

**To be taken either Autumn, Winter, or Spring quarter of the third year**

Units

RXEE 790	Introduction to Clinical Pharmacy Practice	1.0
Totals		1.0

**Fourth Year**

Six 6-unit rotations required (1—Summer, 2—Autumn, 2—Winter, 1—Spring)

Units

RXEE 806	Advanced Clinical Community Practice (6)	Choose two elective rotations from this list	12.0
RXEE 807	Academia and Research (6)		
RXEE 808	Clinical Outcomes and Pharmacy Practice Research (6)		
RXEE 809	Clinical Simulation (6)		
RXEE 810	Research/Psychiatry (6)		
RXEE 860	Dermatology (6)		
RXEE 861	Gastroenterology/Hepatology (6)		
RXEE 862	Health Policy (6)		
RXEE 863	Investigational Drugs (6)		
RXEE 864	Ophthalmology (6)		
RXEE 865	State/National Pharmacy Associations (6)		
RXEE 868	Drug Information (6)		
RXEE 869	Academia (6)		
RXEE 871	Cardiology (6)		
RXEE 872	Research (6)		
RXEE 873	Long Term Care (6)		
RXEE 874	Infectious Disease (6)		
RXEE 875	Neurology (6)		
RXEE 876	Nuclear Pharmacy (6)		
RXEE 877	Nutrition (6)		
RXEE 878	Oncology (6)		
RXEE 879	Obstetrics/Gynecology (6)		
RXEE 880	Pharmacokinetics (6)		
RXEE 881	Pharmaceutical Industry (6)		
RXEE 882	Pain Management (6)		
RXEE 883	Managed Care (6)		
RXEE 884	Pediatric Transplant (6)		
RXEE 885	Pediatrics/Neonatology (6)		
RXEE 886	Home Health Care (6)		
RXEE 887	Geriatrics (6)		
RXEE 888	Compounding (6)		
RXEE 889	Specialty Independent (6)		

RXEE 890	Psychiatry (6)		
RXEE 891	Emergency Medicine and Trauma (6)		
RXEE 892	Pharmacoeconomics and Outcomes Research (6)		
RXEE 893	Pharmacy Systems/Technology (6)		
RXEE 894	Transplant (6)		
RXEE 895	Critical Care (6)		
RXEE 896	Poison Control and Toxicology (6)		
RXEE 897	Public Health Service (6)		
RXEE 898	Nephrology (6)		
RXEE 856	Medicine (6)		
RXEE 857	Hospital Practice (6)		
RXEE 858	Ambulatory Care (6)		
RXEE 859	Clinical Community (6)		
Totals			36.0

**Spring Quarter**

Units

RXEE 899	Re-Connections	3.0
Totals		3.0
<b>Overall Totals</b>		<b>180.5</b>



# School of Public Health

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Advanced biostatistics  
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Global health  
Health education, Doctor of Public  
Health (Dr.P.H.)  
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- Emergency Preparedness and Response
- Environmental and Occupational Health
- Environmental Epidemiology
- Epidemiological Research Methods
- Epidemiology—PH

- Global Epidemiology
- Global Health
- Global Health / Maternal and Child Health
- Health Care Administration
- Health Education
- Health Geographics and Biomedical Data Management
- Health Geoinformatics
- Health Policy and Leadership
- Lifestyle Intervention
- Health Services Research
- Lifestyle Medicine
- Maternal and Child Health
- Nutrition
- Nutritional Epidemiology
- Preventive Care
- Public Health Practice
- Reproductive Health
- Tobacco Control Methods



## Dean's Welcome

Welcome and thank you for navigating your way to the school's Catalog information. Winston Churchill was once quoted as saying: "To improve is to change; to be perfect is to change often." In this spirit, you will find that we continue to fine tune our educational offerings—reflecting contemporary thinking around public health science, disease prevention, and health promotion. Our commitment is to deliver public health training and education rooted in Christian values that will prepare you to launch or accelerate your public health career.

Please do not hesitate to contact me or any of our professional staff if you have questions about this year's Catalog. Working together, we can empower society to lead healthier and longer lives. Receiving your public health degree is a major step in that rewarding journey.

Wishing you success in all facets of your life.

A handwritten signature in black ink, appearing to read "Dyjack", with a stylized flourish at the end.

David T. Dyjack, Dr.P.H., CIH  
Dean, School of Public Health



## Mission, Values, and Goals

### Mission

The mission of the School of Public Health is to bring hope, health, and healing to communities throughout the world through the discovery and dissemination of knowledge while integrating the Christian values of the Seventh-day Adventist Church.

### Vision

Preparing world leaders to maximize personal and community wellness through faith-based public health education and practice.

### Values

Diversity—to embrace, celebrate, and learn from human culture and all other forms of the human condition.

Wholeness—to support the process of integrating spirituality with physical, social, emotional, intellectual, and character development.

Engagement—to be actively involved as learners and educators in the public health issues of our time

### Goals

1. Constantly improve the quality of instruction in support of exceptional educational value.
2. Develop reciprocal and sustainable community-academic partnerships that lead to research, practice, and teaching that are responsive to society's needs.
3. Enhance the school's visibility and impact on public health issues.
4. Enhance the school's operating resources through increased external (nontuition) sources.
5. Strengthen infrastructure supporting excellence in grant writing.
6. Recruit and retain a student body that reflects the diversity of the population we serve.

## School Foundations

### HISTORY

The school's foundation was laid in 1948 with the organization of the School of Tropical and Preventive Medicine, the purpose of which was to provide a base for research and teaching. In 1964, plans were made for faculty and facilities to meet the requirements of the Committee on Professional Education of the American Public Health Association (APHA). Three years later, the School of Nutrition and Dietetics (established in 1922) and the Division of Public Health and Tropical Medicine were accredited by AOHA and organized under the name Loma Linda University School of Public Health. This name was changed to School of Health in October 1970 to reflect more clearly the school's emphasis on lifestyle. In response to changing societal perceptions and definitions of "public health," the original name, School of Public Health, was readopted in August 1987. The Center for Health Promotion, the Department of Preventive Medicine, the Preventive Medicine Group were merged into the School of Public Health in 1990. The expanded resources realized by this merger stimulated further growth and development of the school to provide a dynamic learning and research environment for its students and faculty.

### ACCREDITATION

The school has maintained continuous accreditation since it was accredited at its inception in 1967 by the American Public Health Association. It is currently accredited by the Council on Education for Public Health, 800 Eye Street NW, Suite 202, Washington, DC 20001-1397. The school is also a member of the Association of Schools of Public Health.

## General Regulations

Students of the University are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation. Section III of this CATALOG gives the general setting for the programs of each school and outlines the subject and unit requirements for admission to individual professional programs. It is important to review specific program requirements in the context of the general requirements applicable to all programs.

### University email accounts

The University accepts its moral, ethical, and legal responsibility for informing and reminding students of deadlines, regulations, and processes by issuing an email account to every student and communicating with students by email. It is the students' responsibility to read and respond to their email messages from the University.

## Learning Environment

### Technology facilities

The school is excited by the addition of technology-blended and fully online courses. Students should be prepared to use email, electronic library resources, online survey tools, course-management tools, and other Internet communication tools while engaged in the School of Public Health learning environment. With multiple online M.P.H. degree programs and certificates, the School of Public Health is demonstrating its commitment to moving forward with a technology-supported and technology-facilitated learning environment.

Note: Tutorials are available to assist members of this learning community in using the school's various tools.

### Campus facilities

Facilities for the School of Public Health—offices, lecture and seminar rooms, teaching and research laboratories, work and storage areas—are located mainly in and adjacent to Francis Nichol Hall. Additional offices and research facilities are located in Evans Hall and the Parkland Building.

## DEPARTMENTS AND CENTERS

The instructional, research, and service programs within the school are organized and administered by six academic departments and two centers.

### THE DEPARTMENTS

The departments of the School of Public Health are as follows: Environmental and Occupational Health, Epidemiology and Biostatistics, Health Policy and Management, Health Promotion and Education, Global Health, and Nutrition.

#### Department of Epidemiology and Biostatistics

Although the science of epidemiology began with the investigation of the infectious disease outbreaks, epidemiologists today consider the modern plagues of heart disease, cancer, stroke, and injuries to be a part of this relatively young discipline. Contemporary epidemiology builds upon the premise that disease or health is not randomly distributed within populations. Epidemiologists, therefore, apply a collection of investigative research methods that permeate all fields of public health in order to identify and isolate the underlying causes of disease and injury, as well as health. The emphasis placed upon the investigative process has inspired some to describe the epidemiologist as a medical detective.

The diversity of this investigative science is illustrated by a number of research accomplishments ranging from identification of control and preventive measures for AIDS and diabetes mellitus; to etiologic processes important in the development of malignant neoplasms, cardiovascular diseases, and infectious diseases. Other accomplishments of epidemiology

include discovery of social and biological mechanisms involved in the spread of measles, AIDS, and pertussis through human populations; and preventive measures for surgical wound and other hospital-acquired infections.

Contemporary epidemiologic inquiry ranges from investigation of the roles of prescription medications, nutrition, electromagnetic fields, and pesticides in human cancer; to identification of health benefits of cholesterol reduction, smoking cessation, and use of safety bindings on skis.

The efficacy and confirmed success of epidemiology guarantee an exciting future for those who meet the challenges of this advancing science.

The mission of the Department of Epidemiology and Biostatistics is to prepare professionals to serve local, national, and international communities as researchers and consultants qualified to provide an understanding of environmental, genetic, and social characteristics important in disease development and spread; and professionals qualified to select and apply appropriate statistical theories, strategies, and techniques to the solution of research problems.

The Department of Epidemiology and Biostatistics:

1. Trains students to become professionals in epidemiology and biostatistics.
2. Fosters a spirit of collaboration between students and faculty by including students in research projects and as teaching assistants.
3. Provides practical research experience—including presentation of data—through field practice in a public health department or other agency or on one of the research projects within the University.
4. Conducts high-quality research, collaborates on research projects within the school and the University, and develops research collaboration with other academic and research communities.
5. Provides consultation services regarding research design; and analyzes and interprets results to other groups within the University, the community, and outside agencies.

### Department of Global Health

#### Department goal

The department's goal is founded on Christian values of love for and service to humanity and stewardship for the resources of the earth. The department aims to train individuals who will be culturally competent; and who are able to engage communities—especially the poor, vulnerable, and underserved—to help them achieve an optimal level of health and development.

The department offers the following programs:

- A. Master of Public Health
  1. Community Health and Development
  2. Global Epidemiology (dual major)
  3. Global Maternal and Child Health (dual major)
  4. Global Geoinformatic Systems (GIS) (dual major)
- B. Doctor of Public Health (Dr.P.H.)
  1. Doctor of Public Health (Dr.P.H.) degree in global health (currently closed to enrollment)
- C. Certificates
  1. Emergency Preparedness and Response
  2. Tobacco Control Methods

### Department of Health Policy and Management

The goals of the Department of Health Policy and Management are:

1. To equip graduates—within the context of the missions of the University and the School of Public Health—with universal leadership skills and problem-solving abilities that will enable them to effectively function in a rapidly changing environment. Graduates receive a broad interdisciplinary education that encourages critical thinking and the application of systems thinking to the solution of the current challenges facing health care. This program will provide students with a stronger understanding of health policy that will equip them to impact change in national and global environments.
2. To train and strengthen the skills of health care professionals in the analysis and creation of health policy.
3. To equip graduates to critically think through policies that will improve health outcomes of health systems.

Graduates of the M.B.A. programs in the Department of Health Policy and Management will have the skills necessary to:

1. Apply health care knowledge in economic analysis and health policy.
2. Understand organizational structure and governance in addition to equitable and effective human-resource policies.

3. Apply principles of health care finance.
4. Apply principles of managerial accounting in health care.
5. Employ market research towards strategic planning in health care.
6. Employ quality-improvement processes in health care operations management.
7. Understand technology that supports the practice, research, and decision making in health care.

Graduates of the M.P.H. degree program in the Department of Health Policy and Management will have the skills necessary to:

1. Describe the policy processes for improving the health status of populations.
2. Produce health policy communications to appropriate stakeholders.
3. Demonstrate leadership in health policy and advocacy for public health issues.
4. Identify issues that influence access to care, including health services to special populations.
5. Apply systems thinking to current challenges in the health system.
6. Apply the principles of strategic planning to make recommendations for organizational and community health initiatives.
7. Understand the principles of finance and economics.

#### **Department of Health Promotion and Education**

The goals of the Department of Health Promotion and Education are to:

- Promote the academic preparation of public health professionals.
- Provide course work for students desiring credentialing in selected areas.
- Provide health-education consultation services in needs assessment, community-organization program planning and implementation, health counseling, evaluation, and research to public and private health agencies, including the Seventh-day Adventist Church.
- Independently or in collaboration with other faculty, departments, and organizations develop and conduct research that addresses

health education, health behavior, and disease prevention issues and needs.

#### **HPRO department**

Helping students succeed  
Promoting positive behaviors  
Research par excellence  
Outreach to community

#### **Vision statement**

- Ensure that all students come to a nurturing, learning environment; achieve excellence in their educational, lifestyle, and professional pursuits; and leave with a rich heritage upon which to build
- Reflect and model the principles of health to one another and to the students
- Reach out to communities globally for community connectedness
- Use the resource of technology to provide education, including continuing education
- Value fiscal integrity and accountability of programs

#### **Department of Nutrition**

The Department of Nutrition offers programs leading to the Master of Public Health (M.P.H.) and the Doctor of Public Health (Dr.P.H.) degrees. These programs prepare public health nutritionists who can integrate knowledge of physiological science with competencies in behavioral science, management, and public policy to enhance the nutritional status of individuals and populations. Public health nutrition applies the science of nutrition and related disciplines to solving nutrition-related health problems. The department maintains links to providers and programs that give students the opportunity to be exposed to various community nutrition services and work with professionals in a variety of disciplines and settings. As a member of the Faculties of Graduate Programs in Public Health Nutrition, the curriculum conforms to the high standards established by this national organization.

The Department of Nutrition also offers the Master of Science (M.S.) degree in nutrition to meet the specific needs of students who desire advanced training in nutritional science. This program is suitable for persons planning to pursue a doctoral degree in nutrition or related field and for persons preparing to teach at the secondary or college level. It provides training in research skills for health professionals, such as dietitians or physicians, and for those interested in research careers in academic or industrial settings.

The goal of the discipline of public health nutrition is to promote optimal nutrition and health for all members of the population by improving nutritional status and maintaining health.

The Department of Nutrition goals are to:

- Train competent public health practitioners who will serve as leaders in the field.
- Contribute to nutrition knowledge through active research, emphasizing issues related to vegetarian nutrition and plant-based diets.
- Collaborate with local, national, and international organizations in various activities for improvement of the nutritional health of communities.

## THE CENTERS

The two centers of the School of Public Health are: the Center for Health Promotion, and the Center for Health Research. In addition, the Office of Distance Learning offers degrees abroad and in an online modality.

### Center for Health Promotion (CHP)

The center is a health-promotion-and-maintenance facility within the Adventist Health System/Loma Linda. It offers a wide spectrum of programs dealing with weight management, executive health, stress management, smoking cessation, nutrition, exercise, and alcohol and drug dependency. Group sessions, individual counseling, and health assessment are some of the aspects of the programs conducted in the community or in a corporate setting. The CHP is a major training center for students.

### Center for Health Research (CHR)

The center encourages involvement in research by identifying research opportunities and providing support in developing grant applications. It provides research and statistical services, monitors financial status of grants and research endowments, and provides focus for the research activities of the school by identifying research priorities.

The research efforts of the school are consistent with its overall philosophy: protection, promotion, and preservation of human health through the harmonious development of one's mental, physical, and spiritual resources. It is the school's policy to encourage pursuit of research activities that are especially relevant to its mission and that utilize the natural abilities, special interests, and professional expertise of its faculty members. School of Public Health researchers concentrate on projects that examine the effects on health of various aspects of lifestyle—including personal and cultural habits, as well as issues of health disparities. Of special importance is research directed toward those aspects of disease prevention in which health may be related to individual choices of life habits and lifestyle. The school makes special efforts to encourage research projects that are most likely to enrich the instructional programs. In developing research projects, faculty members carefully consider how to encourage

student involvement. The goal is to bring mutual benefit to the students' academic development and to the purposes of research. A wide variety of research methodologies are employed. These provide students with valuable experience through exposure to a broad spectrum of the techniques of scientific investigation. Substantive research findings are incorporated regularly into the teaching program.

### Computer Center

The Computer Center maintains two computer laboratories (PC platform) for general and class specific use. The laboratories, as well as all classroom and public areas of the school, provide wireless Internet access. The Computer Center assists students in utilizing a variety of software programs, including current office productivity applications and specialized software used in conjunction with course work in statistics, nutrition, and GIS. The Computer Center manages student email, both wireless and online service accounts.

### Health Geoinformatics Resource Laboratory

The Health Geoinformatics Resource Laboratory, located in the Del Webb Memorial Library, provides students, faculty, and staff easy access to extensive geotechnology resources. The spacious facility is equipped with high-end computers and other peripherals—such as plotters, GPS devices, printers, a scanner, and more. The laboratory manages the ESRI GIS software site license and maintains remote sensing (satellite imagery), database-management systems, and other state-of-the-art spatial, analytic, and visualization software packages. In addition, the laboratory maintains substantial spatial data—including demographic, population, satellite images, and aerial photographs. The laboratory also supports all the health geoinformatics educational and training needs, as well as various research and practice activities for new insights and innovative solutions to health problems. For more information, visit <[www.llugis.org](http://www.llugis.org)>.

# Application and Admissions

The programs admissions committees of the University assure 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 department of the program in which study is desired accomplishes this by examining evidence of scholastic competence, moral and ethical standards, and significant qualities of character and personality. The school's Admission Committee ratifies the department faculty's decision.

## Computer literacy

Computer literacy is a prerequisite for some courses. Students are strongly encouraged to develop their computer skills and literacy prior to coming to the school.

## BACHELOR OF SCIENCE IN PUBLIC HEALTH

### Program entrance requirements

Content and length of programs vary according to an individual applicant's background (see "Advanced standing") and classification on acceptance. Specific admissions requirements for individual degree programs are described later in this section.

### Subject/Diploma requirements

A high school diploma or its equivalent, the GED, is required.

### Eligibility

Eligibility for consideration is based on a grade-point average of at least 2.5 (on a 4.0 scale) for all course work (science and nonscience subjects computed separately) presented in fulfillment of entrance requirements for all undergraduate majors in the school. A limited number of students whose background and experience show potential for success but whose G.P.A. is between 2.0 and 2.49 may be admitted on a provisional basis.

A minimum grade of C (2.0) is required for all college courses transferred into the undergraduate programs.

## GRADUATE-DEGREE PROGRAMS— M.B.A., M.P.H., M.S.P.H.

### Admissions requirements

Since specific requirements vary from program to program, these should be determined from the area of interest.

### Eligibility

To be eligible for admission to a master's degree program, applicants must have at least a baccalaureate degree from an accredited institution,

with a G.P.A. of 3.0 or above, and present scores of the Graduate Record Examination (GRE). A limited number of students whose background and experience show potential for success but whose G.P.A. is less than 3.0 are admitted on a provisional basis.

A minimum grade of B (3.0) is required for all college-transfer courses.

### Prerequisite courses

A grade of C or higher is required for all prerequisite courses.

### Entrance tests

Scores from the Graduate Record Examination (GRE), or equivalent (including PRAXIS), are required with the application. Application forms for the GRE and information regarding examination times and places are furnished by the Educational Testing Service, 1947 Center Street, Berkeley, CA 94704 (for the west); Princeton, NJ 08540 (for the east). Applicants for the M.B.A. degree program in health administration are required to submit scores from the Graduate Management Admission Test (GMAT), or equivalent, such as the GRE. Application forms for the GMAT and information regarding examination times and places are furnished by Educational Testing Service, 1947 Center Street, Berkeley, CA 94704 (for the west), and Princeton, NJ 08540 (for the east). The applicant may also contact a local community college for testing information or access it online at <[www.ets.org](http://www.ets.org)>.

## MASTER OF SCIENCE

Content and length of programs vary according to an individual applicant's background (see "Advanced standing") and classification on acceptance. Specific admissions requirements for individual degree programs are described later in this section.

## DOCTOR OF PUBLIC HEALTH

### Eligibility

To be eligible for admission to the Doctor of Public Health degree program, an applicant must demonstrate high academic performance both in baccalaureate and postbaccalaureate studies, and present scores of the Graduate Record Examination (GRE). For specific admissions requirements, refer to the Doctor of Public Health degree program described later in this section.

A minimum grade of B (3.0) is required for all University transfer courses.

# Academic Policies and General Regulations

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

## Advanced standing

Graduate students with previous course work in areas of public health may apply for limited units of advanced standing. If approved by the program director or department chair and the associate dean for academic affairs of the school, degree requirements—exclusive of elective units—are reduced. Courses taken during the past five years are considered in an evaluation of the student's qualification for advanced standing. Competency in courses taken more than five years previously may be considered if the content has been used professionally on a regular basis. No advanced standing is granted for life experience that is not in conjunction with previous course work. Advanced standing is not granted for religion courses.

## Religion course requirement

Registration and completion of a 3-unit, graduate-level religion course is mandatory for completion of degree requirements. The purpose of the religion requirement is to provide a spiritual dimension to the professional training of public health students, to provide students with an opportunity to further develop their skills in dealing with life's challenges, and to provide opportunity for personal spiritual growth. Transfer of course units from other universities and institutions is not available; nor is a waiver option available, regardless of educational background. Traditional letter grading is required.

Selection of religion courses to fulfill requirements for the various degrees should be made in consultation with the advisor, using the course schedule published online at <[www.llu.edu/central/ssweb/index.page](http://www.llu.edu/central/ssweb/index.page)>. Undergraduate students may meet the religion requirement by enrolling in 400-level religion courses. Master's degree students are required to complete a 3-unit, 500-level religion course per degree sought; and doctoral students are required to complete three 500-level religion courses in each of the religion content areas: ethical, relational, and theological studies. Only courses with REL\_ code prefixes may be used to satisfy the religion course requirement. The religion requirement may not be waived by registering for a religion course at a university other than Loma Linda University.

## Student classification

Students enrolled in courses prior to receiving official acceptance into the School of Public Health are classified as "nondegree" students by the University. Students may retain this status only by permission of the director of admissions and academic records for a

maximum of 12 units of credit before official acceptance into the school.

## Shared units

The maximum number of units that may be shared between a doctoral and a master's degree program within the University is 18 units. The maximum number of units that may be shared between a bachelor's and a master's degree program within the University is 9 units. The maximum number of units that may be shared between two doctoral programs within the University is 36 units. Shared units between programs may not be automatically granted.

## Convocation attendance

Attendance at weekly University and quarterly school convocations is required. Unexcused absences are reported to the dean. Persistent failure to attend may jeopardize a student's regular standing.

## Course attendance

Only duly registered students may attend classes. Students are expected to attend all required contact elements in a course. Absences in excess of 15 percent may be sufficient cause for a failing or unsatisfactory grade to be recorded.

## Time limit

The time lapse from first enrollment in courses applied to a master's degree curriculum to the conferring of the degree may not exceed five years. For a doctoral degree, the maximum time allowed for advancement to candidacy is five years, and seven years to completion of the degree program. Students who show evidence of appropriate academic progress may be granted up to two one-year extensions for master's and three one-year extensions for doctoral degrees. These extensions are not automatic but must be initiated by student request and be approved by the major department and the associate dean for academic affairs.

## Academic probation

Students whose cumulative G.P.A. at the end of any quarter is less than 2.0 for undergraduate students and 3.0 for graduate students are placed on academic probation, and the number of units for subsequent registrations is restricted to a maximum of 12 graduate or 16 undergraduate units per quarter. Students with two quarters of unsatisfactory performance jeopardize their standing in a degree or certificate program.

## Residency requirements

Residency requirements may be met by a student taking, through the School of Public Health, the minimum number of units specified for the appropriate degree.

To be eligible for a bachelor's degree, students must complete a total of at least 192 units—of which at least 32 of the last 48 units, or a minimum of 45 total units of course work, are completed at Loma Linda University.



The minimum didactic-unit residency requirement for a single master's degree is 45 units (plus 11 units of transfer credit, or 56 units total) and for a single doctoral degree is 60 units (plus 12 dissertation units, or 72 units total).

### Graduation requirements

A candidate for a degree shall have met the following conditions:

1. Completed all requirements for admission.
2. Satisfactorily completed all requirements of the curriculum, including specified attendance; number of credit units; specific course and field instruction; applicable qualifying and comprehensive examinations and culminating activities; and have a cumulative grade-point average of 2.5 for undergraduate students or 3.0 for graduate students, computed separately for the total degree program and for courses in the major area.
3. Completed the culminating activity, which shall consist of a combination of the following, depending on the academic program:
  - a. a written comprehensive examination (prior to the field experience),
  - b. field experience (upon completion of essential major course work),
  - c. professional portfolio (upon completion of the field experience), and
  - d. an online exit survey and exit interview with the department chair (at the conclusion of the program).
4. Attended a minimum of five approved public health seminars for the bachelor's degree program.
5. Attended a minimum of ten approved public health seminars for each master's degree sought, and a minimum of twenty approved public health seminars for doctoral degree sought.
6. Submitted a graduation petition two-to-four quarters before graduation, as specified by the degree program.
7. Given evidence of responsiveness to the established aims of the University and of the school.
8. Discharged financial obligations to the University and completed the exit interview with the Office of Student Finance.

The candidate who has completed the requirements at the end of the Spring Quarter is encouraged to be present at the conferring of degrees. Students desiring to participate in commencement ceremonies must do so at the spring (June) exercise immediately following completion of their assigned curricula.

The University reserves the right to prohibit participation in commencement exercises by a candidate who has not satisfactorily complied with all requirements.

### Grievance policy

Grievances related to sexual harassment, racial harassment, or discrimination against the disabled shall be pursued in accordance with University policies specifically relating to these items. Grievances related to academic matters or other issues covered by specific school policies shall be made pursuant to the policies of the school in which the student is enrolled. A student who questions whether the process provided by the school has followed its policy in regard to his/her grievance may request the Office of the Chancellor to conduct a review of the process used by the school in responding to his/her academic grievance. For more detailed information, please see the University *Student Handbook* for School of Public Health grievance policy and procedures.

### Programs and degrees

It is the responsibility of students to know and fulfill all academic and graduation requirements and to make every reasonable effort to obtain adequate academic advisement. Frequent advisor contact helps to ensure that students have current academic information and are making adequate progress toward educational goals.

### Degrees offered

The School of Public Health offers one bachelor's degree, the Bachelor of Science in Public Health; four master's degrees—Master of Business Administration, Master of Public Health, Master of Science in Public Health and Master of Science; and two doctoral degrees—Doctor of Public Health (Dr.P.H.) and Doctor of Philosophy (Ph.D.).

### Continuing education and extension programs

The school offers nondegree short courses and workshops at various locations in the United States and overseas to meet the continuing-education and extension-program needs of School of Public Health alumni, other health professionals, and lay persons in the church and community. In addition, most degree courses are approved for continuing-education credit.

## BACHELOR'S DEGREE PROGRAM

### Bachelor of Science in Public Health

The Bachelor of Science in Public Health (B.S.P.H.) degree program is designed for individuals with professional career objectives in the major concentration area of health care administration.

The program leading to the B.S.P.H. degree is designed to prepare graduates for employment as professionals in health-related fields and to provide a foundation for personal growth.

This program also provides a strong base for those who wish to pursue a graduate degree.

The B.S.P.H. degree program combines a broad-based education with study in public health, emphasizing applied aspects and public health practice. Specific information about this program may be found later in this section.

**B.S.P.H. degree program requirements**

The first year of the program is taken at a college or university of the student's choice. Ideally, students will have completed their first two years of course work prior to entering the B.S.P.H. degree program. However, only the first year of college or university course work must be completed prior to entering the program. Students transfer to Loma Linda University School of Public Health for the remaining two or more years. Students taking part-time course work may take longer to complete the program.

Each student is required to complete 68 units as specified in the general education policy of Loma Linda University. General education requirements (GE) are to be met through lower-division courses at a college or university of the student's choice, as well as through courses taken during the final Loma Linda University years.

A minimum of 192 units is required for the B.S.P.H. degree. (See the General Education section in this CATALOG.)

**Public health content requirements**

All undergraduate degree students in the School of Public Health are expected to develop an understanding of the areas of knowledge basic to public health. This will be accomplished through the public health core courses covering topics such as essentials of public health, epidemiology, and biostatistics; as well as through the integration of the knowledge-base concepts in the areas of concentration.

Students are expected to identify a specific area of concentration or a major. They may also opt to take additional course work leading to a second area of emphasis.

**Public health seminars**

Attendance is required at a minimum of five public health seminars for each bachelor's degree sought. This is seen as an enrichment that augments the student's acquaintance with diverse current public

health issues and concerns. The seminar requirement must be met during the student's enrollment in the School of Public Health and is separate from course-credit registration. No tuition or fee is charged by the school. Seminar activities that qualify to meet this requirement are those that have been approved by the associate dean of academic affairs. Many seminar presentations in the School of Public Health or in other parts of the University, the University Medical Center, the Jerry L. Pettis Memorial Veterans Medical Center, or the surrounding community qualify to meet this requirement. Prior approval must be obtained for public health seminars offered outside the School of Public Health.

Credit for no more than three public health seminars may be received for attendance at any one workshop or meeting, regardless of how many hours are attended.

**Senior project**

Students are required to complete a senior project demonstrating competence in their field of study.

**MASTER'S DEGREE PROGRAMS**

Master of Public Health (M.P.H.), Master of Business Administration (M.B.A.), and Master of Science in Public Health (M.S.P.H.) degree programs are designed for those with appropriate backgrounds who are seeking to acquire graduate-level competencies in public health, business administration, or health administration.

**MASTER OF PUBLIC HEALTH**

The program leading to the Master of Public Health (M.P.H.) degree is designed to provide broad preparation in the fundamentals of public health, while at the same time offering opportunity for some specialization in areas of interest.

The degree is offered with major concentrations in the areas of biostatistics, environmental and occupational health, epidemiology, health policy and management, health education, global health, maternal and child health, and nutrition. Combined degrees are available for a variety of programs and majors in conjunction with other Loma Linda University Schools. Section III of this CATALOG provides specific information about these programs.

**Public health core requirements**

All graduate degree students in the School of Public Health are expected to develop an understanding of the areas of knowledge basic to public health. This is accomplished by including the following required courses or their equivalents in each degree program:

ENVH 509/581	Principles of Environmental Health/ Principles of Industrial Hygiene	3.0
EPDM 509	Principles of Epidemiology I	3.0

HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
PHCJ 605	Overview of Public Health	1.0
STAT 509/521	General Statistics/Biostatistics I	4.0
RELE 534	Ethical Issues in Public Health	3.0
HPRO 536	Program Planning and Evaluation	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
PHCJ 675	Integrated Public Health Capstone	2.0

Students are expected to identify a specific area of concentration or major. They may opt to add additional course work leading to a second area of emphasis.

#### Public health seminars

Attendance is required at a minimum of ten public health seminars for each master's degree sought. This is seen as an enrichment that augments the student's acquaintance with diverse current public health issues and concerns. The seminar requirement must be met during the student's enrollment in the School of Public Health and is separate from course-credit registration. No tuition or fee is charged by the school. Seminar activities that qualify to meet this requirement are those that have been approved by the associate dean of academic affairs.

Many seminar presentations in the School of Public Health or in other parts of the University, the University Medical Center, the Jerry L. Pettis Memorial Veterans Medical Center, or the surrounding community qualify to meet this requirement. Prior approval must be sought for public health seminars offered outside the School of Public Health.

Credit for no more than three public health seminars may be received for attendance at any one workshop or meeting, regardless of how many hours are attended.

#### Culminating activity

The school requires each graduate to complete a synthesizing activity that demonstrates basic competencies in the five core areas of public health. These areas include biological, physical, and chemical factors that affect the health of a community; concepts and methods of relevant social and behavioral sciences; distribution of diseases or conditions in populations, and factors that influence this distribution; collection, storage, retrieval, analysis, and interpretation of health data; and planning, policy analysis, and administration of health programs.

#### Field practicum

In accordance with Loma Linda University's mission—"To make man whole"—the School of Public Health provides students with rich experiences, as well as training opportunities that include all dimensions of health: physical, mental, spiritual,

intellectual, and environmental. Part of this training occurs during the practice experience which may be referred to as field practicum, applied research, or internship, depending on the department. It can be performed during one or more quarters, and generally consists of 400 hours. The practice experience at the School of Public Health is an opportunity for students to apply the knowledge they learn in the classroom, enhance their understanding of public health, and contribute to the health of the community in which they are engaged. The experience allows students to demonstrate their ability to synthesize and integrate prior learning into real-life, public health settings.

### PEACE CORPS MASTER'S INTERNATIONAL PROGRAM / MASTER OF PUBLIC HEALTH

#### Peace Corps Volunteers/International

The Peace Corps was established in 1961 to provide U.S. citizens an opportunity to serve their country in the cause of peace by living and working in developing countries. Over the years as the needs of host countries have evolved, the Peace Corps has continued striving to attract individuals whose education, experience, and cross-cultural sensitivity can address global needs as they arise; and who can facilitate sustainable, community-centered development. After identifying a number of areas in which there was a shortage of personnel with specialized expertise—including the area of public health—the Peace Corps established the Master's International Program in 1987. This program is designed not only to meet the increasing demand from Peace Corps host countries for volunteers with higher levels of education and technical expertise, but also to provide volunteers the opportunity to incorporate Peace Corps service into graduate education pursuits.

Loma Linda University is one of eighty-two universities currently participating in the Master's International Program. It is one of only eleven universities that offer this prestigious program in conjunction with the Master of Public Health degree, which includes one of the following emphases: environmental health, health promotion and education, global health, maternal-child health, health policy and management, and nutrition.

Prospective students must be accepted both by Loma Linda University School of Public Health into the Master of Public Health degree program, and by the Peace Corps into the Master's International Program.

To join the Peace Corps, the applicant must be a U.S. citizen, at least 18 years of age, and in good physical health.

For information regarding additional eligibility criteria and the excellent benefits package (including language and cultural training, living and housing expenses in the field, medical and dental coverage, deferment of student-loan repayment, transportation allowance to and from one's service assignment, vacation time and allowances, financial readjustment and allowance, and employment assistance postservice), contact the Peace Corps at 800/424-8580, ext.1843; or Office of University Programs at <www.peacecorps.gov>.

After acceptance into the program, the student completes the course work on the Loma Linda campus. The student also completes three months of intensive language, technical, and cross-cultural training.

When the academic course work and training have been completed, the student enters a three month intensive language, technical, and cross-cultural training period in the assigned host country with Peace Corps. Upon completion of the training period, the student is then a full-fledged volunteer and begins the twenty-four month service period.

While on assignment, MIP/M.P.H. degree program students receive an internship or a field-practicum tuition scholarship.

Upon satisfactory completion of the Peace Corps assignment and the culminating activity report, the student is awarded the M.P.H. degree.

#### **Peace Corps Fellows/USA (Community Program)**

Peace Corps fellows receive scholarships and full credit for Peace Corps service and are eligible for work-study and medical benefits. Fellows will help coordinate community-based learning activities in the neighborhoods of San Bernardino, California. (Internship requires access to an automobile.) Specific responsibilities include assisting faculty in organizing projects and in helping to mentor students.

### **MASTER OF BUSINESS ADMINISTRATION**

The program leading to the Master of Business Administration (M.B.A.) degree is designed to develop the management and administrative skills of those involved in the public and private health care industries.

The Master of Business Administration (M.B.A.) degree provides a broad understanding of health care

management and hands-on experience in applying learned principles. The M.B.A. degree is designed for those whose professional objective is a career in health care management. The residency period provides experience in a health care organization. Graduates are prepared for careers at upper-administrative levels in health care organizations—including hospitals, public agencies, health care networks, group practices, long-term care, and managed care.

### **MASTER OF SCIENCE IN PUBLIC HEALTH**

The Master of Science in Public Health degree is designed to provide in-depth specialization in one area of public health while at the same time assuring an orientation to community health and a breadth of understanding of the core areas by a required minimum of core public health courses.

The degree is offered in the area of biostatistics. Specific information about the areas of specialization is found in the Biostatistics Program in this CATALOG.

### **MASTER OF SCIENCE**

The Master of Science degree in nutrition is offered to meet the specific needs of those who desire advanced training in nutritional sciences. The Master of Science degree in nutrition 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.

More information about this area of specialization is found in the Nutrition Program in this CATALOG.

#### **Public health core requirements**

All graduate students in the School of Public Health are expected to develop an understanding of the areas of knowledge basic to public health.

#### **Public health seminars**

Attendance is required at a minimum of ten public health seminars for each master's degree sought. For further information, please refer to the public health seminar description provided later in this section.

#### **Culminating activity**

The School of Public Health requires each graduate to complete a synthesizing activity that demonstrates basic competencies in the five core areas of public health.

## RESIDENCIES FOR PHYSICIANS

Residency training in the specialties of general preventive medicine and public health, and occupational medicine, as well as a combined residency in family and preventive medicine, are offered by the School of Public Health for qualified physicians. Both the residency-training and the combined-residency programs are accredited by the Accreditation Council for Graduate Medical Education (ACGME) and prepare residents for certification by the American Board of Preventive Medicine (ABPM). Both specialties require the successful completion of an accredited M.P.H. degree. Because LLUMC offers an annual tuition benefit to all employees, approximately 40 quarter hours of the required 56-60 hours to complete an M.P.H. will be at a nominal cost.

Applicants who have completed an accredited internship year but not an M.P.H. degree, need to apply for the two-year integrated academic and practicum program; while those who have completed an accredited internship year and an M.P.H. degree need to inquire regarding application for the practicum year only.

Those interested in applying to either of these training programs should contact the residency office in Nichol Hall, Room 1516 by either calling 909/558-4918 or emailing ifoster@llu.edu.

### Preventive medicine residency

The three-year program consists of an internship year followed by two years of integrated academic and practicum experiences. Three internship positions are offered through the NRMP Match each year.

The program combines the academic and practicum experience over two years. During this time, residents will complete their M.P.H. degree and rotate at the community training sites. They are encouraged to major in epidemiology, health administration, or health care practice, but are not required to do so. Practice sites include the Center for Health Promotion, the Jerry L. Pettis VA Medical Center, Patton State Hospital, Kaiser Permanente Medical Center in Fontana, San Bernardino County Department of Public Health, and the Inland Empire Health Plan. A wide variety of intervention programs to reduce health risks and promote healthful living practices are integrated into the second- and third-year rotations; and an international health emphasis is available for interested residents, including involvement with international projects in developing countries.

During the senior year, each resident conducts a research project on a topic of choice, under the guidance of the residency and faculty members at the School of Public Health.

### Family and preventive medicine residency

The Family and Preventive Medicine Residency Program combines curricular elements of a three-year

family medicine residency and a three-year preventive medicine residency into an efficient training program of four years. During the first year, residents complete a family medicine internship but also set aside time to begin course work towards their Master of Public Health (M.P.H.) degree. The second year remains family medicine centered but also includes a preventive medicine rotation and further M.P.H. course work. During the third and fourth years, there is an equal mix of family and preventive medicine rotations and M.P.H. degree course work, as well as elective time.

Residents may select one of two tracks: (a) global health or (b) lifestyle medicine. In each track, residents are exposed to new models of clinical care and also spend extra time emphasizing natural, nonpharmaceutical approaches to health and healing.

Elective time during the third and fourth years can be used to pursue one of the specific tracks summarized above or for additional learning in other areas of interest and value to the resident.

### Occupational medicine residency

Physicians who have completed an internship (PGY-1) year are eligible to apply for the two-year occupational medicine program, which involves an integrated academic and practicum phase. Most residents select an M.P.H. degree major in environmental health. If an accepted applicant has already completed an accredited degree with a major emphasis in an area other than environmental health, s/he will be required to take the following courses during the training: ENVH 589 Environmental Risk Assessment, ENVH 581 Principles of Industrial Hygiene, and ENVH 587 Environmental Toxicology.

The program emphasizes the clinical and applied aspects of occupational and environmental medicine. It focuses on the health of individuals and groups in relationship to work, hazards in the workplace, and environmental issues. The University takes special interest in the assessment of individual health hazards and the identification and promotion of practices that help to reduce risk and prevent or postpone disease and injury.

During the senior year, each resident completes a research project on a topic of choice, under the guidance of the residency and faculty members at the School of Public Health.

### Addiction medicine fellowship

The fellowship program provides addiction-medicine experience and opportunities, and utilizes a wide range of evaluation and treatment settings. Fellows will be involved with treatment and education groups, lectures, and teaching of internal medicine residents, family practice residents, preventive medicine residents, and medical students.

Applicants must have successfully completed an accredited residency-training program in any medical

specialty and have a valid medical license in the state of California.

Fellows rotate at the following sites: Loma Linda University Behavioral Medicine Center, Betty Ford Center, and the Kaiser-Fontana Chemical Dependency Recovery Program.

The start date for a one-year fellowship is July 1 of each year, though this is negotiable.

### **MEDICAL/DENTAL LEADERSHIP PROGRAM**

The rising complexity of health care in this country and abroad will require increasingly skilled leadership in both the public and private sectors—from sophisticated health care systems to mission hospitals, from research laboratories to primary care. Combining a Master of Public Health degree in an appropriate discipline with an M.D. or D.D.S. degree can provide a sound foundation for young professionals seeking to influence and manage the future.

The School of Public Health offers combined-degrees programs—M.D./M.P.H. and D.D.S./M.P.H.—for students enrolled in Loma Linda University Schools of Medicine or Dentistry. The didactic course work for the Master of Public Health degree can be taken in any major within a twelve-month period after either the second or third year of the M.D. or D.D.S. program. In some cases, additional time may be required for field work.

Each student is expected to concentrate full time on the Master of Public Health degree during the designated year. Applications will be reviewed competitively, with particular focus on potential for future health care leadership.

### **DISTANCE LEARNING PROGRAMS**

The School of Public Health offers master's degree programs in various majors online and at off-campus sites to meet the needs of qualified individuals who seek to develop graduate-level competencies in public health but who for a variety of reasons choose not to be full-time, on-campus students.

The School of Public Health has had much experience in offering distance-learning master's degree programs. For more than thirty years, the School of Public Health has adapted its program-delivery style to meet the needs of busy professionals. Currently the School of Public Health's Online Executive Master of Public Health in public health practice and the Online Master of Public Health in health education programs caters to both American and international students. The school also offers M.P.H. degree programs in Russia and Peru, and an M.B.A. degree program in Guam and Hawaii.

The off-campus programs require the school's faculty to travel to the education site and teach courses in the condensed format. School of Public Health research shows that this form of instruction is just as effective as the less condensed method, especially with experienced professionals eager to learn.

#### **General degree requirements**

All applicants to the Distance-Learning Programs must meet the general admissions requirements found in Section II of this CATALOG.

### **DISTANCE LEARNING FINANCIAL INFORMATION**

#### **Financial policies**

Tuition for the online M.P.H. degree programs courses is the same as the on-campus tuition rate. Tuition must be paid in full at the time of registration.

#### **Refund policy for condensed courses**

Tuition refund for courses dropped is according to the following schedule:

- First day of class, or fraction thereof—100 percent of tuition refunded;
- Second day of class, or fraction thereof—75 percent of tuition refunded;
- Third day of class, or fraction thereof—50 percent of tuition refunded;
- After the on-site class session is complete—no tuition is refunded.

#### **Financial clearance**

The student is expected to maintain a clear financial status at all times. Financial clearance must be obtained:

- before registering for any class;
- before receiving a diploma; or
- before requesting a transcript, statement of completion, or other certification to be issued to any person, organization, or professional board.

#### **Loans**

Inquiry about loans should be made to the University Office of Financial Aid. Only students who are accepted into a degree program or federal financial aid-approved certificate program are eligible to apply. For loan purposes, off-campus students registered for 4 units per quarter are considered to be enrolled half-time.

#### **Checks**

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

## ONLINE EXECUTIVE MASTER OF PUBLIC HEALTH

The Online Executive Master of Public Health Program is offered with a major in both public health practice and health education. This is a three-year online program with online orientation, community, and courses. Students begin their program in any of the four quarters of the academic year.

The program closes with a culminating activity, which includes a community practicum report, preparation of a portfolio, and an exit interview.

### Course load

A full-time graduate course load consists of 8 units, and a half-time graduate course load is 4 units. Students in the Distance-Learning Program who need to qualify for financial aid must take a minimum of 4 units per quarter to establish and maintain eligibility.

### Proctors

Some courses require a proctored examination. Each student is required to have on file with the Office of Distance Learning a signed proctor contract with the name of a person who will serve as his/her permanent proctor. A proctored examination is automatically sent to this person. The proctor may not be a relative or someone living in the same house as the student. The registrar of a local college or university, a librarian, or a minister is considered an appropriate proctor.

### Residence requirement

There is no residence requirement for the Online Executive M.P.H. degree programs. Students in this program complete it online.

## INTERNATIONAL PROGRAMS

### Peru M.P.H.

M.P.H. degree programs are offered in Peru. These programs are designed around the specific needs of the community. Majors are offered in health education and promotion, as well as in maternal and child health. The programs of instruction are offered in Spanish. *It is currently closed to new admissions.*

### Russia M.P.H.

In August 2005, an M.P.H. degree program was established in Russia. Two public health practice streams are offered—one with a health education focus; the other with a research, epidemiology, and program planning focus. These programs are building teams of people who can address the public health needs of the local people and help build public health infrastructure. The programs of instruction are offered in Russian. *It is currently closed to new admissions.*

### Pacific M.B.A.

In August 2006, the School of Public Health began Master of Business Administration degree programs in Hawaii and Guam. This degree, with an emphasis in health administration, provides students with a

broad understanding of health care management and practical experience in applying learned principles. Graduates are prepared for careers in upper administration in health service organizations—including medical centers, hospitals, health plans, physician group practices, and long-term and managed care settings.

## CERTIFICATE PROGRAMS

The School of Public Health offers certificates in various programs to meet the needs of qualified individuals seeking to develop competencies in specialties in public health but who for a variety of reasons do not choose to become full-time, degree-seeking students.

Instruction for the certificate program is primarily provided by regular School of Public Health faculty members on campus during regular quarter terms. Students are responsible to follow regular registration procedures during regularly scheduled time periods.

## GENERAL CERTIFICATE INFORMATION

### Course work

Course sessions are conducted during regular term sessions. Certificate courses offered are regular School of Public Health courses that carry the same credit units as courses applicable toward degree programs, and may be applied to degree requirements. Certificate courses are taught on a quarter-term system, although selected courses may be offered by special arrangements.

### Religion course requirement

Registration and completion of a 3-unit, graduate-level, religion course is mandatory for completion of each certificate program. Religion courses must have an REL\_ prefix and be offered through Loma Linda University. The purpose of the religion requirement is to provide a spiritual dimension to the professional training of public health students, to provide students with an opportunity to further develop their skills in dealing with life's challenges, and to provide opportunity for personal spiritual growth. Course units will not be transferred from other universities or institutions, nor is waiver of this requirement an option, regardless of educational background. Traditional letter grading is required.

## GENERAL CERTIFICATE REQUIREMENTS

All applicants to the certificate programs must meet the general admissions requirements found in Section II of this CATALOG. Course work is graduate level; therefore, students must demonstrate eligibility for application to a graduate level program.

### Course format

In general, courses are taught in the same format as regularly scheduled on-campus courses. However, in

addition, Web-based courses and/or intensive-format courses may be utilized. These courses are tailored to the adult learner, with clear application and examples from the public health professional world. These courses represent the same course requirements and credit units as those applicable to degree programs.

#### **Grade-point average**

A grade-point average (G.P.A.) of 3.0 (B) must be maintained.

#### **Financial clearance**

The student is expected to maintain a clear financial status at all times. Financial clearance must be obtained prior to the following:

- registering for any class;
- receiving a certificate; or
- requesting a transcript, statement of completion, or other certification to be issued to any person, organization, or professional board.

#### **Application to a degree program**

Participants completing an advanced certificate program or a second certificate program may apply to a degree program offered at the School of Public Health. In general, this will require adding the public health core courses (28 units) and any additional requirements of the degree program.

### **TEN CERTIFICATE PROGRAMS**

The School of Public Health offers ten certificate programs and information on certification as a fitness instructor for the American College of Sports Medicine.

- Certificate in Basic Biostatistics
- Certificate in Basic Epidemiology
- Certificate in Advanced Biostatistics
- Certificate in Advanced Epidemiology
- Certificate in Epidemiological Research Methods
- Certificate in Health Geoinformatics
- Certificate in Emergency Preparedness and Response
- Certificate in Reproductive Health
- Certificate in Tobacco-Control Methods
- Certificate in Lifestyle Intervention

#### **Certificates in biostatistics and epidemiology**

Five certificate programs are offered through the Department of Epidemiology and Biostatistics. These programs offer specific skills in the biostatistics and epidemiology areas to professionals and others who desire to add these skills to their practices in public health but who do not necessarily wish to earn degrees.

In addition, these programs may serve as an introduction to graduate study. Students who have the opportunity to complete the basic certificate programs may eventually enter the master's degree programs.

Students who successfully complete the basic certificate programs must apply for regular acceptance into a master's or doctoral degree program in the School of Public Health prior to taking course work toward a second or advanced certificate program.

The purpose of the certificate program in epidemiological research methods is to enable the holder to be more effective in applying for and designing research studies and surveys and doing basic descriptive analyses of collected data.

#### **Health geoinformatics**

The certificate in health geoinformatics is offered through the Department of Environmental and Occupational Health. The purpose of this certificate is to prepare participants to apply geospatial information science and technologies to public health practice, research, and learning. These skills are highly desired today as an integral part of health informatics competencies that are required of health professionals, as outlined in the 2002 Institute of Medicine (IOM) reports.

Upon completion of this program, students should be able to:

- State the basic principles of geospatial information science as they relate to health research and practice.
- Use state-of-the-art geographic information system (GIS) software applications and techniques for accessing and capturing spatially defined health information; and build a related, useful geospatial database.
- Use effective geospatial data displays while producing and publishing customized maps and other visual displays of health data.
- Employ GIS-based methods and techniques of spatial analysis that support health research and decision making in public health practice and policy.
- Competently apply geospatial technology and methods in at least one key area of



health geoinformatics, such as disease mapping, tracking, and assessment of environmental hazards and exposure; health planning and policy; community health; health education and communication; analysis of access to health services; or health care geographics.

- Manage health GIS projects in government, academia, and community settings.

#### **Emergency preparedness and response**

The certificate in emergency preparedness and response will provide students with knowledge and skills to effectively plan, implement, and evaluate domestic and international public health emergency response and recovery efforts.

Upon the completion of this certificate program, participants will be able to:

- Take leadership and management roles in disaster preparedness and response.
- Design a preparedness and response plan.
- Create and execute table-top exercises and drills.
- Evaluate and assess community and institutional capacity for emergency preparedness and response.
- Address the major public health issues that arise during emergencies.

#### **Reproductive health**

The certificate in reproductive health is offered through the Department of Health Promotion and Education. The purpose of this regular certificate program is to familiarize participants with the complex issues associated with planning, implementing, and evaluating reproductive health programs for men and women.

Upon completion of this certificate program, participants will be able to:

- Describe key public health issues in the field of reproductive health.
- Utilize principles of behavior change in the promotion of reproductive health.
- Plan, implement, and evaluate public health programs addressing multifaceted, integrated programs in reproductive health based upon current operational models.
- Write competitive proposals for grants and contracts in the field of reproductive health.

#### **Tobacco control methods**

Tobacco consumption continues to be a major public health challenge both globally and in the U.S.A. According to the World Health Organization, an estimated 4.2 million deaths are attributable to tobacco use annually. In the U.S.A., more than 400,000 individuals (30 percent of cancer mortality) die from tobacco-related causes every year.

Although a variety of strategies are being used to address the tobacco problem, there is a dearth of academic-based programs to educate health professionals who will function as effective practitioners and researchers in tobacco-use prevention and treatment. The purpose of this interdepartmental collaborative program is to train participants in tobacco research that effectively integrates theory and field-based experience.

Upon completion of this certificate program, participants should be able to:

- Design a needs-assessment survey.
- Employ epidemiological and statistical research methods.
- Apply principles and methods in health education to foster behavior change.
- Plan, implement, and evaluate community-based programs.
- Advocate for policy change.
- Prepare a grant or contract proposal.
- Write publishable papers.
- Conduct strategic planning.

## **DOCTORAL DEGREE PROGRAMS**

### **DOCTOR OF PUBLIC HEALTH**

The Doctor of Public Health (Dr.P.H.) degree is designed to provide comprehensive academic and research training in the field of public health. Students may enroll on a full or part-time basis; however, they must advance to candidacy within five years of entering the program. Majors are available in: epidemiology, health education, global health (currently closed to new admissions), nutrition, and preventive care. A combined-degrees program is available with psychology. Information on requirements for a specific program may be found in Section III of this CATALOG.

The doctoral programs offer training for careers in which advanced analytical and conceptual capabilities are required (e.g., teaching, research, consultation, and top-level administration). Students' research and dissertations are key components in the

development of critical thinking related to public health and their major fields.

A minimum of two years is generally required to complete course work; however, the number of units required depends on the specific major chosen. Time to completion of dissertation is variable. Program plans are described under individual majors.

Students whose academic backgrounds include substantial graduate study in public health and/or the major field may be granted advanced standing. The number of units of course work required to complete the program may be reduced accordingly but is not to be fewer than 60 units plus dissertation units at Loma Linda University.

### Our goals

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

- Educating ethical and proficient public health professionals and scholars through instruction, example, and the pursuit of truth;
- Expanding and providing advanced knowledge through research in nutrition, epidemiology, health education and preventive care and applying this knowledge to health and disease in the context of public health;
- Providing advanced skills and competencies for leaders in public health teaching and practice.

### Learner outcomes

Upon completion of the Doctor of Public Health degree program, students will be able to:

- Apply ethical principles to the field of public health.
- Demonstrate a commitment to lifelong learning to support the pursuit of truth.
- Demonstrate a core set of research skills.
- Use data and theory to identify public health problems.
- Formulate appropriate research questions.
- Choose appropriate research designs.
- Develop data-collection instruments.
- Collect, enter, and manage data.
- Analyze and interpret data.

- Communicate, both orally and in written form, results to the scientific and lay community.
- Write program and grant proposals and compete for external funding.
- Demonstrate competencies in teaching, public health practice, and strategic planning.

### Admissions requirements

Following are the admission requirements for the Doctor of Public Health degree program:

- A strong background and high academic performance in previous education.
- M.P.H. or M.S. degree in the major field or its equivalent; or a doctoral degree in a health-related field.
- Minimum cumulative G.P.A. of 3.2 in graduate study.
- Submission of GRE scores (taken within the past five years).
- Statement of professional aspirations and goals.
- Experience beyond a master's degree in a health-related field, preferably that of the major, required by some programs.
- Recommendations indicating the applicant's academic performance and leadership potential.
- Interview with the doctoral committee.

Applications are considered year round.

### Comprehensive and qualifying examinations

Students are required to demonstrate ability and readiness to proceed with doctoral study and research by successfully passing appropriate comprehensive and/or qualifying examinations. The specific format and timing are dependent on the major field of study. Organization of the material, professional presentation, and reference to authorities in the field and the literature are expected.

### Advancement to candidacy

Advancement to candidacy is granted by the associate dean for academic affairs. Thereafter, a dissertation committee is formally appointed upon recommendation of the associate dean, provided students have:

- Shown evidence of superior scholarship and ability.
- Fulfilled all course requirements.

- Satisfactorily passed the appropriate examinations.
- Received approval of the individual's dissertation committee for the research and dissertation proposal.

#### **Time limit**

The time lapse from first enrollment in the Dr.P.H. degree program to advancement to candidacy is five years, and seven years to completion of the degree program.

#### **Research and dissertation**

The dissertation is a scholarly statement of the results of original research. It should advance knowledge in the major field. It must be an independent investigation and include analysis and interpretation of data and discussion of findings. It should be skillfully written and of such scholarship and scientific value as to demonstrate a mastery of research methodology. Students are encouraged to use the publishable paper format (required in some majors) rather than the traditional form. The dissertation is defended orally before the doctoral research committee and presented publicly before invited faculty, peers, and the academic and health community. Additional information is detailed in the school's *Dr.P.H Handbook*.

#### **Public health seminars**

Attendance is required at a minimum of twenty public health seminars for each doctoral degree sought. For further information, please refer to the public health seminar description.

#### **Teaching and research assistantships**

A limited number of research and teaching assistantships are available. Students on assistantships make a time commitment for experience and may need to limit their academic load in order to participate in these activities.

#### **Postdoctoral fellowships**

One-year fellowships may be available in various programs. They are tailored to the applicant's interest (in accordance with training opportunities), expressed needs, and funding. Details can be obtained from the dean.

### **DOCTOR OF PHILOSOPHY**

The Doctor of Philosophy (Ph.D.) degree is designed to provide comprehensive research and academic training. Students may enroll on a full- or part-time basis; however, they must advance to candidacy within five years of entering the program. The Ph.D. degree is currently offered in epidemiology.

The Ph.D. degree offers training for top-level jobs in research and academia. The program is specifically targeted to doctoral level health professionals who want to move into a research and academic career. However, those with a master's degree in a relevant

field and with documented research experience are also eligible for this program. Students' research and dissertation are key components in the development of critical thinking.

Course work is generally completed in two years. Time to completion of dissertation is variable. The specific program plans are described under the epidemiology department.

Students whose academic backgrounds include substantial graduate study in a cognate field may be granted advanced standing. The number of units of course work required to complete the program may be reduced accordingly but is not to be fewer than 60 units plus dissertation units at Loma Linda University.

#### **School goals**

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

- Educating ethical and proficient scholars through instruction, example, and the pursuit of truth;
- Expanding and providing advanced knowledge through research in various fields related to human health and disease.
- Providing advanced skills and competencies for professionals who plan to pursue a research career.

#### **Learner outcomes**

Upon completion of the Doctor of Philosophy degree in epidemiology, students will be able to:

- Identify areas requiring biomedical or epidemiologic research and design and conduct appropriate study to address the question(s).
- Write grant proposals to obtain funding for research.
- Select and execute appropriate and valid analyses of data using available statistical software.
- Write, interpret, and publish results of conducted research and communicate orally.
- Develop and teach classes at the graduate level within their area of expertise.

**Admissions requirements**

Following are the admission requirements for the Doctor of Philosophy degree program in epidemiology:

- A strong background and high academic performance in previous education.
- Doctoral level health professional degree or master's degree in relevant field with documented research experience.
- Students without a doctoral level health professional degree, completion of several courses in biological sciences (see section Epidemiology-PH Doctor of Philosophy prerequisites)
- GRE scores above the 50th percentile required in all three sections with an average of at least the 50th percentile on the quantitative and analytic sections combined.
- International students, comprehensive evaluation of transcript by an approved foreign credentialing agency for equivalence of a doctoral level health professional degree or a master's degree in a relevant field; also, a TOEFL score of 213 (computer generated, with an essay score of 5.0) if English is the applicant's second language.
- Minimum cumulative G.P.A. of 3.2 in graduate study
- Statement of professional aspirations and goals
- Recommendations indicating the applicant's academic performance and research potential
- Interview with the doctoral committee

Applications are considered all year round.

**Comprehensive and qualifying examinations**

Students are required to demonstrate ability and readiness to proceed with doctoral study and research by successfully passing the comprehensive examination. The examination includes writing a grant proposal on a specific topic, doing independent statistical analyses on a provided dataset, oral examination, and oral presentation of the grant proposal. Organization of the material, professional presentation, and reference to authorities in the field and the literature are expected.

**Advancement to candidacy**

Advancement to candidacy is granted by the associate dean for academic affairs upon recommendation by the Department of Epidemiology and Biostatistics. Thereafter, a dissertation committee is formally

appointed upon recommendation of the associate dean, provided students have:

- Shown evidence of superior scholarship and ability.
- Fulfilled all course requirements.
- Satisfactorily passed the appropriate examinations.
- Received approval of the individual's dissertation committee for the research and dissertation proposal.

**Time limit**

The time lapse from first enrollment in the Ph.D. degree program to advancement to candidacy is five years, and seven years to completion of the degree program.

**Research and dissertation**

The dissertation is a scholarly statement of the results of original research. It should advance knowledge in the major field. It must be an independent investigation and include analysis and interpretation of data and discussion of findings. It should be skillfully written and of such scholarship and scientific value as to demonstrate a mastery of research methodology. Students are required to use the publishable paper format rather than the traditional form. Before their dissertation defense, students must have published one paper and submitted two more papers and responded to reviewers' comments on both. The dissertation is defended orally before the doctoral research committee and presented publicly before invited faculty, peers, and the academic and health community. Additional information is detailed in the Faculty of Graduate Studies' "Dissertation and Thesis Format Guide."

**Public health seminars**

Attendance is required at a minimum of twenty public health seminars for each doctoral degree sought. For further information, please refer to the public health seminar description.

**Teaching and research assistantships**

As part of their training, each Ph.D. degree students must be involved as teaching assistants and laboratory assistants in introductory and advanced level courses, as well as give at least one lecture in one of the EPDM/STAT courses. A limited number of research and teaching assistantships are available. Students working as assistants make a time commitment for experience and may need to limit their academic load in order to participate in these activities.

**Postdoctoral fellowships**

One-year fellowships may be available. They are tailored to the applicant's interest (in accordance with

training opportunities), expressed needs, and funding. Details can be obtained from the dean.

### INDIVIDUAL DOCTORAL DEGREE PROGRAMS

For School of Public Health doctoral degree program details, see individuals programs in Section III:

- Epidemiology, Doctor of Public Health (Dr.P.H.)
- Global Health
- Health Education, Doctor of Public Health (Dr.P.H.)
- Nutrition, Doctor of Public Health (Dr.P.H.)
- Preventive Care, Doctor of Public Health (Dr.P.H.)

### COMBINED DEGREES PROGRAMS

The School of Public Health, in conjunction with other schools of LLU, offers the following combined degrees programs:

- Health Education (M.P.H.) *with* Marriage and Family Counseling (M.S.)
- Health Education (M.P.H.) *with* Nursing (M.S.)
- Health Education (M.P.H.) *with* Clinical Psychology (Psy.D.)
- Preventive Care (Dr.P.H.) *with* Clinical Psychology (Psy.D.)
- Maternal and Child Health (M.P.H.) *with* Social Work (M.S.W)
- Health Education (M.P.H.) *with* Dentistry (D.D.S.)
- Health Education (M.P.H.) *with* Medicine (M.D.)

## Financial Information

The Office of the Dean is the final authority in all financial matters and is charged with the interpretation of all financial policies. Any exceptions to published policy in regard to reduction or reimbursement of tuition must be approved by the dean. Any statement by individual faculty members, program directors, or department chairs in regard to these matters is not binding on the school or the University unless approved by the dean.

Registration is not complete until tuition and fees on the required installment are paid; therefore, the student should be prepared to make these payments during scheduled registration for each academic year. There may be adjustments in tuition and fees as economic conditions warrant.

The student is expected to arrange for financial resources to cover all expenses before the beginning of each school year. Previous accounts with other schools or with this University must be settled prior to registration.

#### Traineeships

United States Public Health Service Traineeships provide grant money in support of public health training to citizens of the United States or to persons having in their possession a visa granting permanent residence in the United States. Allocation is made by the school to those who demonstrate financial need and who undertake specified programs of study. Further availability is contingent upon congressional funding. Applications must be submitted for consideration by June 15. Applications are available from the School of Public Health Office of Financial Administration.

#### Assistantships

A limited number of teaching and research assistantships are available through the academic departments and individual researchers. It is understood that the student will perform such duties as may be required by the one to whom the student is responsible, but such duties are not to exceed the equivalent of half-time employment. Students will be considered after they demonstrate knowledge and proficiency in the area in which they would work.

#### Application for financial aid

Before a fellowship, traineeship, or assistantship is awarded, the student must have secured regular admission to the school. The academic record, financial need, and potential productivity are among the factors considered in the awarding of financial aid. Preference is given to complete applications received by May 15. Early application is advised.

#### Loans

Loan funds may be available to School of Public Health students who show need as determined by a federal formula. Loans are restricted to citizens of the

United States and eligible noncitizens. Certain funds are interest-free while a student is enrolled at least half time. Inquiries about loans should be made to the Office of Financial Aid.

### SCHEDULE OF CHARGES

Effective Summer Quarter 2009 (subject to change by trustee action):

#### TUITION

##### Master's and Doctoral Degrees

\$649 Per unit: credit (on and off campus)

\$325 Per unit: audit (on and off campus)

##### SPECIAL TUITION CHARGES

unavailable Field practicum and internship

##### SPECIAL FEE

\$527.50 "Special fee" now charged by each school

##### SPECIAL CHARGES

\$25 Application (nonrefundable)

\$100 Acceptance deposit for bachelor's degree (nonrefundable)

\$100 Acceptance deposit for master's degree students (nonrefundable)

\$250 Acceptance deposit for doctoral degree students (nonrefundable)

\$50 Late payment fee

\$20 Returned check fee

\$50 Late registration fee

\$25 Examination, other than regularly scheduled

\$50 Equivalency examination

##### MISCELLANEOUS EXPENSES

cost Health care items not covered by insurance

cost Breakage, damage, loss of University equipment

### REFUND POLICY

Tuition refunds are calculated on a prorated basis for up to 60 percent of the quarter, with no refund after that point. This calculation is based on the day a withdrawal from a course or program is processed by University Records. Students who drop a course from a block program of courses receive no refund.

If a student drops a course after completing 10 percent of a class, the student will receive a 90 percent refund. Because refunds are based on a percentage of the class completed, the days on which these percentage refunds will change are determined by the length of the term in which the course is scheduled.

#### On and off-campus student housing

Students may go to <[www.llu.edu/central/housing/index.page](http://www.llu.edu/central/housing/index.page)> for housing information and application form.

### AWARDS AND HONORS

Students demonstrating superior scholarship, professionalism, and promise of future contribution to the field of public health may be nominated for recognition. Faculty members and staff are also eligible for certain awards.

The BECKY BUSHMAN AWARD, established by Mary and Bliss Bushman, is given to individuals who best demonstrate healthy lifestyles, academic achievement, and contributions to society.

The CALLICOTT-REGISTER AWARD is given as a tuition-assistance award to qualified nutrition students.

The PRESIDENT'S AWARD is given annually to a student who has demonstrated superior or excellent scholarship, actively participated in the affairs of the student and church communities, actively participated in general community service, and shown evidence of commitment to the highest ideals of the University.

The CHARLIE LIU AWARD is given by the student association to an outstanding student, faculty, or staff member who reflects the life of Christ through a caring spirit, a listening heart, and a commitment to peace.

The DEAN'S AWARD is given annually to a student who has demonstrated superior or excellent scholarship, actively participated in the affairs of the student and church communities, actively participated in general community service, and shown evidence of commitment to the highest ideals of the School of Public Health.

Nomination is made annually for membership in DELTA OMEGA, the national honor society for public health. Nominees must be from the top 25 percent of their class and demonstrate promise of significant contribution to the field of public health.

The GLEN BLIX AWARD is given annually to the graduating doctoral student in preventive care who best exemplifies excellence and leadership in preventive care.

The HALVERSON AWARD is presented to a graduating student who exemplifies excellence and promise of leadership in health administration.

The HULDA CROOKS AWARD is the Loma Linda University School of Public Health's premier student award acknowledging whole-person excellence. The purpose of this endowment is to provide Loma Linda University School of Public Health funds for student awards for excellence, student-initiated research, and public health-practice grants. The grants are designed to encourage Loma Linda University School of Public Health students to become involved in the practical application of their educational experience through research and public health practice. To receive a

grant, students are required to submit proposals that will be competitively judged by the Awards and Traineeship Committee. Grant application will be considered once each academic school year, with up to two awards given each year.

Each year the School of Public Health presents two students cash awards of \$2000 in honor of Hulda Crooks. In addition, there are \$1000-\$3000 research and public health-practice grants available to currently registered School of Public Health students.

The JEANNE WEISSMAN RESEARCH AWARD is granted annually during the Spring Quarter to a Doctor of Public Health degree student who has maintained a G.P.A. of 3.2 or above and who has demonstrated financial need.

The NATIONAL DEAN'S LIST is comprised of students in the top 25 percent of their class who have carried a full academic load during a quarter with a grade-point average of at least 3.5 and no Incomplete notation on their report.

The P. WILLIAM DYSINGER EXCELLENCE IN TEACHING AWARD is given annually by the student association to a faculty member who exemplifies excellence in teaching, Christian commitment, and support for cultural diversity.

The purpose of the ROBERT MACINTYRE AND ZAIDA CORDERO-MACINTYRE ENDOWMENT is to provide Hispanic students with financial assistance in order to achieve their academic goals. Students must be Hispanic and in good academic standing with a G.P.A. of at least 3.0.

The RUTH WHITE AWARD is given to an outstanding student at commencement each year who

exemplifies a spirit of cooperation and leadership, helpfulness in scholastic efforts, and sensitivity to students from diverse cultures.

The SELMA ANDREWS SCHOLARSHIP provides funding for international health majors to attend Global Health Council.

The WILLARD AND IRENE HUMPAL AWARD recognizes students who have gone the extra mile to give service to their church, their school, and their community; who are enthusiastic learners; and who have demonstrated financial need.

*Department-specific scholarships and awards may be viewed on the SPH departmental Web site.*

### **GRADUATION WITH HONORS**

Superior academic performance is recognized for undergraduate students who at the end of the quarter preceding their final term have acquired a cumulative grade-point average for all college work, as follows:

Cum laude	3.5
Magna cum laude	3.8
Summa cum laude	3.9

### **ADDITIONAL REQUIREMENTS**

For additional policies governing Loma Linda University students, see Section II of this CATALOG, as well as the University *Student Handbook*. Students are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation.

# Biostatistics—PH

(Certificates, M.S.P.H., M.P.H.)

SYNNOVE M. F. KNUTSEN, Chair

## FACULTY

David E. Abbey  
Khaled Bahjri  
W. Lawrence Beeson  
Yvan Castro  
Jayakaran S. Job  
Floyd F. Petersen  
David J. Shavlik  
Gerald W. Shavlik  
Pramil N. Singh  
Loretta Wilber  
Grenith J. Zimmerman

## BASIC BIOSTATISTICS CERTIFICATE

There is a growing need to be able to interpret scientific literature, establish databases, and do simple descriptive and analytical statistical analyses. There is also a need for professionals in other disciplines to have a basic knowledge of analytical strategies and biostatistical reasoning and thinking. This certificate gives the holder the ability to read scientific literature more knowledgeably, collaborate with statisticians, and interpret and evaluate data that are presented.

### Learner outcomes

Upon completion of this certificate program, students will be able to:

1. Critically read the literature with respect to design and basic statistical analysis.
2. Interpret and communicate the results of basic statistical analyses and write statistical method sections.
3. Assemble data and create a database ready for analysis.
4. Select statistical analysis using basic statistical tests and current statistical software (e.g., SAS or SPSS).

### Indicators of educational effectiveness

1. Class project
2. Oral presentation

### PREREQUISITE

U.S. baccalaureate degree or its equivalent  
College algebra  
Computer literacy

### Research and forums

Participants are required to attend a minimum of five forums in the Department of Epidemiology and

Biostatistics and/or Center for Health Research during their certificate program.

## ADVANCED BIOSTATISTICS CERTIFICATE

In most public health disciplines, the role of statistics is becoming more and more important. Professionals are expected to be able to critically read the literature and evaluate analytical methods used. Many are also expected to establish databases and do statistical analysis. This certificate gives the holder the skills to be able to establish complex databases independently, to do more advanced statistical analyses, and to critically evaluate scientific papers with respect to appropriateness of analyses.

### Learner outcomes

Upon completion of this certificate program, students will be able to:

1. Function as a statistical consultant on research projects.
2. Give advice on study design issues, including advanced statistical analyses and questionnaire design.
3. Assemble data and create and manage databases and select appropriate statistical tests for data analyses.
4. Communicate results of analyses and write the statistical methods section.

### Indicators of educational effectiveness

1. Research project
2. Written paper
3. Oral presentation

### PREREQUISITE

Successful completion of a basic certificate program

Completed application for a graduate degree program in the School of Public Health

GRE scores

Two letters of recommendation

Interview with departmental faculty member

### Research and forums

Students are required to attend a minimum of five forums in the School of Public Health Department of Epidemiology and Biostatistics and/or Center for Health Research during the certificate program.



**BIostatistics—M.S.P.H.**

MARK M. GHAMSARY, Program Director

The Master of Science in Public Health degree Biostatistics Program is a two-year program that emphasizes statistical methods, data processing and computing, and epidemiology. It is intended to train persons for collaborative work with scientists in nearly every area related to public health and medicine and to prepare them for a Ph.D. program in statistics or biostatistics. A thesis is required. Students work with faculty as research associates during their training.

**Learner outcomes**

Upon completion of this degree, the graduate should be able to:

1. Apply basic statistical theory and methods to the solution of applied statistical problems.

2. Design and implement a research study, including formulating research questions, appropriate study designs, sample size, sampling scheme, data collection methods and analyses.
3. Critically review literature relevant to statistical methods and interpretation of statistical findings and identify strengths and weaknesses of design.
4. Serve as statistical consultant and collaborator with health professionals on research projects, communicate the results of analyses, and write the statistical methods and results sections of a research paper.
5. Select appropriate statistical methods to analyze data and establish and manage databases using current computer software (e.g., SAS, SPLUS, and SPSS).

**Program educational effectiveness indicators**

Name	Description	Location
Midterm and comprehensive final examinations	Examinations covering course materials for the term	LLU campus
Thesis	A written comprehensive paper	LLU campus
Comprehensive examination	A written comprehensive examination on five different STAT subjects	LLU campus
Presentation and defense of thesis	Presentation and defense of completed thesis	LLU campus
Course evaluation forms	Suggestions by the students to improve delivery of course material and the design of the course itself	LLU campus

**PREREQUISITE**

Calculus (one year)

Linear algebra (one quarter)

Computer literacy (knowledge and experience in computer operating systems, especially the Windows environment; and some programming experience recommended)

**Research and forums**

Students are required to attend a minimum of twenty forums in the Department of Epidemiology and Biostatistics and/or Center for Health Research during their program. Attendance at these forums will be in addition to attendance at the public health seminars.

**Culminating activity**

In order to obtain a degree, the student is required to successfully complete a written comprehensive examination, as required by the Department of Epidemiology and Biostatistics.

The culminating activity includes a written comprehensive examination; research thesis,

including a written report and oral presentation; professional portfolio (upon completion of the research); and an exit interview with the department chair (at the conclusion of the program).

**BIostatistics—M.P.H.**

MARK M. GHAMSARY, Program Director

**Learner outcomes**

Upon completion of this degree, the graduate should be able to:

1. Apply basic statistical theory to current public health issues.
2. Assist in design and implementation of research studies, including formulating research questions, appropriate study designs, sample size, sampling scheme, data collection methods and analyses.
3. Critically review literature relevant to statistical methods and interpretation of statistical findings and identify strengths and weaknesses of design.

4. Serve as statistical consultant to health professionals on research projects, communicate the results of analyses, and write the statistical methods and results sections of a research paper.
5. Select appropriate statistical methods to analyze data and establish and manage databases using current computer software (e.g., SAS, SPLUS, and SPSS).

**Program educational effectiveness indicators**

Name	Description	Location
Midterm and comprehensive final examinations	Examinations covering course materials for the term	LLU campus
Research	A written comprehensive paper	LLU campus
Comprehensive examination	A written comprehensive examination on five different STAT subjects	LLU campus
Presentation	Presentation of research by student after completion of research	LLU campus
Course evaluation forms	Suggestions by students to improve delivery of course material and the design of the course itself	LLU campus

**Program**

The Master of Public Health degree Biostatistics Program includes courses in biostatistics, computer programming, and epidemiology; and a research project. No thesis is required. Completion of degree requirements requires a minimum of four quarters.

The program prepares an individual for positions involving the collection, management, and interpretation of health-related data.

**PREREQUISITE**

College algebra, calculus (preferred) (one course)

Computer literacy (knowledge and experience in computer operating systems, especially the Windows

environment; and some programming experience recommended)

**Research and forums**

Students are required to attend a minimum of twenty forums in the Department of Epidemiology and Biostatistics and/or Center for Health Research during their program. Attendance at these forums will be in addition to attendance at the public health seminars.

**Culminating activity**

In order to obtain a degree, the student is required to successfully complete a written comprehensive examination, as required by the Department of Epidemiology and Biostatistics.

Public health core		Basic Certificate	Advanced Certificate	M.S.P.H.	M.P.H.
ENVH 509	Principles of Environmental Health			3.0	3.0
EPDM 509	Principles of Epidemiology I	3.0		3.0	3.0
GLBH 524	Cultural Competence and Health Disparities			2.0	2.0
HADM 509	Principles of Health Policy and Management			3.0	3.0
HPRO 509	Principles of Health Behavior			3.0	3.0
HPRO 536	Program Planning and Evaluation			2.0	2.0
NUTR 509	Public Health Nutrition and Biology			3.0	3.0
PHCJ 605	Overview of Public Health			1.0	1.0
PHCJ 675	Integrated Public Health Capstone			2.0	2.0
RELE 5__	Graduate-level Ethics		3.0		
RELE 534	Ethical Issues in Public Health	3.0		3.0	3.0
STAT 521	Biostatistics I	4.0		4.0	4.0
Totals		10.0	3.0	29.0	29.0

Major			Basic Certificate	Advanced Certificate	M.S.P.H.	M.P.H.
STAT 515	Grant- and Contract-Proposal Writing		3.0			
STAT 522	Biostatistics II		4.0		4.0	4.0
STAT 523	Biostatistics III			4.0	4.0	4.0
STAT 525	Applied Multivariate Analysis			3.0	3.0	3.0
STAT 535	Introduction to Modern Nonparametric Statistics		3.0		3.0	3.0
STAT 538	Probability and Statistical Theory I				3.0	
STAT 539	Probability and Statistical Theory II				3.0	
STAT 545	Survival Analysis			3.0	3.0	3.0
STAT 548	Analytical Applications of SAS				2.0	2.0
STAT 557	Research Data Management		3.0		3.0	3.0
STAT 564	Survey and Advanced Research Methods			3.0	3.0	3.0
STAT 569	Advanced Data Analysis		3.0		3.0	3.0
STAT 594	Statistical Consulting			2.0	2.0	2.0
STAT 694A	Research I			1.0		
STAT 694B	Research II			1.0		1.0
STAT 694C	Research III			1.0		1.0
STAT 548	Analytical Applications of SAS (2.0)		2.0	—	—	—
STAT 549	Analytical Applications of SPSS (2.0)					
EPDM 510	Principles of Epidemiology II (3.0)		—	6.0	6.0	3.0
EPDM 515	Clinical Trials (3.0)					
Totals			18.0	24.0	42.0	35.0

**Field experience**

Practicum units are in addition to the minimum graduate units required for the degree.

			Basic Certificate	Advanced Certificate	M.S.P.H.	M.P.H.
STAT 798	Field Practicum	120 clock hours required for each unit of credit				2.0
Totals			—	—	—	2.0

**Thesis**

			Basic Certificate	Advanced Certificate	M.S.P.H.	M.P.H.
STAT 695	Thesis (2.0-8.0)	Includes a minimum of 240 hours of public health practice			8.0	
Totals			—	—	8.0	—
<b>Overall Totals</b>			<b>28.0</b>	<b>27.0</b>	<b>79.0</b>	<b>64.0</b>

# Emergency Preparedness and Response—PH

**(PB certificate)**

EHREN NGO, Program Director

**FACULTY**

Jesse Bliss  
 Steve Serrao  
 Donn Gaede  
 Ehren Ngo  
 Seth Wiafe  
 Susanne B. Montgomery

**ADJUNCT FACULTY**

Emmanuel Rudatsikira  
 Ryan Miller  
 D. Graham Stacey  
 Lindsey Simpson  
 Andrew Haglund

**PURPOSE**

The Emergency Preparedness and Response Certificate will provide students with the knowledge and skills to effectively plan, implement, and evaluate domestic and international public health emergency response and recovery efforts.

**Outcome objectives**

Upon completion of this program, students should be prepared to:

1. Take leadership and management roles in disaster preparedness and response.
2. Design a preparedness and response plan.

3. Create, execute, and evaluate table-top exercises and drills.
4. Evaluate and assess community and institutional capacity for emergency preparedness and response.
5. Address the major public health issues that arise during emergencies.

**Individuals who may benefit from this program**

- Government officials, i.e., public health, Office of Emergency Preparedness, and Native American tribal governments and bioterrorism coordinators
- Local city, county, and health workers
- Hospital/Health care administrators and clinicians
- Emergency, fire, law enforcement
- Private industry
- Nongovernmental organizations/Private voluntary organizations
- Students
- First responders

**PREREQUISITE**

Bachelor's degree from an accredited college or university, with a minimum G.P.A. of 2.7.

Application to and acceptance by the School of Public Health.

Required		Units
GLBH 519	Principles of Disaster Management I	3.0
GLBH 520	Principles of Disaster Management II	3.0
GLBH 521	Principles of Disaster Management III	3.0
GLBH 558	Public Health Issues in Emergencies	3.0
GLBH 559	Psychosocial Models and Interventions	3.0
GLBH 560	Economic, Legal, and Policy Issues in Disasters	3.0
RELE 534	Ethical Issues in Public Health	3.0
Totals		21.0

**Electives**

Minimum of 6 units

Units

ENVH 524	GIS Software Applications and Methods (3)		6.0
ENVH 527	Geospatial Technologies for Emergency Preparedness and Management (3)		
GLBH 547	Refugee and Displaced Population Health (3)		
GLBH 548	Violence and Terrorism Issues (3)		
GLBH 555	Technology in Emergency Management (3)		
GLBH 557	Epidemiology of Disasters (3)		
GLBH 564	Primary Health Care Programs I (3)		
		Totals	6.0
		<b>Overall Totals</b>	<b>27.0</b>

# Environmental and Occupational Health— PH

## (M.P.H.)

SAMUEL SORET, Chair

### FACULTY

Hallmeyer Arnd  
 Mohan Balagopalan  
 Yonan Benjamin  
 Jesse Bliss  
 Jayanth Devasudaran  
 Ann L. H. Dew  
 Angela B. Dyjack  
 David T. Dyjack  
 Eric K. Frykman  
 Donna R. Gurule  
 Andrew Haglund  
 David Holt  
 William C. Hoffman  
 Daniel Jimenez  
 George E. Johnston  
 Robert I. Krieger  
 Marilyn S. Kraft  
 Makram Murad al-Shaikh  
 Yojo Murata  
 Harold (Hal) J. Marlow, Jr.  
 Kevin Mickey  
 Guck T. Ooi  
 Corwin Porter  
 Sun H. Paik  
 Cynthia A. Paulo  
 Joon W. Rhee  
 Kristen Riegel  
 Obed Rutebuka  
 Mark Stewart  
 Steve Uhlman  
 Padma P. Uppala  
 Seth A. Wiafe  
 Dave A Williams

## ENVIRONMENTAL AND OCCUPATIONAL HEALTH—M.P.H.

SAMUEL SORET, Program Director

This M.P.H. degree program is designed for individuals with professional practitioner career objectives in the area of environmental and occupational health.

Students who complete this academic program will acquire the professional and scientific skills to perform as environmental quality control professionals in local, state, or federal government health departments/agencies; and in private business/industry.

### Indicators of educational effectiveness

Performance-based outcomes are obtained through course written and oral examinations, papers, oral presentations, a department comprehensive examination, a culminating activity, and a field internship. In addition, students must take an integrated capstone public health course. Track-specific performance indicators are listed below under each track.

Qualified candidates also take the California Registered Environmental Health Specialist (REHS) examination.

## EXPERIENCED ENVIRONMENTAL HEALTH PROFESSIONAL (HP) TRACK (I)

The Experienced Health Professional (HP) Track (I) is designed for students who can provide verification of at least two years of applicable environmental health experience. Preference is given to applicants who are registered environmental health specialists.

## ENVIRONMENTAL HEALTH SPECIALIST (HS) TRACK (II)

The Environmental Health Specialist (HS) Track (II) provides career skills in the environmental health sciences for individuals without previous professional experience. Graduates with these skills seek employment in private business/industry as environmental quality control professionals; or in local, state, or federal government health departments/agencies. The program has been approved by the State of California Environmental Health Specialist Registration Committee, 601 North 7th Street, MS 396, P.O. Box 942732, Sacramento, CA 94234-7320. Satisfactory completion of this curriculum meets, in part, the eligibility requirements to sit for the Registered Environmental Health Specialist (REHS) Examination administered by the California State Department of Health Services. Satisfactory performance on the examination qualifies individuals for practice as registered environmental health specialists in California and, by reciprocity, in the forty-nine remaining states.

### Learner outcomes (TRACKS I AND II)

Upon completion of the degree, the graduate should be able to:

1. Apply the principles of risk assessment to determine the impact of environmental and occupational hazards on human health.
2. Recommend appropriate interventions, such as engineering controls, behavior change, or

material substitution necessary for reducing human exposures to environmental and occupational hazards.

3. Describe the structure and function of human organ systems and identify environmental and occupational agents that disrupt these systems to cause disease and injury.
4. Interpret federal and state regulations and participate in the development of policies that will influence overall environmental and occupational health outcomes.
5. Communicate effectively the synergistic relationship between environmental and public health issues to a variety of audiences.
6. Demonstrate basic familiarity with at least one GIS software system.

## DEGREE REQUIREMENTS

### PREREQUISITE

The following prerequisite courses must be completed prior to enrolling in the REHS programs in environmental health:

Biological science with laboratory (one year)

General chemistry with laboratory (one year)

General physics with laboratory (one year)

Organic chemistry with laboratory (minimum of two-quarter sequence)

General microbiology with laboratory (one course)

Calculus or college algebra (one course)

## ENVIRONMENTAL AND OCCUPATIONAL HYGIENE (EOH) TRACK (III)

The Environmental and Occupational Hygiene Track (III) is designed for individuals who intend to use graduate level knowledge of environmental health as an adjunct to their primary career goals.

Environmental attorneys, health care managers, corporate administrators, journalists, and others who require working knowledge of the field are ideal candidates for this program. The program is similar in scope and rigor to other programs offered in the department, with the exception of the science prerequisites. This program is not intended to meet the California REHS certification requirements.

### Learner outcomes

Upon completion of the degree, the graduate should be able to:

1. Interpret environmental sampling data.
2. Apply principles of risk assessment in the workplace to effectively address environmental and occupational disease and injury.
3. Interpret the federal and state regulatory programs that relate to environmental and occupational protection.
4. Recommend appropriate interventions, such as engineering controls, behavior change, or material substitution necessary for reducing human exposures to environmental and occupational hazards.
5. Make policy recommendations on key environmental and occupational health issues.

### PREREQUISITE

The following prerequisite courses must be completed prior to enrolling in the non-REHS track in environmental and occupational hygiene:

Biological science with laboratory (one year)

General chemistry with laboratory (one year)

Organic chemistry (one course)

General physics (one course)

Calculus or college algebra (one course)

## GEOGRAPHIC INFORMATION SYSTEMS FOR ENVIRONMENTAL HEALTH (GISENVH)

The Geographic Information Systems for Environmental Health (GISENVH) Track is designed to prepare students in the application of modern geospatial information technologies to environmental health practice, research, and learning. Acquiring dual skills in public health and GIS enhances the preparation of environmental health professionals by increasing their effectiveness and efficiency in state-of-the-art methods of problem solving and information sharing. GIS skills are highly desired today as an integral part of informatics competencies that are required of health professionals.

**Learner outcomes**

In addition to learner outcomes of Track I and II, upon completion of the degree, the graduate should also be able to:

1. Describe the utility of geoinformatics to environmental and occupational health practices.
2. Appropriately selects and effectively use the state-of-the-art geoinformatics tools in support of environmental health data acquisition, management, analysis, and reporting.

**PREREQUISITE**

Students must have completed the appropriate prerequisite courses prior to enrolling as listed under Tracks I-III, depending on whether or not they are seeking the REHS certification. In addition, students in the GISENVH track must demonstrate computer proficiency, although no previous experience with GIS is required. Advanced placement can be considered for students with previous GIS experience/training. Students should have a solid quantitative background—as evidenced by scores on

the mathematical and analytical sections of the GRE, as well as by the nature of their undergraduate course work.

**Culminating activity (all tracks)**

A formal, oral presentation and a written paper on a topic of current environmental health importance are required as a culminating activity. Student presentations and paper are evaluated on professionalism, scientific merit, and thoroughness. The culminating activity shall include a written comprehensive examination (prior to the field experience), field experience (upon completion of essential major course work), professional portfolio (upon completion of the field experience), full written report of project (not later than one month after successful oral presentation), and an exit interview with the department chair (at the conclusion of the program).

**Comprehensive examination (all tracks)**

Students must satisfactorily complete a departmental comprehensive examination prior to graduation. The examination will allow students to demonstrate their ability to integrate and apply skills and knowledge expected of master's level environmental health practitioners.

<b>Public health core</b>		<b>HP</b>	<b>HS</b>	<b>EOH</b>	<b>GIS ENVH</b>	<b>GIS ENVH HP</b>
ENVH 586	Environmental Health Administration	3.0	3.0	3.0	3.0	3.0
EPDM 509	Principles of Epidemiology I	3.0	3.0	3.0	3.0	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0	2.0	2.0	2.0	2.0
HPRO 509	Principles of Health Behavior	3.0	3.0	3.0	3.0	3.0
HPRO 536	Program Planning and Evaluation	2.0	2.0	2.0	2.0	2.0
NUTR 509	Public Health Nutrition and Biology	3.0	3.0	3.0	3.0	3.0
PHCJ 605	Overview of Public Health	1.0	1.0	1.0	1.0	1.0
PHCJ 675	Integrated Public Health Capstone	2.0	2.0	2.0	2.0	2.0
RELE 534	Ethical Issues in Public Health	3.0	3.0	3.0	3.0	3.0
STAT 509	General Statistics (4.0)	Choose one course	—	—	—	—
STAT 521	Biostatistics I (4.0)					
<b>Totals</b>		<b>22.0</b>	<b>22.0</b>	<b>22.0</b>	<b>22.0</b>	<b>22.0</b>

<b>Major</b>		<b>HP</b>	<b>HS</b>	<b>EOH</b>	<b>GIS ENVH</b>	<b>GIS ENVH HP</b>
ENVH 515	Food Quality Assurance		3.0			
ENVH 567	Hazardous Materials and Solid-waste Management	3.0	3.0	3.0	3.0	3.0
ENVH 568	Water Quality Assurance	3.0	3.0	3.0	3.0	3.0
ENVH 569	Environmental Sampling and Analysis		4.0	4.0	4.0	
ENVH 581	Principles of Industrial Hygiene	3.0	3.0		3.0	3.0



ENVH 587	Environmental Toxicology		3.0	3.0	3.0	3.0	3.0
ENVH 589	Environmental Risk Assessment		3.0	3.0	3.0	3.0	3.0
ENVH 605	Seminar in Environmental and Occupational Health		1.0	1.0	1.0	1.0	1.0
ENVH 566	Outdoor Air Quality and Human Health (3.0)	Choose one course	3.0	3.0	3.0	3.0	3.0
ENVH 575	Indoor Air Quality (3.0)						
Totals			19.0	26.0	20.0	23.0	19.0

<b>Geoinformatics</b>			<b>HP</b>	<b>HS</b>	<b>EOH</b>	<b>GIS ENVH</b>	<b>GIS ENVH HP</b>
ENVH 521	Cartography and Map Design					2.0	2.0
ENVH 522	Principles of Geographic Information Systems and Science					3.0	3.0
ENVH 524	GIS Software Applications and Methods					3.0	3.0
ENVH 526	Seminar in Geographic Information Systems					1.0	1.0
ENVH 535	Integration of Geospatial Data in GIS					2.0	2.0
ENVH 536	Spatial Analytic Techniques and GIS					3.0	3.0
ENVH 539	GIS Applications in Environmental Health					2.0	2.0
Totals			—	—	—	16.0	16.0

<b>Electives</b>			<b>HP</b>	<b>HS</b>	<b>EOH</b>	<b>GIS ENVH</b>	<b>GIS ENVH HP</b>
— —	Elective		10.0	3.0	11.0		
ENVH 523	Practical Issues in GIS (3.0)	Experienced environmental health professionals in the GISENVH (Track V) take 9 units of elective course work, including at least two geoinformatics specialty courses chosen in consultation with their academic advisor. Students pursuing REHS certification (Track IV) take at least 5 units of elective course work, including ENVH 515 and one geoinformatics specialty course.					
ENVH 527	Geospatial Technologies for Emergency Preparedness and Management (3.0)						
ENVH 537	Health Care Geographics (2.0)						
ENVH 546	Introduction to Spatial Epidemiology (2.0)					5.0	9.0
ENVH 547	GIS for Public Health Practice (2.0)						
ENVH 549	Remote Sensing Applications in the Health Services (3.0)						
Totals			10.0	3.0	11.0	5.0	9.0

**Field experience**

Practicum units are in addition to the minimum graduate units required for the degree.

		HP	HS	EOH	GIS ENVH	GIS ENVH HP
ENVH 798B	Field Practicum			12.0	12.0	12.0
Totals		—	—	—	—	—
<b>Overall Totals</b>		<b>51.0</b>	<b>51.0</b>	<b>53.0</b>	<b>66.0</b>	<b>66.0</b>

**Field practicum**

Field practicum hours for M.P.H. degree students can be completed through the Peace Corps' Master's International Program / Master of Public Health degree.

Master's International Program / Master of Public Health degree students complete environmental health course work at Loma Linda campus and then enter the Peace Corps in fulfillment of the M.P.H. degree internship. Peace Corps volunteers complete three months of training in language, culture, and technical skills; followed by two years of service as public health workers in the assigned host country. Upon satisfactory completion of the two-year Peace Corps service and the department culminating activity, the student is awarded an M.P.H. degree in environmental health.

Loma Linda University is one of eighty-two universities currently participating in the Master's

International Program. As one of eleven institutions in the country offering this prestigious program in conjunction with the Master of Public Health degree, the School of Public Health is proud to collaborate with the United States Peace Corps in this academic partnership.

Graduates of this program are eligible to sit for the national examination for registered environmental health specialist (REHS).

Upon receipt of their degree, students can opt to return to international work or seek employment as health professionals in the United States, if they elect to remain at home.

For details, see Peace Corps Master's International Program / Master of Public Health in Academic Policies and Regulations.

# Environmental Epidemiology—PH

## (M.P.H.)

This double major is administered jointly by the Environmental and Occupational Health and the Epidemiology programs and is designed for persons with special interest in studying how environmental factors affect health and disease. Students in this major gain the epidemiologic skills necessary to conduct research, as well as to meet the eligibility requirements to sit for the Registered Environmental Health Specialist Examination.

### Learner outcomes

Graduates of this track in environmental epidemiology will have the skills necessary to:

1. Conduct high-quality environmental epidemiologic research.
2. Develop valid methods for assessing environmental exposure, choose appropriate study design, determine sample size and data collection methods, and perform data analyses.
3. Generate adequate hypotheses for testing the relationship between environmental factors and health/disease, and identify potential confounders and interactions that might bias the results.
4. Critically review the literature and report research findings, both orally and in writing.
5. Collaborate with or serve as a research consultant to health professionals.

### Educational effectiveness indicators

Name	Description	Location
Culminating activity	Oral examination	LLU campus
Culminating activity	Oral presentation of applied research using PowerPoint	LLU campus
Culminating activity	Written report of applied research	LLU campus
Term papers	Evaluation of writing skills	LLU campus
Final exams	Integration and application of skills learned in courses	LLU campus
Course evaluation forms	Suggestions by the students to improve delivery of course material and the design of the course itself	LLU campus

### PREREQUISITE

Biological science with laboratory (one year) (preferred courses include histology, pathology, physiology, etc.)

General chemistry with laboratory (one year)

Organic chemistry with laboratory (two-quarter sequence minimum)

General microbiology with laboratory (one course)

Physics (one year)

College algebra or equivalent (one course), calculus preferred

Biochemistry (one course)

Behavioral science (one course)

### COREQUISITE

(a limited number of the above courses may be taken during first two quarters of program, in addition to units required for degree)

### Research and forums

Students are required to attend a minimum of twenty forums in the Department of Epidemiology and Biostatistics and/or Center for Health Research during their program. Attendance at these forums will be in addition to attendance at the public health seminars.

### Culminating activity

In order to obtain a degree, the student is required to successfully complete the culminating activity as required by the Departments of Epidemiology and Biostatistics and of Environmental and Occupational Health.

The culminating activity consists of: research, including a written report and oral presentation; professional portfolio (upon completion of the research); and an exit interview with the department chairs (at the conclusion of the program).

<b>Public health core</b>		Units
ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 536	Program Planning and Evaluation	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
PHCJ 605	Overview of Public Health	1.0
PHCJ 675	Integrated Public Health Capstone	2.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 521	Biostatistics I	4.0
<b>Totals</b>		<b>29.0</b>

<b>Major</b>		Units
ENVH 515	Food Quality Assurance	3.0
ENVH 566	Outdoor Air Quality and Human Health	3.0
ENVH 567	Hazardous Materials and Solid-waste Management	3.0
ENVH 568	Water Quality Assurance	3.0
ENVH 569	Environmental Sampling and Analysis	4.0
ENVH 586	Environmental Health Administration	3.0
ENVH 587	Environmental Toxicology	3.0
ENVH 589	Environmental Risk Assessment	3.0
ENVH 605	Seminar in Environmental and Occupational Health	1.0
EPDM 510	Principles of Epidemiology II	3.0
EPDM 512	Multivariate Modeling in Epidemiology	3.0
EPDM 544	Epidemiology of Infectious Disease	3.0
EPDM 565	Epidemiology of Cancer	3.0
EPDM 588	Environmental and Occupational Epidemiology	3.0
STAT 522	Biostatistics II	4.0
STAT 548	Analytical Applications of SAS	2.0
STAT 564	Survey and Advanced Research Methods	3.0
<b>Totals</b>		<b>50.0</b>

**Research project**

One project approved and administered by both EPDM/STAT and second major

Units

ENVH 699	Applied Research		2.0
EPDM 699A	Applied Research		1.0
EPDM 699B	Applied Research II		1.0
Totals			4.0

**Field experience**

Practicum units are in addition to the minimum graduate units required for the degree

Units

EPDM 798	Field Practicum	120 clock hours per unit of credit	2.0
Totals			—
<b>Overall Totals</b>			<b>83.0</b>

# Epidemiological Research Methods—PH

## (Certificate)

SYNNOVE M. F. KNUTSEN, Director

### FACULTY

Instruction for the certificate is primarily provided by regular School of Public Health faculty members on campus during regular quarter terms.

The purpose of this certificate is to enable the holder to more effectively apply for and design research studies and surveys and do basic descriptive analyses of collected data.

### Learner outcomes

At the completion of this certificate, students should be able to:

1. Critically read and interpret the medical literature.
2. Write applications for research and survey grants.

3. Design research studies and surveys/questionnaires, including special designs for developing countries.
4. Perform and interpret simple statistical analysis.

### Indicators of educational effectiveness

1. Class project
2. Oral presentation

### PREREQUISITE

Completed application for a graduate degree program in the School of Public Health

GRE scores

Two letters of recommendation

Interview with departmental faculty member

### Forums

Participants are required to attend a minimum of five forums in the Department of Epidemiology and Biostatistics and/or Center for Health Research during their certificate program.

Required		Units
EPDM 509	Principles of Epidemiology I	3.0
EPDM 510	Principles of Epidemiology II	3.0
EPDM 515	Clinical Trials	3.0
EPDM 568	International Epidemiology	2.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 509	General Statistics	4.0
STAT 515	Grant- and Contract-Proposal Writing	3.0
STAT 564	Survey and Advanced Research Methods	3.0
Totals		24.0

### Descriptive epidemiology

Choose one course

		Units
EPDM 534	Epidemiology of Maternal-Child Health	3.0
EPDM 544	Epidemiology of Infectious Disease	3.0
EPDM 565	Epidemiology of Cancer	3.0
EPDM 566	Epidemiology of Cardiovascular Disease	3.0
EPDM 567	Epidemiology of Aging	3.0
EPDM 588	Environmental and Occupational Epidemiology	3.0
Totals		3.0
<b>Overall Totals</b>		<b>27.0</b>

# Epidemiology—PH

(Certificates; M.P.H in epidemiology;  
Dr.P.H. in epidemiology; Ph.D. in  
epidemiology)

SYNNOVE M. F. KNUTSEN, Chair

## FACULTY

W. Lawrence Beeson  
Terrence L. Butler  
John P. Carney  
Matos Chamorro  
Jacqueline Chan  
Gary E. Fraser  
Bessie L. Hwang  
Jayakaran S. Job  
Fatemeh Kiani  
Raymond Knutsen  
Synnove M. F. Knutsen  
Kristian D. Lindsted  
Vichuda Lousuebsakul  
Tomas P. Matamala  
John W. Morgan  
Tricia Pennicook  
Warren R. Peters  
Thomas J. Prendergast, Jr.  
Joan Sabate  
Charles S. Salemi  
Pramil N. Singh  
Donna Thorpe  
Maria Vallejos  
Ricardo E. Villalobos  
Loretta J. Wilber

## BASIC EPIDEMIOLOGY—CERTIFICATE

There is a growing need to be able to read and evaluate scientific medical literature; understand basic study designs, problems, and biases associated with different designs; and do simple descriptive and analytical statistical analysis. There is also a need for professionals in other disciplines to have at least a minimal knowledge of research design and analytical reasoning. The purpose of the certificate in basic epidemiology is to enable the holder to more effectively read scientific literature, design clinical research studies, and evaluate study designs and associated data.

### Learner outcomes

Upon completion of this certificate, students will be able to:

- Critically read and interpret the medical literature.
- Conduct disease surveillance as practiced in state and county health departments.

- Design epidemiologic studies, including clinical trials.
- Create databases and perform and interpret simple statistical analysis.

### Indicators of educational effectiveness

1. Class project
2. Oral presentation

### PREREQUISITE

U.S. baccalaureate degree or its equivalent

At least two courses in biological science

College algebra (calculus preferred)

One behavioral science course (e.g., general psychology, sociology)

### Forums

Students are required to attend a minimum of five forums in the Department of Epidemiology and Biostatistics and /or Center for Health Research during their certificate program.

## ADVANCED EPIDEMIOLOGY— CERTIFICATE

There is a growing need for public health professionals to participate in research by designing studies, evaluating their strengths and weaknesses, and analyzing and critically interpreting the results. A strong background in epidemiology and biostatistics greatly enhances skills in these areas. This certificate gives the holder the ability to independently design and conduct research studies, accurately evaluate which statistical procedures should be utilized, and effectively work with biostatisticians and programmers. The certificate gives practical training in how to conduct and report research findings through practical experience in these areas.

### Learner outcomes

Upon completion of this certificate, students will be able to:

1. Conduct high-quality epidemiologic research—including appropriate design, statistical analysis of data, and interpretation and reporting of results.
2. Evaluate and conduct clinical trials.
3. Design, implement, and evaluate methods for quality control.
4. Obtain funds through well-written grant proposals.

5. Write scientific papers for submission to scientific journals.
6. Critically review the literature and identify strengths and weaknesses of design, analyses, and conclusions.

**Indicators of educational effectiveness**

1. Research project
2. Written paper
3. Oral presentation

**PREREQUISITE**

Successful completion of a basic certificate program

GRE scores

Completed application for a graduate degree program in the School of Public Health

Two letters of recommendation

Interview with departmental faculty member

**Forums**

Participants are required to attend a minimum of five forums in the Department of Epidemiology and Biostatistics and/or Center for Health Research during the advanced epidemiology certificate program.

**EPIDEMIOLOGY—M.P.H**

W. LAWRENCE BEESON, Program Director

The program leading to an M.P.H. degree in epidemiology provides theoretical and practical training applicable to a variety of public health problems. Seven tracks (each with a different focus) are offered by the program. Each track is designed to meet a particular professional need.

**Learner outcomes**

Graduates from the Epidemiology Program will have the skills and experience necessary to:

1. Conduct high-quality epidemiologic research—including appropriate design, statistical analysis of data, and interpretation and reporting of results.
2. Conduct and evaluate clinical trials.
3. Conduct disease surveillance as practiced in state and county health departments.
4. Critically review the literature and identify strengths and weaknesses of design, analyses, and conclusions.
5. Evaluate the effects of potential confounding and interaction in a research design.
6. Apply knowledge of disease mechanisms and information from the biological disciplines to interpretation of statistical findings in biomedical research.
7. Collaborate with or serve as a research consultant to health professionals by providing technical expertise with regard to literature review, study design, data analysis, and interpretation and reporting of results.

**Program educational effectiveness indicators**

Name	Description	Location
Culminating activity	Oral examination	LLU campus
Culminating activity	Oral presentation of applied research using PowerPoint	LLU campus
Culminating activity	Written report of applied research	LLU campus
Term papers	Evaluation of writing skills	LLU campus
Final examinations	Integration and application of skills learned in courses	LLU campus
Course evaluation forms	Suggestions by the students to improve delivery of course material and the design of the course itself	LLU campus

**MEDICAL EPIDEMIOLOGY (TRACK I)—M.P.H.**

This track is designed for persons with a health professions background who wish to conduct or participate in research related to their health profession. An adequate background in biological

science is assumed, with courses concentrating on epidemiology and statistics. One variant within this track provides a greater emphasis on research and may allow students to complete a moderate-size project with publication potential.



**Learner outcomes**

Upon completion of this degree, the graduate should be able to:

1. Incorporate epidemiologic methods and evidence-based medicine in clinical approach.
2. Conduct high-quality epidemiologic research—including appropriate design, use of biologic markers, statistical analyses, and interpretation and reporting of results.
3. Evaluate and conduct clinical trials.
4. Conduct disease surveillance as practiced in state, county, and national health agencies/ departments.
5. Critically review the health literature and identify strengths and weaknesses of design, analyses, and conclusions.

**PREREQUISITE**

License to practice a health profession in the United States or the country of usual residence

College algebra or equivalent (calculus preferred)

**RESEARCH EPIDEMIOLOGY (TRACK II)—M.P.H.**

This track is designed for persons interested in a career studying the relationship of risk factors to a variety of disease outcomes (e.g., the effect of nutrients, inactivity, stress, high blood pressure, environmental exposure, obesity, or immunologic characteristics on heart disease, cancer, osteoporosis, longevity, infectious diseases, reproductive outcome, etc.).

**Learner outcomes**

Upon completion of this degree, the graduate should be able to:

1. Collaborate with or serve as a research consultant to health professionals.
2. Conduct high-quality epidemiologic research, including appropriate design, data collection, statistical analyses, and interpretation and reporting of results.
3. Be familiar with disease surveillance as practiced in state, county, and national health agencies/ departments.
4. Critically review the health literature and identify strengths and weaknesses of design, analyses, and conclusions.

**Program educational effectiveness indicators**

Name	Description	Location
Culminating activity	Oral examination	LLU campus
Culminating activity	Oral presentation of applied research using PowerPoint	LLU campus
Culminating activity	Written report of applied research	LLU campus
Term papers	Evaluation of writing skills	LLU campus
Final examinations	Integration and application of skills learned in courses	LLU campus
Course evaluation forms	Suggestions by the students to improve delivery of course material and the design of the course itself	LLU campus

**PREREQUISITE**

College algebra or equivalent (calculus preferred)

Biochemistry

Behavioral science

AT LEAST FOUR OF THE FOLLOWING COURSES:

#Human anatomy	Cancer biology
#Human physiology	Embryology
#Histology	Genetics
#Microbiology	#Pathology
Vertebrate anatomy	Cell biology
Anatomy and physiology	Zoology
Molecular biology	Immunology
General biology	
# recommended courses	

**COREQUISITE**

(a limited number of the above courses may be taken during first two quarters of program, in addition to units required for degree)

**DEGREE REQUIREMENTS (TRACK I AND TRACK II)****Research and forums**

Students are required to attend a minimum of twenty forums in the Department of Epidemiology and Biostatistics and /or Center for Health Research during their program. Attendance at these forums will be in addition to attendance at the public health seminars.

**Culminating activity**

In order to obtain a degree, the student is required to successfully complete the culminating activity as

required by the Department of Epidemiology and Biostatistics.

The culminating activity consists of: research, including a written report and oral presentation; professional portfolio (upon completion of the research); and an exit interview with the department chair (at the conclusion of the program).

### **SPATIAL EPIDEMIOLOGY (TRACK III)—M.P.H.**

This combined degree is comanaged by the Department of Environmental and Occupational Health—the academic home of the school's geoinformatics curricula—and the Department of Epidemiology and Biostatistics, and is designed for students who wish to incorporate innovative spatial analytic techniques in their epidemiological practices and research. The track prepares students to apply GIS and other spatial technologies (such as remote GPS and remote sensing) to epidemiology, research, and public health. Acquiring dual skills in epidemiology and GIS enhances the preparation of public health professionals by increasing their decision-making methods and problem-solving ability.

#### **Learner outcomes**

Students are encouraged to take advantage of the Health Geoinformatics Summer Institute, offered from June to September, to conveniently complete some or all required GIS courses in an intensive format.

Upon successful completion of this track, graduates will acquire the professional and scientific skills to analyze associations between location, environment, and disease. Graduates will have the skills and experience necessary to:

1. Use GIS methods to conduct high-quality epidemiologic research and clinical trials.
2. Monitor and survey disease using spatial analysis techniques to characterize health risk within populations.
3. Generate adequate hypotheses for testing geospatial relationships of disease occurrences and identify potential confounders and interactions that might bias the results.
4. Collaborate with health professionals using GIS visualization methods to investigate public health issues.

#### **Indicators of educational effectiveness**

Course-specific, performance-based outcomes are obtained, at the discretion of the instructor, through

written and oral examinations, class projects, and papers; and a culminating activity consisting of a written report and oral presentation, professional portfolio (upon completion of the research), and an exit interview with the department chair (at the conclusion of the program). In addition, students must take an integrated capstone public health course. Students are also encouraged to participate in a qualifying test given annually by SkillsUSA, an organization that has partnered with the geospatial industry to develop a competition program that provides universities, colleges, and their students with a way to validate their geospatial programs and measure them against national standards.

#### **PREREQUISITE**

College algebra or equivalent (calculus preferred), biochemistry, behavioral science, and at least four of the following courses:

*Human anatomy	Cancer biology
*Human physiology	Embryology
*Histology	Genetics
*Microbiology	*Pathology
Vertebrate anatomy	Cell biology
Anatomy and physiology	Zoology
Molecular biology	Immunology
* recommended courses	

In addition, candidates must demonstrate computer proficiency, although no previous experience with GIS is required. Advanced placement can be considered for students with previous GIS experience/training.

NOTE: In addition to units required for the degree, a limited number of the above courses may be taken during the first two quarters of the program.

#### **DEGREE REQUIREMENTS**

##### **Other requirements**

In addition to the foregoing degree requirements, the student must also complete the following:

Public health seminar. Forums in the Department of Epidemiology and Biostatistics and/or Center for Health Research are required, in addition to attendance at the public health seminars.

Field practicum /research project. Each student completes a project in which an aspect of geospatial analysis is applied to a problem in epidemiology. The culminating activity consists of: research including a written report and oral presentation, professional portfolio (upon completion of the research), and an exit interview with the department chairs (at the conclusion of the program).

<b>Public health core</b>		<b>Basic Cert.</b>	<b>Adv. Cert.</b>	<b>Medical Epid.</b>	<b>Research Epid.</b>	<b>Spatial Epid.</b>
ENVH 509	Principles of Environmental Health			3.0	3.0	3.0
EPDM 509	Principles of Epidemiology I	3.0		3.0	3.0	3.0
GLBH 524	Cultural Competence and Health Disparities			2.0	2.0	2.0
HADM 509	Principles of Health Policy and Management			3.0	3.0	3.0
HPRO 509	Principles of Health Behavior			3.0	3.0	3.0
HPRO 536	Program Planning and Evaluation			2.0	2.0	2.0
NUTR 509	Public Health Nutrition and Biology			3.0	3.0	3.0
PHCJ 605	Overview of Public Health			1.0	1.0	1.0
PHCJ 675	Integrated Public Health Capstone			2.0	2.0	2.0
RELE 5__	Graduate-level Ethics		3.0			
RELE 534	Ethical Issues in Public Health	3.0		3.0	3.0	3.0
STAT 521	Biostatistics I			4.0	4.0	4.0
STAT 509	General Statistics (4.0)	Choose one course	4.0	—	—	—
STAT 521	Biostatistics I (4.0)					
Totals		10.0	3.0	29.0	29.0	29.0

<b>Major</b>		<b>Basic Cert.</b>	<b>Adv. Cert.</b>	<b>Medical Epid.</b>	<b>Research Epid.</b>	<b>Spatial Epid.</b>
EPDM 510	Principles of Epidemiology II	3.0		3.0	3.0	3.0
EPDM 512	Multivariate Modeling in Epidemiology		3.0	3.0	3.0	3.0
EPDM 515	Clinical Trials	3.0		3.0		
EPDM 635A	Epidemiological Studies of Seventh-day Adventists A			1.0		
EPDM 635B	Epidemiological Studies of Seventh-day Adventists B			—		
STAT 515	Grant- and Contract-Proposal Writing		3.0		3.0	
STAT 522	Biostatistics II		4.0	4.0	4.0	4.0
STAT 548	Analytical Applications of SAS	2.0		2.0	2.0	2.0
STAT 557	Research Data Management		3.0		3.0	3.0
STAT 564	Survey and Advanced Research Methods			3.0	3.0	3.0
STAT 569	Advanced Data Analysis		3.0			
EPDM 515	Clinical Trials (3.0)	Choose one course	—	—	3.0	3.0
EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement (3.0)					
EPDM 565	Epidemiology of Cancer (3.0)	Choose one course	—	3.0	3.0	3.0
EPDM 566	Epidemiology of Cardiovascular Disease (3.0)					
Totals		8.0	16.0	22.0	27.0	21.0

<b>Geoinformatics</b>		<b>Basic Cert.</b>	<b>Adv. Cert.</b>	<b>Medical Epid.</b>	<b>Research Epid.</b>	<b>Spatial Epid.</b>
ENVH 522	Principles of Geographic Information Systems and Science					3.0
ENVH 524	GIS Software Applications and Methods					3.0
ENVH 526	Seminar in Geographic Information Systems					1.0
ENVH 535	Integration of Geospatial Data in GIS					2.0
ENVH 536	Spatial Analytic Techniques and GIS					3.0
ENVH 546	Introduction to Spatial Epidemiology					2.0
Totals		—	—	—	—	14.0

<b>Electives</b>		<b>Basic Cert.</b>	<b>Adv. Cert.</b>	<b>Medical Epid.</b>	<b>Research Epid.</b>	<b>Spatial Epid.</b>
EPDM 5__	Epidemiology Elective	9.0	6.0	5.0	8.0	
ENVH 521	Cartography and Map Design (2.0)					
ENVH 523	Practical Issues in GIS (3.0)					
ENVH 527	Geospatial Technologies for Emergency Preparedness and Management (3.0)					
ENVH 537	Health Care Geographics (2.0)					
ENVH 539	GIS Applications in Environmental Health (2.0)					
ENVH 547	GIS for Public Health Practice (2.0)					
ENVH 549	Remote Sensing Applications in the Health Services (3.0)					
EPDM 515	Clinical Trials (3.0)	—	—	—	—	5.0
EPDM 544	Epidemiology of Infectious Disease (3.0)					
EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement (3.0)					
EPDM 565	Epidemiology of Cancer (3.0)					
EPDM 566	Epidemiology of Cardiovascular Disease (3.0)					
EPDM 567	Epidemiology of Aging (3.0)					
EPDM 588	Environmental and Occupational Epidemiology (3.0)					
STAT 515	Grant- and Contract-Proposal Writing (3.0)					
Totals		9.0	6.0	5.0	8.0	5.0

**Research project**

One project approved and administered by both EPDM/STAT and second major.

		Basic Cert.	Adv. Cert.	Medical Epid.	Research Epid.	Spatial Epid.
ENVH 699	Applied Research					2.0
EPDM 699A	Applied Research	1.0	1.0	1.0	1.0	1.0
EPDM 699B	Applied Research II		1.0	1.0	1.0	1.0
EPDM 699C	Applied Research III				1.0	
EPDM 699D	Applied Research IV				1.0	
Totals		1.0	2.0	2.0	4.0	4.0

**Field experience**

Practicum units are in addition to the minimum graduate units required for the degree.

		Basic Cert.	Adv. Cert.	Medical Epid.	Research Epid.	Spatial Epid.
EPDM 798	Field Practicum (1.0-4.0) 120 clock hours per unit of credit			2.0-4.0		2.0
Totals		—	—	—	—	—
<b>Overall Totals</b>		<b>28.0</b>	<b>27.0</b>	<b>58.0</b>	<b>67.0</b>	<b>73.0</b>

**EPIDEMIOLOGY—DR.P.H.**

The aim of this program is to prepare Doctor of Public Health degree graduates for career options that include epidemiologic research, teaching, and public health practice. The curriculum is planned on an individual basis. Details depend upon the student's interest and academic needs, the program requirements, and the nature of the proposed research program. Where appropriate to the career interest, the student is expected to gain relevant teaching experience as part of the training. The program ordinarily consists of twelve quarters. At least five of these quarters must be devoted to a research project. Students are responsible for gaining the commitment of an appropriate faculty member to serve as their research mentor.

**Learning objectives**

Students completing the doctoral program in epidemiology are expected to have attained skills and

knowledge in addition to that required for the M.P.H. degree program. These additional learning objectives are enumerated below.

Upon completion of the Dr.P.H., the graduate will be able to independently:

1. Demonstrate knowledge of disease etiology, progression, and prevention as relevant to public health.
2. Identify public health issues and design relevant research proposals using NIH guidelines.
3. Communicate study results orally and in peer-reviewed publications.
4. Analyze population data, including the evaluation of confounding and interaction.

**Program educational effectiveness indicators**

Name	Description	Location
Dissertation	Includes two papers	On file in-house
Comprehensive examination	two-part: 1) grant proposal and 2) analysis of large data set	On file in-house
Dr.P.H. seminar	Student presentations	No file
Student assistance	Students assist faculty in research and teaching	No file

**PREREQUISITE**

Organic chemistry

College algebra or equivalent (calculus preferred)

Behavioral science

Biochemistry

Microbiology

Additional requirements: All Dr.P.H. degree students are required to register for 1 unit of EPDM 605 Seminar in Epidemiology every Fall Quarter in which they are students in the Epidemiology Program. Registration implies attendance and participation in seminar projects during Fall, Winter, and Spring quarters.

**Forums**

Doctoral students are required to attend a minimum of ten Department of Epidemiology and Biostatistics forums and/or Center for Health Research forums during each year of their program. Attendance at these forums will be in addition to attendance at public health seminars.

**EPIDEMIOLOGY—PH.D.**

The aim of this program is to prepare doctoral level health professionals or master's degree level nonhealth professionals for a career in research and academia. The curriculum is planned on an individual basis. Details depend upon the student's interest and academic needs, the program requirements, and the nature of the proposed research program. The student is expected to publish one paper and submit two others as part of their training. In addition, they will participate as teaching assistants and laboratory assistants, as well as lecture in courses. The program ordinarily consists of twelve

quarters. At least five of these quarters must be devoted to a research project. Students are responsible for gaining the commitment of an appropriate faculty member to serve as their research mentor.

**Learning objectives**

Students completing the Ph.D. degree program in epidemiology are expected to have attained the skills and knowledge necessary to pursue independent academic and research careers. Thus, the graduate of this program will be able to independently:

1. Identify areas requiring biomedical or epidemiologic research and design and conduct appropriate study to address the question.
2. Write grant proposals to obtain funding for research.
3. Select and execute appropriate and valid analyses of data using available statistical software.
4. Write, interpret, and publish results of conducted research; and communicate orally.
5. Develop lectures and teach at the graduate level within their area of expertise.

**Program educational effectiveness indicators**

Name	Description	Location
Time to advancement to candidacy	Ideal is two years	On file in-house
Time from advancement to candidacy until graduation	Ideal is one year	On file in-house
Number of published papers at time of graduation	Minimum one, preferably more	On file in-house
Course evaluations	Each course is assessed at end	On file in-house
Exit survey and interview	Each graduate completes both a written survey as and a face-to-face interview with department chair	On file in-house
Job placements after graduation	Graduates are contacted and followed for at least five years	On file in-house
Alumni surveys	Graduates are sent surveys every year to assess whether they are engaged in funded research and/or serve as faculty in colleges/universities.	On file in-house

**PREREQUISITE**

Doctoral level health professional degree or Master's degree in related field with documented research experience (such as published or submitted paper) and the following courses: anatomy, physiology, pathology, histology, microbiology, and biochemistry.

**PRE- /COREQUISITE**

(may be taken during the first quarter of the program, in addition to units required for degree; advanced standing from previous M.P.H. degrees will be considered ): EPDM 509 (or equivalent), STAT 521 (or equivalent), STAT 548 (or equivalent).

**Additional requirements**

All Ph.D. degree students are required to register for 1 unit of EPDM 605 Seminar in Epidemiology (1) every Fall Quarter in which they are students in the Epidemiology Program. Registration implies

attendance and participation in seminar projects during Fall, Winter, and Spring quarters.

In order to graduate, the Ph.D. degree candidate must have published one paper in a peer-reviewed journal and submitted two other papers.

#### Forums

Doctoral students are required to attend a minimum of ten Department of Epidemiology and Biostatistics forums and/or Center for Health Research forums

during each year of their program. Attendance at these forums will be in addition to attendance at public health seminars.

#### Teaching assistant/Laboratory assistant

Ph.D. degree students are required to participate as both teaching assistants and laboratory assistants in both introductory courses and advanced methodological courses. Further, they are expected to obtain experience in lecturing by delivering at least one class lecture during their studies.

#### Corequisites

May be taken during first two quarters of program, in addition to units required for degree; advanced standing from previous M.P.H. degrees considered

		Dr.P.H.	Ph.D.
ENVH 509	Principles of Environmental Health	3.0	
EPDM 509	Principles of Epidemiology I	3.0	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0	
HADM 509	Principles of Health Policy and Management	3.0	
HPRO 509	Principles of Health Behavior	3.0	
HPRO 536	Program Planning and Evaluation	2.0	
NUTR 509	Public Health Nutrition and Biology	3.0	
PHCJ 605	Overview of Public Health	1.0	
STAT 521	Biostatistics I		4.0
STAT 548	Analytical Applications of SAS		2.0
Totals		—	—

#### Epidemiologic methods

		Dr.P.H.	Ph.D.
EPDM 510	Principles of Epidemiology II	3.0	3.0
EPDM 512	Multivariate Modeling in Epidemiology	3.0	3.0
EPDM 515	Clinical Trials	3.0	3.0
STAT 515	Grant- and Contract-Proposal Writing	3.0	3.0
STAT 521	Biostatistics I	4.0	
STAT 522	Biostatistics II	4.0	4.0
STAT 548	Analytical Applications of SAS	2.0	
STAT 557	Research Data Management		3.0
STAT 564	Survey and Advanced Research Methods	3.0	3.0
STAT 569	Advanced Data Analysis	3.0	

EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement (3.0)	Choose 10 units	10.0	—
EPDM 568	International Epidemiology (2.0)			
HPRO 543	Writing for Health Professionals (2.0)			
NUTR 543	Concepts in Nutritional Epidemiology (3.0)			
STAT 523	Biostatistics III (4.0)			
STAT 525	Applied Multivariate Analysis (3.0)			
STAT 535	Introduction to Modern Nonparametric Statistics (3.0)			
STAT 538	Probability and Statistical Theory I (3.0)			
STAT 539	Probability and Statistical Theory II (3.0)			
STAT 545	Survival Analysis (3.0)			
STAT 557	Research Data Management (2.0)			
Totals			38.0	22.0

**Descriptive epidemiology**

		Dr.P.H.	Ph.D.
EPDM 534	Epidemiology of Maternal-Child Health (3.0)	Choose 12 units	12.0
EPDM 544	Epidemiology of Infectious Disease (3.0)		
EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement (3.0)		
EPDM 565	Epidemiology of Cancer (3.0)		
EPDM 566	Epidemiology of Cardiovascular Disease (3.0)		
EPDM 567	Epidemiology of Aging (3.0)		
EPDM 588	Environmental and Occupational Epidemiology (3.0)		
EPDM 625	Special Topics in Epidemiology (1.0-3.0)		
EPDM 635A	Epidemiological Studies of Seventh-day Adventists A (1.0)		
EPDM 635B	Epidemiological Studies of Seventh-day Adventists B (1.0)		
STAT 625	Special Topics in Biostatistics (1.0-3.0)		
Totals			



**Biomedical sciences**

		Dr.P.H.	Ph.D.
HPRO 501	Human Anatomy and Physiology I	4.0	
HPRO 502	Human Anatomy and Physiology II	4.0	
HPRO 503	Human Anatomy and Physiology III	4.0	
HPRO 531	Pathology of Human Systems I	3.0	
HPRO 532	Pathology of Human Systems II	3.0	
NUTR 509	Public Health Nutrition and Biology	3.0	
Totals		21.0	—

**Administration and leadership**

		Dr.P.H.	Ph.D.
HADM 510	Health Policy Analysis and Synthesis (3.0)	Choose 6 units	—
HADM 514	Health Care Economic Policy (3.0)		
HADM 528	Organizational Behavior in Health Care (3.0)		
HADM 542	Managerial Accounting for Health Care Organizations (3.0)		
HADM 604	Health Systems Strategic Planning (3.0)		
Totals		6.0	—

**Religion**

		Dr.P.H.	Ph.D.
RELE 5__	Graduate-level Ethics	3.0	
RELR 5__	Graduate-level Relational	3.0	3.0
RELT 5__	Graduate-level Theological	3.0	
RELE 525	Ethics for Scientists (3.0)	Choose one course	3.0
RELE 534	Ethical Issues in Public Health (3.0)		
RELT 615	Seminar in Philosophy of Religion (3.0)	Choose one course	3.0
RELT 617	Seminar in Religion and the Sciences (3.0)		
Totals		9.0	9.0

**Other required courses**

		Dr.P.H.	Ph.D.
EPDM 605	Seminar in Epidemiology (1.0)	1 unit per year in program, minimum of 3 units	3.0
PHCJ 605	Overview of Public Health		1.0
Totals		—	4.0

**Cognates**

Three courses in any one public health discipline (ENVH, GIS, GLBH, HADM, HPRO, NUTR, STAT). May also choose three courses from another LLU school in consultation with advisor.

		Dr.P.H.	Ph.D.
_____	Elective		7.0-10.0
Totals		—	7.0-10.0

**Electives**

		Dr.P.H.	Ph.D.
_____	Elective May be chosen from another institution, in consultation with advisor	8.0	
Totals		8.0	—

**Research and dissertation**

		Dr.P.H.	Ph.D.
EPDM 685	Preliminary Research Experience	2.0	2.0
EPDM 694	Research (1.0-14.0)	5.0	11.0
EPDM 698	Dissertation (1.0-14.0)	12.0	12.0
Totals		19.0	—
<b>Overall Totals</b>		<b>113.0</b>	<b>78.0</b>

**Other requirements**

The student must attend a minimum of 20 department forums per year in the program.

Both the Dr.P.H. and the Ph.D. degree require that the student work with a faculty member to publish one paper (or have published a paper on his/her own before acceptance) in addition to the research requirements for the degree. This requirement could be part of the preliminary research experience.

The Dr.P.H. degree requires two papers submitted to a peer-reviewed journal, of which the student must respond to reviewers' comments on one of them. The student is first author on both papers.

The Ph.D. degree requires three papers submitted to a peer-reviewed journal—of which one must be published (or accepted for publication), and the student must have responded to reviewers' comments on the other two papers. The student is first author on all three papers.

# Global Epidemiology—PH

(M.P.H.)

JAYAKARAN S. JOB, Program Director

## GLOBAL EPIDEMIOLOGY—M.P.H.

This double major is administered jointly by the Department of Global Health and the Department of Epidemiology and Biostatistics. It is designed for persons with special interest in conducting research and evaluations in international settings, as well as those interested in implementing health programs. Graduates with this major have broad employment opportunities that range from program management and planning to involvement in research and evaluation of programs.

### Learner outcomes

Graduates of the Global Epidemiology Program will have the skills necessary to:

1. Conduct operational research in international settings.
2. Design effective, community-appropriate health and development programs.
3. Critically review the literature and identify strengths and weaknesses of design, analyses, and conclusions.
4. Apply knowledge of disease mechanisms and information from the biological

disciplines to interpretation of statistical findings in biomedical research.

5. Understand appropriate quantitative and qualitative research methods in community health and development.

### Indicators of teaching effectiveness

1. Ability to work individually and in groups.
2. Ability to prepare and do oral presentations in class or for external audiences.
3. Integrated capstone course.
4. Comprehensive examinations: students required to pass.
5. Applied research: development of a research topic with methods and analytic approach, analyses of data, writing a written report in publishable format, doing oral presentation at department forum, and passing the oral comprehensive examination.

### PREREQUISITE

College algebra or equivalent (calculus preferred)

Anatomy

Physiology

Microbiology

### Public health core

Units

ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 536	Program Planning and Evaluation	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
PHCJ 605	Overview of Public Health	1.0
PHCJ 675	Integrated Public Health Capstone	2.0
RELE 534	Ethical Issues in Public Health	3.0
Totals		25.0

Major			Units
EPDM 510	Principles of Epidemiology II		3.0
EPDM 512	Multivariate Modeling in Epidemiology (1.0-3.0)	1 unit required; additional 2 units may be taken as electives	1.0
EPDM 534	Epidemiology of Maternal-Child Health		3.0
EPDM 568	International Epidemiology		2.0
GLBH 544	Epidemiology of Infectious Disease		3.0
GLBH 545	Integrated Community Development		4.0
GLBH 564	Primary Health Care Programs I		3.0
GLBH 565	International Health Programming		2.0
GLBH 566	Primary Health Care Programs II		3.0
GLBH 568	Community Health and Development III		3.0
GLBH 605	Seminar in Global Health		1.0
STAT 515	Grant- and Contract-Proposal Writing		3.0
STAT 521	Biostatistics I		4.0
STAT 522	Biostatistics II		4.0
STAT 548	Analytical Applications of SAS		2.0
STAT 564	Survey and Advanced Research Methods		3.0
EPDM 515	Clinical Trials (3)	Choose one course	3.0
EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement (3)		
<b>Totals</b>			<b>47.0</b>

Electives			Units
GLBH 550	Women in Development (3)	Choose one course	3.0
NUTR 585	Topics in Global Nutrition (3)		
STAT 535	Introduction to Modern Nonparametric Statistics (3)		
STAT 569	Advanced Data Analysis (3)		
<b>Totals</b>			<b>3.0</b>

**Research project**

One project approved and administered by both EPDM/STAT and second major

			Units
EPDM 699A	Applied Research		1.0
EPDM 699B	Applied Research II		1.0
GLBH 699	Applied Research in Global Health		2.0
<b>Totals</b>			<b>4.0</b>
<b>Overall Totals</b>			<b>79.0</b>

**Research and forums**

Students are required to attend a minimum of twenty forums in the Department of Epidemiology and/or

Center for Health Research during their program. Attendance at these forums will be in addition to attendance at the public health seminars.

**Culminating activity**

In order to obtain a degree, the student is required to successfully complete the culminating activity, as required by the Department of Epidemiology and Biostatistics and the Department of Global Health. The culminating activity includes a written examination; research, including a written report and

oral presentation; professional portfolio (upon completion of the research); and an exit interview with the department chairs (at the conclusion of the program).

**Public health seminars (10)**

# Global Health—PH

## (M.P.H., Dr.P.H., Certificates)

RONALD H. MATAYA, Chair and Assistant Professor

### FACULTY

Juan Carlos Belliard  
David Dyjack  
Donn Gaede  
Brad Jamison  
Jayakaran S. Job  
Susanne B. Montgomery  
Sharon Rushing  
Ehren Ngo

### ADJUNCT FACULTY

Godwin N. Aja  
Gilbert M. Burnham  
P. William Dysinger  
Lars Gustavsson  
Kenneth W. Hart  
Richard H. Hart  
Mark R. Janz  
Mekebeb Negerie  
Martine Polycarpe  
Bruce E. Smith  
Dennis D. Tidwell  
Lila M. Tidwell  
Jerald W. Whitehouse

### Department goal

The goal of the Department of Global Health is founded on Christian values of love for and service to humanity and stewardship for the resources of the earth. The department aims to train individuals who will be culturally competent and who are able to engage communities—especially the poor, vulnerable, and underserved to help them achieve an optimal level of health and development.

### Learner outcomes

The competency-based curriculum is built upon themes of maintaining a sustainable environment; supporting communities, families, and individuals; and advocating for vulnerable populations. By the end of the program, graduates are expected to demonstrate competency in six areas of responsibility:

1. Assessing capacity, systems, services, and resources.
2. Planning comprehensive, integrated interventions.
3. Planning, implementing, maintaining, and evaluating community-based programs.
4. Promoting collaborations between sectors.

5. Advocating for social justice, equity, and equal access to health and other services that contribute to individual and community well-being.
6. Contributing to operations research.

Students need to work closely with their advisors, particularly in the selection of electives or dual majors, in order to be sure that their academic training meets their career goals.

## GLOBAL HEALTH—M.P.H.

This degree can be taken in the following formats:

- Master of Public Health degree with 400-clock-hour field practicum (M.P.H.)
- Master of Public Health degree with 100-clock-hour field practicum (M.P.H.)
- Peace Corps Master's International Program (M.P.H./MIP)
- Peace Corps Fellows/USA Program
- Master of Public Health (M.P.H.) degree within preventive medicine residency

### Master of Public Health degree with a 400-clock-hour field practicum

This program is designed for students with limited or no prior field experience in global health. The practicum must be fulfilled in a resource-scarce environment or through working with a vulnerable population locally or internationally.

### Master of Public Health with a 100-clock-hour field practicum

This program is designed for students with prior relevant field experience in an underserved area or with vulnerable populations, as determined by the global health faculty. Return Peace Corps volunteers (RPCV) usually are placed in this option and are required to submit the culminating activity report as a critical analysis of their Peace Corps experience.

### Peace Corps Master's International Program with Master of Public Health

Loma Linda University is one of eighty-two universities currently participating in the Master's International Program. As one of eleven institutions in the country offering this prestigious program in conjunction with the Master of Public Health degree, the School of Public Health is proud to collaborate with the United States Peace Corps in this academic partnership.

### Preventive medicine residency with Master of Public Health degree

The Global Health Department offers students in the Medical and Dental Leadership Program and preventive medicine residents the opportunity to pursue the M.P.H. degree. This may include participation in service and research projects in developing countries.

#### The program

This program prepares professionals to work with poor and underserved communities so that they can achieve acceptable levels of health and well being. Students are exposed early in the program to surrounding communities where they apply classroom knowledge to real life situations as they perform community needs and assets assessments, program planning and implementation, monitoring, and evaluation. The integrated community health and development course offered in the summer allows students and faculty to travel together to international learning sites to observe and learn first hand the public health issues in a developing country. The program emphasizes cultural competencies that are necessary for working in diverse communities, both nationally and internationally.

Graduates of this program will be prepared to work with community-based organizations, national and international nongovernmental organizations, health departments, and other public health service organizations.

#### Learner outcomes

The competency-based curriculum is built upon themes of maintaining a sustainable environment, supporting communities, and advocating for vulnerable populations. Graduates of the program are expected to:

1. Understand cultural competency strategies in community health and development.
2. Design effective, community-appropriate health and development programs.
3. Understand principles of community engagement.
4. Understand appropriate quantitative and qualitative research methods in community health and development.
5. Apply principles of policy and advocacy in community health and development.

#### Indicators of teaching effectiveness

1. Ability to work individually and in groups.
2. Ability to prepare and do oral presentations in class and for external audiences.
3. Integrated capstone course.
4. Satisfactory performance on comprehensive examinations (students required to pass).
5. Development of a field practicum proposal development to address or answer a public health question in a chosen area of interest.

#### Degree requirements

##### COREQUISITE

(may be taken concurrently during the first two quarters of program, in addition to units required for the degree)

Microbiology

Anatomy and physiology

#### Public health core

Units

ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 536	Program Planning and Evaluation	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
PHCJ 605	Overview of Public Health	1.0
PHCJ 675	Integrated Public Health Capstone	2.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 509	General Statistics	4.0
Totals		29.0

<b>Major</b>			Units
EPDM 568	International Epidemiology		2.0
GLBH 545	Integrated Community Development	A separate laboratory fee must be paid at least two quarters prior to enrollment in this course (that is, by mid-January) and is subject to change, if needed. In order to fulfill prerequisite requirements for this course, it is strongly recommended that students enroll for the M.P.H. degree program in the Autumn Quarter.	4.0
GLBH 564	Primary Health Care Programs I		3.0
GLBH 565	International Health Programming		2.0
GLBH 566	Primary Health Care Programs II		3.0
GLBH 568	Community Health and Development III		3.0
GLBH 605	Seminar in Global Health		1.0
NUTR 585	Topics in Global Nutrition		3.0
STAT 515	Grant- and Contract-Proposal Writing		3.0
<b>Totals</b>			<b>24.0</b>

<b>Electives</b>			Units
ENVH 522	Principles of Geographic Information Systems and Science (3)	Choose a minimum of 15 units	15.0
ENVH 524	GIS Software Applications and Methods (3)		
ENVH 527	Geospatial Technologies for Emergency Preparedness and Management (3)		
GLBH 514	Ethnographic Methods in Public Health (3)		
GLBH 516	HIV / AIDS: Implications for Public Health (3)		
GLBH 517	Cultural Issues in Health Care (3)		
GLBH 519	Principles of Disaster Management I (3)		
GLBH 520	Principles of Disaster Management II (3)		
GLBH 544	Epidemiology of Infectious Disease (3)		
GLBH 547	Refugee and Displaced Population Health (3)		
GLBH 548	Violence and Terrorism Issues (3)		
GLBH 550	Women in Development (3)		
GLBH 558	Public Health Issues in Emergencies (3)		
GLBH 559	Psychosocial Models and Interventions (3)		
GLBH 561	Epidemiology of Tobacco Use and Control I (3)		



GLBH 562	Epidemiology of Tobacco Use and Control II (3)		
HPRO 523	Maternal/Child Health: Policy and Programs (3)		
HPRO 524	Adolescent Health (3)		
HPRO 553	Addiction Theory and Program Development (3)		
HPRO 567	Reproductive Health (3)		
Totals			15.0

**Practicum**

Practicum units are in addition to the minimum graduate units required for the degree

Units

GLBH 699	Applied Research in Global Health (2 to 4)	Choose one course	—
GLBH 796	Internship (12) (6-12 months)		
GLBH 797	MIP Residency in Global Health (12) <i>See International Peace Corps Program in this Catalog for further details. (27 months)</i>		
GLBH 798	Culminating Activity /Field Practicum (3 to 12)		
Totals			—
<b>Overall Totals</b>			<b>68.0</b>

**Culminating activity**

Field practicum report

Portfolio

Exit interview

**Public health seminars (10)****Special fee and course requirements**

The required field-based course, GLBH 545 Integrated Community Development (which involves international travel), has a separate laboratory tuition fee that must be paid at least two quarters prior to enrollment in the course (that is, by mid-January) and is subject to change, if needed. In order to fulfill prerequisite requirements for this course, it is strongly recommended that students enroll for the M.P.H. degree program in the Autumn Quarter.

**GLOBAL HEALTH—DR.P.H.**

(CURRENTLY CLOSED TO NEW ADMISSIONS)

The Doctor of Public Health (Dr.P.H.) degree is designed to provide advanced knowledge, skills, and competencies needed to plan, manage, and evaluate health and development programs both in the developing and developed world.

Building on earlier graduate work, public health professionals develop a broad base of advanced knowledge, skills, and competencies needed to plan, manage, and evaluate health and development programs both in developing and developed countries. Program emphases enable students to experientially learn leadership and administrative skills, cross-cultural communication techniques, and appropriate operational and evaluation research methodologies in order to address the multifaceted problems affecting health and development among underserved populations and resource-scarce communities.

Applicants possessing a master's degree in public health (or a master's or doctoral degree in a related field) and relevant field experience are eligible to apply. Graduates of this program typically are employed in national and global organizations (government, private, and voluntary), and in academic settings.

Following are the eligibility and degree requirements and additional information for the Dr.P.H. degree in global health.

**PREREQUISITE**

Human anatomy and physiology (one course)

Microbiology (one course)

Master's or doctoral degree in related field

Two years experience in professional public health practice

**Leamer outcomes**

Upon completion of this degree, the graduate should be able to:

1. Demonstrate cultural competency strategies in community health and development.

2. Design effective community-appropriate health and development programs.
3. Demonstrate effective program management.
4. Demonstrate *and apply* principles of community engagement.
5. Demonstrate *and apply* appropriate qualitative and quantitative research skills.
6. Apply principles of policy and advocacy in community health and development.

**Corequisites**

May be taken during first two quarters of program, in addition to units required for degree; advanced standing from previous M.P.H. degrees considered

		Units
ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
EPDM 568	International Epidemiology	2.0
GLBH 545	Integrated Community Development	4.0
GLBH 564	Primary Health Care Programs I	3.0
GLBH 565	International Health Programming	2.0
GLBH 566	Primary Health Care Programs II	3.0
GLBH 568	Community Health and Development III	3.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
PHCJ 605	Overview of Public Health	1.0
STAT 515	Grant- and Contract-Proposal Writing	3.0
<b>Totals</b>		—

**Major**

		Units
GLBH 606	Advanced Seminar in Global Health	2.0
GLBH 695	Practicum in Field-Based Survey and Evaluation	3.0
HPRO 589	Qualitative Research Methods	3.0
GLBH 514	Ethnographic Methods in Public Health (3)	Minimum of 9 units
GLBH 516	HIV / AIDS: Implications for Public Health (3)	
GLBH 517	Cultural Issues in Health Care (3)	
GLBH 544	Epidemiology of Infectious Disease (3)	
GLBH 547	Refugee and Displaced Population Health (3)	
GLBH 550	Women in Development (3)	

GLBH 584	Special Topics in Global Health (1 to 3)		
GLBH 696	Directed Study/Special Project (1 to 4)		
Totals			17.0

**Leadership**

Units

HADM 510	Health Policy Analysis and Synthesis		3.0
HADM 514	Health Care Economic Policy		3.0
HPRO 588	Health Behavior Theory and Research		4.0
— — —	Elective (1 to 4)	Choose elective courses in the areas of communication and administration	6.0
Totals			16.0

**Cognates**

Units

— — —	Elective	Choose from area(s) related to dissertation, in consultation with advisor	18.0
Totals			18.0

**Religion**

Units

RELE 5__	Graduate-level Ethics		3.0
RELR 5__	Graduate-level Relational		3.0
RELT 5__	Graduate-level Theological		3.0
Totals			9.0

**Research and evaluation**

Units

EPDM 510	Principles of Epidemiology II		3.0
GLBH 685	Preliminary Research Experience		2.0
GLBH 692	Research Consultation		2.0
GLBH 694	Research		1.0
PHCJ 534	Research Methods		2.0
PHCJ 604	Research Seminar		2.0
STAT 521	Biostatistics I		4.0
STAT 564	Survey and Advanced Research Methods		3.0
STAT 568	Data Analysis		3.0
STAT 548	Analytical Applications of SAS (2)	Choose one course	2.0
STAT 549	Analytical Applications of SPSS (2)		
Totals			24.0

<b>Dissertation</b>		Units
GLBH 698	Dissertation (1.0-12.0)	26.0
		Totals 26.0
		<b>Overall Totals 110.0</b>

# Global Health/Maternal and Child Health—PH

## (M.P.H.)

RONALD MATAYA, Program Director

### Purpose

The purpose of this combined degree is to prepare individuals with a global knowledge of maternal and child health issues and to equip them with competencies needed to function in this specialty, nationally and internationally. The proposed program combines the core public health courses, core maternal and child health courses, core global health courses, and electives to make up a total of 75 units. The program covers national and international maternal and child health policies, programs and problems, program planning and evaluation, and a number of other pertinent areas of preparation. Graduates from this 75-unit program will be able to function in a variety of settings, such as national and international private/public health organizations.

### Specific learner outcomes

Graduates of this program should be able to:

1. Apply appropriate quantitative and qualitative research methods to maternal and child health issues.
2. Design effective community-appropriate maternal and child health programs.
3. Apply principles of policy and advocacy in maternal and child health.
4. Use principles of community engagement on issues related to maternal and child health.

### Indicators of teaching effectiveness

Group projects: These projects will allow students to apply their theoretical and practical knowledge and skills, such as project design, planning, implementation, monitoring, and evaluation.

Comprehensive examination: Students will be required to pass a comprehensive examination.

Field practicum: All students will be required to do their field practicum in maternal and child health in the U.S. or abroad. Students will develop their own questions or hypotheses with guidance from faculty.

### Admission requirements

Admission requirements include a bachelor's degree with a G.P.A. of 3.0 and above and a GRE score of adequate percentages (preferably greater than 20 percent). TOEFL scores will also be required for non-English trained students or students from non-English-speaking countries. Microbiology and anatomy and physiology are core prerequisites. Preference will be given to students who have worked for two years or more or who have special interest in maternal and child health issues. Nurses or nurse/midwives who want to add a public health dimension to their specialty may want to consider this track. College conceptualization and writing skills will be an asset.

### PREREQUISITE

Anatomy and physiology

Two social science classes

Microbiology

GRE scores

### Special fee and course requirements

\* The required field-based course, GLBH 545 Integrated Community Development (which involves international travel), has a separate laboratory tuition fee that must be paid at least two quarters prior to enrollment in the course (that is, by mid-January). This fee is subject to change, as necessary. In order to fulfill prerequisite requirements for this course, it is strongly recommended that students enroll for the M.P.H. degree program in the Autumn Quarter.

### Public health core

Units

		Units
ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 536	Program Planning and Evaluation	2.0
NUTR 509	Public Health Nutrition and Biology	3.0

PHCJ 605	Overview of Public Health	1.0
PHCJ 675	Integrated Public Health Capstone	2.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 509	General Statistics	4.0
Totals		29.0

**Maternal and child health**

Units

EPDM 534	Epidemiology of Maternal-Child Health	3.0
HPRO 523	Maternal/Child Health: Policy and Programs	3.0
HPRO 556	High-Risk Infants and Children: Policy and Programs	3.0
HPRO 567	Reproductive Health	3.0
HPRO 589	Qualitative Research Methods	3.0
HPRO 614	Seminar in Maternal and Child Health Practice	2.0
NUTR 534	Maternal and Child Nutrition	3.0
Totals		20.0

**Global health**

Units

GLBH 545	Integrated Community Development	4.0
GLBH 564	Primary Health Care Programs I	3.0
GLBH 568	Community Health and Development III	3.0
GLBH 605	Seminar in Global Health	1.0
HPRO 559	Lactation Management	3.0
NUTR 585	Topics in Global Nutrition	3.0
STAT 515	Grant- and Contract-Proposal Writing	3.0
Totals		20.0

**Electives**

Minimum of 6 units

Units

GLBH 516	HIV / AIDS: Implications for Public Health	3.0
GLBH 517	Cultural Issues in Health Care	3.0
GLBH 550	Women in Development	3.0
HPRO 524	Adolescent Health	3.0
HPRO 555	Early-Age Parenthood	3.0
HPRO 559	Lactation Management	3.0
Totals		6.0

**Practicum options**

Practicum units are in addition to the minimum graduate units required for the degree

Units

GLBH 797	MIP Residency in Global Health (12)	Choose one course	—
GLBH 798	Culminating Activity/Field Practicum (12)		
HPRO 797	MIP Residency in Health Education (12)		
HPRO 798D	Field Practicum (12)		
		Totals	—
		<b>Overall Totals</b>	<b>75.0</b>

**Culminating activity**

- Field practicum report
- Portfolio
- Exit interview

**Public health seminars (10)**

# Health Care Administration—PH

## (M.B.A.)

S. ERIC ANDERSON, Chair  
STEVE SERRAO, M.B.A. Program Director

### TEACHING FACULTY

Stewart R. Albertson  
S. Eric Anderson  
James Banta  
Dora Barilla  
Lynna S. Belin  
Jere Chrispens  
William Colwell  
Eileen Fry-Bowers  
Meng-Jin Johnathan Goh  
David L. Holt  
Brad A. Jamison  
Renate Krause  
Dave Lawrence  
Susan Onuma  
David S. Penner  
Sharon Rushing  
Steve Serrao  
Shirley Simmons  
Jonathan Zirkle

### FACULTY

Jane E. Adams  
Donna Bennett  
Richard Blanco  
Richard Bruno  
Jilliane Cabansag  
John Carney  
Bonnie Chi-Lum  
Wayne S. Dysinger  
Dwight C. Evans  
Earl Ferguson  
Brent A. Fisher  
Garry J. Fitzgerald  
Donn P. Gaede  
Bradley P. Gilbert  
Eugenia Giordano  
Oscar A. Giordano  
Pooja Goel  
Albin H. Grohar  
Ronald P. Hattis  
Gordon E. Hewes  
Renee L. Hills  
Paul A. Hisada  
Troy A. Holmes  
Michael H. Jackson  
David J. Kinsey  
Gregory Kono  
Donald Kurth  
James Kyle  
Karl J. McCleary  
Rafael Molina  
Patricia Murdoch  
LeRoy Nattress  
Donald G. Pursley

Paul Simms  
Akankshi Sharma-Arora  
Teri S. Tamayose  
David Tejada-de-Rivero  
C. Torben Thomsen  
Abel Torres  
Brian Weed

## HEALTH CARE ADMINISTRATION— M.B.A.

The School of Public Health offers a Master of Business Administration (M.B.A.) degree in health care administration. The Master of Business Administration (M.B.A.) degree with an emphasis in health care administration (HADM) provides students with a broad understanding of health care management and practical experience in applying learned principles. Graduates are prepared for careers in upper administration in health service organizations—including medical centers, hospitals, health plans, physician group practices, dental practices, and long-term and managed care settings.

### Learner outcomes

Upon completion of this degree, the student should be able to:

1. Apply health care knowledge in economic analysis and policy.
2. Understand organizational structure and governance in addition to equitable and effective human resource health policies.
3. Apply principles of health care finance.
4. Apply principles of managerial accounting in health care.
5. Employ market research towards strategic planning in health care.
6. Employ quality improvement processes in health care operations management.
7. Understand technology that supports the practice, research, and decision making in health care.

### Indicators of educational effectiveness

Educational effectiveness will be determined by research, papers, class presentations, debates, tests, field practicum project/paper, and exit interview.

### Degree admission requirements

#### PREREQUISITE

Baccalaureate degree from a regionally accredited institution in the U.S. or equivalent

Cumulative G.P.A. of 3.0

Acceptable GRE or GMAT scores



<b>Public health core</b>		Units
EPDM 509	Principles of Epidemiology I	3.0
RELE 535	Ethical Issues in Health Care Management	3.0
STAT 505	Statistics in Health Administration	3.0
Totals		9.0

<b>Major</b>		Units
HADM 506	Principles of Health Care Finance	3.0
HADM 507	Principles of Financial Accounting in Health Care	3.0
HADM 514	Health Care Economic Policy	3.0
HADM 517	Business Communication	3.0
HADM 519	Data Analysis and Management	3.0
HADM 528	Organizational Behavior in Health Care	3.0
HADM 529	Health Care Negotiations and Conflict Resolution	3.0
HADM 534	Health Care Law	3.0
HADM 542	Managerial Accounting for Health Care Organizations	3.0
HADM 555	Health Care Delivery Systems	3.0
HADM 559	Health Care Marketing	3.0
HADM 564	Health Care Finance	3.0
HADM 574	Managing Human Resources in Health Care Organizations	3.0
HADM 575	Management Information Systems in Health Care	3.0
HADM 601	Health Systems-Operations Management	3.0
HADM 604	Health Systems Strategic Planning	3.0
HADM 605	Health Care Quality Management	3.0
HADM 690	Healthcare Management Capstone	4.0
Totals		55.0

<b>Field experience</b>		Units
Practicum units are in addition to the minimum graduate units required for the degree		
HADM 695	Health Administration Field Practicum	3.0
Totals		—
<b>Overall Totals</b>		<b>64.0</b>

## OTHER REQUIREMENTS

### Professional membership

During their first quarter, students are required to secure and maintain membership in an approved professional society, such as the American College of Healthcare Executives (ACHE).

### Health administration colloquia (10)

Participation is required in a minimum of ten noncredit colloquia designed to acquaint students with various aspects of the health care industry.

Attendance at these colloquia will be in addition to attendance at ten public health seminars.

### Public health seminars (10)

#### Culminating activity

The culminating activity includes a research paper or professional project, field experience (upon completion of essential major course work), professional portfolio (upon completion of the field experience), and an exit interview with the MPHBA Program Director (at the conclusion of the program).

# Health Education—PH

**(M.P.H., Online M.P.H., Dr.P.H.)**

NAOMI MODESTE, Department Chair

## FACULTY

Hildemar Dos Santos  
Linda G. Halstead  
Mervyn G. Hardinge  
R. Patricia Herring  
Gary L. Hopkins  
Joyce W. Hopp  
Jerry W. Lee  
Helen P. Hopp Marshak  
Naomi N. Modeste  
Susanne B. Montgomery  
Christine M. Neish  
Stoy E. Proctor  
Serena Tonstad

The Master of Public Health (M.P.H.) degree programs are built around 58-unit curricula. The number of required courses is based on the core public health and health education competencies, selected major, area of emphasis, and elective course work. The number of required units, culminating activity requirement, and length of field practicum are specified upon acceptance. The student develops an appropriate curriculum in consultation with his/her faculty advisor.

## HEALTH EDUCATION—M.P.H.

NAOMI MODESTE, Program Coordinator

### Program formats

Course work for the Health Education Program may be pursued in the following formats:

- a traditional, on-campus program
- an online program

In the Health Education Program, emphasis is placed on educational, interpersonal, community, and legislative factors that promote positive health behaviors. The curriculum emphasizes interventions based on scientific data and established behavioral and learning theories that promote public health through the processes of education and community organization.

Graduates of this degree program may function as community health educators in a variety of settings, both public and private. They are academically prepared to conduct community assessments; design, implement, and evaluate health education interventions; organize health promotion efforts; participate in research, and assist individuals and

communities to better utilize techniques of health behavior change.

Students select course work from each of several practice and content areas to enhance the applied portion of the curriculum. Professional practice is addressed during the laboratory and field experience portions of the curriculum. Students may develop skills while working in community agencies and in medical care, school, and work/site settings.

Students who are licensed health professionals and/or who have two or more years of experience may replace the standard 400 clock-hour field practicum with a 200-hour practicum or 100-hour practicum. Graduates are eligible to sit for the credentialing examination in health education—certified health education specialist (CHES), offered by the National Commission for Health Education Credentialing, Inc., 944 Macon Boulevard, Suite 310, Allentown, PA 18103.

### Learner outcomes

Graduates of the program in health education will have the skills necessary to:

- Assess individual and community needs and plan effective health education programs.
- Collaborate with other professionals in using resources to educate the public about health.
- Evaluate and appropriately apply public health research findings to the practice of health education.
- Provide leadership or technical assistance for public health projects in selected settings.
- Meet didactic and professional practice requirements for certification as health education specialists.

### Educational effectiveness indicators

- Comprehensive examination
- Field practicum report
- Professional portfolio
- Exit interview / Survey

### PREREQUISITE

Demonstrate college-level conceptualization and writing skills

Graduate Record Examination (GRE)

Bachelor's degree

**COREQUISITE**

(may be taken during first two quarters of program, in addition to units required for degree)

Anatomy and physiology or Physiology (one course or course sequence)

Behavioral science (two courses, one of which is an introductory psychology course)

**CULMINATING ACTIVITY**

Students are required to demonstrate the ability to integrate the specified areas of public health—administration, epidemiology, statistics, environmental health, and health behavior—during their culminating activity experiences. The culminating activity includes a written comprehensive examination, field experience (upon completion of all required courses); professional portfolio to be submitted; and exit interview with the department chair (at the conclusion of the program).

Students who do not meet minimum standards of performance on the culminating activity are subject to remedial course work to address deficiencies in preparation.

**HEALTH EDUCATION—ONLINE M.P.H.**

NAOMI MODESTE, Program Director

The health education major emphasizes educational, interpersonal, community, and legislative factors that promote positive health behaviors. The curriculum emphasizes interventions based on scientific data and established behavioral and learning theories that promote public health through the processes of education and community organization.

Students who complete this 58+1-unit curriculum may function as community health educators in a variety of settings, both public and private. They are academically prepared to conduct community assessments; design, implement, and evaluate health education interventions; organize health promotion efforts; and assist individuals and communities to better utilize techniques of health behavior change.

This is three-year, online program includes courses, orientation, and support via the Internet. Students are accepted every quarter during the school year, they receive support in the use of the web-based learning technology, plan a program of study with their advisor, and get to know the other students in the program through an online community.

**Distance learning programs**

The student wishing to obtain an M.P.H. degree online is referred to the School of Public Health general information in Section III of this CATALOG for details regarding the distance learning programs of the school.

**Online local and international M.P.H. degree**

The Online Health Education Master of Public Health Program caters to students in the United States and abroad.

**Residence requirement**

The Online Executive Master of Public Health Program is an online program and does not include a residence requirement.

**Web site information**

For more information, please see our Web site at <[www.llu.edu/public-health/online/index.page](http://www.llu.edu/public-health/online/index.page)>.

**LEARNER OUTCOMES**

Graduates of the program with a major in health education will have the skills necessary to:

- Design, develop, implement, market, and evaluate health promotion and education programs utilizing appropriate principles from human learning, motivation, communication, organizational behavior, and health behavior- change theories.
- Collaborate with other professionals in using resources to educate the public about health.
- Evaluate and appropriately apply public health research findings to the practice of health education.
- Serve as consultants to provide leadership or technical assistance for public health projects in selected settings.
- Meet didactic and professional practice requirements for certification as health education specialists.

**Indicators of educational effectiveness**

- Discussion threads
- Tests and examinations
- Assignments and major papers
- Field practicum report
- Comprehensive examination
- Professional portfolio
- Capstone project
- Exit interview

**PREREQUISITE**

Demonstrated college-level conceptualization and writing skills

Professional license in a medical or health-related discipline, or a minimum of two years of public health experience (preferred)

**COREQUISITE**

(may be taken during first two quarters of program, in addition to units required for degree)

Anatomy and physiology or Physiology (one course or course sequence)

Behavioral science (two courses, one of which is an introductory psychology course)

**DEGREE REQUIREMENTS**

**Applied curriculum and professional practice**

Students select course work from each of several practice and content areas to enhance the applied portion of the curriculum. Professional practice is addressed during the laboratory and field experience portions of the curriculum. Students may develop

skills while working in community agencies and in medical care, school, and work/site settings.

**CHES credentialing examination**

Graduates are eligible to sit for the credentialing examination in health education—certified health education specialist (CHES), offered by the National Commission for Health Education Credentialing, Inc., 944 Macon Boulevard, Suite 310, Allentown, PA 18103.

**Culminating activity**

Students are required to demonstrate the ability to integrate the specified areas of public health—administration, epidemiology, statistics, environmental health, and health behavior—during their culminating activity experiences. The culminating activity includes a written comprehensive examination, a field experience (upon completion of all core classes), professional portfolio to be submitted; and an exit interview with the department chair (at the conclusion of the program).

Students who do not meet the minimum standards of performance on the comprehensive examination are subject to remedial course work to address deficiencies in preparation.

Public health core		On Campus	Online	HLED/ Maternal Child
ENVH 509	Principles of Environmental Health	3.0	3.0	3.0
EPDM 509	Principles of Epidemiology I	3.0	3.0	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0	2.0	2.0
HADM 509	Principles of Health Policy and Management	3.0	3.0	3.0
HPRO 509	Principles of Health Behavior	3.0	3.0	3.0
NUTR 509	Public Health Nutrition and Biology	3.0	3.0	3.0
PHCJ 501	Introduction to On-line Learning		1.0	
PHCJ 605	Overview of Public Health	1.0	1.0	1.0
PHCJ 675	Integrated Public Health Capstone	2.0	2.0	2.0
RELE 534	Ethical Issues in Public Health	3.0	3.0	3.0
STAT 509	General Statistics		4.0	
STAT 509	General Statistics (4.0)	Choose one course	4.0	—
STAT 521	Biostatistics I (4.0)			
Totals		27.0	28.0	27.0

Major		On Campus	Online	HLED/ Maternal Child	
EPDM 534	Epidemiology of Maternal-Child Health			3.0	
HPRO 523	Maternal/Child Health: Policy and Programs			3.0	
HPRO 524	Adolescent Health	3.0	3.0	3.0	
HPRO 526	Lifestyle Diseases and Risk Reduction		3.0		
HPRO 530	Fundamentals of Research in Health Behavior and Health Education	3.0	3.0		
HPRO 535	Health Education Administration and Leadership	3.0	3.0	3.0	
HPRO 537A	Community Programs Laboratory--A	1.0		1.0	
HPRO 537B	Community Programs Laboratory--B	2.0		2.0	
HPRO 537C	Community Programs Laboratory--C	1.0		1.0	
HPRO 538	Health Education Program Development	3.0	3.0	3.0	
HPRO 539	Policy and Issues in Health Education	3.0	3.0	3.0	
HPRO 553	Addiction Theory and Program Development	3.0	3.0		
HPRO 556	High-Risk Infants and Children: Policy and Programs			3.0	
HPRO 559	Lactation Management			3.0	
HPRO 567	Reproductive Health			3.0	
HPRO 589	Qualitative Research Methods	3.0		3.0	
HPRO 614	Seminar in Maternal and Child Health Practice			2.0	
HPRO 696	Directed Study / Special Project		4.0		
NUTR 534	Maternal and Child Nutrition (3.0)	Choose one course	—	—	3.0
NUTR 585	Topics in Global Nutrition (3.0)				
Totals		25.0	25.0	39.0	

Selected electives		On Campus	Online	HLED/ Maternal Child	
Chose in consultation with advisor					
HPRO 530	Fundamentals of Research in Health Behavior and Health Education (3.0)	Choose from this list	—	—	6.0
HPRO 543	Writing for Health Professionals (3.0)				
HPRO 550	Women in Development (3.0)				
HPRO 553	Addiction Theory and Program Development (3.0)				

HPRO 526	Lifestyle Diseases and Risk Reduction (3.0)	Choose from this list	6.0	—	—
HPRO 527	Obesity and Disordered Eating (3.0)				
HPRO 550	Women in Development (3.0)				
HPRO 567	Reproductive Health (3.0)				
HPRO 573	Exercise Physiology I (3.0)				
HPRO ___	Health Education	Choose in consultation with advisor		6.0	
Totals			6.0	6.0	6.0

**Field experience**

Practicum units are in addition to the minimum graduate units required for the degree.

		On Campus	Online	HLED/ Maternal Child
HPRO 798A	Field Practicum (100 hours)		3.0	
HPRO 797	MIP Residency in Health Education (12.0) <i>See International Peace Corps Program in this Catalog for further details.</i>	Choose one course	—	—
HPRO 798D	Field Practicum (12.0)			
Totals		—	—	—
<b>Overall Totals</b>		<b>58.0</b>	<b>59.0</b>	<b>72.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

**HEALTH EDUCATION—DR.P.H.**

NAOMI MODESTE, Program Director

The Department of Health Promotion and Education offers the Doctor of Public Health (Dr.P.H.) degree with majors in health education and in preventive care. Emphasis is placed on teaching, research, leadership, and evaluative skills; and wellness lifestyle management intervention programs, development, implementation, and evaluation, respectively.

**Preventive care program**

See the Preventive Care Program in the School of Public Health section for a description of the Dr.P.H. degree requirements for the program.

**Health education major**

The Dr.P.H. degree in health education is designed for individuals who desire to add depth to their health education specialization and develop research and leadership capabilities. The emphasis in health

education offers advanced knowledge and competencies in the health education process and includes planning and evaluation of health behavior change. There is emphasis on the practice of healthful lifestyle behaviors and community health education.

**Learner outcomes**

Upon completion of the Dr.P.H. degree program in health education, the graduate should be able to:

- Conduct health education research and evaluation utilizing basic statistical concepts.
- Generate health-related educational training/curricular materials and conduct professional seminars and training programs.
- Promote and assist in the development of grant-writing proposals and applications for community-based health education research.
- Creatively apply theoretical concepts and models to educational program design in the development of health education interventions.
- Demonstrate educational leadership skills, policy development, and strategic planning for organizations and agencies.

- Write and submit manuscripts to professional journals for publication.

**Educational effectiveness indicators**

- Comprehensive examination
- Qualifying examination
- Dissertation proposal
- Advancement to candidacy
- Dissertation defense
- Publishable research paper
- Professional portfolio review
- Exit interview / Survey

**HEALTH EDUCATION MAJOR**

**PREREQUISITE**

(to be taken before acceptance into the program)

Anatomy and physiology

Social science (two courses, which may include psychology, sociology, or cultural anthropology)

Quantitative proficiency

Graduate Record Examination (GRE) or equivalent

Master's or doctoral degree in appropriate field

Post-master's degree work experience, preferred.

**Corequisites**

May be taken during first two quarters of program, in addition to units required for degree; advanced standing from previous M.P.H. degrees considered

Units

ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 695	Community Practicum	1.0
NUTR 509	Public Health Nutrition and Biology	3.0
PHCJ 605	Overview of Public Health	1.0
STAT 509	General Statistics	4.0
Totals		—

**Major**

Units

HPRO ____	Health Education	12.0
HPRO 538	Health Education Program Development	3.0
HPRO 543	Writing for Health Professionals	3.0
HPRO 588	Health Behavior Theory and Research	4.0
HPRO 608	Advanced Seminar in Health Education (2.0)	6.0
Totals		28.0

**Administration and leadership**

Units

_____	Elective	Courses chosen in consultation with advisor	9.0
HPRO 535	Health Education Administration and Leadership		3.0
Totals			12.0

**Public health**

Units

EPDM 5__	Epidemiology Elective	Advanced epidemiology course, chosen in consultation with advisor	3.0
Totals			3.0

**Cognates**

Units

_____	Elective	Courses chosen in consultation with advisor	9.0
Totals			9.0

**Religion**

Units

RELE 5__	Graduate-level Ethics		3.0
RELR 5__	Graduate-level Relational		3.0
RELT 5__	Graduate-level Theological		3.0
Totals			9.0

**Research and evaluation**

Units

HPRO 544	Health Education Evaluation and Measurement		3.0
HPRO 685	Preliminary Research Experience		2.0
HPRO 694	Research		6.0
PHCJ 534	Research Methods (2.0)	Taken after STAT 509 or equivalent	4.0
PHCJ 604	Research Seminar	Taken after PHCJ 534	2.0
STAT 514	Intermediate Statistics for Health-Science Data	Taken after STAT 549	3.0
STAT 549	Analytical Applications of SPSS	Taken after STAT 509	2.0
STAT 568	Data Analysis	Taken after STAT 514	3.0
Totals			25.0

**Dissertation**

Units

HPRO 698	Dissertation (1.0-14.0)		12.0
Totals			12.0
<b>Overall Totals</b>			<b>98.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses

is the unit value of the course. The number in the column is the total units required for the degree program.



# Health Geographics and Biomedical Data Management—PH

## (B.S.P.H.)

SETH WIAFE, Program Director

The Health Geographics and Biomedical Data Management Program is an innovative, multidisciplinary program offering a Bachelor of Science in Public Health degree that combines courses in various departments; and integrates public health methods and approaches to analyze, visualize, interpret, and manage biomedical data. The program is designed to introduce students to geographic analysis and geographic information systems (GIS) technology with applications in public health. The curriculum meets a broad range of data management requirements in both the private and the public sectors.

Graduates will have an understanding of major public health disciplines and will develop high-level skills required of the practicing database manager and GIS analyst. They will be able to work in multifunctional capacities providing spatially interpreted data on small groups of people or on entire communities, if desired.

Students will acquire skills in data collection, analysis, and presentation using state-of-the-art computer software. The competencies acquired in this program prepare graduates to work in varied settings and contribute to the data management and analysis of many disciplines.

The two-year program may begin any quarter of the junior year, depending on the courses offered. There are two options for entering the B.S.P.H. degree program. Students may elect to complete all the prerequisite course work in a college setting of their choice, apply for admission to the B.S.P.H. degree program, and spend their junior and senior years at the School of Public Health. Students desiring to obtain early entrance to the B.S.P.H. degree program have the option to complete a minimum of 65 semester units or 97.5 quarter units at a community college of their choice, submit an application, and obtain permission to begin their study at the School of Public Health while concurrently taking course work at a nearby community college in order to complete their outstanding prerequisite requirements. A maximum total of 70 semester units or 105 quarter units of credit will be accepted from regionally accredited colleges.

## Learner outcomes

Upon completion of this degree, the graduate should be able to:

1. Use state-of-the-art GIS software applications and appropriate statistical techniques to perform biomedical data analysis.
2. Design data collection protocols for developing databases and data-entry applications in a variety of formats, including geographic data models used in GIS
3. Implement GIS data-capture techniques for both vector and raster data formats and independently supervise all phases of data collection, storage, and management.
4. Create geodatabases that will effectively capture and organize public health data and other relevant demographic and environmental data so that pertinent spatial information can be analyzed, shared, or displayed as a map.
5. Use spatial data-display techniques to produce and publish customized maps and other visual displays of health data.
6. Manage GIS projects in a variety of settings, including government, academic, and community.

## Indicators of educational effectiveness

Apart from the G.P.A., both direct and indirect indicators will be used to ensure that graduates have achieved the stated outcomes for the degree, as indicated below.

*Standardized tests.* Students in this program will be encouraged to participate in a qualifying test offered every year by Skills USA, an organization that has partnered with the geospatial industry to develop a competition program that provides universities, colleges, and their students a way to validate their geospatial program and measure their program against national standards.

*Institutional challenge examinations.* Students will be evaluated on a continuous basis at multiple levels by fellow students, faculty, and administration. The School of Public Health will administer a qualifying examination equivalent to a comprehensive final examination towards the end of the program. The format of the examination may be written, oral, demonstration, or a combination of all three.

**REQUIRED LOWER DIVISION COURSES**

	Semester units
Freshman English (complete sequence)	8.0
General psychology	3.0
Intermediate algebra	4.0
General biology	4.0
Programming (visual basic), C++, Java, C	3.0
Cultural anthropology or Diversity	3.0
Database systems (dBase), SQL, Oracle	2.0
Electives	12.0
History*	6.0
Introduction to computers and information systems	3.0
Physical activity (2 courses)	2.0
Language (Spanish preferred)	5.0
Environmental science / Ecology	3.0
General sociology	3.0
Geoscience (geography preferred)	3.0
<b>FRESHMAN + SOPHOMORE</b>	<b>64 semester units 96 quarter units</b>

\* U.S. history or Western civilization (or equivalent), depending on history courses taken in high school

**Junior Year**

	Units
ENVH 421   Cartography and Map Design	3.0
ENVH 422   Principles of Geographic Information Systems	4.0
ENVH 423   Practical Issues in GIS	4.0
PHCJ 250   Fundamentals of Human Anatomy and Physiology	4.0
PHCJ 401   Essentials of Public Health	4.0
RELE 4__   Upper Division Ethics	2.0-3.0
STAT 414   Introduction to Biostatistics I	3.0
STAT 415   Computer Applications in Biostatistics	1.0
STAT 416   Introduction to Biostatistics II	4.0
STAT 417   Biomedical Data Management I	4.0
STAT 448   Analytical Applications of SAS	3.0
STAT 464   Survey and Advanced Research Methods	4.0
RELT 406   Adventist Beliefs and Life (2 to 3)	One course required from this group
RELT 423   Loma Linda Perspectives (2 to 3)	
RELT 436   Adventist Heritage and Health (2 to 3)	
RELT 437   Current Issues in Adventism (2 to 3)	
<b>Totals</b>	<b>42.0-44.0</b>

<b>Senior Year</b>		<b>Units</b>
ENVH 414	Introduction to Environmental Health	3.0
ENVH 424	Desktop GIS Software Applications	4.0
ENVH 435	Sources, Capture, and Integration of GIS Data	3.0
ENVH 436	Spatial Analysis with GIS	4.0
ENVH 437	GIS in Public Health	2.0
ENVH 498	Health Geographics Senior Project	4.0
HPRO 414	Personal Health and Fitness	4.0
RELR 4__	Upper Division Relational	2.0-3.0
STAT 418	Biomedical Data Management II	4.0
STAT 468	Data Analysis	4.0
STAT 498	Senior Project	5.0
		Totals 39.0-40.0
		<b>Overall Totals 81.0-84.0</b>

# Health Geoinformatics—PH

## (Certificate)

The Health Geoinformatics Program certificate is designed primarily for health professionals and students who have completed a bachelor's degree (or equivalent) from an accredited college or university with a cumulative G.P.A. of at least 3.0. Qualified candidates must demonstrate computer proficiency, although no previous experience with geographic information systems (GIS) technology is required. Advanced placement can be considered for applicants with previous GIS experience/training. In addition, interested Loma Linda University students, staff, and faculty who would like to learn about GIS applications in health may also apply.

### Admissions prerequisites

Applicants must have at least a bachelor's degree (or equivalent), with a cumulative G.P.A. of at least 3.0. For those who meet this basic admission prerequisite, the program is open to health professionals, students, current Loma Linda University students enrolled in a master's or doctoral degree program, Loma Linda faculty and staff (tuition benefits may apply), and anyone interested in GIS applications in the health field.

### Leamer outcomes

Upon successful completion of the program, students will be able to:

1. Use state-of-the-art software applications and techniques for accessing the spatially defined health information for building useful geodatabases.
2. Use effective geospatial data to produce and publish customized maps and other visual displays of health data.
3. Employ GIS-based methods and techniques of spatial analysis that support health research and decision making in public health practice and policy.

4. Apply geospatial technology and methods in at least one key area of health geographics, such as disease mapping.
5. Implement and manage health GIS projects in government, nongovernment, and community settings.

### Indicators of educational effectiveness

1. Class project
2. Oral presentation
3. Portfolio
4. Standardized test. Students will be encouraged to participate in a qualifying test offered every year by SkillsUSA, an organization that has partnered with the Geospatial industry to develop a competition program that provides universities, colleges, and their students with a way to validate their geospatial program and measure them against national standards.

Note: Indicators 1, 2, and 3 are course specific at the discretion of the instructor.

### PREREQUISITE

Applicants must have at least a bachelor's degree (or equivalent), with a cumulative G.P.A. of at least 3.0.

For those who meet the foregoing basic admission prerequisite, the program is open to health professionals, students, current Loma Linda University students enrolled in a master's or doctoral degree program, Loma Linda University faculty and staff (tuition benefits may apply), and anyone interested in GIS applications in the health field.

### CERTIFICATE REQUIREMENTS

To earn the certificate, students must successfully complete at least 27 academic units, as listed below. Core requirements include courses in the two main areas of GIS fundamentals and techniques (17 units) and health geographics electives (at least 7 units). In addition, 3 units of ethical issues in public health are required.

Required		Units
ENVH 521	Cartography and Map Design	2.0
ENVH 522	Principles of Geographic Information Systems and Science	3.0
ENVH 523	Practical Issues in GIS	3.0
ENVH 524	GIS Software Applications and Methods	3.0
ENVH 526	Seminar in Geographic Information Systems	1.0
ENVH 535	Integration of Geospatial Data in GIS	2.0

ENVH 536	Spatial Analytic Techniques and GIS	3.0
RELE 534	Ethical Issues in Public Health	3.0
Totals		20.0

**Electives**

Minimum of 7 units

Units

ENVH 527	Geospatial Technologies for Emergency Preparedness and Management	3.0
ENVH 537	Health Care Geographics	2.0
ENVH 539	GIS Applications in Environmental Health	2.0
ENVH 546	Introduction to Spatial Epidemiology	2.0
ENVH 547	GIS for Public Health Practice	2.0
ENVH 549	Remote Sensing Applications in the Health Services	3.0
Totals		7.0
<b>Overall Totals</b>		<b>27.0</b>

**Learner outcomes**

Upon successful completion of this program, students will be able to:

1. Use knowledge of principles of geospatial information science as they relate to health research and practice.
2. Use state-of-the-art GIS software applications and techniques for accessing the spatially defined health information for building related, useful geodatabases.
3. Use effective geospatial data while producing and publishing customized maps and other visual displays of health data.
4. Employ GIS-based methods and techniques of spatial analysis that support health research and decision making in public health practice and policy.
5. Competently apply geospatial technology and methods in at least one key area of health geographics, such as disease mapping, tracking and assessment of environmental hazards and exposure, health planning and policy, community health, health education and communication, analysis of access to health services, or health care geographics.
6. Implement and manage health GIS projects in government, nongovernment, and community settings.

4. Participation in a qualifying examination offered annually by SkillsUSA, an organization that has partnered with the geospatial industry to develop a competition program that provides universities, colleges, and their students a way to validate their geospatial programs and measure them against national standards.

**Enrollment options**  
FOR CREDIT

Students who desire to obtain the certificate may apply online at <<http://www.llu.edu/central/apply/index.page>>. Click on "Apply now" and, after successful log-in, select "Geoinformatics, PB CERT, on-campus" from the list of programs, then continue. The cost per unit is US\$ 535 (subject to change).

**AUDIT**

Students may also register to take classes on an audit basis. Classes registered not for credit will not be reregistered for credit in the future. The cost per unit is US\$ 267.50 (subject to change).

**NONDEGREE**

Students may take classes in the program as nondegree. Nondegree students are allowed to take a maximum of 12 units prior to acceptance into a degree program. Download application forms at <[www.llu.edu/ssweb/documents/nondegree.pdf](http://www.llu.edu/ssweb/documents/nondegree.pdf)>. Instruction for nondegree registration can be found at <[www.llu.edu/ssweb/documents/non-degree-reg.pdf](http://www.llu.edu/ssweb/documents/non-degree-reg.pdf)>. The cost per unit is US\$ 535 (subject to change).

**Indicators of educational effectiveness**

1. Class project (course specific, at the discretion of the instructor)
2. Oral presentation (course specific, at the discretion of the instructor)
3. Portfolio (course specific, at the discretion of the instructor)

**For additional information**

Web: <[www.llugis.org](http://www.llugis.org)>  
 Seth Wiafe, M.P.H., Assistant Professor, Health Geographics  
 Tel: 909/558-7596  
 Email: [swiafe@llu.edu](mailto:swiafe@llu.edu)

# Health Policy and Leadership—PH

## (M.P.H.)

S. ERIC ANDERSON, Chair  
DORA BARILLA, M.P.H., Program Director

### TEACHING FACULTY

Stewart R. Albertson  
S. Eric Anderson  
James Banta  
Dora Barilla  
Lynna S. Belin  
Jere Chrispens  
William Colwell  
Eileen Fry-Bowers  
Meng-Jin Johnathan Goh  
David L. Holt  
Brad A. Jamison  
Renate Krause  
David Lawrence  
Susan Onuma  
David S. Penner  
Sharon Rushing  
Steve Serrao  
Shirley Simmons  
Jonathan Zirkle

### FACULTY

Jane E. Adams  
Donna Bennett  
Richard Blanco  
Richard Bruno  
Jilliane Cabansag  
John Carney  
Bonnie I. Chi-Lum  
Wayne S. Dysinger  
Dwight C. Evans  
Earl Ferguson  
Brent A. Fisher  
Garry J. Fitzgerald  
Donn P. Gaede  
Bradley P. Gilbert  
Eugenia Giordano  
Oscar A. Giordano  
Pooja Goel  
Albin H. Grohar  
Ronald P. Hattis  
Gordon E. Hewes  
Renee L. Hills  
Paul A. Hisada  
Troy A. Holmes  
Michael H. Jackson

David J. Kinsey  
Gregory Kono  
Donald Kurth  
James Kyle  
Karl J. McCleary  
Rafael Molina  
Patricia Murdoch  
LeRoy Nattress  
Donald G. Pursley  
Paul Simms  
Akankshi Sharma-Arora  
Teri S. Tamayose  
David Tejada-de-Rivero  
C. Torben Thomsen  
Abel Torres  
Brian Weed

The Health Policy and Leadership Program leading to the M.P.H. degree provides an understanding of health policy issues and skills within the broad perspective provided by an introduction to the public health sciences. It is designed for health care professionals who want to impact change in the current health system.

### Learner outcomes

Upon completion of this degree, the graduate should be able to:

1. Describe the policy process for improving the health status of populations.
2. Produce health policy communications to appropriate stakeholders.
3. Demonstrate leadership in health policy and advocacy for public health issues.
4. Identify issues that influence access to care, including health services to special populations.
5. Apply systems thinking to current challenges in the health system.
6. Apply the principles of strategic planning to make recommendations for organizational and community health initiatives.
7. Understand the principles of finance and economics.

### Public health core

Units

ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0

HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 536	Program Planning and Evaluation	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
PHCJ 605	Overview of Public Health	1.0
PHCJ 675	Integrated Public Health Capstone	2.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 509	General Statistics	4.0
Totals		29.0

**Major**

Units

HADM 506	Principles of Health Care Finance	3.0
HADM 510	Health Policy Analysis and Synthesis	3.0
HADM 514	Health Care Economic Policy	3.0
HADM 516	International Economic Policy	3.0
HADM 529	Health Care Negotiations and Conflict Resolution	3.0
HADM 534	Health Care Law	3.0
HADM 536	Health Policy Communications	3.0
HADM 545	Government Policy and Health Disparities	3.0
HADM 555	Health Care Delivery Systems	3.0
HADM 580	Foundations of Leadership	3.0
HADM 604	Health Systems Strategic Planning	3.0
Totals		33.0

**Field experience**

Practicum units are in addition to the minimum graduate units required for the degree.

Units

HADM 695	Health Administration Field Practicum	3.0
Totals		—
<b>Overall Totals</b>		<b>62.0</b>

**Other requirements**

- *Professional membership.* During their first quarter, students are required to secure and maintain membership in an approved professional society, such as the American College of Health Care Executives (ACHE).
- *Health administration colloquia (10).* Participation is required in a minimum of ten noncredit colloquia designed to acquaint students with various aspects of the health care industry. Attendance at these colloquia will be in addition to attendance at ten public health seminars.
- *Public health seminars (10).*
- *Culminating activity.* The culminating activity includes a research paper or professional project, field experience (upon completion of essential major course work), professional portfolio (upon completion of the field experience), and an exit interview with the M.P.H. degree program director (at the conclusion of the program).

# Lifestyle Intervention—PH

## (Certificate)

SERENA TONSTAD, Certificate Director

The Lifestyle Intervention Program certificate, offered by the Department of Health Promotion and Education, prepares students to accurately assess the health-related lifestyle conditions, practices, and motivation of individuals and community groups in order to help them improve their health through implementation of health-related lifestyle intervention approaches.

### Learner outcomes

Upon completion of this certificate, students should be able to:

1. Accurately assess lifestyle practices and conditions.
2. Identify and apply appropriate dietary, fitness, and other lifestyle-based interventions.
3. Apply principles and methods to help individuals change their lifestyle-related health behaviors.
4. Decide when and how to refer individuals to various health care professionals.
5. Provide leadership for community-based health promotion projects in selected settings.
6. Following the successful completion of the program, each student will be awarded a certificate in lifestyle intervention from Loma Linda University School of Public Health.

### Educational effectiveness

1. Completion with G.P.A. of 3.0 or higher
2. Class projects/Presentations

### Completion of certification requirements

People who may benefit from earning the certificate include:

- Practicing health professionals who desire more training in lifestyle intervention.
- Loma Linda University School of Public Health students who can add this certificate to their M.P.H. degree training by adding a few more classes.
- Loma Linda University students from other schools who desire competence in lifestyle intervention.
- Loma Linda University alumni.
- Other individuals who wish to provide lifestyle education in their communities.

### PREREQUISITE

- U.S. baccalaureate degree or its equivalent
- Two letters of recommendation
- Interview with departmental faculty member
- Computer literacy or STAT 439
- Anatomy and physiology

### THE CURRICULUM

Students must successfully complete at least 28 units, as listed below:

Required		Units
_____	Elective	2.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 526	Lifestyle Diseases and Risk Reduction	3.0
HPRO 527	Obesity and Disordered Eating	3.0
HPRO 573	Exercise Physiology I	3.0
NUTR 526	Nutrition Counseling and Education	2.0
NUTR 527	Assessment of Nutritional Status	3.0
PHCJ 605	Overview of Public Health	1.0
RELE 534	Ethical Issues in Public Health	3.0



NUTR 509	Public Health Nutrition and Biology (3)	Choose one course	3.0
NUTR 510	Advanced Public Health Nutrition (3)		
HPRO 696	Directed Study / Special Project (-1 to 4)	Choose one course	2.0
NUTR 564	Contemporary Issues of Vegetarian Diets (-2 to 3)		
Totals			28.0
<b>Overall Totals</b>			<b>28.0</b>

# Health Services Research—PH

## (M.P.H.)

This double major M.P.H. degree is administered jointly by the Department of Health Administration and the Department of Epidemiology and Biostatistics. It is designed for persons with interests that include assessment of health care organization and maintenance. Students gain the skills needed for health services administration and epidemiologic research in the health organization setting.

### Learner outcomes

Graduates of this track in health services research will have the skills necessary to:

1. Apply epidemiologic methods to research within the health care system.
2. Apply outcomes research methods to assess different aspects of health care quality, e.g., patient perception, treatment, procedures, etc.
3. Apply decision tree analysis in decision-making processes and strategic planning.
4. Utilize continuous quality improvement (CQI) methods.
5. Assist in developing policies for prevention/control/treatment of diseases within the health care environment.

### Educational effectiveness indicators

Name	Description	Location
Culminating activity	Oral examination	LLU campus
Culminating activity	Oral presentation of applied research using PowerPoint	LLU campus
Culminating activity	Written report of applied research	LLU campus
Term papers	Evaluation of writing skills	LLU campus
Final examinations	Integration and application of skills learned in courses	LLU campus
Course evaluation forms	Suggestions by the students to improve delivery of course material and the design of the course itself	LLU campus

### PREREQUISITE

College algebra or equivalent (one course), calculus preferred

Two courses in biological science (preferred courses include anatomy, physiology, pathology, microbiology, etc.

Upper division accounting or HADM 507 Principles of Financial Accounting (can be taken as corequisite Fall Quarter).

### COREQUISITE

(a limited number of the above courses may be taken during first two quarters of program, in addition to units required for degree)

### Professional membership

Students are required to secure and maintain membership in an approved professional society, such as the American College of Healthcare Executives.

### Health administration colloquia

Participation is required in a minimum of ten noncredit colloquia designed to acquaint students with various aspects of the health care industry. Attendance at these colloquia will be in addition to attendance at the public health seminars.

### EPDM/STAT forums

Students are required to attend a minimum of twenty forums in the Department of Epidemiology and Biostatistics and/or Center for Health Research during their program. Attendance at these forums will be in addition to attendance at the public health seminars.

### Culminating activity

In order to obtain a degree, the student is required to successfully complete the culminating activity as required by the Department of Epidemiology and Biostatistics and the Department of Health Administration.

The culminating activity consists of: research, including a written report and oral presentation; professional portfolio (upon completion of the research); and an exit interview with the department chairs (at the conclusion of the program).

<b>Public health core</b>		Units
ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 536	Program Planning and Evaluation	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
PHCJ 605	Overview of Public Health	1.0
PHCJ 675	Integrated Public Health Capstone	2.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 521	Biostatistics I	4.0
<b>Totals</b>		29.0

<b>Major</b>		Units
EPDM 510	Principles of Epidemiology II	3.0
EPDM 512	Multivariate Modeling in Epidemiology (1.0-3.0)	1.0
EPDM 515	Clinical Trials	3.0
EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement	3.0
EPDM 566	Epidemiology of Cardiovascular Disease	3.0
HADM 528	Organizational Behavior in Health Care	3.0
HADM 534	Health Care Law	3.0
HADM 542	Managerial Accounting for Health Care Organizations	3.0
HADM 559	Health Care Marketing	3.0
HADM 564	Health Care Finance	3.0
HADM 601	Health Systems-Operations Management	3.0
HADM 604	Health Systems Strategic Planning	3.0
STAT 522	Biostatistics II	4.0
STAT 548	Analytical Applications of SAS	2.0
STAT 564	Survey and Advanced Research Methods	3.0
<b>Totals</b>		43.0

<b>Research project</b>		Units
One project approved and administered by both EPDM/STAT and second major		
EPDM 699A	Applied Research	1.0
EPDM 699B	Applied Research II	1.0
HADM 699	Applied Research	2.0
<b>Totals</b>		4.0

**Field experience**

Practicum units are in addition to the minimum graduate units required for the degree.

Units

EPDM 798	Field Practicum	120 clock hours required for each unit of credit	2.0	
			Totals	—
			<b>Overall Totals</b>	<b>76.0</b>

# Lifestyle Medicine—PH

## (M.P.H.)

SERENA TONSTAD, Program Director

### LIFESTYLE MEDICINE—M.P.H. PROGRAM FORMATS

Course work for the Lifestyle Medicine Program may be pursued as a 60-unit predominantly on-campus program of which 6 units are offered online. Almost one-half of the total course work (up to 30 units) may optionally be completed online with the rest completed on campus (30 or more units).

In the Lifestyle Medicine Program, health professionals with relevant clinical licenses are empowered to provide lifestyle change interventions and promote healthy behaviors for patients with chronic diseases or patients at risk of chronic diseases, while understanding the population determinants of wellness, health, and disease. The curriculum emphasizes interventions based on scientific data and established behavioral and learning theories that promote individual and public health through the processes of education, health behavior change, and health promotion. It emphasizes that health professionals who are not physicians are not enabled to practice medicine when awarded this degree.

The curriculum focuses on teaching public health practice classes that are needed to possess core skills in public health, in evaluating the scientific literature, and in understanding and applying the science of disease prevention in the context of mind-body interaction. More practice-oriented classes teach the scientific basis and applications of exercise prescriptions, nutrition counseling, tobacco cessation and health behavior change techniques.

Graduates may use their skills acquired in the program to enhance their already acquired clinical knowledge and skills in medicine, nursing, clinical psychology, osteopathy, pharmacy, or other health professions. They are academically prepared to apply preventive methodologies to chronic diseases and risk factors; conduct individual health assessments; provide medical lifestyle counseling; properly evaluate and apply lifestyle medicine-related research findings, and lead and evaluate health promotion projects.

Students who hold a clinical professional degree may apply to the program.

#### Learner outcomes

Graduates of the program in lifestyle medicine will:

- Possess a core field of knowledge of public health, with emphasis on the application of

preventive methodologies to chronic diseases.

- Accurately assess lifestyle-related risk factors for chronic diseases.
- Provide appropriate interventions in regard to these risk factors, e.g., medical behavioral counseling in exercise, nutrition, and tobacco dependence.
- Evaluate and properly apply lifestyle medicine-related research findings.
- Provide leadership for and evaluate community-based health -promotion projects.

#### Educational effectiveness indicators

- Culminating activity
- Field practicum 200 hours
- Professional portfolio
- Exit interview /Survey

#### PREREQUISITE

Demonstrate college-level conceptualization and writing skills

Graduate Record Examination (GRE)

Bachelor's degree

Clinical professional degree including but not limited to medicine, osteopathy, dentistry, nursing, clinical psychology, pharmacy or physical therapy or training as a nurse practitioner, physician's assistant, chiropractor, licensed exercise physiologist, or registered dietitian.

Anatomy and physiology (full course sequence)

Biochemistry or Nutritional metabolism

Pathology of Human systems

Pharmacology

#### Culminating activity requirements

Students are required to demonstrate the ability to integrate the specified areas of public health—administration, epidemiology, statistics, environmental health, and health behavior—during their culminating activity experiences. The culminating activity includes a written paper (e.g., a literature review of a relevant topic; a series of case studies; a summary of research conducted during the program); a professional portfolio to be submitted; and an exit interview with the program director (at the conclusion of the program).

<b>Public health core</b>		Units
ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 530	Fundamentals of Research in Health Behavior and Health Education	3.0
HPRO 536	Program Planning and Evaluation	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
PHCJ 605	Overview of Public Health	1.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 509	General Statistics (4)	Choose one course 4.0
STAT 521	Biostatistics I (4)	
Totals		30.0

<b>Major</b>		Units
HPRO 515	Mind-Body Interactions and Health Outcomes	3.0
HPRO 527	Obesity and Disordered Eating	3.0
HPRO 529	Preventive and Therapeutic Interventions in Chronic Disease	4.0
HPRO 565	Tobacco Use: Prevention and Interventions	3.0
HPRO 573	Exercise Physiology I	3.0
HPRO 578	Exercise Physiology II	3.0
NUTR 517	Advanced Nutrition I: Carbohydrates and Lipids	4.0
NUTR 518	Advanced Nutrition II: Proteins, Vitamins, and Minerals	4.0
NUTR 556	Nutritional Applications in Lifestyle Intervention	1.0
HPRO 606	Preventive Care Seminar (2)	Choose one course 2.0
PSYC 537	Applied Behavioral Medicine (2)	
Totals		30.0

<b>Field experience</b>		Units
Practicum units are in addition to the minimum graduate units required for the degree		
HPRO 798B	Field Practicum	6.0
Totals		—
<b>Overall Totals</b>		<b>60.0</b>

# Maternal and Child Health—PH

## (M.P.H.)

PATTI HERRING, Program Director

The Maternal and Child Health Program leading to the M.P.H. degree will prepare graduates to demonstrate the competencies identified by the Association of Teachers of Maternal and Child Health and the Association of Schools of Public Health.

Course work toward the M.P.H. degree in maternal and child health may be pursued in the following formats:

- a traditional on-campus program; or
- intensive, nontraditional Spanish-language programs in Peru (closed for new admissions for 2009-2010).

The major in maternal and child health builds on health education, epidemiology, cross-cultural, and nutrition theory and practice. Family health issues are addressed using a broad array of public health strategies.

The program requires completion of 62 units, with culminating activity and a 100 clock-hour field practicum.

Licensed health professionals with experience in public health may apply to this 62-unit program in maternal and child health. Those without a health profession and/or public health experience may apply to the 72-unit dual major program. Students who complete the dual major will be eligible to sit for the examination leading to certification as a health education specialist (CHES).

### Learner outcomes

Graduates of this program in maternal and child health will have the skills necessary to:

1. Apply public health research and management tools to the organization, design, implementation, and evaluation of maternal-child health programs in public health settings.

2. Contribute to the development of public health policy and action agendas in maternal and child health.
3. Communicate health and nutrition issues affecting mothers and children to a wide variety of stakeholders in varying cultural settings.

### Educational effectiveness indicators

- Field practicum report
- Comprehensive examination [dual majors]
- Professional portfolio for review
- Exit interview

## MATERNAL AND CHILD HEALTH—M.P.H.

### PREREQUISITE

Demonstrate college-level conceptualization and writing skills

Professional license in a medical or health-related discipline (nursing, dentistry, medicine, social work, dietetics)

Relevant professional or public health experience in the field of maternal and child health

### DEGREE REQUIREMENTS

#### Culminating activity

Students are required to demonstrate the ability to integrate the specified areas of public health: administration, epidemiology, statistics, environmental health, and health behavior. The culminating activity is comprised of field experience, professional portfolio, and exit interview.

Students who do not meet minimum standards of performance on the culminating activity are subject to academic review or remedial course work to address deficiencies in preparation.

### Public health core

Units

		Units
ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0

NUTR 509	Public Health Nutrition and Biology		3.0
PHCJ 605	Overview of Public Health		1.0
PHCJ 675	Integrated Public Health Capstone		2.0
RELE 534	Ethical Issues in Public Health		3.0
STAT 509	General Statistics (4)	Choose one course	4.0
STAT 521	Biostatistics I (4)		
Totals			27.0

**Major**

Units

EPDM 534	Epidemiology of Maternal-Child Health		3.0
HPRO 523	Maternal/Child Health: Policy and Programs		3.0
HPRO 524	Adolescent Health		3.0
HPRO 538	Health Education Program Development		3.0
HPRO 550	Women in Development		3.0
HPRO 553	Addiction Theory and Program Development		3.0
HPRO 556	High-Risk Infants and Children: Policy and Programs		3.0
HPRO 559	Lactation Management		3.0
HPRO 567	Reproductive Health		3.0
HPRO 589	Qualitative Research Methods		3.0
HPRO 614	Seminar in Maternal and Child Health Practice		2.0
NUTR 534	Maternal and Child Nutrition		3.0
Totals			35.0

**Practicum**

Practicum units are in addition to the minimum graduate units required for the degree

Units

HPRO 797	MIP Residency in Health Education (12)	Choose one course	—
HPRO 798D	Field Practicum (12)		
Totals			—
<b>Overall Totals</b>			<b>62.0</b>

**M.P.H. in MATERNAL AND CHILD HEALTH**  
with  
**HEALTH EDUCATION**  
(DUAL MAJOR—CHES ELIGIBLE)

NAOMI MODESTE, Program Director

**PREREQUISITE**

Demonstrate college-level conceptualization and writing skills

Graduate Record Examination (GRE)

Bachelor's degree

**COREQUISITE**

(may be taken during first two quarters of program, in addition to units required for degree)

Anatomy and physiology or Physiology (one course or course sequence)

Behavioral science (two courses, one of which is an introductory psychology course)



**DEGREE REQUIREMENTS****Culminating activity**

Students are required to demonstrate the ability to integrate the specified areas of public health: administration, epidemiology, statistics, environmental health, and health behavior. The culminating activity is comprised of field experience, professional portfolio, and exit interview.

Students who do not meet minimum standards of performance on the culminating activity are subject to academic review or remedial course work with more advanced classroom topics to address deficiencies; or they may be asked to withdraw from the program.

**Public health core**

Units

ENVH 509	Principles of Environmental Health		3.0
EPDM 509	Principles of Epidemiology I		3.0
GLBH 524	Cultural Competence and Health Disparities		2.0
HADM 509	Principles of Health Policy and Management		3.0
HPRO 509	Principles of Health Behavior		3.0
NUTR 509	Public Health Nutrition and Biology		3.0
PHCJ 605	Overview of Public Health		1.0
PHCJ 675	Integrated Public Health Capstone		2.0
RELE 534	Ethical Issues in Public Health		3.0
STAT 509	General Statistics (4)	Choose one course	4.0
STAT 521	Biostatistics I (4)		
Totals			27.0

**Major**

Units

EPDM 534	Epidemiology of Maternal-Child Health		3.0
HPRO 523	Maternal/Child Health: Policy and Programs		3.0
HPRO 524	Adolescent Health		3.0
HPRO 535	Health Education Administration and Leadership		3.0
HPRO 537A	Community Programs Laboratory--A		1.0
HPRO 537B	Community Programs Laboratory--B		2.0
HPRO 537C	Community Programs Laboratory--C		1.0
HPRO 538	Health Education Program Development		3.0
HPRO 539	Policy and Issues in Health Education		3.0
HPRO 556	High-Risk Infants and Children: Policy and Programs		3.0
HPRO 559	Lactation Management		3.0
HPRO 567	Reproductive Health		3.0
HPRO 589	Qualitative Research Methods		3.0
HPRO 614	Seminar in Maternal and Child Health Practice		2.0
NUTR 534	Maternal and Child Nutrition (3)	Choose one course	3.0
NUTR 585	Topics in Global Nutrition (3)		
Totals			39.0

Selected electives			Units
HPRO 530	Fundamentals of Research in Health Behavior and Health Education (3)	Choose from this list	6.0
HPRO 543	Writing for Health Professionals (3)		
HPRO 550	Women in Development (3)		
HPRO 553	Addiction Theory and Program Development (3)		
Totals			6.0

**Practicum**

Practicum units are in addition to the minimum graduate units required for the degree

			Units
HPRO 797	MIP Residency in Health Education (12) <i>See International Peace Corps Program in this Catalog for further details.</i>	Choose one course	—
HPRO 798D	Field Practicum (12)		
Totals			—
<b>Overall Totals</b>			<b>72.0</b>

# Nutrition—PH

## (M.P.H. in Public Health Nutrition; M.S., Dr.P.H. in Nutrition)

JOAN SABATÈ, Chair

### FACULTY

Carol Abidin  
 Roopa Bajwa  
 Carol Baker  
 Diane L. Barnhart  
 Kenneth I. Burke  
 Dianne L. Butler  
 Margie Carson  
 Bertrum C. Connell  
 Zaida R. Cordero-MacIntyre  
 Barbara A. Crouse  
 Barbara F. Dickinson  
 Dottie Gibson  
 Ella H. Haddad  
 Sandy Henderson  
 Inherla Hernandez  
 Lorrie L. Hinkleman  
 Richard W. Hubbard SM  
 Karen Jaceldo-Siegl  
 Judith M. Jamison  
 Patricia K. Johnston  
 Susan K. Lewis  
 Merijane T. Malouin  
 Mark J. Messina  
 Alisa L. Minear-Morton  
 M. Elizabeth Quigley  
 Sharon Quinn  
 Sujatha Rajaram  
 Inherla H. Rivera  
 Lia M. Robinson  
 Joan Sabatè  
 John A. Scharffenberg  
 Jean Sellers  
 Jeanne F. Silberstein  
 Maryellen Westerberg  
 Michelle Wien  
 Kathleen M. Wolf

### PUBLIC HEALTH NUTRITION—M.P.H.

ELLA HADDAD, Program Director

The M.P.H. degree in public health nutrition provides specialized training in community nutrition within the multidisciplinary public health programs offered by the school. The program is designed to train professionals to assume leadership positions in assessing community nutrition needs; and in planning, directing, and evaluating the nutrition component of health promotion and disease prevention efforts.

Public health nutritionists work in a variety of settings in government and voluntary agencies, public and private community health centers, ambulatory care clinics, schools, industries, private practice, and specialized community health projects. They function as directors and administrators of nutrition programs, nutrition care providers, advocates, educators, counselors, consultants, and researchers.

### PUBLIC HEALTH NUTRITION (TRACK I)

This track outlines the basic requirements of the M.P.H. degree and prepares students for careers in public health and community nutrition. It is appropriate for individuals with professional credentials, such as medicine, dentistry, dietetics, or nursing. Students may select the option of completing a research project with publication potential in lieu of a field practicum.

#### Learning outcomes

Upon completion of this track, graduates will:

- Understand mechanisms influencing human physiological systems and how foods, nutrients, and lifestyle impact health and well being.
- Understand the role of vegetarian dietary practices in human health, the environment, and ecology.
- Demonstrate an ability to function independently and collaboratively, as both leader and/or member of a team, to plan, manage and evaluate health-promotion activities.
- Understand processes shaping public policy and advocacy related to nutritional guidelines and programs.
- Understand ways epidemiological and research tools and findings are applied to practice.
- Learn how communications strategies are used to develop and deliver nutrition information and influence social-ecological change.
- Understand how beliefs, values, ethics, and service are integrated in personal and professional growth and development.

**PREREQUISITE**

- Chemistry through organic (at least 5 quarter units of organic)
- Physiology
- Microbiology

**Indicators of educational effectiveness**

The indicators of educational effectiveness include a written comprehensive examination (prior to the field experience), field experience (upon completion of essential major course work), field practicum report (upon completion of the field experience), and an exit interview with the department chair (at the conclusion of the program).

**COORDINATED PROGRAM IN PUBLIC HEALTH NUTRITION AND DIETETICS (TRACK II)**

The coordinated program track enables students to meet the didactic and supervised practice requirements for registration eligibility in dietetics. The purpose of registration is to protect the health, safety, and welfare of the public by encouraging high standards of performance by persons practicing in nutrition and dietetics.

Students in the M.P.H. or Dr.P.H. degree tracks may establish eligibility to write the registration examination to become a registered dietitian (RD) by completing this curriculum. The graduate coordinated program is accredited by the Commission on Accreditation for Dietetics Education (CADE) of the American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, Illinois 60606, 312/899-5400.

**Learning outcomes**

The curriculum of the graduate coordinated track in nutrition integrates the requirements of the Master of Public Health degree in nutrition with the competency requirements, foundation, knowledge, and skills to practice dietetics, as defined by CADE. In addition to the learning outcomes of the M.P.H. degree curriculum, graduates will:

- Demonstrate effectiveness in the nutritional care process consistent with competencies defined by the Commission for Accreditation of Dietetic Education of the American Dietetic Association.
- Apply systems management and use of resources to the provision of nutritional services.

**PREREQUISITE**

- Chemistry through organic (at least 5 quarter units of organic)
- Physiology
- Microbiology

Plus corequisites as needed and 1290 hours of supervised practice.

**Indicators of educational effectiveness**

Successful completion of written comprehensive examinations is required. The indicators include a written comprehensive examination (prior to the field experience), field experience (upon completion of essential major course work), field practicum report (upon completion of the field experience), and an exit interview with the department chair (at the conclusion of the program).

**Corequisites**

Units do not count toward degree

		M.P.H.	M.P.H. with RD
DTCS 343	Medical Nutrition Therapy II		5.0
DTCS 461	Food Science		4.0
DTCS 575	Food Systems Management		4.0
NUTR 490	Topics in Foods and Food Preparation	1.0	1.0
NUTR 504	Nutritional Metabolism	5.0	5.0
NUTR 526	Nutrition Counseling and Education		2.0
NUTR 537A	Community Nutrition Education Projects		1.0
NUTR 537B	Nutrition Education Practicum		1.0
Totals		—	—

<b>Public health core</b>		<b>M.P.H.</b>	<b>M.P.H. with RD</b>
ENVH 509	Principles of Environmental Health	3.0	3.0
EPDM 509	Principles of Epidemiology I	3.0	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0	2.0
HADM 509	Principles of Health Policy and Management	3.0	3.0
HPRO 509	Principles of Health Behavior	3.0	3.0
HPRO 536	Program Planning and Evaluation	2.0	2.0
NUTR 509	Public Health Nutrition and Biology	3.0	3.0
PHCJ 605	Overview of Public Health	1.0	1.0
PHCJ 675	Integrated Public Health Capstone	2.0	2.0
RELE 534	Ethical Issues in Public Health	3.0	3.0
STAT 509	General Statistics (4.0)	Choose one course	4.0
STAT 521	Biostatistics I (4.0)		
Totals		29.0	29.0

<b>Major</b>		<b>M.P.H.</b>	<b>M.P.H. with RD</b>
NUTR 510	Advanced Public Health Nutrition	3.0	3.0
NUTR 517	Advanced Nutrition I: Carbohydrates and Lipids	4.0	4.0
NUTR 518	Advanced Nutrition II: Proteins, Vitamins, and Minerals	4.0	4.0
NUTR 525	Nutrition Policy, Programs, and Services	3.0	3.0
NUTR 527	Assessment of Nutritional Status	3.0	3.0
NUTR 534	Maternal and Child Nutrition		3.0
NUTR 535	Research Applications in Nutrition		3.0
NUTR 564	Contemporary Issues of Vegetarian Diets	2.0	2.0
NUTR 605	Seminar in Nutrition	1.0	1.0
NUTR 535	Research Applications in Nutrition (3.0)	Choose one course	2.0-3.0
NUTR 539	Research Methods in Nutrition (2.0)		
Totals		22.0-23.0	26.0

**Electives**

Choose from the following or in consultation with advisor

			M.P.H.	M.P.H. with RD
DTCS 554	Advanced Medical Nutrition Therapy (3.0)	Units may be selected from both groups	6.0	—
NUTR 526	Nutrition Counseling and Education (2.0)			
NUTR 543	Concepts in Nutritional Epidemiology (3.0)			
NUTR 585	Topics in Global Nutrition (3.0)			
STAT 515	Grant- and Contract-Proposal Writing (3.0)			
NUTR 519	Phytochemicals (2.0)		—	3.0
NUTR 534	Maternal and Child Nutrition (3.0)			
NUTR 536	Nutrition and Aging (2.0)			
NUTR 578	Exercise Nutrition (2.0)			
Totals			6.0	3.0

**Practicum (supervised practice)**

Practicum units are in addition to the minimum graduate units required for the degree.

			M.P.H.	M.P.H. with RD
NUTR 694	Research (2.0)	One course required	—	—
NUTR 798B	Field Practicum (6.0)			
NUTR 798D	Field Practicum (12.0)			
DTCS 396	Food Systems Management--Affiliation			6.0
DTCS 473	Medical Nutrition-Therapy Affiliation			12.0
NUTR 798D	Field Practicum			12.0
Totals			—	—
<b>Overall Totals</b>			<b>57.0-58.0</b>	<b>58.0</b>

**NUTRITION—M.S.**

MICHELLE WIEN, Program Director

The Master of Science (M.S.) degree in Nutrition Program is offered to meet the specific needs of those who desire advanced training in nutritional sciences. Upon completion of the program, graduates will:

- Understand physiological and biochemical mechanisms influencing human systems and how food and nutrients impact function.
- Understand the role of vegetarian dietary practices in human health, the environment, and ecology.

- Demonstrate an ability to conduct and publish applied research in nutrition.

**PREREQUISITE**

Specific courses required as prerequisites are microbiology, physiology, general through organic chemistry, and basic nutrition. Nutritional metabolism or biochemistry is also required; however, this course can be taken concurrently with the M.S. degree program if not previously completed with a B grade or better.

**Indicators of educational effectiveness**

Include a written comprehensive examination and oral defense of thesis or publishable paper.

**Major**

		Units
NUTR ___	Nutrition	8.0
NUTR 510	Advanced Public Health Nutrition	3.0

NUTR 517	Advanced Nutrition I: Carbohydrates and Lipids	4.0
NUTR 518	Advanced Nutrition II: Proteins, Vitamins, and Minerals	4.0
NUTR 519	Phytochemicals	2.0
NUTR 564	Contemporary Issues of Vegetarian Diets	2.0
NUTR 605	Seminar in Nutrition	1.0
Totals		24.0

**Public health**

Units

EPDM 509	Principles of Epidemiology I	3.0
PHCJ 605	Overview of Public Health	1.0
Totals		4.0

**Religion**

Units

RELE 534	Ethical Issues in Public Health	3.0
Totals		3.0

**Electives**

Units

_____	Elective	2.0
Totals		2.0

**Statistics and research**

Choose one course

Units

NUTR 539	Research Methods in Nutrition	2.0
NUTR 694	Research (1.0-12.0)	6.0
NUTR 695	Thesis	2.0
STAT 514	Intermediate Statistics for Health-Science Data	3.0
STAT 548	Analytical Applications of SAS (2)	2.0
STAT 549	Analytical Applications of SPSS (2)	
Totals		15.0
<b>Overall Totals</b>		<b>48.0</b>

**NUTRITION—DR.P.H.**

SUJATHA RAJARAM, Program Director

The Doctor of Public Health (Dr.P.H.) degree is designed to provide the advanced knowledge, skills, and competencies required to meet the increasing needs of public health nutrition at the doctoral level in the areas of program management, leadership, and research. Research emphasis is on community nutrition program research as well as the relation of dietary practices to health promotion and disease prevention.

**Learning outcomes**

Upon completion of the program, graduates will:

- Contribute to the theory and practice of public health nutrition.
- Apply statistical tools in managing and analyzing data.
- Demonstrate an ability to produce scientific papers and presentations.
- Demonstrate effective leadership skills.

**PREREQUISITE**

- Anatomy and physiology
- Behavioral science (one course)
- Advanced biochemistry (may be taken concurrently with the program)
- Quantitative proficiency
- A master's degree in nutrition or a health professional degree at the doctoral level (M.D., D.D.S. or equivalent)

**Corequisites**

May be taken during first two quarters of program, in addition to units required for degree; advanced standing from previous M.P.H. degrees considered

		Units
ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 536	Program Planning and Evaluation	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
PHCJ 605	Overview of Public Health	1.0
PHCJ 675	Integrated Public Health Capstone	2.0
Totals		—

**Major**

		Units
NUTR 510	Advanced Public Health Nutrition	3.0
NUTR 517	Advanced Nutrition I: Carbohydrates and Lipids	4.0
NUTR 518	Advanced Nutrition II: Proteins, Vitamins, and Minerals	4.0
NUTR 519	Phytochemicals	2.0
NUTR 525	Nutrition Policy, Programs, and Services	3.0
NUTR 527	Assessment of Nutritional Status	3.0
NUTR 534	Maternal and Child Nutrition	3.0
NUTR 543	Concepts in Nutritional Epidemiology	3.0
NUTR 564	Contemporary Issues of Vegetarian Diets	3.0
NUTR 608	Doctoral Seminar in Public Health Nutrition	1.0
Totals		29.0

**Cognates**

		Units
NUTR ____	Nutrition	Chosen from allied areas to enhance competence; minimum of eight (8) units in nutrition
Totals		8.0



<b>Religion</b>		Units
RELE 5__	Graduate-level Ethics	3.0
RELR 5__	Graduate-level Relational	3.0
RELT 5__	Graduate-level Theological	3.0
Totals		9.0

<b>Research and evaluation</b>		Units	
____ __	Elective	Approved electives	4.0-6.0
NUTR 539	Research Methods in Nutrition		2.0
NUTR 685	Preliminary Research Experience		2.0
NUTR 694	Research (1.0-12.0)		4.0-6.0
PHCJ 604	Research Seminar		2.0
STAT 514	Intermediate Statistics for Health-Science Data		3.0
STAT 515	Grant- and Contract-Proposal Writing		3.0
STAT 549	Analytical Applications of SPSS		2.0
STAT 564	Survey and Advanced Research Methods		3.0
Totals		27.0	

<b>Dissertation</b>		Units	
NUTR 698	Dissertation (1.0-14.0)		12.0
Totals		12.0	
<b>Overall Totals</b>		<b>85.0</b>	

# Nutritional Epidemiology—PH

## (M.P.H.)

This double major is administered jointly by the Department of Nutrition and the Department of Epidemiology and Biostatistics, and allows the student to study the etiologic role of nutrition in major public health problems. The graduate will be prepared to design, implement, and evaluate population and intervention studies dealing with the relation of nutrition to health, aging, and chronic and infectious disease. This program is for the individual who is interested in quantitative methods and desires to apply them to nutritional research.

### Leamer outcomes

Graduates of this track in nutritional epidemiology will have the skills necessary to:

1. Conduct high-quality nutritional epidemiologic research.

2. Develop valid methods for assessing nutritional intake status; and determining appropriate design, sample size, and methods of data collection and analysis.
3. Generate adequate hypotheses for testing the relationship between nutrition and health/disease, and identify potential confounders and interactions that might bias the results.
4. Critically review the literature and report research findings, both orally and in writing.
5. Collaborate with health professionals or nutrition experts.

### Educational effectiveness indicators

Name	Description	Location
Culminating activity	Oral examination	LLU campus
Culminating activity	Oral presentation of applied research using PowerPoint	LLU campus
Culminating activity	Written report of applied research	LLU campus
Term papers	Evaluation of writing skills	LLU campus
Final examinations	Integration and application of skills learned in courses	LLU campus
Course evaluation forms	Suggestions by the students to improve delivery of course material and the design of the course itself	LLU campus

### PREREQUISITE

Chemistry through organic (at least 5 quarter units of organic)

Microbiology with laboratory (one course)

Anatomy and physiology (one course or course sequence)

College algebra or equivalent (one course), calculus preferred

Behavioral science (one course)

### COREQUISITE

(a limited number of the above courses may be taken during first two quarters of program, in addition to units required for degree)

NUTR 504 Nutritional Metabolism (advanced biochemistry) (5)

### Research and forums

Students are required to attend a minimum of twenty forums in the Department of Epidemiology and Biostatistics and/or Center for Health Research during their program. Attendance at these forums will be in addition to attendance at the public health seminars.

### Culminating activity

In order to obtain a degree, the student is required to successfully complete the culminating activity as required by the Department of Epidemiology and Biostatistics and the Department of Nutrition.

The culminating activity consists of research including a written report and oral presentation; professional portfolio (upon completion of the research); and an exit interview with the department chairs (at the conclusion of the program).

<b>Public health core</b>		<b>Units</b>
ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 536	Program Planning and Evaluation	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
PHCJ 605	Overview of Public Health	1.0
PHCJ 675	Integrated Public Health Capstone	2.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 521	Biostatistics I	4.0
<b>Totals</b>		<b>29.0</b>

<b>Major</b>		<b>Units</b>	
EPDM 510	Principles of Epidemiology II	3.0	
EPDM 512	Multivariate Modeling in Epidemiology (1.0-3.0)	1.0	
EPDM 515	Clinical Trials	3.0	
NUTR 510	Advanced Public Health Nutrition	3.0	
NUTR 517	Advanced Nutrition I: Carbohydrates and Lipids	4.0	
NUTR 518	Advanced Nutrition II: Proteins, Vitamins, and Minerals	4.0	
NUTR 527	Assessment of Nutritional Status	3.0	
NUTR 543	Concepts in Nutritional Epidemiology	3.0	
NUTR 605	Seminar in Nutrition	1.0	
STAT 515	Grant- and Contract-Proposal Writing	3.0	
STAT 522	Biostatistics II	4.0	
STAT 548	Analytical Applications of SAS	2.0	
STAT 564	Survey and Advanced Research Methods	3.0	
EPDM 565	Epidemiology of Cancer (3)	Choose one course in consultation with advisor	3.0
EPDM 566	Epidemiology of Cardiovascular Disease (3)		
EPDM 567	Epidemiology of Aging (3)		
NUTR 534	Maternal and Child Nutrition (3)	Choose one course in consultation with advisor	2.0-3.0
NUTR 536	Nutrition and Aging (2)		
<b>Totals</b>		<b>42.0-43.0</b>	

**Research project**

One project approved and administered by both EPDM/STAT and second major

Units

EPDM 699A	Applied Research		1.0
EPDM 699B	Applied Research II		1.0
NUTR 699	Applied Research		2.0
Totals			4.0

**Field experience**

Practicum units are in addition to the minimum graduate units required for the degree

Units

EPDM 798	Field Practicum	120 clock hours required for each unit of credit	2.0
Totals			—
<b>Overall Totals</b>			<b>75.0-76.0</b>

# Preventive Care—PH

(Dr.P.H.)

SERENA TONSTAD, Program Director

The Preventive Care Program is designed to prepare specialists in wellness and lifestyle management intervention. Emphasis is placed on academic preparation, practical skills, and administrative abilities in developing, implementing, and evaluating programs and protocols designed to address a wide spectrum of health issues—particularly those dealing with chronic disease. These programs and protocols include health risk appraisal, nutritional assessment and recommendations, exercise testing and prescription, and smoking and other substance abuse counseling.

The program seeks to demonstrate and elucidate the intimate connection between mind and body. Graduates address the combined influences of nutrition, exercise, stress, substance abuse, and other lifestyle factors on the promotion of health and the prevention of disease. This program is offered by the Department of Health Promotion and Education.

## Learner outcomes

Upon completion of this program, the graduate should be able to:

1. Design and implement wellness and lifestyle intervention protocols.
2. Provide chemical dependency interventions.
3. Support comprehensive health management of individuals.
4. Contribute to the theory and practice of preventive care through research.
5. Develop and conduct community and professional seminars and training programs.

6. Demonstrate leadership skills.

## Educational effectiveness indicators

- Comprehensive examination
- Qualifying examination
- Internship practice hours
- Advancement to candidacy
- Dissertation defense
- Publishable research paper
- Portfolio review
- Exit interview

## PREREQUISITE

Graduate degree or equivalent in an appropriate field

Graduate Record Examination (GRE) or MCAT within the past seven years

General chemistry

Organic chemistry

Microbiology / Anatomy and/or Physiology

General psychology

## DEGREE REQUIREMENTS

Prior to completing 32 graduate units in the program, the student must submit a proposed curriculum outline that includes the preventive care cognates or electives the student plans to complete. This outline must be approved by the student's advisor prior to submission.

## Corequisites

May be taken during first two quarters of program, in addition to units required for degree; advanced standing from previous M.P.H. degrees considered

		Units
ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 501	Human Anatomy and Physiology I	4.0
HPRO 502	Human Anatomy and Physiology II	4.0
HPRO 503	Human Anatomy and Physiology III	4.0

HPRO 509	Principles of Health Behavior		3.0
HPRO 519	Pharmacology		3.0
HPRO 531	Pathology of Human Systems I		3.0
HPRO 532	Pathology of Human Systems II		3.0
HPRO 536	Program Planning and Evaluation		2.0
NUTR 509	Public Health Nutrition and Biology		3.0
PHCJ 605	Overview of Public Health		1.0
STAT 509	General Statistics (4)	Choose one course	—
STAT 521	Biostatistics I (4)		
Totals			—

**Major**

Units

HPRO 515	Mind-Body Interactions and Health Outcomes		3.0
HPRO 526	Lifestyle Diseases and Risk Reduction		3.0
HPRO 527	Obesity and Disordered Eating		3.0
HPRO 529	Preventive and Therapeutic Interventions in Chronic Disease		4.0
HPRO 553	Addiction Theory and Program Development		3.0
HPRO 565	Tobacco Use: Prevention and Interventions		3.0
HPRO 573	Exercise Physiology I		3.0
HPRO 575	Immune System: Public Health Applications		3.0
HPRO 578	Exercise Physiology II		3.0
HPRO 586	Introduction to Preventive Care		1.0
HPRO 587	Preventive Care Practice Management		2.0
HPRO 588	Health Behavior Theory and Research		4.0
HPRO 606	Preventive Care Seminar		2.0
NUTR 504	Nutritional Metabolism		5.0
NUTR 517	Advanced Nutrition I: Carbohydrates and Lipids		4.0
NUTR 518	Advanced Nutrition II: Proteins, Vitamins, and Minerals		4.0
NUTR 556	Nutritional Applications in Lifestyle Intervention		1.0
NUTR 578	Exercise Nutrition		2.0
EPDM 565	Epidemiology of Cancer (3)	Choose on course	3.0
EPDM 566	Epidemiology of Cardiovascular Disease (3)		
Totals			56.0

**Cognates or electives**

Cognate or elective courses are to be chosen in consultation with the student's advisor, taking into consideration the student's previous experience and present interests. These units may be selected from courses offered by the School of Public Health or by other schools within the University; and must reflect a specific preventive care emphasis, clinical practice focus, or additional statistical or data analysis that will be required by the student's dissertation research.

		Units
____	Elective	12.0
<b>Totals</b>		<b>12.0</b>

**Religion**

Units

RELE 5__	Graduate-level Ethics	3.0
RELR 5__	Graduate-level Relational	3.0
RELT 5__	Graduate-level Theological	3.0
<b>Totals</b>		<b>9.0</b>

**Research and evaluation**

Units

HPRO 694	Research (1.0-14.0)	6.0	
PHCJ 534	Research Methods (2.0)	4.0	
PHCJ 604	Research Seminar	2.0	
STAT 514	Intermediate Statistics for Health-Science Data	3.0	
STAT 568	Data Analysis	3.0	
STAT 548	Analytical Applications of SAS (2) <i>Students taking STAT 548 should also take STAT 569. Note the SAS-based sequence: STAT 521, STAT 548, STAT 522, STAT 569.</i>	Choose one course	2.0
STAT 549	Analytical Applications of SPSS (2)		
<b>Totals</b>		<b>20.0</b>	

**Research and dissertation**

Units

HPRO 698	Dissertation (1.0-14.0)	12.0
<b>Totals</b>		<b>12.0</b>

**Internship**

Internship units are in addition to the minimum graduate units required for the degree

Units

HPRO 704A	Internship (3)	(42 units = 1400 clock hours)	—
HPRO 704B	Internship (6)		
HPRO 704C	Internship (9)		
HPRO 704D	Internship (12)		
<b>Totals</b>		<b>—</b>	
<b>Overall Totals</b>		<b>109.0</b>	

# Public Health Practice—PH

## (M.P.H.)

HILDEMAR DOS SANTOS, Program Director

The Public Health Practice Program is designed to meet the needs of practicing health professionals who desire to augment their current careers with additional information and skills. Such individuals, among others, would include physicians, dentists, nurses, health administrators, and practicing public health professionals. It is not designed for students entering graduate school directly from an undergraduate degree program; nor will it serve as a foundation for a major career change.

### Learner outcomes

Upon completion of this degree, the graduate should be able to:

1. Use public health statistics to correctly interpret data.
2. Evaluate reported studies in terms of rigor, importance, and relevance to professional practice.
3. Apply epidemiological methods to the practice of public health
4. Incorporate effective management approaches into public health settings.
5. Contribute to health behavior change in various populations.
6. Address environmental health issues in community, agency, and governmental settings.
7. Describe the relevance of assessment, policy development, and quality assurance to public health.
8. Characterize essential public health services and competencies.

### Indicators of educational effectiveness

1. Tests and examinations
2. Assignments and major papers
3. Community practicum report
4. Professional portfolio
5. Capstone project
6. Exit interview

## PUBLIC HEALTH PRACTICE—M.P.H.

### PREREQUISITE

Professional license in a medical or health-related discipline, or a minimum of two years of public health experience

### COREQUISITE

(may be taken during first two quarters of program, in addition to units required for degree)

Anatomy and/or Physiology

Introduction to psychology

### Culminating activity

Successful completion of a set of comprehensive, integrated activities is required. The culminating activity shall include several or all of the following: a written comprehensive examination (prior to the field experience), field experience (upon completion of essential major course work), professional portfolio (upon completion of the field experience), and an exit interview with the department chair (at the conclusion of the program).

## PUBLIC HEALTH PRACTICE—ONLINE M.P.H.

The Online Executive Master of Public Health Program is offered in two major areas: public health practice and health education. The program is designed to meet the needs of practicing health professionals who desire to augment their current careers with additional information and skills. Such health professionals include physicians, dentists, nurses, health administrators, and practicing public health professionals. This online degree is not designed for students entering graduate school directly from an undergraduate degree program; nor will it serve as a foundation for a major career change.

This three-year, online program includes courses, orientation, and support via the Internet. Students are accepted every quarter during the school year. They receive support in the use of the web-based learning technology, plan a program of study with their advisor, and get to know the other students in the program through an online community.

### Distance learning programs

The student wishing to obtain an M.P.H. degree online is referred to the School of Public Health general information in Section III of this CATALOG for details regarding the distance-learning programs of the school.



**Online local and international M.P.H. degree**

The Online Executive Master of Public Health Program caters to students in the United States and abroad.

**Residence requirement**

The Online Executive Master of Public Health Program is an online program and does not include a residence requirement.

**PREREQUISITE**

Demonstrated college-level conceptualization and writing skills

Professional license in a medical or health-related discipline, or a minimum of two years of public health experience

**COREQUISITE**

(may be taken during first two quarters of program, in addition to units required for degree)

Anatomy and physiology or Physiology (one course or course sequence)

Behavioral science (two courses, one of which is an introductory psychology course)

**Applied curriculum and professional practice**

Students select course work from each of several practice and content areas to enhance the applied portion of the curriculum. Professional practice is addressed during the laboratory and field experience

portions of the curriculum. Students may develop skills while working in community agencies and in medical care, school, and work/site settings.

**CHES credentialing examination**

Graduates are eligible to sit for the credentialing examination in health education—certified health education specialist (CHES), offered by the National Commission for Health Education Credentialing, Inc., 944 Macon Boulevard, Suite 310, Allentown, PA 18103.

**Culminating activity**

Students are required to demonstrate the ability to integrate the specified areas of public health—administration, epidemiology, statistics, environmental health, and health behavior—during their culminating activity experiences. The culminating activity includes a written comprehensive examination, a field experience (upon completion of all core classes), professional portfolio to be submitted, and an exit interview with the department chair (at the conclusion of the program).

Students who do not meet the minimum standards of performance on the comprehensive examination are subject to remedial course work to address deficiencies in preparation.

**Web site information**

Additional information regarding this program is available on the Web at <[www.llu.edu/public-health/online/index.page](http://www.llu.edu/public-health/online/index.page)>.

**Public health core**

		<b>On Campus</b>	<b>Online</b>
ENVH 509	Principles of Environmental Health	3.0	3.0
EPDM 509	Principles of Epidemiology I	3.0	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0	2.0
HADM 509	Principles of Health Policy and Management	3.0	3.0
HPRO 509	Principles of Health Behavior	3.0	3.0
HPRO 536	Program Planning and Evaluation	2.0	2.0
NUTR 509	Public Health Nutrition and Biology	3.0	3.0
PHCJ 501	Introduction to On-line Learning		1.0
PHCJ 605	Overview of Public Health	1.0	1.0
PHCJ 675	Integrated Public Health Capstone	2.0	2.0
RELE 534	Ethical Issues in Public Health	3.0	3.0
STAT 509	General Statistics	4.0	4.0
Totals		29.0	30.0

**Major**

		<b>On Campus</b>	<b>Online</b>
HADM 510	Health Policy Analysis and Synthesis	3.0	3.0
NUTR 529	Health Aspects of Vegetarian Eating	2.0	2.0

STAT 515	Grant- and Contract-Proposal Writing	3.0	3.0
Totals		8.0	8.0

**Selected electives**

**On Campus**

**Online**

Selected electives		On Campus	Online
ENVH 587	Environmental Toxicology (3.0)		
EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement (3.0)		
EPDM 568	International Epidemiology (2.0)		
GLBH 519	Principles of Disaster Management I (3.0)		
GLBH 547	Refugee and Displaced Population Health (3.0)		
GLBH 548	Violence and Terrorism Issues (3.0)		
GLBH 550	Women in Development (3.0)		
GLBH 561	Epidemiology of Tobacco Use and Control I (3.0)		
GLBH 562	Epidemiology of Tobacco Use and Control II (3.0)		
GLBH 564	Primary Health Care Programs I (3.0)		
GLBH 565	International Health Programming (2.0)	Choose from these courses	
HPRO 507	Spirituality and Health: The Wholeness Connection (3.0)		
HPRO 524	Adolescent Health (3.0)		
HPRO 526	Lifestyle Diseases and Risk Reduction (3.0)		
HPRO 527	Obesity and Disordered Eating (3.0)		
HPRO 553	Addiction Theory and Program Development (3.0)		
HPRO 565	Tobacco Use: Prevention and Interventions (3.0)		
HPRO 575	Immune System: Public Health Applications (3.0)		
NUTR 505	Public Health Biology (2.0)		
NUTR 534	Maternal and Child Nutrition (3.0)		
PHCJ 501	Introduction to On-line Learning (1.0) <i>Not a valid elective for the online program</i>		
Totals		19.0	18.0

**Field experience**

Practicum units are in addition to the minimum graduate units required for the degree.

**On Campus      Online**

PHCJ 695	Community Practicum	3.0	1.0
Totals		—	—
<b>Overall Totals</b>		<b>56.0</b>	<b>56.0</b>

# Reproductive Health—PH

## (Certificate)

The purpose of this certificate is to familiarize students with the complex issues associated with planning, implementing, and evaluating reproductive health programs for men and women.

### Learner outcomes

Upon completion of this program, students will be able to:

- Describe key public health issues in the field of reproductive health.
- Utilize principles of behavior change in the promotion of reproductive health.
- Plan, implement, and evaluate public health programs addressing multifaceted, integrated programs in reproductive health based upon the current operational models.

### Educational effectiveness

1. Appropriate course assignments and projects
2. G.P.A. of at least 3.0
3. Completion of certificate requirements

### Admissions requirements

This certificate program is primarily designed for M.P.H. degree or doctoral students whose focus is not maternal and child health and is offered in conjunction with these programs. However, master's degree students in other disciplines who are interested in reproductive health are encouraged to apply. Health professionals who have completed a bachelor's degree (or equivalent) from an accredited college or university with a cumulative G.P.A. of 3.0 or higher may also be admitted into the program.

### Required

Units

HPRO 509	Principles of Health Behavior	3.0
HPRO 523	Maternal/Child Health: Policy and Programs	3.0
HPRO 536	Program Planning and Evaluation	2.0
HPRO 550	Women in Development	3.0
HPRO 553	Addiction Theory and Program Development	3.0
HPRO 556	High-Risk Infants and Children: Policy and Programs	3.0
HPRO 567	Reproductive Health	3.0
HPRO 614	Seminar in Maternal and Child Health Practice	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
RELE 534	Ethical Issues in Public Health	3.0
Totals		28.0
<b>Overall Totals</b>		<b>28.0</b>

# Tobacco Control Methods—PH

## (Online and on-campus certificate)

Loma Linda University School of Public Health has developed the Tobacco Control Methods Program to train health professionals in tobacco research and control methods, integrating theory and field-based experience. This is the only graduate-level certificate of its kind in the field of tobacco control offered in the U.S. This certificate is for practicing professionals who want to add to their skills and knowledge and be better equipped to work in the area of tobacco control as practitioners and researchers in tobacco use prevention and treatment.

The program is offered entirely online; however, traditional classes can be taken at Loma Linda University in the ten-week quarter format. The program is made possible through a grant from the Association of Schools of Public Health and the American Legacy Foundation.

### Purpose

The purpose of this certificate program is to train students in tobacco research by effectively integrating theory and field-based experience.

### Outcome objectives

At the end of the program, students will be able to:

1. Design a survey and employ epidemiological and statistical research methods in tobacco control.

2. Apply principles and methods in health education to foster smoking behavior change; and plan, implement, and evaluate community-based programs in tobacco control.
3. Advocate for tobacco control-policy change.
4. Prepare a grant or contract proposal.
5. Plan, implement, and evaluate tobacco prevention and tobacco control programs.

### Admission requirements

This certificate program is primarily designed for M.P.H. degree or doctoral students and is offered in conjunction with these programs. However, master's degree students in other disciplines who have interest in tobacco control can also apply. Health professionals who have completed a bachelor's degree (or equivalent) from an accredited college or university with a cumulative G.P.A. of 3.0 or higher may also be admitted into the program.

### Indicators of educational effectiveness

1. Class project
2. Oral presentation
3. Examinations at the end of each course

Required		Units
EPDM 509	Principles of Epidemiology I	3.0
EPDM 568	International Epidemiology	2.0
GLBH 561	Epidemiology of Tobacco Use and Control I	3.0
GLBH 562	Epidemiology of Tobacco Use and Control II	3.0
GLBH 565	International Health Programming	2.0
HPRO 509	Principles of Health Behavior	3.0
HPRO 565	Tobacco Use: Prevention and Interventions	3.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 509	General Statistics	4.0
HPRO 536	Program Planning and Evaluation (2)	Choose one course 2.0-3.0
STAT 515	Grant- and Contract-Proposal Writing (3)	
Totals		28.0-29.0
<b>Overall Totals</b>		<b>28.0-29.0</b>



# School of Religion

## Dean's Welcome

## School Foundations

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## General Regulations

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- Religion and the Sciences

### CERTIFICATE PROGRAMS

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### COMBINED-DEGREES PROGRAMS

- Biomedical and Clinical Ethics *with* Advanced Practice Nursing
- Biomedical and Clinical Ethics *with* Dentistry
- Biomedical and Clinical Ethics *with* Medicine
- Biomedical and Clinical Ethics *with* Psychology
- Biomedical and Clinical Ethics *with* Social Policy and Social Research
- Clinical Ministry *with* Marital and Family Therapy

## Division of Humanities

## Dean's Welcome

Welcome to the most unusual school of Loma Linda University. The School of Religion has three degree programs that associate areas in the sciences with religion. But the major task of the School of Religion remains enriching programs in the other seven schools of the University with a faith-based, wholistic approach to the health sciences. So in whatever program you have enrolled, you will come in contact with School of Religion offerings that have been uniquely designed to help you prepare for wholistic ministry within your chosen profession. Studying at Loma Linda University is about more than just careers and professions; it is about mission and purpose for all of life. The School of Religion is pleased to have an important role in helping to prepare you for the most fulfilling life and career possible.

If you are interested in a master's degree in religion, explore the three programs or six combined-degrees programs that are designed and directed by School of Religion faculty: 1) the M.A. degree in biomedical and clinical ethics, 2) the M.A. degree in clinical ministry, and 3) the M.A. degree in religion and the sciences. The combined-degrees programs are: 1) Biomedical and Clinical Ethics with Advanced Practice Nursing or Dentistry or Medicine or Psychology or Social Policy and Social Research, and 2) Clinical Ministry with Marital and Family Therapy. These specialized academic/clinical programs are attracting a growing number of both national and international students. This Catalog will provide detailed information about each of these programs. For further information, please call 909-651-5952 or email us at <knelson@llu.edu>.

If you are enrolled in a program in one of the other seven schools of Loma Linda University, feel free to use the course information in the Catalog to become more familiar with the religion courses that are a part of your larger program. Feel free to contact me about any questions or concerns you may have at <jpaulien@llu.edu>. You can also visit our Web site at <www.llu.edu/religion/index.page>.



On behalf of the faculty and staff of the School of Religion, let me personally invite you to seriously consider the courses and the programs that we offer. We can help strengthen your faith; broaden your spiritual and academic horizons; enhance your ability to serve; and prepare you not only for this life, but also for eternity.

May God enrich your studies,

A handwritten signature in black ink that reads "Jon Paulien". The signature is written in a cursive, slightly slanted style.

Jon Paulien, Ph.D.  
Dean, School of Religion



# School Foundations

## HISTORY

In the configuration of Loma Linda University as a health-sciences university, the role of religion as integrative in each of the programs of the University is mandated and continuously affirmed by the University administration and the Board of Trustees.

In July of 1990, the Faculty of Religion (now the School of Religion) was established to assist in this integration.

## PHILOSOPHY

As implied by its motto, "To make man whole," the University affirms these tenets as central to its view of education:

- God is the Creator and Sustainer of the universe.
- Mankind's fullest development entails a growing understanding of the individual in relation to both God and society.
- The quest for truth and professional expertise, in an environment permeated by religious values, benefits the individual and society and advances the ministry of the Seventh-day Adventist Church.

## MISSION STATEMENT

The School 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:
  - Theological studies (biblical, historical, doctrinal, mission, and philosophical).
  - Ethical studies.
  - Relational studies (applied theology, clinical ministry, and psychology of religion).
3. To foster and support research in theological, 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.

## General Regulations

Students of the University are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation. Section III gives the general setting for the programs of each school and the subject and unit requirements for admission to individual professional programs. It is important to review specific program requirements in the context of the general requirements applicable to all programs.

## Application and Admissions

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 schools 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  
School of Religion  
Loma Linda University  
Loma Linda, CA 92350

#### Application procedure

1. The online application is found at [www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page). 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. 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 and evaluations, if applicable—sent directly by the registrar (or a recognized, authorized institutional representative) of each school attended to the University Admissions Office. 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.

### ADMISSION REQUIREMENTS

A four-year baccalaureate degree (or its equivalent) from an accredited college or university is a prerequisite for admission to the School of Religion. 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 removed while enrolled; prerequisites must be completed prior to acceptance into the program.

#### **Scholarship**

Applicants are expected to present an undergraduate record with a grade-point average of B (3.00) or better in the overall program and in the field of the major. Some students with an overall grade-point average between 2.50 and 3.00 may be admitted provisionally to graduate standing, provided the grades during the junior and senior years are superior, or there is other evidence of capability.

#### **Academic probation**

Degree students whose cumulative G.P.A. at the end of any quarter is less than 3.0 will be placed on academic probation. The number of units for subsequent registrations is restricted to a maximum of 12 per quarter. 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, jeopardize their standing in a degree or certificate program and may be dismissed from school.

#### **Concurrent admission**

Students may not be admitted to a School of Religion program while admitted to another program at this University or elsewhere. The exception to this is the combined-degrees programs, discussed at the end of Section III of this CATALOG under Combined-Degrees Programs.

## **Financial Information**

The Office of the Dean is the final authority in all financial matters and is charged with the interpretation of all financial policies. Any exceptions to published policy in regard to reduction or reimbursement of tuition must be approved by the dean. Any statement by individual faculty members, program directors, or department chairs in regard to these matters is not binding on the school or the University unless approved by the dean.

Registration is not complete until tuition and fees on the required installment are paid; therefore, the student should be prepared to make these payments during scheduled registration for each academic year. There may be adjustments in tuition and fees as economic conditions warrant.

### **ON- AND OFF-CAMPUS STUDENT HOUSING**

Students may go to [www.llu.edu/central/housing/index.page](http://www.llu.edu/central/housing/index.page) for housing information and a housing application form.

### **ADDITIONAL REQUIREMENTS**

For additional policies, governing Loma Linda University students, see Section II of this CATALOG, as well as the University *Student Handbook*. Students are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation.

# Biomedical and Clinical Ethics—SR

## (M.A., PB certificate)

MARK F. CARR, Program Coordinator

### FACULTY

Ivan T. Blazen  
Roy Branson  
Mark F. Carr  
Debra Craig  
Andy Lampkin  
David R. Larson  
Richard Rice  
Charles W. Teel  
James W. Walters  
Gerald R. Winslow

## BIOMEDICAL AND CLINICAL ETHICS—M.A.

The purpose of the Biomedical and Clinical Ethics Program—an interdisciplinary course of graduate study leading to a Master of Arts degree—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 career in health care or another profession.

The Biomedical and Clinical Ethics Program is administered by the School of Religion. It draws upon resources from across the entire Loma Linda University campus. Additionally, two academic centers—the Center for Christian Bioethics and the Center for Spiritual Life and Wholeness—along with the many health care clinics associated with the medical and dental schools, provide a rich context in which to study bioethics. The M.A. degree program cooperates with the Center for Christian Bioethics in a variety of ways. The center's Thompson Library—endowed and constantly growing, with more than 4,500 volumes—is one of the most comprehensive libraries of materials in biomedical and clinical ethics in the United States. 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.

### Objectives

Upon completion of the Biomedical and Clinical Ethics Program, students will be able to demonstrate:

1. Critical-thinking skills in six topic areas of ethics: philosophical ethics, social ethics, biblical ethics, theological ethics, clinical ethics, and biomedical ethics.
2. An understanding of ethics methods and the application of these methods in the academic/clinical setting within which they study/work.
3. Their understanding of the concepts underlying research in bioethics and skills in the writing of analytical essays.
4. The capability to present their research and writing in public/academic professional settings.
5. The skill of analyzing the writings of leading thinkers in the field of ethics and in constructing their own responses and positions.
6. The development of personal attitudes and commitments of wholeness that inform their work and personal lives through values development.

Information on admission, tuition, and student life and an online application can be found online at [www.llu.edu/central/apply/index.page](http://www.llu.edu/central/apply/index.page).

### Admission

In addition to meeting admission requirements for the School of Religion, 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 the realization of those goals.
2. Persuade the Admissions Committee, by previous accomplishments, that s/he is able and willing to reach these goals and 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, the student will complete a minimum of 48 units of course work as herein specified, with an overall grade 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.

**Transfer credits**

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 three 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:

- Philosophical and social ethics
- Theological and biblical ethics
- Biomedical and clinical ethics

These comprehensive examinations 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 RELG 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 RELG 697 Independent Research for a maximum of 8 units while preparing the thesis. An oral defense of the thesis is required.

**BIOMEDICAL AND CLINICAL ETHICS—  
CERTIFICATE**

The Biomedical and Clinical Ethics Program certificate option is available for students who prefer not to complete the full M.A. degree program. Students must complete 28 units of course work. There are no additional requirements.

<b>Major</b>		<b>M.A.</b>	<b>Certificate</b>
REL_ 5__	Graduate-level Religion	16.0	
RELE 524	Christian Bioethics	4.0	4.0
RELE 548	Christian Social Ethics	4.0	4.0
RELE 554	Clinical Ethics Practicum I	4.0	4.0
RELE 555	Clinical Ethics Practicum II	4.0	4.0
RELE 577	Theological Ethics	4.0	4.0
RELE 588	Philosophical Ethics	4.0	4.0
RELE 589	Biblical Ethics	4.0	4.0
RELG 504	Research Methods	4.0	
Totals		48.0	28.0
<b>Overall Totals</b>		<b>48.0</b>	<b>28.0</b>

# Clinical Ministry—SR

## (M.A., PB certificate)

SIROJ SORAJJAKOOL, Program Coordinator

### FACULTY

Ivan T. Blazen  
 Mark F. Carr  
 Carla G. Gober  
 James Greek  
 David R. Larson  
 Jon Paulien  
 Johnny Ramirez-Johnson  
 Richard Rice  
 Randall L. Roberts  
 Siroj Sorajjakool  
 Bernard A. Taylor  
 David L. Taylor  
 James W. Walters

### FACULTY

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, spirituality, and ethics.

## CLINICAL MINISTRY—M.A.

The Clinical Ministry Program leading to a Master of Arts degree 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. The program is especially valuable as preparation for careers in chaplaincy and other fields of ministry. It is specifically designed for three types of students:

1. Those at the beginning of their professional lives;
2. Those pursuing this degree in order to enhance or shift their existing careers; and
3. 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 includes education in two areas: academic and clinical. Academic preparation is provided by the School 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 (BMC), and Campus Ministries.

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 Clinical Ministry Program may apply for this clinical placement. (Separate application procedures are required.)

### Program objectives

Upon the completion of the Clinical Ministry Program, students will demonstrate:

1. A gain in clinical skills related to clinical ministry.
2. The ability to integrate theoretical, theological, biblical, and philosophical perspectives in the study of clinical ministry.
3. Critical thinking and the ability to identify spiritual issues in clinical ministry within the health care context.
4. The development of personal understanding of ethical standards and commitments of wholeness that inform their work and personal lives through values development.

### Admission

In addition to meeting admission requirements for the School of Religion, 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 s/he 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, the 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 core course lower than a B-.

### Transfer credits

Students are permitted to transfer up to 8 units of approved graduate-level courses from other accredited institutions into the Clinical Ministry 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 clinical ministry.

**Clinical internship**

Students must also satisfactorily complete an approved, 400-hour clinical internship

(RELG 795). 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 coordinator of the program to take the clinical internship out of sequence. Even in such cases, the recommendation is that the following courses be completed before entering the clinical internship:

RELR 565	Pastoral Theology and Methodology	3.0-4.0
RELR 567	Pastoral Counseling	3.0-4.0
RELR 568	Care of the Dying and Bereaved	3.0-4.0

Students who wish to receive academic credits for their clinical internship may register for RELR 524 Clinical Pastoral Education. If taken as a selective, this course may account for a maximum of 6 academic units.

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

**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 publishable papers.

**Thesis, project, or publishable papers**

Independent research for either the thesis or the project is done while registered for RELG 697 Independent Research (1-8). After completing RELG 697 Independent Research, each student must either prepare a thesis while registered for RELG 698 Thesis (1-4) or prepare a project while registered for RELG 696 Project (1-4) or prepare two major papers of

publishable quality. The project option must be designed and implemented within the confines of the program and under the auspices and direction of the program coordinator. The student must provide an oral defense of the thesis, project, or two publishable papers.

**CLINICAL MINISTRY—CERTIFICATE**

The Clinical Ministry Program certificate option is available for students who prefer not to complete the full M.A. degree program.

**Fulfilling required units**

The 27 required units are to be satisfactorily completed by taking all of the certificate courses indicated in the following table. Three of the courses must be taken for 4 units.

**Clinical internship—CPE**

The program recommends that the clinical internship requirement of 400 hours (RELG 795) be satisfied through one quarter of clinical pastoral education (CPE).

**Major**

		M.A.	Certificate
RELE 524	Christian Bioethics	3.0-4.0	3.0-4.0
RELG 504	Research Methods	2.0-4.0	
RELR 527	Crisis Counseling	3.0-4.0	3.0-4.0
RELR 565	Pastoral Theology and Methodology	3.0-4.0	3.0-4.0
RELR 567	Pastoral Counseling	3.0-4.0	3.0-4.0
RELR 568	Care of the Dying and Bereaved	3.0-4.0	3.0-4.0
RELR 574	Preaching	3.0-4.0	
RELR 584	Culture, Psychology, and Religion	3.0-4.0	3.0-4.0
RELR 587	Religion and the Social Sciences	3.0	
RELR 694	Seminar in Clinical Ministry	3.0-4.0	3.0-4.0

RELT 557	Theology of Human Suffering	3.0-4.0	3.0-4.0
RELT 558	Old Testament Thought	3.0-4.0	
RELT 559	New Testament Thought	3.0-4.0	
Totals		38.0-51.0	24.0-32.0

**Thesis, project, or publishable papers****M.A.****Certificate**

RELG 697	Independent Research (1.0-8.0)		1.0-8.0	
RELG 696	Project (1.0-4.0)	Choose one course	1.0-4.0	—
RELG 698	Thesis (1.0-4.0)			
Totals			2.0-12.0	—

**Internship**

Internship units do not count toward minimum units required for the degree.

**M.A.****Certificate**

RELG 795	Clinical Internship		12.0	12.0
Totals			—	—
<b>Overall Totals</b>			<b>48.0</b>	<b>27.0</b>



# Religion and the Sciences—SR

(M.A.)

RICHARD RICE, Program Coordinator

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 Master of Arts 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 School of Religion. It draws on resources from various sectors of the campus, including the Department of Earth and Biological Sciences faculty of the School of Science and Technology; the Department of Psychology faculty of the School of Science and Technology; and the members of other faculties in the University, as well

as other scholars and professors with expertise in the area.

Upon completion of the Religion and the Sciences Program, students will demonstrate:

1. A knowledge of the research methods of religious studies and at least one branch of the natural and human sciences.
2. An understanding of the contrasting and complementary aspects of scientific inquiry and religion experience.
3. The ability to bring into critical conversation the theoretical foundations of science and philosophical perspectives on religion.
4. Critical thinking in the areas of religious and scientific inquiry.
5. The ability to contribute to the field of religion and the sciences in the areas of research and writing.
6. An understanding of the relation of wholeness and values to one's scholarship in the area of religion and the sciences.

### Admission

In addition to meeting admission requirements for the School of Religion, 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 the realization of those goals.
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-.

### Introduction to research

Units

RELG 504	Research Methods	4.0
Totals		4.0

**Cluster I: Religion**

Units

RELE 5__	Graduate-level Ethics	4.0
RELR 5__	Graduate-level Relational	4.0
RELT 526	Creation and Cosmology (3.0-4.0)	4.0
RELT 539	Christian Understanding of God and Humanity (3.0-4.0)	4.0
Totals		16.0

**Cluster II: Science**

Two or three approved graduate courses, seminars, or research projects selected from physical, life, behavioral, social, or health sciences

Units

____ __	Elective	8.0-12.0
Totals		8.0-12.0

**Cluster III: Seminars**

Units

PHIL 616	Seminar in the Philosophy of Science	4.0
RELT 615	Seminar in Philosophy of Religion	4.0
RELT 617	Seminar in Religion and the Sciences	4.0
Totals		12.0

**Cluster IV: Electives**

One or two approved graduate courses, seminars, or research projects offered at Loma Linda University or another educational institution

Units

____ __	Elective	4.0-8.0
Totals		4.0-8.0
<b>Overall Totals</b>		<b>45.0</b>

**Transfer credits**

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 will cover essential aspects of religion and science.

**Research**

The student will prepare an acceptable thesis or material suitable for publication in relevant scholarly journals.

## Division of Humanities—Humanities Program

For more than fifty years, Loma Linda University has officially prized "wholeness." Because of the specialized nature of Loma Linda University's curricula, a humanities component of the health-related professional programs is important to realize the university's motto, "To make man whole." Health care and research are becoming increasingly interdisciplinary, and only a breadth of integrated knowledge adequately prepares tomorrow's leaders. Loma Linda University alumni will both influence and be influenced by a complex society; disciplined study of the humanities is no luxury.

In light of the foregoing considerations, the Board of Trustees voted in December 2006 to establish a Humanities Program within the School of Religion. The goal is to establish a small core of humanities scholars, beginning with one professor each in literature and in history, who not only will teach humanities courses, but who also will develop innovative means to enhance the humanities ethos on campus.

Loma Linda University's Humanities Program has two emphases: undergraduate and professional education.

*Undergraduate.* The Humanities Program for undergraduates largely builds on the humanities course work that students bring from prior college enrollment. However, the University is now searching for the ideal way to meaningfully embed the humanities within students' ongoing, professional studies. Ideas that are being explored include: a) a new capstone academic course in which students

examine their personal and professional values; and b) a wholeness portfolio that requires students to explore the integration of personal values, societal needs, and professional aspirations. The Humanities Program furthers Loma Linda University's educational objectives:

- Values-based education
- Critical-thinking skills
- Effective communication
- Contribution of the humanities to society
- Life-long learning
- Human wholeness

*Professional.* The impact of the Humanities Program on professional education is largely outside the classroom—lectures, workshops, film discussions, and brown bag sessions. These experiences are important in themselves, and the humanities faculty will greatly strengthen this aspect of campus life. However, the University envisions honors programs that will require instructor-led integrative discussions—often supplemented with assigned reading. Discussion has begun with various schools of the University regarding the development of honors programs that focus on demonstrated excellence in one's specialized field of study, as well as integration of that knowledge with at least one humanities discipline (e.g., history, literature, religion).



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## Dean's Welcome

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

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 School of Science and Technology (SST) 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 assist those in 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 School of Science and Technology, 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 SST 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. In support of this position, we expect our students, faculty, and staff to demonstrate unwavering respect for the diversity of others and to interact with integrity—never forgetting the standards that guide professional actions. 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 Christ-centered values 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 800/422-4LLU.

A handwritten signature in black ink that reads "Beverly J. Buckles". The signature is fluid and cursive.

Beverly J. Buckles, D.S.W.  
Dean, School of Science and Technology

# School Foundations

The School of Science and Technology (SST)—one of Loma Linda University's newest schools—includes the Departments of Earth and Biological Sciences, Counseling and Family Sciences, Psychology, and Social Work and Social Ecology. Many of the programs offered have matured on campus for a decade or more; one program was established half a century ago. The school offers degree programs through the doctoral level, postdegree certificates, and a certificate program in Spanish; as well as courses that meet the University's general education requirements. Technology programs, such as e-Health Technology, are currently being developed by the school.

## PHILOSOPHY

The School of Science and Technology is mission driven and academically incorporates the University's commitment to the teaching and healing ministry of Jesus Christ, which produces wholeness within transformed lives. Transformation is a lifelong faith-and-learning process—a process committed to pursuit of the highest levels of scholarship, professionalism, and spiritual well-being. This pursuit seeks to understand and promote healthy minds, communities, social systems, families, and the environment.

Wholeness for self and for others is central to a balance between mind, body, and spirit. Such wholeness manifests itself in a life of service to humanity, to the environment, and to God.

The School of Science and Technology values the time-honored and separate traditions in higher education for "academic" and "professional" programs; and it advocates the integration of knowledge and research, blending the "pure" with the "applied" sciences.

In the School of Science and Technology 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 created and transformed into wisdom.

## OBJECTIVES

The School of Science and Technology 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 humankind.



# Application and Admissions

## APPLICATION AND ACCEPTANCE

### Application procedure

1. The application instructions, available on the Web at <www.llu.edu/central/apply/index.page>, allow students to apply online and begin an application. Applications and all supporting information, transcripts, test results, and references should be submitted by the deadline posted on the application, per degree.
2. Complete official transcripts of all academic records from all colleges, universities, and professional or technical schools must be provided for official acceptance into a program. It is the applicant's responsibility to arrange to have the transcripts—including official English translations, if applicable—sent directly to Admissions Processing. Transcripts that come via an intermediary are unacceptable.
3. A personal interview is often desirable and is required by some programs. The interview 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 applications and made its recommendation, the dean of the School of Science and Technology takes official action and notifies the applicant. The applicant must respond affirmatively before becoming eligible to register in the School of Science and Technology.
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 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 a School of Science and Technology program.
4. New students are required to pass a background check before they register for classes.

## UNDERGRADUATE PROGRAMS

### ADMISSION REQUIREMENTS

#### High school graduation requirement

Students applying to Loma Linda University after finishing high school are required to furnish an official transcript as evidence of completion of high school. A high school G.P.A. of at least 2.5 (on a 4-point scale) is expected for admission to Loma Linda University undergraduate programs.

Students transferring to Loma Linda University after completing some course work at another college or university are also required to furnish transcripts for all of these courses. A minimum grade of C (2.0) is required for all college-transfer courses, unless otherwise specified in specific program requirements. An overall college G.P.A. of at least 2.5 to 3.0 is expected, depending on the program to which the student applies.

#### Transcripts

Transcripts are accepted only when sent directly to the University Records office by the issuing institution. Transcripts received by the University become the property of the University and will not be released to the student or forwarded to any other institution upon request of the student.

### UNDERGRADUATE DEGREE REQUIREMENTS

The requirements for an undergraduate degree consist of (1) general studies courses (68 units, a portion of which may be met by the student's major), (2) the courses required for the specific undergraduate major, or degree program, and (3) general elective courses.

#### General Studies Requirements

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 Seventh-day Adventist college or university.

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)

Courses in various biological or biomedical fields, chemistry, physics, or earth sciences.



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: GENERAL STUDIES ELECTIVES

Electives from the foregoing subjects may be chosen to complete the 68 units.

#### Major field and cognate requirements

These requirements are described under each program in this CATALOG. They consist of the courses in the major field, as well as cognates—which are supporting courses in a different field that are required for the degree.

#### Minor field

A minor is an area outside of the student's major field, in which the student takes enough courses to acquire a basic introduction to the subject. Each program defines the requirements of subject minors.

#### Minimum required grades

The minimum required grade is C for courses that apply to the undergraduate degree.

## GRADUATE DEGREE REQUIREMENTS

### Admission requirements

A four-year baccalaureate degree (or its equivalent) from an accredited college or university is a prerequisite for admission to the School of Science and Technology's graduate programs. 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 applicant 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 major field.

Depending on program-specific criteria, 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 Examination

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 more than five years since the last test was taken. Applicants are advised to request information specific to their proposed program of study.

For complete information about the GRE, please visit their Web site at <[www.gre.org](http://www.gre.org)>; or write to 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.

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. Students should consult 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 Analogies Test, the results of a structured interview, or other specified program criteria.

### Re-entrance

Students who are currently enrolled in the School of Science and Technology may request transfer to a different program or a more advanced degree level by contacting the School of Science and Technology Admissions Office for information on an abbreviated application and instructions for submitting the appropriate supporting documents. Transcripts on file with the University are acceptable.

### English-language 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 because further study of English may be required to assure academic progress.

## 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 abbreviated application should be completed and submitted, along with appropriate supporting documents, to the School of Science and Technology Admissions Office. 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 School of Science and Technology 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 School of Science and Technology 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

Students may not be admitted to a School of Science and Technology program while admitted to another program at this University or elsewhere. The exceptions to this are the combined degrees programs.

### Certificate programs

The School of Science and Technology offers several postbaccalaureate certificate programs. Students accepted into such programs will be assigned to an advisor 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

### Advisor and guidance committee

Each student accepted into a degree program is assigned an advisor 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 may not be 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 these must be removed as specified by the advisor or dean, usually during the first full quarter of study at this University.

### Study plan

The student's advisor 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 advisor 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 School of Science and Technology 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 the number of units students take varies by program, students are expected to work closely with their program to assure that their course loads are consistent with program requirements, as well as degree-completion options and timelines.

**Minimum required grade-point average**

The required minimum grade-point average is B (3.0) 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 on all work accepted for transfer and on all work taken at this University, computed separately. In some cases, programs have specified higher or additional requirements. Students should consult with their particular program of study.

**Professional performance probation**

Applied professional programs may recommend that the student be placed on professional performance probation. Details are contained in program guides for the programs concerned.

**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 oral or written examination for a graduate degree, the 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.

**Research competence**

Student skills required in research, language, investigation, and computation are specified in each program description in this CATALOG.

**Thesis**

Students writing a thesis must register for at least 1 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 enrollment fee paid at the beginning of each quarter.

**Candidacy**

Admission to the School of Science and Technology 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 (School of Science and Technology Form A) from the student to the dean, on recommendation of the student's advisor and the program coordinator or department chair.

Students petitioning the School of Science and Technology 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 School of Science and Technology.

**Specific program requirements**

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

**Religion requirement**

All master's degree students are required to take at least one 3-unit religion course. Courses (numbered between 500 and 600). Students should check with their programs for specific guidelines.

**Combined 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 School of Science and Technology 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 CATALOG.

**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.

**Format guide**

Instructions for the preparation and format of the publishable paper, thesis, or dissertation are in the "Thesis and Dissertation Format Guide," available through the Faculty of Graduate Studies dissertation editor. Consultation with the dissertation editor 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 school office in final approved form is published in the events calendar (available from the academic dean's office).

**Binding**

The cost of binding copies of the thesis or dissertation to be deposited in the University library and appropriate department or school collection will be paid for by the student's department. The student will be responsible for paying the cost of binding additional personal copies.

## 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.

### Advisor and guidance committee

Each student, upon acceptance into a degree program, is assigned an advisor 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 School of Science and Technology requires advisors for Doctor of Philosophy degree candidates to have demonstrated scholarship productivity in their chosen disciplines. Each program maintains a list of qualified doctoral degree mentors. The guidance committee, usually chaired by the advisor, 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 may not be 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 advisor or dean, usually at the beginning of the graduate experience at this University.

### Study plan

The student's advisor 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 advisor, 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 School of Science and Technology.

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 School of Science and Technology 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 School of Science and Technology.

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.

### Professional performance probation

Applied professional programs may recommend that the student be placed on professional performance probation. Details are contained in the program guides for the programs concerned.

### Scholarly competence

Doctoral degree students demonstrate competency in scholarship along with research and professional development. Expectations and standards of achievement with the tools of investigation, natural and synthetic languages, and computers are specified in this section of the CATALOG 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 and Doctor of Marital and Family Therapy degrees)*

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 \$75 (2009-2010) to be 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 research 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 the Faculty of Graduate Studies dissertation editor can prevent the student from committing formatting errors that would require retyping large sections of the 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 \$75 (2009-2010), to be 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 Faculty of Graduate Studies provides appropriate information and forms.

### **Candidacy**

Admission to the School of Science and Technology does not constitute candidacy for a graduate degree. Admission to candidacy is initiated by a written petition (School of Science and Technology Form A) from the student to the dean, with support from the student's advisor 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 programs section of this CATALOG (Section III) and in the program guides available from specific departments.

### **Religion requirement**

All doctoral students should take at least three 3-unit religion courses (numbered between 500 and 600).

Students should check with their programs for specific guidelines.

### 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 School of Science and Technology and a professional school in the University. The combined degrees programs provide 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 a combined degrees program, the student must have a baccalaureate degree; must qualify for admission to the School of Science and Technology; and must already be admitted to the School of Medicine, the School of Dentistry, the School of Religion, 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 School of Science and Technology requirements.

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

The following combined degrees programs are offered in conjunction with the School of Science and Technology. (See Combined Degrees Programs at the end of Section III.)

Biology or Geology *with* Medicine or Dentistry (M.S./M.D., M.S./D.D.S., Ph.D./M.D., or Ph.D./D.D.S.)

Marital and Family Therapy *with* Clinical Ministry (M.S./M.A.)

Marital and Family Therapy *with* Health Education (M.S./M.P.H.)

Psychology *with* Biomedical and Clinical Ethics (Psy.D./M.A. or Ph.D./M.A.)

Psychology, Clinical *with* Health Education (Psy.D. or Ph.D./M.P.H.)

Psychology, Clinical *with* Preventive Care (Psy.D. or Ph.D./M.P.H. or Psy.D. or Ph.D./Dr.P.H.)

Social Policy and Social Research *with* Biomedical and Clinical Ethics (Ph.D./M.A.)

Social Work *with* Criminal Justice (M.S.W./M.S.)

Social Work *with* Gerontology (M.S.W./M.S.)

Social Work *with* Maternal and Child Health (M.S.W./M.P.H.)

Social Work *with* Social Policy and Social Research (M.S.W./Ph.D.)

## Student Life

The information on student life contained in this CATALOG 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.



## Academic Information

### 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 or the program requirements specify otherwise.

#### Transfer credits

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 9 quarter units that have been previously applied to another degree may be accepted as transfer credits upon petition. A candidate who holds a master's degree or presents its equivalent by transcript may receive credit up to 20 percent of the total units for the degree, 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.

#### 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.

# Financial Information

## SCHEDULE OF CHARGES (2009-2010)

### TUITION

\$525	Per unit, undergraduate credit
\$605	Per unit, graduate credit
\$278	Per unit, audit
\$27,100	Per year: Psychology Psy.D. and Ph.D.

### SPECIAL CHARGES\*

\$60	Application fee
\$100	Application fee for combined degrees
\$520	Enrollment fee per quarter
\$75	Continuous registration fee each quarter for which no tuition is paid
\$60	Fee for credit by examination
\$30	Per-unit fee to have credit earned by examination appear on transcript
\$40	Application to change program or degree

\* Programs may have additional fees.



# Biology—ST

(M.S., Ph.D.)

STEPHEN G. DUNBAR, Program Director

## FACULTY

Gordon J. Atkins  
 Danilo Boskovic  
 Leonard R. Brand  
 H. Paul Buchheim  
 Ronald L. Carter  
 Stephen G. Dunbar  
 Raul Esperante  
 Hansel M. Fletcher  
 H. Thomas Goodwin  
 William K. Hayes  
 David A. Hessinger  
 W. William Hughes  
 Michal A. Kirby  
 Kevin E. Nick  
 John F. Stout

The Biology Program leading to the Master of Science and Doctor of Philosophy degrees is offered by the Department of Earth and Biological Sciences in the School of Science and Technology. 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 systematics, ecological physiology, behavioral ecology, conservation biology, marine biology, and paleontology.

## Objectives

The Biology Program strives to:

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

## BIOLOGY—M.S.

### Learning outcomes

- Develop advanced breadth and depth of biological knowledge.
- Plan and carry out independent research.
- Develop publication-quality writing and oral communication skills.
- Analyze and synthesize previous knowledge.
- Develop a professional aptitude and attitude.
- Develop critical evaluation skill and in relating faith and science and public-interest issues.

### Student financial aid

Research and teaching assistantships are available from the Department of Earth and Biological Sciences 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 Institute of Health.

### General requirements

For additional information about requirements and practices to which all graduate students are subject, the student should consult Section II of this CATALOG, and general information pertinent to the School of Science and Technology.

### Admissions

The successful applicant must meet the general admission requirements of the School of Science and Technology. Expected undergraduate preparation includes a bachelor's degree with a biology major or equivalent from an accredited college or university, including the corequisite courses listed below.

### Undergraduate corequisites

- Precalculus (required)
- Calculus (recommended)
- Statistics
- General chemistry (one year)
- Organic chemistry (one year)
- Biochemistry (recommended)
- General physics (one year)

**20 units from two or more of:**

- Organic chemistry
- Biochemistry
- General physics
- Geology

Some of these courses may be taken during residence at this University, with the approval of the admissions committee.

**Seminar attendance requirements**

All graduate students in residence must register for and attend seminar each quarter at LLU.

**Research proposal**

A written research proposal and oral defense of the student's proposed research should be completed by the end of the third quarter of study. Questions will typically focus on the student's research area but may expand to other areas, as appropriate. Students are urged to select a research project with a primary faculty member from the department.

**Advancement to candidacy**

Students may apply for advancement to candidacy after:

- Completing all deficiencies and corequisites
- Selecting a research committee
- Completing an approved written research proposal
- Passing the oral defense of the research proposal
- Being recommended by the program faculty (should be completed by the end of the third quarter of study).
- Completing and submitting Form C

**Registration and tuition after normative time**

Students who are past the normative time for completing their degree must register for two units without a tuition waiver each quarter until they complete their degree. After their normative time, students may request a one-year grace period that must be approved by the department faculty.

**Thesis**

The written thesis must demonstrate the completion of significant, original research and must be written in publishable paper format.

**Defense of thesis**

An oral presentation and defense of the thesis, including final oral examination on the student's field of study, are required.

**BIOLOGY—PH.D.****Biology Ph.D. learning outcomes**

- Develop advanced breadth and depth of biological knowledge.
- Plan and carry out independent research.
- Develop publication-quality writing and oral communication skills.
- Analyze and synthesize previous knowledge.
- Develop a professional aptitude and attitude.
- Develop critical evaluation skills in relating faith and science and public-interest issues.

**Admission**

The successful applicant must meet the general admission requirements of the School of Science and Technology. Undergraduate preparation should include a bachelor's degree in biology (M.S. recommended).

**Undergraduate corequisites**

- Statistics
- Precalculus (required)
- Calculus (recommended)
- General physics (one year)
- General chemistry (one year)
- Organic chemistry (one year)
- Biochemistry (recommended)

**Seminar attendance requirements**

All graduate students in residence must register for and attend seminar each quarter at Loma Linda University.

**Recommended**

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

**Research proposal**

A written research proposal and oral defense of the student's proposed research should be completed by the end of the third quarter of study. Questions will typically focus on the student's research area but may expand to other areas, as appropriate.

**Comprehensive examination**

Oral and written comprehensive examinations are given near completion of the formal course work. The purpose is to measure the student's knowledge of his/her field of study and his/her ability to find, understand, and synthesize the research literature on a topic. The written examination consists of preparing a publishable review or concept paper on a topic selected and evaluated by the student's committee.

Subsequent to the written examination, the oral examination covers the student's field of study.

#### Advancement to candidacy

Students may apply for advancement to candidacy after:

- Completing all deficiencies and corequisites
- Passing the comprehensive examinations
- Selecting a research committee
- Completing an approved written research proposal
- Being recommended by the department faculty

#### Registration and tuition after normative time

Students who are past the normative time for completing their degree must register for two units without a tuition waiver each quarter until they complete their degree. After their normative time, students may request a one-year grace period that must be approved by the department faculty.

#### Dissertation

The written dissertation must demonstrate the completion of significant, original research; and must be written in publishable paper format.

#### Defense of dissertation

An oral dissertation presentation and defense are required.

Required		M.S.	Ph.D.
BIOL 545	Genetics and Speciation	4.0	4.0
BIOL 558	Philosophy of Science and Origins	4.0	4.0
BIOL 607	Seminar in Biology	1.0	1.0
BIOL 616	Research and Experimental Design	2.0	2.0
BIOL 617	Proposal Writing and Grantsmanship	2.0	2.0
Totals		13.0	13.0

#### Choose course(s) from each of the following areas:

		M.S.	Ph.D.
BCHM 504	Introduction to Biochemistry GS (5.0)	3.0-4.0	6.0-8.0
BCHM 508	Principles of Biochemistry (6.0)		
BCHM 534	Techniques of Biochemistry (2.0)		
BIOL 517	Ecological Physiology (4.0)		
BIOL 538	Behavior Genetics (4.0)		
BIOL 547	Molecular Biosystematics (4.0)		
BIOL 548	Molecular Ecology (4.0)		
MICR 540	Physiology and Molecular Genetics of Microbes (3.0)		
MICR 570	Mechanisms of Microbial Pathogenesis (3.0)		
BIOL 505	Marine Biology (4.0)	3.0-4.0	6.0-8.0
BIOL 515	Biogeography (3.0)		
BIOL 524	Paleobotany (4.0)		
BIOL 525	Paleopalynology (4.0)		
BIOL 539	Behavioral Ecology (4.0)		
BIOL 546	Techniques in Vertebrate Ecology (3.0)		
BIOL 549	Biodiversity and Conservation (3.0)		

BIOL 504	Biology of Marine Invertebrates (4.0)	Organismal biology	3.0-4.0	6.0-8.0
BIOL 509	Mammalogy (4.0)			
BIOL 534	Invertebrate Paleontology (4.0)			
BIOL 537	Advances in Sociobiology (3.0)			
BIOL 539	Behavioral Ecology (4.0)			
BIOL 544	Vertebrate Paleontology (4.0)			
GEOL 524	Paleobotany (4.0)			
GEOL 545	Taphonomy (4.0) (3.0)			
Totals			9.0-12.0	18.0-24.0

**Seminars**

		M.S.	Ph.D.
BIOL 607	Seminar in Biology	1.0	1.0
Totals		1.0	1.0

**Religion**

		M.S.	Ph.D.
REL_ 5__	Graduate-level Religion	3.0	
RELE 5__	Graduate-level Ethics		3.0
RELR 5__	Graduate-level Relational		3.0
RELT 5__	Graduate-level Theological		3.0
Totals		3.0	9.0

**Electives**

Additional courses required by the student's guidance committee to complete a \ the total units required for the degree

		M.S.	Ph.D.
BIOL ___	Biology	—	—
Totals		—	—

**Research**

4 units minimum; will be graded each quarter and can be repeated for additional credit

		M.S.	Ph.D.
BIOL 698	Thesis Research (1.0-8.0)	4.0	
BIOL 699	Dissertation Research (1.0-8.0)		4.0
Totals		4.0	4.0
<b>Overall Totals</b>		<b>48.0</b>	<b>72.0</b>

A course title followed by a number in parentheses indicates a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses is the unit value of the course. The number in the column is the total units required for the degree program.

**Rosario Beach summer courses**

In cooperation with the Walla Walla University Marine Station in Anacortes, Washington, facilities are available for marine courses and research by students of this program.

		Changes in 2008-2010 WWU Bulletin
BIOL 458	Marine Biology	
BIOL 460	Marine Ecology	
BIOL 462	Ichthyology	
BIOL 463	Marine Phycology	Name changed from Marine Botany
BIOL 468	Comparative Physiology	Course number change
BIOL 475	Marine Invertebrates	Course number change
BIOL 516	Behavior of Marine Organisms	Course number change

Each course is 5 units.

# Case Management—ST

## (PB certificate)

BEVERLY J. BUCKLES, Program Director

### FACULTY

(See M.S.W.)

Offered by the School of Science and Technology's Department of Social Work and Social Ecology, the 27-unit curriculum of the Case Management 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.

### Admission requirements

To be accepted into the Case Management Program, applicants must:

1. Have a bachelor's degree from an accredited university or college. (Official transcripts are evidence of degrees and courses completed.)
2. Have a cumulative grade-point average of 2.7 or above (on a 4.0 scale). (Special consideration may be given to applicants with grade-point averages as low as 2.5 if the last part of their college work shows significant improvement. The additional admissions criterion of documented work experience will be required of applicants with a G.P.A. less than 2.7).
3. Show evidence of personal qualifications and motivation to complete the Case Management 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 School of Science and Technology's Department of Social Work and Social Ecology 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.

These criteria provide evidence that the applicant can complete the certificate and meet program and professional standards. They also provide assurance that students from diverse backgrounds begin the program with equivalent preparation. Final decisions are based on a composite score of all of the above items.

Because courses taken in the Case Management 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).

NOTE: Prerequisites may be met through individual courses or combinations of courses. Applicants have the opportunity to participate in the review of prerequisites to assure that unique features of their education are appreciated.

Applicants are notified in the acceptance letter from the dean of the School of Science and Technology if prerequisite requirements have not been met.

Required		Units
RELE 522	Bioethical Issues in Social Work	4.0
SOWK 511	Human Behavior and Cross-cultural Environment I	3.0
SOWK 512	Human Behavior and Cross-cultural Environment II	3.0
SOWK 517	Foundation Practice I: Individuals	3.0
SOWK 518	Foundation Practice II: Groups	3.0
STCJ 515	Researching and Writing Graduate Level Papers	2.0
Totals		18.0

Electives		Units
SOWK 515	Social Policy I (3)	Choose 9 units
SOWK 519	Foundation Practice III: Organizations and Communities (3)	
SOWK 520	Foundation Practice IV: Families (3)	
SOWK 615	Social Policy II (3)	
SOWK 660	Advanced Theory and Practice with Ethnically Diverse Clients (3)	
SOWK 661	Time-Limited Services and Interventions (3)	
SOWK 671	Foundation Practice V: Social Work Administration (3)	
SOWK 682	Legal and Ethical Aspects in Health and Mental Health Services (3)	
Totals		9.0
<b>Overall Totals</b>		<b>27.0</b>

# Child Life Specialist—ST

## (PB certificate; M.S.)

MICHELLE MINYARD-WIDMANN, Program  
Director

### FACULTY

Jennifer Andrews  
Ian P. Chand  
Curtis Fox  
Barbara Hernandez  
Douglas Huenergardt  
Carmen Knudson-Martin  
Michelle Minyard-Widmann  
Mary Moline  
Cheryl Simpson  
Randall Walker  
Colwick Wilson

A complete list of program instructors can be viewed online at <[www.llu.edu/science-technology/grad/mfam/index.page](http://www.llu.edu/science-technology/grad/mfam/index.page)>.

### DEPARTMENT

The Child Life Specialist programs are housed in the Department of Counseling and Family Sciences, along with counseling, family studies and doctoral programs in family studies, and marital and family therapy.

### Mission statement

Loma Linda University's mission of whole-person health care guides the faculty in working collaboratively with the purpose of transforming lives through education, research, clinical training, and community service. Students are invited to join with faculty and staff in supporting the University's values of compassion, integrity, excellence, freedom, justice, purity, and humility. These attributes are depicted by the Good Samaritan statue centrally located on the campus, which contrasts human indifference and ethnic pride with empathy and service. Amid the rich cultural heritage of this academic community, degrees offered in the Department of Counseling and Family Sciences are the foundation upon which to develop new and more nurturing ways of being with others.

### Accreditation

Loma Linda University's academic programs are accredited by the Western Association of Schools and Colleges (WASC).

### THE CHILD LIFE PROFESSION

Child life specialists are experts in the field of child development. They promote effective coping through play, preparation, education, and self-expression activities. Child life specialists provide emotional support for families, and encourage optimum development of children facing a broad range of

challenging experiences—particularly those related to health care and hospitalization. Understanding that a child's well-being depends on the support of the family, child life specialists provide information, support, and guidance to parents, siblings, and other family members. They also play a vital role in educating caregivers, administrators, and the general public about the needs of children under stress (Child Life Council <[www.childlife.org](http://www.childlife.org)>).

### THE PROGRAM

#### Certification for the child life profession

Through the Child Life Council, the Certified Child Life Specialist (CCLS) credential was developed to increase the proficiency of child life professionals by identifying a body of knowledge, uniform and improved standards of practice, and ethical conduct while enhancing the status and credibility of the profession. The requirements for certification are based on academic and internship experience and successful completion of an examination process (Child Life Council <[www.childlife.org](http://www.childlife.org)>).

#### Learning outcomes

Upon graduation, students will:

- Demonstrate the ability to represent and communicate child life practice and psychosocial issues of infants, children, youth and families
- Be knowledgeable of child development and family systems theory
- Demonstrate the ability to work collaboratively in diverse settings
- Be eligible to obtain the certified child life specialist (CCLS) credential administered by the Child Life Council

#### Professional experience

Students will participate in supervised clinical training at Loma Linda University Children's Hospital and various hospitals located in California. A 100-hour practicum and 500-hour internship is required to complete the master's degree or certificate. This experience will provide an opportunity to help students build on course work and put theory into practice.

#### Admission requirements

Applicants must meet the School of Science and Technology admission requirements as outlined in the Loma Linda University CATALOG and give evidence of academic ability, emotional stability, and maturity. Those who meet these requirements as well as the published deadlines for any of the following



terms may enroll during Fall, Winter, Spring, or Summer quarters.

Additional admission requirements include:

- Bachelor's degree from a regionally accredited college or university
- Minimum grade-point average 3.0 (on a 4.0 scale) in bachelor's course work for at least the final 45 units prior to graduation
- Health clearance
- A background check (required before matriculation to the program)
- Official transcripts of all college or university credits
- Three letters of recommendation as specified
- Written statement of purpose for applying to the program
- Interview with department faculty as scheduled (on-campus group interviews are scheduled for late March and mid-May; other on-campus and phone interviews are scheduled individually)
- If English is not the applicant's first language, 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)
- If the applicant is not a citizen or permanent resident of the U.S., a valid student visa

**Postadmission process**

After admission into the Child Life Specialist Program, certificate or M.S. degree, all students will take a critical-essay examination to help determine whether or not a 3-unit graduate-level writing course will be required. This determination will be made at the end of the first quarter of course work.

**Financial assistance**

Students accepted into the certificate or M.S. degree 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. Students may apply for financial aid by writing to:

Student Financial Aid Office  
 Student Services  
 Loma Linda University  
 Loma Linda, CA 92350  
 909/558-4509

**CERTIFICATE IN CHILD LIFE SPECIALIST**

The Department of Counseling and Family Sciences offers high-quality academic education and clinical training leading to a certificate in the Child Life Specialist Program. This certificate will prepare individuals to provide child life services in a health care setting.

**M.S. IN CHILD LIFE SPECIALIST**

The Department of Counseling and Family Sciences offers high-quality academic education and clinical training leading to a master's degree in the Child Life Specialist Program. This degree prepares individuals to provide child life services in a health care setting.

**Certificates**

The Department of Counseling and Family Sciences offers certificate programs that can be combined with master's or doctoral degrees offered in the department to broaden a student's counseling skills and marketability. Students wishing to add specializations in the following areas must formally apply and be accepted into the desired certificate program(s). Prior to application, the student is advised to consult with the program coordinator.

- Child Life Specialist Certificate
- Clinical Mediation Certificate
- Drug and Alcohol Counseling Certificate
- Family Counseling Certificate
- Family Life Education Certificate
- School Counseling Certificate: California Pupil Personnel Services Credential (PPS)—Open to Counseling and MFT students only

**Required**

		<b>Certificate</b>	<b>M.S.</b>
CHLS 504	Child Life Administration and Program Development	3.0	3.0
CHLS 506	Child Life Specialist: Educational and Therapeutic Intervention	3.0	3.0
CHLS 507A	Aspects of Illness and Disease	3.0	3.0
CHLS 507B	Aspects of Illness and Disease	3.0	3.0

CHLS 508	Grief and Loss	3.0	3.0
CHLS 604	Child Life Internship and Supervision I	3.0	3.0
CHLS 605	Child Life Internship and Supervision II	3.0	3.0
CHLS 606	Parenting Medically Fragile Children	3.0	3.0
CHLS 607	Child Life Professional	3.0	3.0
COUN 576	Exceptional and Medically Challenged Children	3.0	3.0
FMST 514	Cross-cultural Counseling and Family Values		2.0
MFAM 501	Research Tools and Methodology: Quantitative		3.0
MFAM 515	Crisis Intervention Counseling		3.0
MFAM 516	Play Therapy		2.0
MFAM 547	Social Ecology of Individual and Family Development		3.0
MFAM 553	Family Systems Theory		3.0
MFAM 568	Groups: Process, and Practice		3.0
MFAM 584	Advanced Child and Adolescent Problems	3.0	3.0
MFAM 644	Child Abuse and Family Violence		3.0
RELR 587	Religion and the Social Sciences	3.0	3.0
		Totals	36.0
		<b>Overall Totals</b>	<b>58.0</b>

# Clinical Mediation—ST

## (PB certificate)

IAN P. CHAND, Program Director

### FACULTY

Jennifer Andrews  
 Ian P. Chand  
 Curtis Fox  
 Barbara Hernandez  
 Douglas Huenergardt  
 Carmen Knudson-Martin  
 Michelle Minyard-Widmann  
 Mary Moline  
 Cheryl Simpson  
 Randall Walker  
 Colwick Wilson

A complete list of program instructors can be viewed online at <[www.llu.edu/science-technology/grad/mfam/index.page](http://www.llu.edu/science-technology/grad/mfam/index.page)>.

### DEPARTMENT

The Clinical Mediation Program is housed in the Department of Counseling and Family Sciences. The department also offers two doctoral degree programs in marital and family therapy; and one doctoral degree program in family studies; and four master's degree programs—M.A. in family studies and M.S. in counseling, child life, and marital and family therapy.

### PROGRAM

The Clinical Mediation Program is designed to provide professional training in the mediation process involving courts, families, and work environments. This training leads toward becoming a practitioner member in the Association for Conflict Resolution. This program is especially designed for counselors, 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 27 quarter units and 150 clock hours of supervised clinical experience.

### Admission requirements

Applicants must meet the School of Science and Technology admission requirements outlined in this CATALOG 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., or Ph.D. degree programs in marital and family therapy; or an independent certificate. The following are admission requirements:

- A bachelor's (B.A. or B.S.) degree from an accredited university
- Minimum G.P.A. of 3.0 in undergraduate degree
- Formal interview with department faculty
- Three letters of recommendation (two letters if already admitted into the department)
- Fulfill the requirements for admission for their respective degrees in order to pursue the track in clinical mediation
- If English is not the student's first language, 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)
- A background check (required before matriculation to the program)

### CURRICULUM

To complete the certificate, students must successfully complete 27 quarter units. It is possible to complete the academic and clinical requirements for the certificate program in one year. In addition, students are required to complete 150 hours of internship at an approved clinical site.

### Required

		Units
FMST 528	Parenting	2.0
MFAM 515	Crisis Intervention Counseling	3.0
MFAM 538	Theory and Practice of Conflict Resolution	2.0
MFAM 544	Family and Divorce Mediation	4.0
MFAM 553	Family Systems Theory	3.0
MFAM 585	Internship in Family Mediation	4.0
MFAM 644	Child Abuse and Family Violence	3.0

MFAM 614	Law and Ethics (3)	Choose one course	3.0
MFTH 527	Advanced Legal and Ethical Issues (3)		
Totals			24.0

**Religion**

Units

RELR 5__	Graduate-level Relational		
RELR 564	Religion, Marriage, and the Family (3)		
Totals			3.0
<b>Overall Totals</b>			<b>27.0</b>

# Counseling—ST

## (M.S.) Meets requirements for California Pupil Personnel Services (PPS) Credential in School Counseling

CHERYL SIMPSON, Program Director

### FACULTY

Jennifer Andrews  
 Ian P. Chand  
 Brian Distelberg  
 Curtis Fox  
 Barbara Hernandez  
 Douglas Huenergardt  
 Carmen Knudson-Martin  
 Michelle Minyard-Widmann  
 Mary Moline  
 Cheryl Simpson  
 Randall Walker  
 Colwick Wilson

### DEPARTMENT

The Counseling Program is housed in the Department of Counseling and Family Sciences along with other master's degree programs in child life, family studies, and marital and family therapy; as well as doctoral degree programs in family studies and marital and family therapy.

### Mission statement

The Counseling Program is congruent with Loma Linda University's vision of transforming lives through whole person health care; and the program supports University's values of compassion, integrity, excellence, freedom, justice, purity, and humility. These attributes are depicted by the Good Samaritan statue centrally located on the campus that contrasts human indifference and ethnic pride with empathy and service. The mission of the Counseling Program is to bring health, healing, wholeness, and hope to individuals, families, and communities through education, research, clinical training, community service, and global outreach.

### THE COUNSELING PROFESSION

Professional counseling emerged a century ago as communities of multigenerational families were transformed through war, urbanization, industrialization, immigration, compulsory education, increasing career choices, and other societal changes that brought about the need for mental health services. Throughout the United States, counseling has developed into a highly interdisciplinary, relational profession in the social sciences, which includes such specialty areas as mental health counseling, rehabilitation counseling, developmental counseling, pastoral counseling,

family counseling, career counseling, school counseling, sports and wellness counseling, addictions counseling, clinical mediation, residence hall deans' counseling, and student personnel services on high school and college campuses.

### M.S. IN COUNSELING

The multidisciplinary master's degree Counseling Program is designed to prepare counselors with a broad background in mental health counseling and school counseling. The program's high-quality academic and clinical standards support a variety of career options. Additional counseling specializations can be combined with this master's degree by completing certificate programs that are described in greater detail below.

### Accreditation

Loma Linda University's academic programs are accredited by the Western Association of Schools and Colleges (WASC). The Pupil Personnel Services (PPS) Credential program, which are embedded in the Counseling Program, is accredited by the California Commission on Teacher Credentialing (CTC). Additional PPS information can be obtained by going to the CTC Web site at <[www.ctc.ca.gov](http://www.ctc.ca.gov)>.

### Credential, license, and certificates

#### Credential

A California credential authorizes an individual to work for a specific institution, such as a public school. The Pupil Personnel Services Credential (PPS) in School Counseling is required for work as a salaried, certificated counselor in California public schools. Requirements include a master's degree in counseling or a related field, fitness clearance, and a passing score on all sections of the California Basic Educational Skills Test (CBEST). The PPS credential requirements are currently embedded in the M.S. Counseling degree program and offered as a certificate option in the M.S. Marital and Family Therapy degree program.

#### License

A California license authorizes an individual to establish an independent business. In the case of counseling, this would provide opportunity to set up an independent or private practice. Legislation proposing licensure for counselors in the state of California is currently moving through the legislature, and approval is expected to be complete in 2009. The title of this license will be Licensed Professional Clinical Counselor (LPCC). In anticipation of legislative approval, the Department of Counseling and Family Sciences is preparing to diversify the M.S. Counseling degree in 2010 by offering two tracks: 1) a track for individuals seeking to become Licensed Professional Clinical Counselors

and 2) a track (already in place) which prepares candidates to become credentialed as a school counselor. A common core of courses will be the foundation for these tracks which may be taken separately or efficiently combined to include preparation for both the LPCC and the PPS. Start date for the licensure track is tentative and will be determined by the timing of legislative approval.

### Certificates

The Department of Counseling and Family Sciences offers certificate programs that can be combined with the master's degrees offered in the Counseling Program—as well as with other master's and doctoral degrees offered in the department—to broaden a student's counseling skills and marketability. Students wishing to add specializations in the following areas must formally apply and be accepted into the desired certificate program (s). Prior to application, the student is advised to consult the program director.

- Child Life Specialist Certificate
- Clinical Mediation Certificate
- Drug and Alcohol Counseling Certificate
- Family Counseling Certificate
- Family Life Education Certificate
- School Counseling Certificate: California Pupil Personnel Services Credential in School Counseling (PPS)

### Professional experience

In addition to successful completion of 74 quarter credits of academic course work, students in the Counseling Program complete field experience in clinical and/or school settings. Each student is required to complete 100 clock hours of University-supervised practicum prior to placement in counseling field experience. Following practicum, students are required to complete 600 clock hours of counseling field experience in a minimum of two different settings, serving at least two different age groups. While enrolled in COUN 680 Field Experience in Counseling, students meet regularly for university supervision in COUN 681 Counseling Seminar, as scheduled.

### ADMISSION REQUIREMENTS

Applicants to the Counseling Program must meet the School of Science and Technology admission requirements as outlined in the Loma Linda University CATALOG and give evidence of academic ability, emotional stability, and personal maturity. Applicants who meet these requirements, as well as the published deadlines for the following terms, may be admitted during Fall, Winter, Spring, or Summer quarters. Additional admission requirements include:

- Bachelor's degree from a regionally accredited college or university

- Minimum grade-point average 3.0 (on a 4.0 scale) in bachelor's course work for at least the final 45 units prior to graduation
- Health clearance
- A background check (required before matriculation to the program)
- Official transcripts of all college or university credits
- Three letters of recommendation as specified
- Written personal statement that addresses career objectives, personal interest in the counseling profession, rationale for choosing to attend Loma Linda University, how life experiences have influenced applicant's choice to enter the field, and additional thoughts the applicant deems important
- If English is not the student's first language, a minimum score for the Test of English as a Foreign Language (TOEFL) of 213 on the computer administration of the test or a score of 550 for the pencil/paper administration
- If the applicant is not a citizen or permanent resident of the U.S., a valid student visa
- Interview with department faculty as scheduled (on-campus group interviews are scheduled for mid-March and mid-May; other on-campus and phone interviews are scheduled individually)

### POSTADMISSION PROCESS

After admission into the Counseling Program, all students will take a critical-essay examination to help determine whether or not a 3-unit graduate-level writing course will be required. This determination will be made at the end of the first quarter of course work.

### DEGREE REQUIREMENTS

Requirements for the M.S. in counseling include the following:

- Residence of at least two academic years
- A minimum of 74 quarter units of graduate work, which includes credit received for core courses, electives, and a 3-unit religion course
- Certificate of Clearance prior to field experience
- Field experience in counseling, which includes prefield experience practicum; 600 clock hours of COUN 680 Field Experience, as specified in curriculum; and University

supervision through COUN 681 Counseling Seminar, as scheduled

- Successful completion of a written comprehensive examination (taken before advancement to candidacy) and an exit interview (prior to program completion)
- Background check passed prior to matriculation
- If taken for elective credit, foreign language courses numbered 400 or higher

### FINANCIAL ASSISTANCE

Students accepted into the Counseling Program may receive financial assistance through merit-based awards, teaching assistantships, research and student service assistantships, or need-based financial aid, such as a loan or the University's work/study program. Students may apply for financial aid by writing to:

Student Financial Aid Office  
Student Services  
Loma Linda University  
Loma Linda, CA 92350  
909/558-4509

### LEARNING OUTCOMES

Counseling students will:

1. Integrate counseling concepts and skills with a personal epistemology
2. Demonstrate counseling interventions based upon a broad range of theoretical and legal/ethical frameworks through comprehensive written examination

3. Develop identity as a counselor through membership and participation in professional organizations
4. Satisfactorily complete 600 clock hours of supervised practicum in counseling
5. Meet all University qualifications for the California Pupil Personnel Services (PPS) Credential in school counseling which is issued by the California Commission on Teacher Credentialing (CTC).

### CURRICULUM

The curriculum for the M.S. degree in counseling is divided into three domains, as described below.

#### Domain I: Educational Foundations and Beliefs

Includes courses in learning theory, educational psychology, sociocultural competence, and research.

#### Domain II: Theory and Cognitive Competence

Challenges candidates with a variety of theoretical constructs from which to develop an approach to counseling that is compatible with their own belief systems and personhood. Students are expected to learn how to deconstruct theories and create a foundation upon which to build their professional skills and relationships.

#### Domain III: Counseling Competence and Service

Integrates the first two curriculum domains with clinical education and experience that emphasizes relational skill building, counseling practice, supervision, professional leadership, and altruism.

#### Domain I: Educational foundations and beliefs

Units

COUN 501	Research Tools and Methodology: Quantitative	3.0
COUN 502	Research Tools and Methodology: Qualitative	3.0
COUN 545	Gender Perspectives	2.0
COUN 547	Social Ecology of Individual and Family Development	3.0
COUN 574	Psychological Foundations of Education	4.0
MFAM 535	Case Presentation and Professional Studies	4.0
RELR 564	Religion, Marriage, and the Family	3.0
Totals		22.0

#### Domain II: Theory and cognitive competence

Units

COUN 556	Psychopathology and Diagnostic Procedures	3.0
COUN 568	Groups: Process and Practice	3.0
COUN 575	Counseling Theory and Applications	3.0

COUN 576	Exceptional and Medically Challenged Children	3.0
COUN 577	Assessment in Counseling	3.0
COUN 584	Advanced Child and Adolescent Development	3.0
COUN 674	Human Sexual Behavior	3.0
Totals		21.0

**Domain III: Counseling competence and service**

Units

COUN 514	Cross-cultural Counseling and Family Values	2.0
COUN 515	Crisis-Intervention Counseling	3.0
COUN 578	College and Career Counseling	3.0
COUN 614	Law and Ethics	3.0
COUN 624	Individual and Systems Assessment	3.0
COUN 638	Family Therapy and Chemical Abuse	3.0
COUN 644	Child Abuse and Family Violence	3.0
COUN 678	Consultation and Leadership	3.0
COUN 679	School Counseling: History and Practice	3.0
COUN 681	Counseling Seminar (1.0)	Minimum registration requirement is five quarters
Totals		31.0

**Field experience**

Field units not counted toward academic total units required for the degree

Units

COUN 680	Field Experience in Counseling (3.0-18.0)	18 units = 600 hours	18.0
Totals			—

**Electives (optional)**

Units

FMST 524	Family Resource Management (2)		—
FMST 528	Parenting (2)		
FMST 529	Family Life Education (3)		
MFAM 516	Play Therapy (2)		
MFAM 538	Theory and Practice of Conflict Resolution (2)		
MFAM 539	Solution-Focused Family Therapy (2)		
MFAM 548	Men and Families (2)		
MFAM 549	Christian Counseling and Family Therapy (2)		
MFAM 551	Family Therapy: Foundational Theories and Practice (3)		



MFAM 553	Family Systems Theory (3)		
MFAM 566	Psychopathology and Diagnostic Procedures: Personality (2)		
MFAM 605	Gestalt Family Therapy (2)		
Totals			—
<b>Overall Totals</b>			<b>74.0</b>

Course titles followed by a number in parentheses, indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses

is the unit value of the course. The number in the column is the total units required for the degree program.

# Criminal Justice—ST

(M.S.)

FROYLANA HEREDIA-MILLER, Program Director

## FACULTY

A complete list of all part-time and voluntary faculty can be viewed on the department Web site.

Crime disrupts personal and community relationships, endangers public health and safety, and threatens the moral contours of everyday social life. Loma Linda University's mission "To make man whole" provides a powerful and much-needed context in which criminal justice can be addressed on the basis of healing and restoration. The principles of restorative justice elevate the dimensions of justice that promote the acceptance of responsibility, promote the fulfillment of obligations, embrace reconciliation, and culminate in the restoration of personal and social relationships.

This multidisciplinary approach to deviance and the administration of justice takes into consideration the social, physical, and spiritual well-being of victims, offenders, and communities provides a deeper understanding of crime and the struggle of the modern criminal justice system.

## CRIMINAL JUSTICE—M.S.

### Mission

The mission of the Master of Criminal Justice Program is to prepare students to think critically and analytically about the problems of crime and social control in contemporary society.

### Program objectives

Students will demonstrate:

- The ability to integrate and utilize knowledge of social science and criminological theory in the application to problems of criminal justice.
- An understanding of the dimensions and causes of crime and delinquency.
- An understanding of the structure of the American criminal justice system.
- An understanding of the ethical principles that guide the concepts of justice and fairness within professional criminal justice practice.
- The ability to use empirically-based research to analyze and critically evaluate practice and criminal justice policy in order to effect system change.

- An understanding of diverse people and cultures as these interact with the criminal justice.
- An understanding of the differences between retributive and restorative justice approaches in addressing the effects of crime.

### Program description

All students must complete 48 quarter units of course work. There are 26 units of foundation content required for all students, followed by 12 units in one of two concentrations:

**Policy and administration**—Students opting for the policy, planning, and administration concentration gain knowledge and skills in the public administration, planning, and coordination of governmentally operated criminal and/or juvenile justice systems. Students acquire an appreciation for working with community entities to develop, coordinate, and evaluate these systems in response to community needs. In addition, students develop an understanding of the policy-planning process and the role that criminal or juvenile justice planning councils perform in consensually revising or creating policies aimed at increasing the efficiency and effectiveness of criminal and juvenile justice systems.

**Forensic mental health**—Forensic mental health is a specialized branch of professional practice in which the clinical and criminal justice worlds overlap. Students choosing this area focus on the needs of individuals in the criminal or juvenile justice systems who have serious emotional disorders and/or severe mental illness, and may also present with co-occurring substance abuse. Students gain knowledge and skills in treatment programming within a forensic mental health framework. In addition, this context prepares students to assess and provide expert testimony regarding continued institutionalization versus readiness for outpatient psychosocial rehabilitation, including the development and implementation of assertive community treatment plans.

Both concentrations emphasize a thoughtful reflection about issues in criminal justice that will provide students with a deeper understanding of the logic influencing policy, administration, and practice issues affecting the field.

### PREREQUISITE

This degree program builds on a broad liberal arts (general education) foundation. Consistent with this view, the program assesses the liberal arts foundation of students applying for the M.S. degree in criminal justice.

A balance of course work in three liberal arts areas:

Humanities (e.g., history, philosophy, literature, art, music, etc.)	20.0-24.0
English and Communication Skills (e.g., oral and written communication media, etc.)	9.0-13.0
Natural and Social Sciences (e.g., mathematics, human biology, physiology, psychology, sociology, anthropology, human development, ethnic studies, economics, political science or government, etc.)	24.0-32.0

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 criminal justice classes.

**Please note:** All prerequisite requirements must be completed before advancement to candidacy (prior to beginning the advanced curriculum).

Unit values represent a quarter system of measurement. Content from multiple courses may be used to meet most requirements.

### Admission requirements

This program follows the admission requirements of the School of Science and Technology, including:

1. The applicant must demonstrate satisfactory performance on the Graduate Record Examination (GRE). For admission with regular status, satisfactory performance is defined as a minimum combined verbal and quantitative score of 1000, and an analytical writing score of 4.0. Students submitting lower scores may be considered for provisional status.

OR

The applicant must demonstrate satisfactory performance on a critical-essay examination (CEE) administered by the Department of Social Work and Social Ecology under the guidance of the School of Science and Technology. For admission with regular status, satisfactory performance for the CEE is defined as a minimum pass rate of 75 percent.

2. Applicants must demonstrate satisfactory adherence with the minimum academic and professional compatibility criteria established by the program, which includes:
  - a. A cumulative grade-point average of 3.0 or above (on a 4.0 scale) (special consideration may be given to applicants with grade-point averages as low as 2.75 if the last part of their college work shows significant improvement).
  - b. 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 structured interview includes:

- verbal communication skills
  - critical-thinking ability
  - values congruent with the criminal justice profession
  - appreciation of human diversity
  - evidence of reflective learning
  - comportment
3. Submission of 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, preferred).

### Curriculum

The 48-unit curriculum for the M.S. degree in criminal justice provides the mix of academic, experiential, and research activities essential for M.S. degree students.

Students must maintain a grade-point average of 3.0 (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. According to University policy, a student cannot repeat more than two courses during his/her graduate program. Students are financially responsible for the cost of repeating courses when grades do not meet these minimum standards.

### General overview

The 48-quarter unit program begins with 26 units of core course work required for all students. Course work during the first year of study is divided into three professional areas of study, which include: criminal justice; religion, ethics, and social research methods. At the end of the first year, students select their concentration area of policy, planning, and administration or forensic mental health—each

requiring 6 units of course work, plus 6 units of concentration-specific selectives.

To complete the program, the student has two options:

1. Nonthesis: Professional practica (540 hours of integrated practicum and seminar), 1 unit of practica orientation, and 9 units of didactic selectives; OR
2. Thesis: 6 units of academic thesis and 4 units of didactic selectives.

<b>Major</b>		Units
CRMJ 515	Crime and Society	3.0
CRMJ 517	Criminal Procedure and Rules of Evidence	3.0
CRMJ 520	Restorative Justice	3.0
CRMJ 574	Criminological Theory	4.0
SOWK 682	Legal and Ethical Aspects in Health and Mental Health Services	3.0
<b>Totals</b>		<b>16.0</b>

<b>Religion, philosophy, and ethics</b>		Units
REL_ 5__	Graduate-level Religion (4) <i>An approved 4-unit course within subject area, in consultation with advisor</i>	Choose one course
RELE 524	Christian Bioethics (4)	
<b>Totals</b>		<b>4.0</b>

<b>Social research methods</b>		Units
SOWK 547	Research Methods I	3.0
SOWK 549	Research Methods II	3.0
<b>Totals</b>		<b>6.0</b>

<b>CONCENTRATION - Policy, planning, and administration</b>		Units
Only one concentration required		
PUAD 678	Public Administration Management (3)	Concentration selectives - choose 6 units
SOWK 494	Conflict Resolution and Dispute Mediation (2)	
SOWK 673	Program Planning and Evaluation (3)	
SOWK 676A	Human Resources Planning and Development (3)	
SOWK 676B	Human Resources Planning and Development Seminar (3)	
SOWK 681	Health and Mental Health Policy and Services (2)	
SOWK 683	Advanced Policy Analysis (3)	
SPOL 665	Information Technologies and Decision Science (4)	
<b>Totals</b>		<b>6.0</b>

CRMJ 630	Criminal Justice Planning and Administration	Required	3.0
SOWK 672	Theories of Organizations and Systems	Required	3.0
Totals			6.0

**CONCENTRATION - Forensic mental health**

Only one concentration required

Units

MFAM 644	Child Abuse and Family Violence (3)	Concentration selectives - choose 6 units	6.0
PSYC 685	Drug Addiction and Therapy (2)		
PSYC 686	Child, Partner, and Elder Abuse (2)		
SOWK 494	Conflict Resolution and Dispute Mediation (2)		
SOWK 648	Co-occurring Diagnosis: Substance Abuse with Mental Illness (2)		
SOWK 659	Interventions with Persons with Severe Mental Illness (2)		
SOWK 681	Health and Mental Health Policy and Services (2)		
CRMJ 620	Forensic Mental Health	Required	3.0
SOWK 663	Advanced Social Work Practice with Individuals	Required	3.0
Totals			12.0

**General selectives**

Other courses may be approved for elective credits in consultation with the faculty advisor and in accordance with University policies for academic variances

Units

CRMJ 518	Legal Discourse (2)		4.0
CRMJ 519	Moot Court (2)		
CRMJ 599	Directed Study / Special Project (1)		
CRMJ 640	Forensic Evidence (3)		
GLBH 548	Violence and Terrorism Issues (3)		
GLBH 550	Women in Development (3)		
HADM 510	Health Policy Analysis and Synthesis (3)		
HPRO 548	Community and Domestic Violence (3)		
SOWK 659	Interventions with Persons with Severe Mental Illness (2)		
SPOL 615	Economic Theory and Social Policy (4)		
Totals			4.0

<b>Other</b>		Units
SOWK 697	Applied Research	2.0
SOWK 698	Thesis (2.0)	4.0
		Totals 6.0
		<b>Overall Totals</b> —

# Drug and Alcohol Counseling—ST

## (PB certificate)

RANDALL WALKER, Program Director

### FACULTY

Jennifer Andrews  
 Ian P. Chand  
 Curtis Fox  
 Barbara Hernandez  
 Douglas Huenergardt  
 Carmen Knudson-Martin  
 Michelle Minyard-Widmann  
 Mary Moline  
 Cheryl Simpson  
 Randall Walker  
 Colwick Wilson

A complete list of program instructors can be viewed online at <[www.llu.edu/science-technology/grad/mfam/index.page](http://www.llu.edu/science-technology/grad/mfam/index.page)>.

## CERTIFICATE IN DRUG AND ALCOHOL

The Drug and Alcohol Counseling Program certificate is offered by the School of Science and Technology through the Department of Counseling and Family Sciences.

### Objectives

The objectives of the Drug and Alcohol Counseling Program certificate are to:

- Prepare master's degree and doctoral level professionals to effectively counsel substance abusing and addicted adults and their families.
- Offer curriculum and experience for master's and doctoral level professionals that meet the requirements for certification by national certification organizations.
- Integrate certificate requirements into the existing marital and family therapy curriculum.
- Allow hours of experience to be accrued concurrently to meet the Board of Behavioral Examiners (BBS), the American Association for Marriage and Family Therapy (AAMFT), and other certifying organization requirements.

### Admission

Applicants must meet the School of Science and Technology admission requirements outlined in this CATALOG and give evidence of academic ability, emotional stability, and maturity.

The certificate program is open to currently enrolled marital and family therapy students or other master's degree-level students or graduates. Students in the marital and family therapy program must first complete the current core marital and family therapy curriculum. Applicants will be screened for appropriateness to complete the certificate program and for ability to work with addicted adults and their families. Additional admission requirements include:

- A paper stating how the applicant will integrate the substance abuse certificate into work as a marriage and family therapist or other clinical professional, and how the applicant will contribute to the addiction treatment field and professional field by completing the certificate.
- Two letters of reference.
- A panel interview composed of faculty and student(s) currently enrolled in the certificate program may be required.
- A critical-essay examination after acceptance into the program (examination results to be used at the end of the Fall Quarter by the program director to determine if the writing course will be required).

### Certificate examinations

Course work is developed to help students 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).

### Field work

Students will complete three quarters of fieldwork in an approved site dealing with addiction, alcoholics/addicts, and their families. Fieldwork provides excellent opportunities to gain experience working with substance abusers and their families. Students 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. 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 Recovery Services (IVRS, Roberta Reid) in Upland offers opportunities for students to work with substance abusers and their families in residential and outpatient treatment settings. 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 students to gain experience. In addition, there are numerous other programs offering substance abuse services in San Bernardino and Riverside counties. In addition, with program coordinator approval,

students may be able to work in additional settings where services are not directly targeted toward substance abusers but where it is determined that addiction may be a significant focus of clinical attention.

<b>Required</b>		<b>Units</b>
MFAM 515	Crisis Intervention Counseling	3.0
MFAM 524	Psychopharmacology and Medical Issues	3.0
MFAM 638	Family Therapy and Chemical Abuse	3.0
MFAM 644	Child Abuse and Family Violence	3.0
MFAM 645	Advanced Substance Abuse-Treatment Strategies	3.0
MFAM 635	Case Presentation Seminar (2)	Required: MFAM 635-637 or MFAM 694
MFAM 636	Case Presentation Seminar (2)	
MFAM 637	Case Presentation Seminar (2)	
MFAM 694	Directed Study: Marriage and Family (6)	
<b>Totals</b>		<b>21.0</b>

<b>Religion</b>		<b>Units</b>
REL_5__	Graduate-level Religion (3)	Choose one course
<b>Totals</b>		<b>3.0</b>

<b>Electives</b>		<b>Units</b>
MFAM ____	Marital and Family (3)	3.0
<b>Totals</b>		<b>3.0</b>
<b>Overall Totals</b>		<b>27.0</b>



# Earth Science—ST

## (Ph.D.)

H. PAUL BUCHHEIM, Program Director

### FACULTY

Stanley M. Awramik  
 Leonard R. Brand  
 Doug Britton  
 H. Paul Buchheim  
 Ronald L. Carter  
 Benjamin Clausen  
 Stephen G. Dunbar  
 Raul Esperante  
 H. Thomas Goodwin  
 V. Leroy Leggitt  
 Ronald Nalin  
 Kevin E. Nick  
 Samuel Soret

The specific research and academic interests and strengths of the faculty are in:

- vertebrate paleontology, taphonomy, philosophy of science
- sedimentology, limnogeology, paleoenvironments
- biostratigraphy, terrestrial paleoecology
- tropical marine and intertidal ecology and marine invertebrate ecophysiology, comparative physiology
- animal behavior and distribution
- paleomagnetism and sedimentology geographic information analysis and technology
- igneous petrology, nuclear physics, and geophysics
- hydrogeology and environmental geology
- vertebrate paleontology and biogeography

### PH.D. IN EARTH SCIENCE

The School of Science and Technology's Department of Earth and Biological Sciences offers the program leading to a Doctor of Philosophy degree in earth science. Emphasis is on research and courses in geology, paleontology, and paleobiology that prepare the student to understand the history of the earth and life, its geological context, and the science involved in deciphering this history. Students are encouraged to think independently and to consider various approaches to understanding earth history. Areas of curricular strength and research emphases include sedimentary and environmental geology, paleontology, paleoenvironmental reconstruction,

paleoecology, taphonomy, and earth systems science. Research in paleontology can also be pursued through the Master of Science degree program in geology and the Doctor of Philosophy degree in biology.

### Objectives

The School of Science and Technology's Earth Science 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 earth scientists can attain their highest potential in scholarship, research, and teaching.
3. Challenge graduate students to consider the relationship between science, faith, and societal responsibility.

### Learning outcomes

1. Obtain advanced breadth and depth of knowledge in earth science.
2. Be able to plan and carry out independent research.
3. Develop publication-quality writing and oral communication skills.
4. Analyze and synthesize previous knowledge.
5. Develop a professional aptitude and attitude.
6. Develop critical-evaluation skills in relating faith and science and public in relating faith and science and public-interest issues.

### Student financial aid

Research and teaching assistantships are available from the Department of Earth and Biological Sciences 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 additional information about requirements and practices to which all graduate students are subject, the student should consult Section II of this CATALOG, as well as general information pertinent to the School of Science and Technology.

### Admissions

The successful applicant must meet the general admission requirements of the University and the School of Science and Technology, as outlined in

Sections II and III of this CATALOG. Expected undergraduate preparation includes physical geology, mineralogy, sedimentology, stratigraphy, igneous and metamorphic petrology, structural geology, geological field mapping, two quarters of college mathematics, including calculus and one year each of general biology, general physics, and general chemistry. Some of these courses may be taken during residence at Loma Linda University, with approval of the admissions committee.

**Curriculum**

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

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:

Major		Units
GEOL 547	Advanced Historical Geology	4.0
GEOL 556	Paleoenvironments	4.0
GEOL 558	Philosophy of Science and Origins	4.0
GEOL 565	Analysis of Sedimentary Rocks	4.0
GEOL 566	Sedimentary Processes	4.0
GEOL 567	Stratigraphy and Basin Analysis	4.0
GEOL 616	Research and Experimental Design	2.0
GEOL 617	Proposal Writing and Grantsmanship	2.0
GEOL 607	Seminar in Geology (4)	1 unit each quarter in residence 4.0
Totals		32.0

During the undergraduate or graduate program		Units
STAT 509	General Statistics (4)	Choose one course 3.0-4.0
STAT 525	Applied Multivariate Analysis (3)	
GEOL 431	Geochemistry	Required 4.0
ENVH 521	Cartography and Map Design (2)	Choose one GIS course 2.0-3.0
ENVH 522	Principles of Geographic Information Systems and Science	
ENVH 524	GIS Software Applications and Methods (3)	
ENVH 535	Integration of Geospatial Data in GIS (2)	
ENVH 536	Spatial Analytic Techniques and GIS (3)	Choose two paleontology courses 7.0-8.0
GEOL 524	Paleobotany (4)	
GEOL 525	Paleopalynology (4)	
GEOL 534	Invertebrate Paleontology (4)	
GEOL 544	Vertebrate Paleontology (4)	
GEOL 545	Taphonomy (3)	
Totals		16.0-19.0

Religion		Units
RELE 5__	Graduate-level Ethics	3.0

RELR 5__	Graduate-level Relational	3.0
RELT 5__	Graduate-level Theological	3.0
Totals		9.0

**Electives**

Additional courses required by the student's guidance committee to complete total required units Units

___ __	Elective	—
Totals		—

**Research**

4 units minimum; will be graded each quarter and can be repeated for additional credit Units

GEOL 699	Dissertation Research (1.0-8.0)	4.0
Totals		4.0
<b>Overall Totals</b>		<b>120.0</b>

**Seminar attendance requirements**

All graduate students in residence must register for and attend seminars each quarter at Loma Linda University.

**Research proposal**

A written research proposal and oral defense of the student's proposed research should be completed by the end of the third quarter of study. Questions will typically focus on the student's research area but may expand to other areas, as appropriate. Students are urged to select a research project with a primary faculty member from the department.

**Advancement to candidacy**

Students may apply for advancement to candidacy after:

1. Completing all deficiencies and corequisites
2. Selecting a research committee
3. Completing an approved written research proposal
4. Passing the oral defense of the research proposal
5. Being recommended by the program faculty (should be completed by the end of the third quarter of study).
6. Completing and submitting Form C

**Registration and tuition after normative time**

Students who are past the normative time for completing their degree must register for two units without a tuition waiver each quarter until they complete their degree. After their normative time, students may request a one-year grace period that must be approved by the department faculty.

**Dissertation**

The written thesis must demonstrate the completion of significant, original research and must be written in publishable paper format.

**Defense of dissertation**

An oral presentation and defense of the thesis, including final oral examination on the student's field of study, are required.

**Recommended**

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

**Comprehensive examination**

Oral and written comprehensive examinations are given near completion of the formal course work. The purpose is to measure the student's knowledge of his/her field of study and his/her ability to find, understand, and synthesize the research literature on a topic. The written examination consists of preparing a publishable review or concept paper on a topic selected and evaluated by the student's committee. Subsequent to the written examination, the oral examination covers the student's field of study.

**Varied course offerings**

In addition to the primary offerings of the department, with committee approval the student may take courses in other departments as part of the graduate work, according to special interests and needs.

**Rosario Beach summer courses**

In cooperation with the Walla Walla University Marine Station in Anacortes, Washington, facilities are available for marine courses and research by students of this program.

# Environmental Sciences—ST

## (B.S.)

RICARDO A. ESCOBAR III, Program Director

### FACULTY

Leonard R. Brand  
 Doug Britton  
 H. Paul Buchheim  
 Ronald L. Carter  
 Benjamin L. Clausen  
 Stephen G. Dunbar  
 Ricardo A. Escobar, III  
 Raul Esperante  
 Robert Ford  
 William K. Hayes  
 W. William Hughes  
 V. Leroy Leggitt  
 Kevin E. Nick  
 Samuel Soret  
 Seth Wiafe

The growing understanding of the relationship between human activities and Earth's degrading environment has made it essential to train students in becoming capable problem solvers on issues such as climate change, conservation, biodiversity, groundwater and soil contamination, use of natural resources, waste management, sustainable development, air pollution, and noise pollution.

The Department of Earth and Biological Sciences in the School of Science and Technology offers a program leading to a Bachelor of Science degree in environmental sciences (ENVS). This program builds upon a strong interdisciplinary breadth in natural, physical, and earth system (atmosphere, biosphere, geosphere, and hydrosphere) sciences to understand and resolve current environmental problems. In addition, since understanding the environment has become highly dependent on advanced technology, students will learn to use marketable geospatial applications such as geographic information systems (GIS), remote sensing (RS), computer systems modeling (CSM), and global positioning systems (GPS). Students have a choice of advanced expertise in one of the following concentration areas: conservation biology and biodiversity, environmental geology, or health geographics. Also, students will be able to put knowledge and skills acquired in our program to use in local or global environmental internship programs. Lastly, this program will encourage students to develop critical-thinking skills, healthy lifestyles, and service-oriented attitudes that are necessary to develop effective and ethical solutions to environmental problems on a local and global scale.

### Objectives

1. Identify, measure, and predict local-to-global natural and human activities that degrade the environment, and the consequences of these activities on biodiversity and sustainability of health conditions for living beings
2. Build environmental problem solvers by training them to use modern modeling and visualization tools, and to show how they have been used to work out "real-world" environmental management problems
3. Guide students to sharpen their oral and written communication skills to effectively present scientific findings to their peers, policy makers, and the public at-large in ways that contribute to "attainable solutions"
4. Allow students to participate in competitive paid internship programs that will integrate environmental concepts, skill sets, and the career pathways preferred by students
5. Prepare qualified students who will enjoy ethical, successful and rewarding careers in a wide variety of environmental fields, or who will pursue higher education in professional programs and/or graduate school

### Learning outcomes

1. Demonstrate breadth and depth of knowledge of earth's environment by understanding the dynamic and interdependent nature of each of earth's component systems (atmosphere, hydrosphere, biosphere, and geosphere).
2. Understand environmental problems and how to combat these problems.
3. Develop written, analytical, and oral skills with the integration of technology in communication.
4. Analyze and synthesize previous knowledge.
5. Develop a professional aptitude and attitude.
6. Develop critical-evaluation skills in relating faith and science and public interest issues.

### Admission requirements

A student in the Environmental Sciences Program will take the first two years of general education and science courses at any accredited community college or university, and the last two years of the curriculum at this University. There are two options for entering the program. Students may elect to complete all the prerequisite course work (95-99 quarter units) in an accredited college setting of their choice, and finish their junior and senior years in the School of Science

and Technology (SST). Or, students desiring to obtain early entrance to the program may do so if they complete a minimum of 75 quarter units (50 semester units) at a community college of their choice and then begin course work at this University while concurrently taking course work at a nearby community college in order to complete their outstanding prerequisite requirements. Admission requirements for the program are a 2.5 G.P.A. during the first two years of course work and letters of recommendation from two faculty members at institutions previously attended.

#### **Seminar attendance requirements**

All students must register for and attend seminars each quarter while at Loma Linda University.

#### **Employment opportunities**

Career options in the field of environmental sciences are diverse and abundant. The Environmental Sciences Program prepares students for entry-level jobs in environmental sciences or GIS fields.

Graduates may pursue jobs in the public sector through local, state, and federal agencies such as U.S. Fish and Wildlife Service, U.S. Geological Survey, and Department of Fish and Game. In the private sector, graduates may seek jobs in environmental consulting firms, foundations, and organizations. Some examples of career paths that environmental science graduates pursue include environmental engineering, science and social policy, and a wide variety of natural resources management fields such as soil science, forestry, agriculture, watershed science, range management, wildlife conservation, recreation resources, land management, and ecology; landscape architecture, conservation science, geographic information science (GIS), climatology, diverse health sciences; as well as public policy, law, or planning careers.

Environmental scientists may also become involved through employment or volunteering with nonprofit organizations such as Adventist Development and Relief Agency (ADRA) International and help world populations learn how to use the earth's resources to their advantage in a sustainable manner.

Because of the strong foundation in the natural and physical sciences acquired in the Environmental Sciences Program, students have the option of applying to a variety of graduate programs, as well as to medical, dental, and engineering programs.

#### **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 environmental sciences major. The student should consult the undergraduate program director for further information. General elective units can be used for education courses.

#### **Environmental internship**

The Environmental Sciences Program offers student the opportunity to engage in "hands-on" application of fundamentals learned in course work by enrolling in ENV5 487. With the supervision of a faculty advisor, students will develop an academic component of the internship and will be permitted to earn up to 8 units of general elective credit towards the B.S. degree. All internship appointments are subject to ENV5 program director approval.

#### **Undergraduate research**

Following approval of an academic advisor and research professor, students interested in field research may gain training and experience in one of the three concentration areas offered by the program. Under supervision of a research professor, students will develop a project within the context of environmental conservation, health, or sustainability in an effort to find new solutions to environmental problems.

#### **Honors program**

Students who have a G.P.A. of 3.0 or above, a sponsoring faculty member, and an approved research proposal may apply to be accepted in the environmental sciences honors program. The honors student must register for at least 2 units of undergraduate research, conduct original research under a faculty member's direction, submit a written thesis, and give a public oral presentation.

#### **Financial aid**

Scholarships and discounts for earth and biological science undergraduate students in the Department of Earth and Biological Sciences include:

### **ACADEMIC SCHOLARSHIPS**

- Scholarships based on American College Test results: ACT score of 30 or above, \$3,000 (or 16 percent of tuition). For a student who maintains a cumulative G.P.A. of at least 3.5, the scholarship is renewable for successive years.
  - Scholastic Aptitude Test (SAT):
    - National Merit Finalist, 100 percent of tuition
    - National Merit Semifinalist, 34 percent of tuition
    - National Merit Commended, 20 percent of tuition.

For a student who maintains a 3.5 cumulative G.P.A., the scholarship is renewable for successive years. If a student qualifies for both an ACT and an SAT scholarship, the scholarship with the highest dollar value will apply.

- Renewable G.P.A. scholarships (eligibility based on G.P.A. at the end of previous academic year)
  - G.P.A. between 3.75 and 4.00, \$3,000 per year (or 16 percent of tuition)
  - G.P.A. between 3.50 and 3.74, \$2,500 per year (or 13 percent of tuition)
  - G.P.A. between 3.25 and 3.49, \$1,700 per year (or 9 percent of tuition)

If a student is eligible for a National Merit Scholarship and/or an ACT scholarship and a G.P.A. scholarship, the one scholarship with the highest dollar value will apply.

## OTHER SCHOLARSHIPS

**Loma Linda University Department of Earth and Biological Sciences (EBS) Faculty Scholarship**  
Scholarships of 10-to-30 percent of tuition can be awarded by the EBS faculty to students with financial need and/or strong promise for future professional contribution. If awardees also qualify for other scholarships listed above, the scholarship with the highest dollar value will apply.

### **Minority Achievement Scholarship, \$2,800 (or 15 percent of tuition), renewable**

This scholarship for underrepresented students will be based primarily on scholastic achievement and promise, and secondarily on financial need.

### **Summer Ministries Leadership Scholarships**

These scholarships are available to students who work at an Adventist summer camp, in summer youth ministry, or in literature evangelism during the summer and then attend this University in the academic year immediately following such service. Loma Linda University will match 50 percent of all money earned in such work that is applied to the student's tuition.

### **Student Missions/Task Force Scholarships**

Student Missions/Task Force Scholarships, based on the amount of time served, are available to qualified students who attend this University the year following their term of service.

## DISCOUNTS

### **Family discount**

An immediate family with two dependent students attending Loma Linda University at the same time will receive a tuition-only discount of \$400 (or 2 percent of tuition) per student, per quarter; with three or more students, the discount is \$560 (or 3 percent of tuition) per student, per quarter.

### **Guidelines**

- The combined total of all scholarships and/or discounts cannot exceed costs for tuition.

- Scholarships and discounts, which are available to full-time students only, will be applied as a credit to the student's tuition account at the rate of one-third of the total per quarter.
- Loss of scholarship money may result when a student does not maintain the minimum cumulative G.P.A. required by the particular scholarship.
- The last day of final tests for the first quarter that a student is enrolled at this University is the deadline for verifying with Student Financial Services that the student qualifies for a scholarship for the academic year.
- The scholarships and discounts listed above apply only to students enrolled in undergraduate programs in the Department of Earth and Biological Sciences.
- Determination of the amount of scholarships and awards at Loma Linda University is influenced by FAFSA data. State and federal grants, as well as other grants and subsidies, will be applied before Loma Linda University scholarships and discounts; therefore, some students may be eligible to receive only a portion of their scholarship award.

## ENVIRONMENTAL SCIENCES— BACHELOR OF SCIENCE

**Freshman and sophomore year courses**  
DOMAIN 1: RELIGION AND HUMANITIES  
(20 quarter/14 semester units minimum)

**Humanities**  
(12 quarter/8 semester units minimum)

- Language (Spanish preferred)—4 quarter/3 semester units
- Remaining units must be chosen from the following areas: fine arts (art history and music history), history, literature, philosophy, performing/visual arts (not to exceed 4 quarter units)

### **Religion**

An applicant who has attended an Adventist college or university is required to have taken 4 quarter units of religion from an Adventist institution for each year of attendance at an Adventist college or university. Up to 8 quarter units may apply towards the 20 units needed in Domain 1. If the applicant has not attended an Adventist institution, no religion units are required. In either case, however, the applicant must have completed 20 quarter/14 semester units in Domain 1: Humanities and Religion.

**DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS**  
(24-32 quarter units)

**Natural Sciences**  
(12 units minimum)

- College algebra
- Calculus (4 quarter /3 semester)
- General biology with laboratory, complete sequence
- General chemistry with laboratory (complete sequence)
- Organic chemistry with laboratory (complete sequence recommended)
- General physics with laboratory, complete sequence
- Environmental science/ecology, one course (depending on the nature of the course, environmental science may not fulfill natural science units.)
- Elective chosen from one of the following areas: chemistry, geology, mathematics, physics, and statistics.

**Social Sciences**  
(12 units minimum)

- One course dealing with human diversity (e.g., cultural anthropology)

- Choose remaining units from the following areas: geography, economics, political science, psychology, sociology, etc.)

**DOMAIN 3: COMMUNICATION**  
(9-13 quarter units)

- English composition, complete sequence
- Elective areas may include courses in computer information systems, critical thinking, and public speaking.

**DOMAIN 4: HEALTH AND WELLNESS**  
(2 -6 quarter units)

- Two activity courses in physical education
- Personal health or nutrition

**DOMAIN 5: ELECTIVES**

Electives from the previous four domains may be selected to complete the general education minimum requirements of 68 quarter units.

A minimum of 111 units must be completed to meet the total degree requirement of 192 quarter units. No more than 105 quarter /70 semester units may be transferred from a community college.

Please note: Grades of C- and below are not accepted for credit.

**Major**

Units

ENVH 414	Introduction to Environmental Health	3.0
ENVH 422	Principles of Geographic Information Systems	4.0
ENVH 424	Desktop GIS Software Applications	4.0
ENVH 434	Advanced GIS Software Applications	3.0
ENVS 401	Earth System Science and Global Change I	4.0
ENVS 402	Earth System Science and Global Change II	4.0
ENVS 455	Environmental Law and Regulation	4.0
ENVS 485	Seminar in Environmental Sciences (1.0)	6.0
GEOL 475	Philosophy of Science and Origins	4.0
<b>Totals</b>		<b>36.0</b>

**CONCENTRATION - Environmental geology**

One concentration required

Units

GEOL 316	Mineralogy (4)	Choose 6 units	1.0
GEOL 416	Sedimentology and Stratigraphy (6)		
GEOL 424	Structural Geology (4)		
GEOL 443	Historical Geology (4)		
GEOL 456	Field Methods of Geologic Mapping (4)		

GEOL 204	Physical Geology	4.0
GEOL 431	Geochemistry	4.0
GEOL 464	Environmental Geology	3.0
GEOL 465	Hydrogeology	4.0
Totals		16.0

**CONCENTRATION - Health geographics**

One concentration required

Units

ENVH 423	Practical Issues in GIS (4)	Choose 6 units	6.0
ENVH 437	GIS in Public Health (2)		
STAT 417	Biomedical Data Management I (4)		
STAT 464	Survey and Advanced Research Methods (4)		
ENVH 421	Cartography and Map Design	3.0	
ENVH 435	Sources, Capture, and Integration of GIS Data	3.0	
ENVH 436	Spatial Analysis with GIS	4.0	
Totals		16.0	

**Religion**

Choose at least one course from each prefix

Units

RELE 4__	Upper Division Ethics	—	
RELR 4__	Upper Division Relational	—	
RELT 406	Adventist Beliefs and Life (2 to 3)	One course required	2.0
RELT 423	Loma Linda Perspectives (-2 to 3)		
RELT 436	Adventist Heritage and Health (-2 to 3)		
RELT 437	Current Issues in Adventism (-2 to 3)		
Totals		8.0	

**Required environmental sciences electives**

Selected from the Environmental Sciences concentration areas

Units

GEOL ___	Geology	10.0
Totals		10.0

**General electives**

Any undergraduate courses taught at Loma Linda University or other regionally accredited college

Units

___ __	Elective	11.0
Totals		11.0
<b>Overall Totals</b>		<b>97.0</b>



# Family Counseling—ST

## (PB certificate)

MARY E. MOLINE, Program Director

### FACULTY

Jennifer Andrews  
 Ian P. Chand  
 Curtis Fox  
 Barbara Hernandez  
 Douglas Huenergardt  
 Carmen Knudson-Martin  
 Michelle Minyard-Widmann  
 Cheryl Simpson  
 Randall Walker  
 Colwick Wilson

A complete list of program instructors can be viewed online at <[www.llu.edu/science-technology/grad/mfam/index.page](http://www.llu.edu/science-technology/grad/mfam/index.page)>.

### DEPARTMENT

The Family Counseling Program is housed in the Department of Counseling and Family Sciences, along with master's degree programs in child life, counseling, family studies, marital and family therapy; as well as doctoral programs in family studies and marital and family therapy.

### Mission statement

The Family Life Program is consistent with Loma Linda University's vision of transforming lives through whole-person health care. The mission of the program is to bring health, healing, wholeness, and hope to individuals, families, and communities through education, research, clinical training, and community service. The Family Life Program accomplishes this by addressing relational needs and concerns of individuals and families over the life course in the contexts of communities and global society.

### DEGREE: CERTIFICATE IN FAMILY COUNSELING

The certificate in family life sciences is offered by the School of Science and Technology through the Marital and Family Therapy Program and 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 students acquire theoretical and systemic knowledge about relationships, families, and children; as well as develop practical skills applicable to both 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, counselors, EAP counselors, social workers, school counselors, childcare workers, drug counselors, lawyers, and others in related 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.

The Family Counseling Program is offered on campus, and off campus in Canada.

### Admission

Applicants to the certificate program must meet the School of Science and Technology admission requirements and must have a bachelor's degree from an accredited university or college. (Official transcripts are evidence of degrees and courses completed.)

Students must have a cumulative grade-point average of 2.7 or above (on a 4.0 scale). Special consideration may be given to students with grade-point averages as low as 2.5 if the last part of their college work shows significant improvement. In addition, applicants must provide evidence of emotional stability, academic ability, and maturity.

### Certificate requirements

To earn the certificate, students must successfully complete 27 quarter units, including 19 core units and 8 units of electives. It is possible to complete the certificate in two academic quarters. No clinical experience is required, but students may use their electives to become exposed to clinical modalities. This certificate does not assist the student in applying for or obtaining a clinical license.

### Learning outcomes

1. Students will demonstrate awareness of contextual issues in the field of marital and family therapy,
2. Students will gain an understanding of how to apply their knowledge of contextual issues to their field of study / work.

<b>Required</b>		Units
MFAM 515	Crisis Intervention Counseling	3.0
MFAM 535	Case Presentation and Professional Studies	4.0
MFAM 551	Family Therapy: Foundational Theories and Practice	3.0
MFAM 553	Family Systems Theory	3.0
MFAM 644	Child Abuse and Family Violence	3.0
Totals		16.0

<b>Electives</b>		Units
As approved by advisor		
MFAM ____	Marital and Family	8.0
Totals		8.0

<b>Religion</b>		Units
RELR 5__	Graduate-level Relational (3)	Choose one course
RELR 564	Religion, Marriage, and the Family (3)	
Totals		3.0
<b>Overall Totals</b>		<b>27.0</b>

# Family Life Education—ST

## (PB certificate)

CURTIS A. FOX, Program Director

### FACULTY

Jennifer Andrews  
 Ian P. Chand  
 Barbara Hernandez  
 Douglas Huenergardt  
 Carmen Knudson-Martin  
 Michelle Minyard-Widmann  
 Mary Moline  
 Cheryl Simpson  
 Randall Walker  
 Colwick Wilson

A complete list of program instructors can be viewed online at <[www.llu.edu/science-technology/grad/mfam/index.page](http://www.llu.edu/science-technology/grad/mfam/index.page)>.

### DEPARTMENT

In addition to the certificate program in family life education, the M.A. and Ph.D. degree programs in family studies are housed in the Department of Counseling and Family Sciences. This department also offers other graduate programs in child life (M.S.), counseling (M.S.), and marital and family therapy (M.S., Ph.D., and D.M.F.T.); as well as a number of graduate certificate programs are offered both for degree and for nondegree students.

### CERTIFICATE IN FAMILY LIFE EDUCATION

The certificate in family life education is designed for persons who wish to have basic knowledge and skills in the delivery of family services using a family life education methodology instead of, or in addition to, a therapeutic methodology. This program is often sought by persons who do not wish to pursue a master's degree in family studies or a related field, but who wish to have academic qualifications to practice in that field. Students are provided with an understanding of the structure and functioning of the family as a social institution from a systems perspective and with the delivery skills required in a teaching format.

Historically, this certificate has been pursued by persons who are established professionals in their field who wish to have some academic emphasis in the area of family life education. Teachers, nurses, marital and family therapists, and pastors are examples of such persons.

The Family Life Education Program meets the course requirements of the National Council on Family Relations for certified family life educator (CFLE). More information on becoming certified by the

National Council on Family Relations can be found on the organization's official Web site at <[www.ncfr.org](http://www.ncfr.org)>.

### Admission

Applicants to the certificate program must meet the School of Science and Technology admission requirements. In addition to evidence of emotional stability and maturity, the following requirements must be met:

- Completed Loma Linda University application
- Four-year baccalaureate degree (B.A or B.S. or equivalent) from an accredited college or university with a 3.0 G.P.A.
- Official transcripts of scholastic record showing appropriate preparation, in grades and content
- Personal interviews with two of the program faculty
- If English is not the student's first language, 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)
- If the student is not a citizen or permanent resident of the U.S., presentation of a valid student visa

### Learning objectives

1. Students will meet professional standards in basic content areas for certification in family life education.
2. Students will know the difference between family life education and therapy and will be able to deliver services using family life education methodologies.
3. Students will establish ethical guidelines for the practice of family life education and will maintain professional identity as a family life educator.

### CURRICULUM

The curriculum is composed of 27 quarter units and may be completed in one year (attending full time), or extended over several years of part-time studies. The program is structured to accommodate part-time and nontraditional students.

<b>Required</b>		<b>Units</b>
FMST 514	Cross-cultural Counseling and Family Values	2.0
FMST 515	Professional Issues in Family-Life Education	3.0
FMST 524	Family Resource Management	2.0
FMST 528	Parenting	2.0
FMST 529	Family Life Education	3.0
FMST 614	Family Communication	3.0
MFAM 547	Social Ecology of Individual and Family Development	3.0
MFAM 553	Family Systems Theory	3.0
MFAM 674	Human Sexual Behavior	3.0
RELR 564	Religion, Marriage, and the Family	3.0
		Totals
		<b>Overall Totals</b>
		27.0
		27.0

# Family Studies—ST

(M.A., Ph.D.)

CURTIS A. FOX, Program Director

## FACULTY

Jennifer Andrews  
 Ian P. Chand  
 Curtis Fox  
 Barbara Hernandez  
 Douglas Huenergardt  
 Carmen Knudson-Martin  
 Michelle Minyard-Widmann  
 Mary Moline  
 Cheryl Simpson  
 Randall Walker  
 Colwick Wilson

A complete list of program instructors can be viewed online at <http://www.llu.edu/science-technology/grad/mfam/index.page>.

## DEPARTMENT

The M.A. and Ph.D. in Family Studies programs are housed in the Department of Counseling and Family Sciences. Two additional doctoral programs in marital and family therapy are offered in the department; however, these degrees are clinical degrees, whereas the family studies degree is nonclinical. The department also offers programs in child life (M.S.), counseling (M.S.), and marital and family therapy (M.S., Ph.D., and D.M.F.T.); as well as a number of graduate certificate programs both for degree and well as nondegree students.

### Mission statement

With its emphasis on whole-person care, Loma Linda University acknowledges the interrelationship of all aspects of human life and is committed to a concern for the mental, physical, social, and spiritual dimensions of all. The life of the University is shaped by its seven core values: compassion, integrity, excellence, freedom, justice, purity, and humility. The Department of Counseling and Family Sciences supports the mission of the University and seeks to reach out with care and compassion to individuals and families from all communities to facilitate greater wholeness on the journey of life.

### The discipline

Family Studies refers to the academic study of marriage and family living and focuses on the whole body of research on the social institution of the family. The family is studied from the perspectives of psychology, sociology, anthropology, biology, history, politics, religion, and law. This field of study is often associated with acquiring knowledge and skills to understand families better and to be better able to serve these families, thus promoting greater

stability and well-being. The Ph.D. degree is the highest level of academic preparation in the field.

### Certificates

The Department of Counseling and Family Sciences offers certificate programs that can be combined with master's or doctoral degrees offered in the department to broaden a student's counseling skills and marketability. Students wishing to add specializations in the following areas must formally apply and be accepted into the desired certificate program(s). Prior to application, the student is advised to consult with the program coordinator.

- Child Life Specialist Certificate
- Clinical Mediation Certificate
- Drug and Alcohol Counseling Certificate
- Family Counseling Certificate
- Family Life Education Certificate
- School Counseling Certificate: California Pupil Personnel Services Credential (PPS)—open only to M.S. degree students in counseling and in marital and family therapy

### FINANCIAL AID

Students who are accepted into the program may apply for financial aid through the University's Student Financial Aid Office. In some cases when funds are available, students may qualify for graduate research or teaching assistantships. The Student Financial Aid Office may be contacted by mail or telephone at:

Student Financial Aid Office  
 Student Services  
 Loma Linda University  
 Loma Linda, CA 92350  
 909/558-4509

### M.A. IN FAMILY STUDIES

#### Career options

The M.A. degree program in family studies is designed to prepare students to work in applied settings, such as family services agencies, schools, churches, and other community-based programs; as well as in private practice using family life education methodology as the means of intervention for effecting changes in family rules, roles, and relationships. Students will acquire greater knowledge of individual development and family dynamics, increase their skills as a family life educator, and/or secure important knowledge and skill to augment their present career. The M.A. degree in family studies is often pursued by students who

are seeking graduate-level preparation for doctoral studies in the family sciences.

### **Degree approval and certification**

The M.A. degree in family studies meets the highest standards and quality in the field. This program supports the standard curriculum of the National Council on Family Relations (NCFR) and prepares graduates to become certified family life educators (CFLE). Graduation from the M.A. degree program guarantees quick processing of the application for this credential. Earning the CFLE credential is desirable since many agencies and educational institutions require this certification when considering potential employees. Further information on securing the CFLE designation may be found on the Web site of the National Council on Family Relations at <[www.ncfr.org](http://www.ncfr.org)>.

### **Professional training**

In addition to the courses of instruction required for the successful completion of the M.A. degree in family studies, there is a service-learning component that is important in shaping the student's learning and experience in the field. This component includes 100 hours of internship experience. This internship requires direct involvement in an organization for which the provision of services to families is at the forefront. The student is expected to engage in exercises such as program planning, service delivery, and/or evaluation of family life education programs. This experience is designed to create sensitivities to family needs, provide practical experience in family life programming, and enable students to have a competitive edge in the work world. Upon approval from the director of the program, this learning experience may be completed at two different sites.

### **M.A./Ph.D. degree option**

An M.A./Ph.D. degree option—essentially a combination of the two degree programs—in family studies is available. Application to this program may be made after the completion of a bachelor's degree (B.A. or B.S.) from an accredited institution. The student will complete 126 units of course work for this program. An M.A. degree will be awarded to the student after the successful completion of the basic department requirements. The program allows for the transfer of all courses from the M.A. degree that are required for the Ph.D. degree.

The student will not be required to take FMST 505, FMST 506, FMST 698, or RELR 564. These courses will be substituted by the doctoral-level courses in research methods (FMST 604, FMST 605), dissertation research (FMST 699), and religion (9 units).

Should a student fail to make satisfactory progress toward the doctoral degree requirements, s/he will be advised by the department faculty to complete the required courses for the M.A. degree if possible prior to termination from the Ph.D. degree program.

### **Admission requirements**

To apply for admission to the M.A. degree in family studies, the applicant must meet the admission requirements of the School of Science and Technology. The applicant must submit a completed application to the School of Science and Technology. In addition, s/he must show evidence of scholastic ability and emotional stability. If accepted, the student will begin his/her program in the Fall Quarter, but s/he may petition to begin at another quarter of the academic year.

Below is a list of additional admission requirements:

- Minimum grade-point average 3.0 (4.0 scale) in bachelor's degree course work for at least the final 45 units prior to graduation
- Health clearance
- A background check (required before matriculation to the program)
- Official transcripts on file
- Three letters of recommendation, as specified
- Statement of intent
- Interview with department faculty as scheduled (on-campus group interviews are scheduled for mid-March and mid-May; other on-campus and phone interviews are scheduled individually)
- If English is not the student's first language, a minimum score of 213 for the computer test and 550 for the paper-and-pencil test on the Test of English as a Foreign Language (TOEFL)
- If the student is not a citizen or permanent resident of the U.S., a valid student visa

### **Learning outcomes**

1. Students will develop and maintain professional identity as a graduate-level person in family studies.
2. Students will demonstrate critical skills in evaluating the current and ongoing issues and theories in the field of human development and family studies.
3. Students will be proficient in family service practice skills using family life-education methodologies.
4. Students will be conversant with legal and ethical issues as a family scientist in the areas of teaching, research, and service.
5. Students will have skills in research, program evaluation, and program development.
6. Students will have critical-thinking and writing skills appropriate to the field of family science.

### Curriculum

The curriculum for the M.A. degree in family studies includes 54 units of course work and may be completed in one-and-one-half to two years of full-time study. Students have up to five years to complete the degree. The program is structured to accommodate part-time and nontraditional students.

## PH.D. IN FAMILY STUDIES

### Family studies and career options

The Ph.D. degree program in family studies is designed to prepare highly skilled persons to work in academe as teachers and researchers and/or to work in applied settings—such as family services agencies, schools, churches, and other community-based programs—as well as in private practice settings as family life consultants or family life educators. Students are able to acquire sophisticated knowledge of individual and family development and increase their skills as a family life educator.

In addition to the opportunity to interact with state-of-the-art information on marital and family living, the Department of Counseling and Family Sciences offers individual attention because of a low student-to-teacher ratio, a collaborative research and learning environment, an opportunity to individualize the program of study, a choice of emphasis consistent with the student's career goals, and practical experience in areas of career interest.

### Goals of the Ph.D. degree in family studies

The Ph.D. degree in family studies at Loma Linda University represents the highest level of academic training for family scientists and provides a family systems approach to observing, understanding, and analyzing close relationships and families using the tools of family science. This nonclinical degree which is based on a scientist/professional model, aims to prepare academicians, researchers, service administrators, and providers in family services organizations.

The Ph.D. program will equip students with four major skills:

1. Acquisition, integration, and impartation of substantive and theoretical areas of human and family development;
2. Use of statistics and research methodologies to conduct empirical research on individuals, families, and other close relationships;
3. Use of strategies to build individual and family competence informed by family science scholarship;
4. Mastery of assessment and evaluation skills to measure treatment and program outcomes and effectiveness.

### Degree approval and certification

The Ph.D. degree program is the highest level of academic preparation in family studies. This program

meets the highest standards and quality in the field. It supports the standard curriculum of the National Council on Family Relations (NCFR) and prepares graduates to become certified family life educators (CFLE) by the National Council on Family Relations. Graduation from the Ph.D. degree program guarantees quick processing of the NCFR application for the certificate in family life education. Earning the CFLE credential is desirable since many agencies and educational institutions require this certification when considering potential employees. Further information on securing a CFLE designation may be found on the Web site of the National Council on Family Relations at <[www.ncfr.org](http://www.ncfr.org)>.

### Service learning

In addition to the courses of instruction required for the successful completion of the Ph.D. degree in family studies, there is a service-learning component that is very important in the student's professional formation in the field. This component of the program includes 300 hours of internship experience. This internship requires direct involvement in teaching, research, or the provision of family services through an organization that serves the needs of families. The internship is designed to provide learning experiences consistent with the student's career interests or goals. Teaching experiences are expected to be at the tertiary educational level in areas of family life or family services. A research internship will consist of active immersion in the research process, leading to the submission of at least one paper for publication. A family service internship may be activities such as program planning, service delivery, grant writing, program evaluation, and/or other related activities. This experience is designed to create sensitivities to family needs, provide practical experience in family life programming, and give students a competitive edge in the work world. Upon approval from the program director in the student's department, this learning experience may be completed at two different sites.

### Admission requirements

Admission to the Ph.D. degree program in family studies in the Department of Counseling and Family Sciences remains competitive. Each year, only a small number of applicants will be admitted to this program. If accepted, students are expected to begin his/her program in the Fall Quarter, but s/he may petition the department to begin at another quarter of the academic year. The requirements for admission include a completed application to the School of Science and Technology. In addition, each applicant must show evidence scholastic ability and emotional stability. Students will be considered for admission after the successful completion of a bachelor's or master's degree in any field. Below is a list of other admission requirements:

- Minimum G.P.A. of 3.3 in undergraduate degree or graduate degree
- Official academic transcripts

- Three letters of recommendation
- Competitive GRE scores
- Personal essay
- Formal interview with department faculty
- Successful completion of an undergraduate course in statistics
- Acceptable TOEFL score if English is the applicant's second language
- Background check (prior to matriculation)

The final decision for admission to the Ph.D. degree program is based on a comprehensive assessment of academic history (G.P.A.), GRE scores, performance at the interview, and letters of reference. The final decision on admission is made by the dean of the School of Science and Technology.

Students with a B.A. degree in family studies or a related field may also apply to the combined M.A./Ph.D. degree in family studies.

**Learning outcomes**

1. Students will have professional identity as a doctoral level family scientist.
2. Students will be grounded in the theoretical and philosophical foundations of the field of family science and be conversant with the ongoing development of family theories.
3. Students will be able to critique and evaluate the current and ongoing issues in the field of human development and family studies.

4. Students will be conversant with legal and ethical issues as a family scientist in the areas of teaching, research, and service.
5. Students will become adept in family service practice skills.
6. Students will contribute to the body of knowledge in family social science.
7. Students will have sophisticated knowledge and skills as researchers in the field of family science.

**Curriculum**

The curriculum for the Ph.D. degree in family studies includes 104 units of course work and may be completed in three-to-four years of full-time study post-master's. Students who do not have a solid grounding in family science will be offered a number of prerequisite courses necessary for building a foundation for later advanced courses.

**Concentrations**

All students in the doctoral program must declare a concentration, which will include 12 units of course work in a specific area that gives depth and breadth to their work and informs their future academic or career interest. Three concentrations are offered by the Department of Counseling and Family Sciences: family, systems, and health; school consultation; and systems consultation and professional relations. Students who wish to do another concentration may petition the department faculty through the program director for variance.

Major		M.A.	Ph.D.
FMST 514	Cross-cultural Counseling and Family Values	2.0	
FMST 515	Professional Issues in Family-Life Education	3.0	3.0
FMST 518	Advanced Theories in Child Development		3.0
FMST 524	Family Resource Management	2.0	2.0
FMST 526	Marriage and the Family	3.0	3.0
FMST 528	Parenting	2.0	2.0
FMST 529	Family Life Education	3.0	3.0
MFAM 515	Crisis Intervention Counseling	3.0	
MFAM 545	Gender Perspectives	2.0	
MFAM 547	Social Ecology of Individual and Family Development	3.0	
MFAM 553	Family Systems Theory	3.0	
MFAM 568	Groups: Process, and Practice	3.0	
MFAM 638	Family Therapy and Chemical Abuse	3.0	
MFAM 674	Human Sexual Behavior	3.0	



MFTH 505	Advanced Family Studies		4.0
MFTH 519	Teaching in Higher Education		2.0
MFTH 694	Doctoral Seminar (0.5)                      Register for 6 quarters		3.0
Totals		35.0	25.0

**Religion****M.A.****Ph.D.**

RELR 564	Religion, Marriage, and the Family	3.0	
RELE 5__	Graduate-level Ethics		3.0
RELR 535	Spirituality and Mental Health		3.0
RELT 615	Seminar in Philosophy of Religion		3.0
Totals		12.0	9.0

**Research****M.A.****Ph.D.**

FMST 505	Social Research Methods: Quantitative	3.0	
FMST 506	Advanced Social Research Methods	3.0	
FMST 668	Qualitative Research Practicum		2.0
FMST 698	Project or Thesis	3.0	
MFTH 601	Statistics I		4.0
MFTH 602	Statistics II		4.0
MFTH 603	Statistics III		4.0
MFTH 604	Advanced Qualitative Methods		4.0
MFTH 605	Advanced Quantitative Methods		4.0
MFTH 608	Analysis and Presentation Issues in Research		3.0
MFTH 697	Research		1.0
MFTH 698	Dissertation Research		1.0
Totals		9.0	27.0

**Electives**

Units may be chosen from among various courses offered by the department, or from other departments, depending on professional interest or need

**M.A.****Ph.D.**

_____	Elective	4.0	5.0
Totals		4.0	5.0

**Practicum**

Units do not count toward total units required for the degree

**M.A.****Ph.D.**

FMST 695	Internship in Family Studies (1.0-4.0)	2.0	
Totals		—	—

**CONCENTRATION - Family, Systems, and Health**

This concentration prepares marital and family therapists to work with issues related to health and illness in medical settings and/or in collaboration with other health care professionals. The concentration includes opportunities to work in the primary care LLU clinics to get life experience with patients, doctors, and other health care professionals (Family Medicine and SACH); as well as the opportunity to work with some specific health-related research projects.

		M.A.	Ph.D.
MFTH 534	Family Therapy and Medicine		3.0
MFTH 544	Health and Illness in Families		3.0
MFTH 564	Social Context of Health		3.0
MFTH 637	Special Projects in Health and Illness in Families		1.0
Totals		—	—

**CONCENTRATION - School Consultation**

The school consultation concentration broadens the systematic work of professionals in marital and family therapy or family studies to include more knowledgeable consultation with school administrators, teachers, counselors, and psychologists regarding the well-being of children, adolescents, and college or university students in educational environments. Doctoral students may select 12 units of study for this concentration from the list of courses below.

		M.A.	Ph.D.
COUN 574	Psychological Foundations of Education (4.0)	Choose 12 units	12.0
COUN 576	Exceptional and Medically Challenged Children (3.0)		
COUN 577	Assessment in Counseling (3.0)		
COUN 578	College and Career Counseling (3.0)		
COUN 678	Consultation and Leadership (3.0)		
COUN 679	School Counseling: History and Practice (3.0)		
Totals		—	12.0

**CONCENTRATION - Systems Consultation and Professional Relations**

		M.A.	Ph.D.
MFTH 528	Organizations: Structure, Process, and Behavior		3.0
MFTH 555	Organizational Development and Change		3.0
MFTH 556	Management Consulting and Professional Relations		3.0
MFTH 557	Organizational Assessment		3.0
Totals		—	—
<b>Overall Totals</b>		<b>60.0</b>	<b>78.0</b>

Course titles followed by a number in parentheses indicate a variable unit course or a course that is to be repeated one or more times until the total required units are reached. The number inside the parentheses

is the unit value of the course. The number in the column is the total units required for the degree program.

# Geology—ST

## (B.S., M.S.)

KEVIN E. NICK, Program Director for B.S. degree

H. PAUL BUCHHEIM, Program Director for M.S. degree

### FACULTY—B.S.

Leonard R. Brand  
Douglas R. Britton  
H. Paul Buchheim  
Benjamin L. Clausen  
Raul Esperante  
James L. Gibson  
H. Thomas Goodwin  
V. Leroy Leggit  
Ronald Nalin  
Kevin E. Nick

### FACULTY—M.S.

Stanley M. Awramik  
Leonard R. Brand  
Douglas R. Britton  
H. Paul Buchheim  
Ben Clausen  
Stephen G. Dunbar  
Raul Esperante  
H. Thomas Goodwin  
V. Leroy Leggitt  
Ronald Nalin  
Kevin. E. Nick

## GEOLOGY—B.S.

The Department of Earth and Biological Sciences in the School of Science and Technology 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.

### Objectives

The integrated core course sequence of the geology degree provides students with a general background in geology as preparation for a career or graduate studies in stratigraphy, sedimentology, paleontology, and environmental geology. Fieldwork is emphasized because it provides the link to basic geological data 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.

## Scholarships and discounts for earth and biological science undergraduate students

### A. ACADEMIC SCHOLARSHIPS

#### 1. Scholarships based on test results

American College Test: ACT score of 30 or above, \$3,000 (or 16 percent of tuition). For a student who maintains a cumulative G.P.A. of at least 3.5, the scholarship is renewable for successive years.

Scholastic Aptitude Test (SAT):

- National Merit Finalist, 100 percent of tuition
- National Merit Semifinalist, 34 percent of tuition
- National Merit Commended, 20 percent of tuition.

For a student who maintains a 3.5 cumulative G.P.A., the scholarship is renewable for successive years. If a student qualifies for both an ACT and an SAT scholarship, the scholarship with the highest dollar value will apply.

#### 2. Renewable G.P.A. scholarships (eligibility based on G.P.A. at the end of previous academic year)

- G.P.A. between 3.75 and 4.00, \$3,000 per year (or 16 percent of tuition)
- G.P.A. between 3.50 and 3.74, \$2,500 per year (or 13 percent of tuition)
- G.P.A. between 3.25 and 3.49, \$1,700 per year (or 9 percent of tuition)

If a student is eligible for a National Merit Scholarship and/or an ACT scholarship and a G.P.A. scholarship, the one scholarship with the highest dollar value will apply.

### B. OTHER SCHOLARSHIPS

#### Loma Linda University Department of Earth and Biological Sciences (EBS) Faculty Scholarship

Scholarships of 10 to 30 percent of tuition can be awarded by the EBS faculty to students with financial need and/or strong promise for future professional contribution. If awardees also qualify for other scholarships listed above, the scholarship with the highest dollar value will apply.

**Minority Achievement Scholarship, \$2,800 (or 15 percent of tuition), renewable**

This scholarship for underrepresented students will be based primarily on scholastic achievement and promise, and secondarily on financial need.

**Summer Ministries Leadership Scholarships**

These scholarships are available to students who work at an Adventist summer camp, in summer youth ministry, or in literature evangelism during the summer and then attend this University in the academic year immediately following such service. Loma Linda University will match 50 percent of all money earned in such work that is applied to the student's tuition.

**Student Missions/Task Force Scholarships**

Student Missions/Task Force Scholarships, based on the amount of time served, are available to qualified students who attend this University the year following their term of service.

## C. DISCOUNTS

**Family discount**

An immediate family with two dependent students attending Loma Linda University at the same time will receive a tuition-only discount of \$400 (or 2 percent of tuition) per student, per quarter; with three or more students, the discount is \$560 (or 3 percent of tuition) per student, per quarter.

**Guidelines**

All scholarships and/or discounts cannot exceed costs for tuition.

1. Scholarships and discounts, which are available to full-time students only, will be applied as a credit to the student's tuition account at the rate of one-third of the total per quarter.
2. Loss of scholarship money may result when a student does not maintain the minimum cumulative G.P.A. required by the particular scholarship.
3. The last day of final tests for the first quarter that a student is enrolled at this University is the deadline for verifying with Student Financial Services that the student qualifies for a scholarship for the academic year.
4. The scholarships and discounts listed above apply only to students enrolled in undergraduate programs in the Department of Earth and Biological Sciences.
5. Determination of the amount of scholarships and awards at Loma Linda University is influenced by FAFSA data. State and federal grants, as well as other grants and subsidies, will be applied before Loma Linda University scholarships and discounts;

therefore, some students may be eligible to receive only a portion of their scholarship award.

**Learning outcomes**

1. Demonstrate knowledge of the composition and structure of the earth, geological processes, and earth and planetary models.
2. Demonstrate skill in finding reference materials and collecting and presenting field and laboratory data.
3. Develop written, analytical, and oral skills with the integration of technology in communication.
4. Analyze and synthesize previous knowledge.
5. Develop a professional aptitude and attitude.
6. Develop critical-evaluation skills in relating faith and science and public interest issues.

**Admission**

A student pursuing a 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.

**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**

In addition to the geology major, a student preparing to teach at the elementary or secondary level will need to complete the requirements for a teaching credential. The student should consult the Geology Program undergraduate director for further information. General elective units can be used for education courses.

**Honors program**

Students having a G.P.A. of 3.0 or above, a sponsoring faculty member, and an approved research proposal may apply to be accepted in the environmental sciences honors program. Honors students must register for at least 2 units of undergraduate research, conduct original research

under a faculty member's direction, submit a written thesis, and give a public oral presentation.

**Graduate programs**

The Department of Earth and Biological 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, a Doctor of Philosophy degree in biology, and a Doctor of Philosophy degree in earth science are also available.

**General studies requirements**

The information below provides a summary of the University's general studies requirements for undergraduate students. For a complete description of Loma Linda University's general education requirements and criteria, the student should refer to the Division of General Studies section in this CATALOG.

(to be taken at any college)

**DOMAIN 1: RELIGION AND HUMANITIES**  
(20 quarter / 14 semester units minimum)

**Humanities**  
(12 quarter / 8 semester units minimum)

Choose courses from three of the following areas: civilization/history, fine arts (art history and music history), literature, philosophy, performing/visual arts (not to exceed 4 quarter units), and philosophy.

**Religion**

An applicant who has attended an Adventist college or university is required to have taken four quarter units of religion from an Adventist institution for each year of attendance at an Adventist college or university. Up to 8 quarter credits may apply towards the 20 credits needed in Domain 1. If the applicant has not attended an Adventist institution, there are no religion units required. In either case, however, the applicant must have completed 20 quarter / 14 semester units in Domain 1: Humanities and Religion.

**DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS**  
(24-32 quarter units)

**Natural Sciences**  
(12 units minimum)

- Mathematics, including calculus (8-12 quarter units)

- General chemistry with laboratory—one full year, complete sequence
- General physics with laboratory—one full year, complete sequence
- Courses in genetics and ecology, or general biology with laboratory (8 quarter units)

**Social Sciences**  
(12 units minimum)

- One course dealing with human diversity (e.g., cultural anthropology)
- Choose remaining units from the following areas: geography, economics, political science, psychology, sociology, etc.)

**DOMAIN 3: COMMUNICATION**  
(9-13 quarter units)

- English composition (complete sequence)
- Elective areas may include courses in computer information systems, critical thinking, and public speaking.

**DOMAIN 4: HEALTH AND WELLNESS**  
(2-6 quarter units)

- Two activity courses in physical education
- Personal health or nutrition

**DOMAIN 5: ELECTIVES**

Electives from the previous four domains may be selected to complete the general education minimum requirements of 68 quarter units.

A minimum of 101 units must be completed to meet the total degree requirement of 192 quarter units. *No more than 105 quarter/70 semester units may be transferred from a community college.*

Please note: Grades of C- and below are not accepted for credit.

**Seminar attendance requirements**

All students must register for and attend seminar each quarter in residence at this University.

**Rosario Beach summer courses**

In cooperation with the Walla Walla University Marine Station in Anacortes, Washington, facilities are available for marine courses and research by students of this program.

**Major**

Units

GEOL 204	Physical Geology	4.0
GEOL 316	Mineralogy	4.0
GEOL 317	Igneous and Metamorphic Petrology	4.0
GEOL 416	Sedimentology and Stratigraphy	6.0
GEOL 424	Structural Geology	4.0

GEOL 431	Geochemistry	4.0
GEOL 443	Historical Geology	4.0
GEOL 456	Field Methods of Geologic Mapping	4.0
GEOL 475	Philosophy of Science and Origins	4.0
GEOL 485	Seminar in Geology	1.0
GEOL 486	Research and Experimental Design	2.0
Totals		41.0

**Cognates**

Units

STAT 414	Introduction to Biostatistics I	3.0
STAT 415	Computer Applications in Biostatistics	1.0
Totals		4.0

**Religion**

Choose at least one course from each prefix

Units

RELE 4__	Upper Division Ethics	3.0
RELR 4__	Upper Division Relational	3.0
RELT 406	Adventist Beliefs and Life (2)	One course required
RELT 423	Loma Linda Perspectives (2)	
RELT 436	Adventist Heritage and Health (2)	
RELT 437	Current Issues in Adventism (2)	
Totals		8.0

**Geology electives**

Must include one paleontology course

Units

GEOL 325	Rocky Mountain Field Geology (2 to 3)	Choose 18 units	18.0
GEOL 326	Geology of Southern California (3 to 4)		
GEOL 384	Paleobotany (4)		
GEOL 386	Invertebrate Paleontology (4)		
GEOL 387	Vertebrate Paleontology (4)		
GEOL 448	Field Seminar in Historical Geology (4)		
GEOL 455	Modern Carbonate Depositional Systems (3)		
GEOL 464	Environmental Geology (3)		
GEOL 465	Hydrogeology (4)		
GEOL 484	Readings in Geology (1 to 4)		
GEOL 487	Field Geology Studies (1 to 6)		
GEOL 488	Topics in Geology (1 to 4)		
GEOL 489	Readings in Paleontology (1 to 4)		
GEOL 495	Special Projects in Geology (1 to 4)		
GEOL 497	Undergraduate Research (1 to 4)		
Totals		18.0	

**General electives**

Units

	Elective	20.0
<b>Totals</b>		<b>20.0</b>
<b>Overall Totals</b>		<b>91.0</b>

**GEOLOGY—M.S.**

The Department of Earth and Biological Sciences in the School of Science and Technology offers the Geology Program leading to the Master of Science degree. Research and course work emphasize field and laboratory studies in sedimentology, paleontology, paleoenvironmental reconstruction, paleoecology, 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, and the Ph.D. degree program in earth science.

**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.

The Geology Program aims to instill in students the values of honesty, scientific integrity, careful research, and independent critical thinking, provide the tools and intellectual environment in which geologists can attain their highest potential in scholarship and

research, and challenge graduate students to consider the relationships among science, faith, and societal responsibility.

**Learning outcomes**

1. Obtain advanced breadth and depth of knowledge in earth science.
2. Able to plan and carry out independent research.
3. Develop publication quality writing and oral communication skills.
4. Analyze and synthesize previous knowledge.
5. Develop a professional aptitude and attitude.
6. Develop critical evaluation skills in relating faith and science and public interest issues.

**Financial aid**

Research and teaching assistantships are available from the Department of Earth and Biological Sciences 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 Institute of Health.

**Admission**

Applicants must meet the general School of Science and Technology admission requirements. Acceptable undergraduate preparation is a bachelor's degree and must include the following required cognates (in quarter units):

Biology (zoology, botany, ecology or general biology)	8.0
General Chemistry (full year with lab)	12.0
Physics (full year with lab)	12.0
Mathematics including calculus	
Statistics	3.0-4.0

Some cognates may be taken during residence at Loma Linda University, with approval of admission committee.

**Geology—M.S. curriculum**

A minimum of 48 quarter units, including 40 at or above the 500 level, constitutes the curriculum for the Master of Science degree in geology. In addition to the general School of Science and Technology requirements, the following courses are required:

**Cognates**

The following courses are usually taken during the undergraduate program. However, they may be completed during the graduate program (in quarter units), since students with a variety of majors (including science and some non-science majors) are encouraged to enter the M.S. in geology. Courses do not apply toward graduate credit:

		Units
GEOL 204	Physical Geology	4.0
GEOL 316	Mineralogy	4.0
GEOL 317	Igneous and Metamorphic Petrology	4.0
GEOL 416	Sedimentology and Stratigraphy	6.0
GEOL 424	Structural Geology	4.0
Totals		—

**Cognates**

The following courses are usually taken during the undergraduate program. However, they may be completed during the graduate program and may apply toward the M.S. degree.

		Units
GEOL 431	Geochemistry	4.0
GEOL 456	Field Methods of Geologic Mapping	4.0
Totals		8.0

**Major**

		Units
GEOL 547	Advanced Historical Geology	4.0
GEOL 556	Paleoenvironments	4.0
GEOL 558	Philosophy of Science and Origins	4.0
GEOL 565	Analysis of Sedimentary Rocks	4.0
GEOL 566	Sedimentary Processes	4.0
GEOL 567	Stratigraphy and Basin Analysis	4.0
GEOL 617	Proposal Writing and Grantsmanship	2.0
GEOL 607	Seminar in Geology (1)	6.0
Totals		32.0

**Two graduate paleontology courses**

		Units
GEOL 524	Paleobotany (4)	Choose two courses 7.0-8.0
GEOL 534	Invertebrate Paleontology (4)	
GEOL 544	Vertebrate Paleontology (4)	
GEOL 545	Taphonomy (4)	
Totals		7.0-8.0

**Religion**

		Units
REL_ 5__	Graduate-level Religion	—
Totals		3.0



Research		Units
GEOL 616	Research and Experimental Design	2.0
GEOL 698	Thesis Research (-1 to 8)	4 units minimum; will be graded each quarter and can be repeated for additional credit 4.0
Totals		6.0
<b>Overall Totals</b>		<b>56.0-57.0</b>

**Other requirements**

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 while in residence, fulfill research and thesis expectations, and successfully pass a final oral examination.

**Seminar attendance requirements**

All graduate students in residence must register for and attend seminar each quarter at this University.

**Registration and tuition after normative time**

Students who are past the normative time for completing their degree must register for two units without a tuition waiver each quarter until they complete their degree. After the normative time, students may request a one-year grace period that must be approved by the department faculty.

**Research proposal**

A written research proposal and an oral defense of the student's proposed research should be completed by the end of the third quarter of study. Questions will typically focus on the student's research area but may expand to other areas as appropriate.

**Advancement to candidacy**

Students may apply for advancement to candidacy after:

1. completing all deficiencies and prerequisites,
2. selecting a research committee,
3. receiving approval of the written research proposal,
4. passing the oral defense of the research proposal,
5. being recommended by the program faculty (should be completed by the end of the third quarter of study),
6. completing and submitting Form C.

**Thesis**

The written thesis must demonstrate the completion of significant, original research and must be written in publishable paper format.

**Defense of thesis**

An oral presentation and defense of the thesis are required. Includes final oral examination on student's field of study.

**Rosario Beach summer courses**

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

# Gerontology—ST

(M.S.)

FROYLANA HEREDIA-MILLER, Program Director

## FACULTY

A complete list of part-time and voluntary faculty can be viewed on the department's Web site.

The population explosion of older adults has generated increasing interest in the field of gerontology. Gerontology is the multidisciplinary-multidimensional study of aging and aging processes. It combines the study of physical, mental, social, and spiritual changes that affect individuals as they age. Emphasis is placed on the knowledge and skills required for competent practice, with considerable attention given to understanding the social, cultural, and economic factors that affect services for this population.

## Mission

The mission of the Gerontology Program is to provide graduate-level education for future and current professionals in gerontology who are dedicated to enhancing the lives of older adults through advanced interventions at the micro, macro, and mezzo levels of practice.

## Program objectives

- Students will demonstrate the ability to integrate human behavior and developmental theories of aging, incorporating a biopsychosocial-spiritual orientation to geriatric practice.
- Students will demonstrate the ability to use research in evaluating the effectiveness of practice and programs in achieving intended outcomes for older adults.
- Students will demonstrate the ability to integrate into practice an understanding of the life experiences and unique needs of older adults belonging to specific racial, ethnic, socioeconomic groups; of men and women; and of those with different sexual orientations.
- Students will demonstrate knowledge of professional ethics to assist older adults who have diverse cultural, spiritual, and ethnic values and beliefs.
- Students will demonstrate the ability to complete a comprehensive assessment of

biopsychosocial-spiritual factors that affect older adults' well-being.

- Students will demonstrate knowledge of the policies that shape and regulate the continuum of care and services available to older adults.
- Students will demonstrate knowledge of the importance of the current issues in gerontology and the importance of the relationship of gerontology to other disciplines and professions, such as social work, psychology, medicine, nursing, and public health.

## Program description

All students must complete 48 quarter units of course work. The 24 units of foundation content required for all students are followed by 12 units in one of the two concentrations:

**Policy, planning, and administration:** Students opting for the policy, planning, and administration concentration gain knowledge and skills in the public administration, planning, and coordination of older adult services. Students acquire an appreciation for the unique policy and systems structure influencing the delivery of older adult services. Within this framework, students develop an understanding of the issues and challenges in creating and sustaining responsive systems of care for older adults and their families.

**Clinical services:** Students opting for the clinical services concentration develop knowledge and skills in locating and providing resources, services, and opportunities for the older adults and their families; as well as acquiring knowledge that supports enhancing the problem-solving and coping skills of older adults and their caregivers. Students gain an appreciation for the social support factors and community systems that create opportunities or exacerbate problems in daily living. Students develop an understanding of the issues that impact the creation of effective systems of care and responsive social policies.

Both concentrations emphasize a thoughtful reflection about the multidimensional issues in gerontology that will provide students with a deeper understanding of policy, administration, and practice issues affecting the field.

**PREREQUISITE**

A balance of course work in three liberal arts area:

Humanities (e.g., history, philosophy, literature, art, music, etc.)	20.0-24.0
English and Communication Skills (e.g., oral and written communication media, etc.)	9.0-13.0
Natural and Social Sciences (e.g., mathematics, human biology, physiology, psychology, sociology, anthropology, human development, ethnic studies, economics, political science or government, etc.)	24.0-32.0

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. degree classes.

*Please note: All prerequisite requirements must be completed before advancement to candidacy (prior to beginning the advanced curriculum).*

Unit values represent the quarter system of measurement. Content from multiple courses may be used to meet most requirements.

**Admission requirements**

This program follows the admission requirements of the School of Science and Technology, including:

1. Applicants must demonstrate satisfactory performance on the Graduate Record Examination (GRE). For admission with regular status, satisfactory performance is defined as a minimum combined verbal and quantitative score of 1000 and an analytical writing score of 4.0. Students submitting lower scores may be considered for provisional status.

OR

The applicant must demonstrate satisfactory performance on a critical-essay examination (CEE) administered by the Department of Social Work and Social Ecology under the guidance of the School of Science and Technology. For admission with regular status, satisfactory performance for the CEE is defined as a minimum pass rate of 75 percent.

2. Applicants must demonstrate satisfactory adherence with the minimum academic and professional compatibility criteria established by the program, which includes—

A cumulative grade-point average of 3.0 or above (on a 4.0 scale) (special consideration may be given to applicants with grade-point averages as low as 2.75 if the last part of their college work shows significant improvement).

Evidence of professional compatibility, personal qualifications, and motivation to complete a graduate program by obtaining a

passing score on the admissions interview with the program's admissions committee.

Evaluation criteria for the interview include:

- verbal communication skills,
  - critical-thinking ability,
  - values congruent with the profession of gerontology,
  - appreciation for human diversity,
  - evidence of reflective learning, and
  - comportment.
3. Submission of 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 preferred).

**CURRICULUM**

The 48-unit curriculum for the Master of Science degree in gerontology provides the mix of academic, experiential, and research activities essential for M.S. 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. Per University policy, a student cannot repeat more than two courses during his/her graduate program. Students are financially responsible for the cost of repeating courses when grades do not meet the minimum standards.

**General overview**

The 48-unit program begins with 26 units of core course work required for all students. Courses during the first year of study are divided into four professional areas: social science theory, religion and ethics, practice, and research methods. At the end of the first year, the student selects a concentration area (policy, planning, and administration; or clinical services) requiring 14 units of concentration-specific course work.

Regardless of the concentration students choose, they are given the option of either a thesis or a nonthesis (professional practicum).

1. Thesis: Students who choose the thesis option complete 6 related units of research and 4 units of selectives.

2. Nonthesis: Students choosing the internship option complete 1 unit of practica orientation, 540 hours of integrated practicum and seminar, and 9 units of didactic selectives.

**Social science theory**

		Thesis	Non-thesis
GERO 617	Bio-psycho-social-spiritual Theories of Aging	4.0	4.0
SPOL 615	Economic Theory and Social Policy	4.0	4.0
Totals		8.0	8.0

**Clinical practice**

		Thesis	Non-thesis
GERO 515	Diversity and Aging	3.0	3.0
SOWK 682	Legal and Ethical Aspects in Health and Mental Health Services	3.0	3.0
Totals		6.0	6.0

**Religion, philosophy, and ethics**

Choose one course

		Thesis	Non-thesis
RELE 524	Christian Bioethics	4.0	3.0
RELR 568	Care of the Dying and Bereaved	4.0	3.0
Totals		4.0	4.0

**Social research methods**

		Thesis	Non-thesis
SOWK 547	Research Methods I	3.0	3.0
SOWK 549	Research Methods II	3.0	3.0
Totals		6.0	6.0

**CONCENTRATION – Policy, planning, and administration**

Choose one concentration

		Thesis	Non-thesis
GERO 615	Economics and Management Issues of Older Adult Services	4.0	4.0
SOWK 673	Program Planning and Evaluation	3.0	3.0
PUAD 678	Public Administration Management (3.0)	8.0	8.0
SOWK 672	Theories of Organizations and Systems (3.0)		
SOWK 676A	Human Resources Planning and Development (3.0)		
SOWK 676B	Human Resources Planning and Development Seminar (3.0)		
Totals		15.0	15.0

**CONCENTRATION – Clinical services**

Choose one concentration

		Thesis	Non-thesis
SOWK 654A	Therapeutic Interventions with Older Adults I	3.0	3.0
SOWK 654B	Therapeutic Interventions with Older Adults II	3.0	3.0
HPRO 548	Community and Domestic Violence (3.0)	8.0	8.0
MFAM 638	Family Therapy and Chemical Abuse (2.0)		
NUTR 536	Nutrition and Aging (2.0)		
PSYC 685	Drug Addiction and Therapy (2.0)		
PSYC 686	Child, Partner, and Elder Abuse (2.0)		
SOWK 648	Co-occurring Diagnosis: Substance Abuse with Mental Illness (2.0)		
SOWK 659	Interventions with Persons with Severe Mental Illness (2.0)		
Totals		14.0	14.0

**General selectives**

Other courses may be approved for elective credits in consultation with the faculty advisor and in accordance with University policies for academic variances

		Thesis	Non-thesis
GERO 599	Directed Study / Special Project (1.0)	4.0	9.0
HPRO 584	Aging and Health (3.0)		
SOWK 649	Social Work and Health Care (2.0)		
SOWK 681	Health and Mental Health Policy and Services (2.0)		
SOWK 683	Advanced Policy Analysis (3.0)		
SOWK 684	Advanced Policy Projects (2.0)		
Totals		4.0	9.0

**Other**

		Thesis	Non-thesis
SOWK 697	Applied Research (2.0)	4.0	
SOWK 698	Thesis	2.0	
GERO 757A	Professional Practicum and Seminar (3.0)	—	1.0
GERO 757B	Professional Practicum and Seminar (3.0)		
GERO 757C	Professional Practicum and Seminar (3.0)		
SOWK 578	Field Orientation (1.0)		
Totals		6.0	1.0
<b>Overall Totals</b>		<b>48.0</b>	<b>48.0</b>

# Marital and Family Therapy—ST

## (M.S.) California and Canadian Campuses

MARY E. MOLINE, Program Director  
DIANNA L. CONNORS, Program Director (Canada)

### FACULTY

Jennifer Andrews  
Ian P. Chand  
Curtis Fox  
Lori Gray (Canada)  
Barbara Hernandez  
Douglas Huenergardt  
Carmen Knudson-Martin  
Michelle Minyard  
Daniel Newell (Canada)  
Cheryl Simpson  
Colwick Wilson

A complete list of program instructors can be viewed online at <[www.llu.edu/science-technology/grad/mfam/index.page](http://www.llu.edu/science-technology/grad/mfam/index.page)>.

### DEPARTMENT

The Marital and Family Therapy Program is housed in the Department of Counseling and Family Sciences, along with master's degree programs in child life, counseling, and family studies; and doctoral programs in family studies and marital and family therapy. The master's degree is offered on two campuses; Loma Linda University and Canadian University College. The program at Loma Linda University is accredited by the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE). The Canadian University College program is NOT accredited by COAMFTE.

### Mission statement

The Marital and Family Therapy Program is consistent with Loma Linda University's vision of transforming lives through whole-person health care. The mission of the program is to bring health, healing, wholeness, and hope to individuals, families, and communities through education, research, clinical training, and community service. The M.S. degree program accomplishes this by addressing the relational needs and concerns of individuals and families over the life course in the contexts of communities and global society.

### M.S. IN MARITAL AND FAMILY THERAPY

The Master of Science degree in marital and family therapy 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, church setting, and private practice.

### Accreditation

The program offered by Loma Linda University is fully accredited by the Commission on Accreditation for Marriage and Family Therapy Education (COMAFTE), the accrediting body for the American Association for Marriage and Family Therapy (AAMFT). The commission functions on a national basis to ensure that academic and clinical training programs adhere to the standards of the profession.

### 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 academic and clinical preparation and must pass written 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:

- Develop skilled professionals in marital and family therapy.
- Expose students to available content material in the field.
- Provide supervised clinical training toward the development of clinical skills and competence.
- Provide specialized training in one of the family therapy modalities that will qualify graduates for licensure as marriage and family therapists.
- Prepare students to be familiar with sociocultural issues.
- Prepare marital and family therapy students for professional practice, with specialized training in the delivery of services in private practice and institutional settings.

Clinical license requirements vary by state and will require additional hours of supervised clinical practice.

### Certificate

The Department of Counseling and Family Sciences offers certificate programs that can be combined with master's or doctoral degrees offered in the department to broaden a student's counseling skills and marketability. Students wishing to add specializations in the following areas must formally apply and be accepted into the desired certificate

program (s). Prior to application, the student is advised to consult the program coordinator.

- Child Life Specialist Certificate
- Clinical Mediation Certificate
- Drug and Alcohol Counseling Certificate
- Family Counseling Certificate
- Family Life Education Certificate
- School Counseling Certificate: California Pupil Personnel Services Credential (PPS)

### Combined degrees

The Department offers combined degrees 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.).

### Clinical training

In addition to successful completion of 78 quarter credits of academic course work, students in the Marital and Family program must complete field experience at clinical placement sites. Upon completion of 18 quarter units, each student will be evaluated by all teaching faculty to determine if the student can continue the program and/or be permitted to enter the clinical phase of the program. Students have numerous choices of placement sites across southern California in which to gain required clinical experience. These sites include community mental health centers, private and public agencies, school and hospital settings, and the department's community mental health clinic. Some stipends are available for trainees. The clinical training includes a six-quarter practicum sequence and supervision of trainees at a clinical site.

Students must take 12 units of practicum. 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

### Admission requirements

Applicants to the M.S. degree in Marital and Family Therapy Program at Loma Linda University or at Canadian University College must meet the School of Science and Technology admission requirements

outlined in this CATALOG and give evidence of academic ability, emotional stability, and maturity.

Students wishing to apply for master's degree-level course work must complete their course work at a regionally accredited school prior to application and must provide applicable transcripts and/or syllabi. In addition to completing the required application forms, students should provide character and academic references.

### General admission information

Students are admitted in Autumn and Winter quarters. With special permission, a student may enter Spring or Summer quarter. Applicants must have a bachelor's degree in any field from a regionally accredited institution. Additional admission requirements include:

- Minimum grade-point average 3.0 (on a 4.0 scale) in bachelor's course work for at least the final 45 units prior to graduation.
- Health clearance
- A background check (required before matriculation to the program)
- Official transcripts on file
- Three letters of recommendation, as specified
- A personal statement that addresses career objectives, personal interest in marital and family therapy, rationale for choosing to attend Loma Linda University, how life experiences have influenced applicant's choice to enter the field, and additional thoughts the applicant deems important
- Interview with department faculty as scheduled (on-campus group interviews are scheduled for mid-March and mid-May; other on-campus and phone interviews are scheduled individually)
- If English is not the student's first language, 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).
- If the student is not a citizen or permanent resident of the U.S., a valid student visa.

### Postadmission process

After acceptance into the program, a critical essay examination must be taken to help determine if the student will be required to take a writing course (3 units, graduate level). The program director will determine at the end of the Fall Quarter if the writing course will be required.

**Degree completion**

The M.S. degree in marital and family therapy may be completed in either two years of full-time study or three years of part-time study. 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 during the Fall, Winter, Spring, and Summer quarters. Mostly, first-year students attend classes on Tuesday and Thursday, and second-year students attend classes on Monday and Wednesday. Full-time employment is discouraged when a student is enrolled for full-time study. Clinical traineeships are usually on the days students are not in class.

**Degree requirements**

Requirements for the Master of Science degree at both Loma Linda University and Canadian University College campuses include the following:

- Residence of at least two academic years.
- A minimum of 78 quarter units of graduate work, which includes credit received for core courses, electives, and a 3-unit religion course.
- Clinical training 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 Education (COAMFTE), 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.
- Successful completion of a written comprehensive examination (taken before advancement to candidacy) and an oral examination (taken at the end of the program).
- To be counted toward the graduate degree, foreign language courses must be numbered at 400 and above.

**Department clinic**

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 student trainees and interns. Paid traineeships are available.

**Financial assistance**

Students 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. On a limited basis, students receive financial assistance during their clinical traineeship. Students must apply for financial aid by writing to:

Student Financial Aid Office  
Student Services  
Loma Linda University  
Loma Linda, CA 92350  
909/558-4509

**Learning outcomes**

Program goals for students when they exit include:

1. Students will be able to apply a systemic framework to their clinical practice as a marital and family therapist.
2. Students will be able to identify themselves as a systemic oriented marital and family therapist (MFT) grounded in the theoretical and philosophical foundations of the field.
3. Students will be familiar with a variety of MFT therapy approaches in diverse settings.
4. Students will be able to demonstrate the ability to analyze and present a clinical case using one of the major MFT models.
5. Students will demonstrate awareness of contextual issues in therapy, such as gender, religion, sexual orientation, age, and socioeconomic status.
6. Students will be knowledgeable of the legal and ethical standards relevant to the field of marital and family therapy and apply their knowledge to their clinical practice.
7. Students will be qualified to apply for internship status and subsequent licensure as an MFT.



**MARITAL AND FAMILY THERAPY—M.S.**

**CANADIAN CAMPUS PROGRAM**

(This program is not accredited by the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE), the accrediting body for the AAMFT.)

The Canadian campus program facilitates Canadian residents in obtaining a Loma Linda University graduate degree in marital and family therapy while completing their academic work and clinical training in Western Canada and functions as the only marital and family therapy training available in Alberta or British Columbia. The program has graduated more than 200 therapists since its first graduating class in 1991. The Canadian campus program prepares graduates to function as marital and family therapists in Canada, specifically in Alberta. Graduates have also established their competence as therapists in provinces across Canada, as well as in the United States. Depending on undergraduate preparation and the course work selected, graduates of the program go on to obtain registration as psychologists in Alberta (with the College of Alberta Psychologists) or as registered social workers (with the Alberta College of Social Workers). In addition, students from other nonpsychology, or nonsocial work academic backgrounds can be registered as counselors with the Canadian Counseling Association.

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 an approved graduate degree granting program. The Canadian campus program is officially operated by Loma Linda University, and meets WASC accreditation requirements. Applications for admission are directed through the Registrar’s Office at Loma Linda University; and official acceptance, candidacy status, and graduation are monitored through the University—specifically the chair of the Department of Counseling and Family Sciences, and the dean of the School of Science and Technology.

The Canadian campus program is an innovative venture that combines the teaching expertise of the Loma Linda University faculty, Canadian campus program faculty, and adjunct instructors from the local professional community. Specific attention is paid to the importance of Canadian content in courses such as cross-cultural counseling, child abuse and family violence, and law and ethics to make the theoretical and practice aspects of the degree fit the Canadian context.

The program emphasizes integration of theory, practice, and person of the therapist. There is a clinical training placement for two consecutive years while the student is also taking academic courses; there is also a requirement for some personal therapy while the student is in the program. The clinical training component is fulfilled two-to-three days per week at the student’s city of residence—typically, Edmonton, Calgary, or Red Deer. The program has approximately twenty-five clinical sites throughout the province where students can obtain supervised clinical practice in individual, couple, and family therapy.

The Canadian campus is centrally located in Lacombe, Alberta, to accommodate the commuter cohort of students that travels to campus one day per week, and one week per month for classes. The library on the campus of Canadian University College boasts one of the largest collections of marital and family therapy journals and texts in the province, as well as being part of the NEOS library consortium system that connects students to all the major university libraries in Alberta. In addition students have access to the Loma Linda University California Campus Library system through EBSCO HOST.

Students graduating from this program obtain positions as marital and family therapists in hospitals, community service agencies, family counseling agencies, addiction treatment centers, adolescent residential treatment centers, school systems, private practices, and in educational settings. Several graduates of the program have gone on to pursue doctoral studies at both Canadian and American universities, including the parent campus’s doctoral program in marital and family therapy.

Theoretical foundations		On Campus	Off Campus Canada
MFAM 551	Family Therapy: Foundational Theories and Practice	3.0	3.0
MFAM 553	Family Systems Theory	3.0	3.0
MFAM 564	Family Therapy: Advanced Foundational Theories and Practice	3.0	3.0
Totals		9.0	9.0

<b>Clinical knowledge</b>		<b>On Campus</b>	<b>Off Campus Canada</b>
FMST 514	Cross-cultural Counseling and Family Values	2.0	2.0
MFAM 515	Crisis Intervention Counseling	3.0	3.0
MFAM 524	Psychopharmacology and Medical Issues	3.0	3.0
MFAM 545	Gender Perspectives	2.0	2.0
MFAM 552	Couples Therapy: Theory and Practice	3.0	3.0
MFAM 556	Psychopathology and Diagnostic Procedures	3.0	3.0
MFAM 624	Individual and Systems Assessment	3.0	3.0
MFAM 638	Family Therapy and Chemical Abuse	3.0	3.0
MFAM 644	Child Abuse and Family Violence	3.0	3.0
MFAM 674	Human Sexual Behavior	3.0	3.0
Totals		28.0	28.0

<b>Individual development and family relations</b>		<b>On Campus</b>	<b>Off Campus Canada</b>
MFAM 547	Social Ecology of Individual and Family Development	3.0	3.0
MFAM 584	Advanced Child and Adolescent Problems	3.0	3.0
Totals		6.0	6.0

<b>Professional identity and ethics</b>		<b>On Campus</b>	<b>Off Campus Canada</b>
MFAM 535	Case Presentation and Professional Studies	4.0	4.0
MFAM 614	Law and Ethics	3.0	3.0
Totals		7.0	7.0

<b>Electives</b>				<b>On Campus</b>	<b>Off Campus Canada</b>
One course in theory required					
FMST 528	Parenting (2.0)	Choose 6 units		6.0	6.0
FMST 529	Family Life Education (3.0)				
MFAM 516	Play Therapy (2.0)				
MFAM 539	Solution-Focused Family Therapy (2.0)				
MFAM 555	Narrative Family Therapy (2.0)				
MFAM 557	Object Relations Family Therapy (2.0)				
MFAM 559	Cognitive-Behavioral Couples Therapy (2.0)				
MFAM 565	Advanced Bowen Theory and Practice (2.0)				

MFAM 605	Gestalt Family Therapy (2.0)			
MFAM 606	Emotionally Focused Couples Therapy (2.0)			
MFAM 665	Structural Family Therapy (2.0)			
Totals			6.0	6.0

**Supervised clinical practice**

700-numbered courses do not count toward total units required for the degree

**On Campus**      **Off Campus  
Canada**

MFAM 536	Case Presentation Seminar		2.0	2.0
MFAM 537	Case Presentation Seminar		2.0	2.0
MFAM 635	Case Presentation Seminar		2.0	2.0
MFAM 636	Case Presentation Seminar		2.0	2.0
MFAM 637	Case Presentation Seminar		2.0	2.0
MFAM 734	Professional Clinical Training (1.5-3.0)	500 hours total (3 units = 100 hours)	—	—
Totals			10.0	10.0

**Religion****On Campus**      **Off Campus  
Canada**

RELR 564	Religion, Marriage, and the Family		3.0	3.0
Totals			3.0	3.0

**Group****On Campus**      **Off Campus  
Canada**

MFAM 568	Groups: Process, and Practice		3.0	3.0
Totals			3.0	3.0

**Research****On Campus**      **Off Campus  
Canada**

MFAM 501	Research Tools and Methodology: Quantitative		3.0	3.0
MFAM 502	Research Tools and Methodology: Qualitative		3.0	3.0
Totals			6.0	6.0

**Electives**

One course in theory required.

**On Campus**      **Off Campus  
Canada**

COUN 574	Psychological Foundations of Education (4.0)			
COUN 575	Counseling Theory and Applications (3.0)			
COUN 576	Exceptional and Medically Challenged Children (3.0)	Choose 6 units	6.0	6.0
COUN 577	Assessment in Counseling (3.0)			
COUN 578	College and Career Counseling (3.0)			

COUN 678	Consultation and Leadership (3.0)			
COUN 679	School Counseling: History and Practice (3.0)			
COUN 680	Field Experience in Counseling (3.0-18.0) (18.0) <i>(600 clock hours)</i>			
FMST 524	Family Resource Management (2.0)			
FMST 528	Parenting (2.0)			
FMST 529	Family Life Education (3.0)			
MFAM 516	Play Therapy (2.0)			
MFAM 525	Therapeutic Group (2.0)			
MFAM 526	Theory and Practice of Group Counseling (3.0)			
MFAM 527	Training/Supervision Workshop in Group Counseling (3.0)			
MFAM 538	Theory and Practice of Conflict Resolution (2.0)			
MFAM 539	Solution-Focused Family Therapy (2.0)			
MFAM 544	Family and Divorce Mediation (4.0)			
MFAM 546	Brain and Behavior (3.0) <i>Available only on the Canadian campus.</i>			
MFAM 548	Men and Families (2.0)			
MFAM 549	Christian Counseling and Family Therapy (2.0)			
MFAM 555	Narrative Family Therapy (2.0)			
MFAM 557	Object Relations Family Therapy (2.0)			
MFAM 559	Cognitive-Behavioral Couples Therapy (2.0)			
MFAM 565	Advanced Bowen Theory and Practice (2.0)			
MFAM 566	Psychopathology and Diagnostic Procedures: Personality (2.0)			
MFAM 569	Advanced Group Therapy (2.0)			
MFAM 585	Internship in Family Mediation (1.0-4.0) (1.0)			
MFAM 605	Gestalt Family Therapy (2.0)			
MFAM 606	Emotionally Focused Couples Therapy (2.0)			
MFAM 615	Reflective Practice (2.0)			

MFAM 616	Cognitive Assessment (4.0) <i>Available only on the Canadian campus.</i>			
MFAM 617	Personality and Behavior Testing (4.0) <i>Available only on the Canadian campus.</i>			
MFAM 659	Current Trends (2.0)			
MFAM 664	Experiential Family Therapy (2.0)			
MFAM 665	Structural Family Therapy (2.0)			
MFAM 670	Seminar in Sex Therapy (2.0)			
MFAM 675	Clinical Problems in Marriage and Family Therapy (1.0)			
MFAM 694	Directed Study: Marriage and Family (1.0)			
MFAM 695	Research Problems: Marriage and Family (1.0)			
		Totals	6.0	6.0

**Post-master's**

Not applicable to degree program

**On Campus**

**Off Campus  
Canada**

MFAM 651	AAMFT-Approved Supervisor Training		3.0
MFAM 704	Marital and Family Therapy State Board Written Examination Review		2.0
MFAM 705	Marital and Family Therapy State Board Oral Examination Review		2.0
MFAM 744	Clinical Internship		1.0
		Totals	—
		<b>Overall Totals</b>	<b>84.0</b>

# Marital and Family Therapy—ST

## (Ph.D., D.M.F.T.)

CARMEN KNUDSON-MARTIN, Ph.D. Program Director

DOUGLAS HUENERGARDT, D.M.F.T. Program Director

### FACULTY

Jennifer Andrews

Ian P. Chand

Curtis Fox

Barbara Hernandez

Douglas Huenergardt

Carmen Knudson-Martin

Michelle Minyard-Widmann

Mary Moline

Cheryl Simpson

Randall Walker

Colwick Wilson

A complete list of program instructors can be viewed online at <[www.llu.edu/science-technology/grad/mfam/index.page](http://www.llu.edu/science-technology/grad/mfam/index.page)>.

### DEPARTMENT

The Ph.D. degree in marital and family therapy and the D.M.F.T. (Doctor of Marital and Family Therapy) degree are two of the three doctoral degrees housed in the Department of Counseling and Family Sciences. The department also offers a Ph.D. degree in family studies; along with master's degree programs in family therapy, child life, family studies, and counseling.

### Mission statement

The Ph.D. degree in marital and family therapy and the D.M.F.T. degree programs are consistent with Loma Linda University's vision of transforming lives through whole-person health care. The mission of these programs is to bring health, healing, wholeness, and hope to individuals, families, and communities through education, research, clinical training, and community service. The Ph.D. degree program accomplishes this by preparing scientist-practitioners who will advance the body of knowledge through which marital and family therapists promote the health and well-being of individuals, couples, families, and communities. The D.M.F.T. degree program accomplishes this by focusing on developing, evaluating, and administering intervention programs that benefit individuals, couples, families, and communities.

### The marriage and family therapy profession

Marriage and family therapy is a distinct mental health profession based on the premise that relationships are fundamental to the health and well-being of individuals, families and communities. Marriage and family therapists (MFTs) evaluate and

treat mental and emotional disorders and other health and behavioral problems, and address a wide array of relationship issues within the context of families and larger systems. The federal government has designated marital and family therapy a core mental health profession—along with psychiatry, psychology, social work, and psychiatric nursing. All 50 states also support and regulate the profession by licensing or certifying marriage and family therapists.

### Accreditation

Loma Linda University's academic programs are accredited by the Western Association of Schools and Colleges (WASC). The Ph.D. in marital and family therapy and the D.M.F.T. degree are accredited by the Commission on Accreditation of Marriage and Family Therapy Education (COAMFTE), the accrediting body associated with the American Association for Marriage and Family Therapy. COAMFTE accreditation means that students meet national practice standards for marriage and family therapy. This accreditation facilitates graduates' eligibility to practice in California as well as across the country. Additional information about COAMFTE-accredited programs can be found online at <[www.aamft.org](http://www.aamft.org)>.

### 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 two licensing examinations. The Ph.D. in marital and family therapy and D.M.F.T. degree programs at Loma Linda University are designed to fulfill the academic requirements that meet the California licensing standards according to Business and Professions Code 4980.38 for those students who have not previously met these requirements.

### Certificates

The Department of Counseling and Family Sciences offers certificate programs that can be combined with the Ph.D. or D.M.F.T. degrees to broaden a student's marital and family therapy skills and marketability. Students wishing to add specializations in the following areas must formally apply and be accepted into the desired certificate program(s). Prior to application, the student is advised to consult with the coordinator of the certificate program.

- Child Life Specialist Certificate
- Clinical Mediation Certificate
- Drug and Alcohol Counseling Certificate
- Family Counseling Certificate
- Family Life Education Certificate
- Medical Family Therapy Certificate (proposed)

- School Counseling Certificate: California Pupil Personnel Services Credential (PPS) (open to counseling and MFT students only)

### **Core ideas guiding the marriage and family therapy doctoral programs**

*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 cocreate 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 therapy, program development, and evaluation, and research.

*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.

### **PH.D. IN MARITAL AND FAMILY THERAPY**

The Ph.D. degree in marital and family therapy 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 Ph.D. degree in marital and family therapy is a 108-unit program requiring a minimum of three-to-four years of full-time study for completion—including two-to-three years of course work, 1000 hours of face-to-face client contact, a dissertation, and professional development experiences. The purpose of the Ph.D. degree program in marital and family therapy is to develop family therapy scholars/practitioners who will advance theory, research, clinical practice, and teaching in the field of marital and family therapy. Students will be prepared for academic and clinical training positions in universities and postgraduate institutes. Ph.D. degree students develop expertise in conducting original research from quantitative, qualitative, and mixed method approaches.

#### **Interim master's degree**

The Ph.D. degree with interim master's degree requires 160 units. This combined degree program is for selected advanced students whose master's degree is not in marital and family therapy (or equivalent) or for students currently enrolled in COAMFTE-accredited master's programs. A minimum of five years of full-time study is required to complete the program with an interim master's degree.

**Concentrations**

All Ph.D. degree marriage and family therapy students must complete a 12-unit concentration. The following are preapproved concentrations:

1. Families, systems, and health
2. Family studies
3. Systems consultation and professional relations
4. School consultation

**Student learning outcomes**

1. Students will develop a professional identity as doctoral level marital and family therapists aligned with national practice standards.
2. Students will become adept in systems/relational practice that will demonstrate sophistication as a scientist/practitioner.
3. Students will be able to analyze, synthesize, and critique marital and family therapy theory, human development, and family science literature to advance and integrate research, theory, and practice in the field.
4. Students will demonstrate knowledge and skills as a researcher in the field of marital and family therapy.
5. Students will apply systems/relational theories that promote health, healing, and wholeness within interpersonal, family, organizational, and/or community contexts.
6. Students will be responsive to the societal, cultural, and spiritual contexts in which health and well-being are embedded.
7. Students will develop an ethical consciousness that guides their practice and contributions to the field of marital and family therapy.

**Admission requirements**

The Ph.D. in degree program represents advanced study over and above a standard master's degree

curriculum in the field. Acceptance into this program is based on an integrated evaluation of the following criteria:

1. Personal essay (see department for guidelines)
2. M.S. degree in marital and family therapy or equivalent
3. Grade-point average (3.3 minimum)
4. Structured oral interview with department (one day).
5. Three letters of reference (two academic and one professional).
6. Résumé (preferred but not required).
7. GRE scores (taken within the past five years)
8. Students for whom English is a second language—TOEFL, 550 (pencil test) or 213 (computer score).
9. Official transcripts for all college and graduate course work.
10. Background check prior to matriculation.

The admissions committee uses the above criteria to evaluate applicants on each of the following equally weighted criteria:

1. Academic preparedness
2. Professional preparedness for doctoral study
3. Research potential
4. Ability to work with diversity
5. Clinical skills

**COREQUISITES**

Student transcripts will be evaluated on a course-by-course basis for the following areas of corequisite study. A plan of study incorporating these standard master's degree-level courses is available for students who have not completed these corequisites:

Theoretical knowledge in family systems/relational therapy	8.0
Clinical knowledge in marital and family therapy	16.0
Individual development and family relations	8.0
Additional study in the three areas above	4.0
Professional issues and ethics in marital and family therapy	4.0
Research	4.0
Additional related study	4.0
<b>TOTAL MINIMUM APPROVED COREQUISITE COURSES</b>	<b>48.0</b>



**Financial assistance**

Students who are accepted into the Ph.D. degree program in marital and family therapy program may apply for a variety of work study and department-funded research, teaching, and administrative assistantships awarded by the Department of Counseling and Family Sciences. They may also apply for need-based financial aid, such as a loan or other work-study programs on campus. Departmental awards are contingent on the availability of funds. Students accepted into the Ph.D. degree program in marital and family therapy are eligible to and encouraged to apply for the AAMFT minority fellowships. See <[www.aamft.org/](http://www.aamft.org/)> for information.

Students may apply for financial aid by writing to:

Student Financial Aid Office  
Student Services  
Loma Linda University  
Loma Linda, CA 92350  
909/558-4509

**Knowledge and skills promoted**

Theory and practice

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 and evidence-based practice. They will develop a critical understanding of the theoretical and philosophical foundations of marital and family therapy; critically examine the interrelationships between sociohistorical factors, family structures and relationships, and clinical approaches; be conversant in the current issues in the field; and contribute to the discourse regarding them. They will use this knowledge to advance the field of family therapy.

Personal development

The program encourages students to develop a clear understanding of themselves, and it invites reflection and consideration of 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 research and practice.

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 skills and a critical understanding of the process of research and evaluation 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 quantitative, qualitative, and mixed methods research approaches, leading to publication in scholarly journals and presentations at professional conferences.

**DOCTOR OF MARITAL AND FAMILY THERAPY**

The D.M.F.T. degree program adopts the practitioner-administrator-evaluator approach and focuses on applied skill development for use in clinical practice and administrative positions. The D.M.F.T. degree is a 102-unit program requiring a minimum of three-to-four years of full-time study for completion—including two-to-three years of course work, 1000 hours of direct client contact, a doctoral project, and supervised professional development experience. The goal of the D.M.F.T. degree program is to prepare students to apply evidence-based standards to the systemic/relational principles of marriage and family therapy as they design, evaluate, and administer programs that impact a clinical population.

**Interim master's degree**

A student may matriculate into the D.M.F.T. degree program with an interim master's degree. The D.M.F.T. degree program with interim master's degree requires 160 units. The program is for selected advanced students whose master's degree is not in marital and family therapy (or equivalent) or for students currently enrolled in COAMFTE-accredited master's programs. A minimum of five years of full-time study is required to complete the program with an interim master's degree.

**Concentrations**

All D.M.F.T. degree students must complete a 12-unit concentration. The following are preapproved concentrations:

- Systems consultation and professional relations
- Family studies
- Families, systems, and health
- School consultation

**Student learning outcomes**

1. Students will develop a professional identity as doctoral level marital and family therapists aligned with national practice standards.
2. Students will become adept in systems/relational practice, demonstrating sophistication as administrators, program developers, and evaluators of marital and family therapy services.
3. Students will be able to use marital and family therapy, human development, and family science literatures to design and

- evaluate programs, clinical protocols, organizational structures, and service delivery processes.
4. To further benefit families and communities, students will demonstrate the ability to use research and evaluation methodologies to improve human service program performance and outcomes.
  5. Students will apply systems /relational theories and evidence-based practices that promote health, healing, and wholeness within interpersonal, family, organizational, and /or community contexts.
  6. Students will be responsive to the societal, cultural, and spiritual contexts in which health and well-being are embedded.
  7. Students will develop an ethical consciousness that guides their practice in all aspects of professional work.

**Admission requirements**

The Doctor of Marital and Family Therapy degree program represents advanced study over and above a standard master’s degree curriculum in the field. Acceptance into this program is based on an integrated evaluation of the following criteria:

1. Five-page personal essay (see department for guidelines)

2. M.S. degree in marital and family therapy or equivalent
3. Grade-point average
4. Structured oral interview with department (one day).
5. Three letters of reference (two academic and one professional)
6. Résumé
7. Critical-essay examination (administered by the department)
8. Acceptable TOEFL scores, if English is a second language.
9. Official transcripts of all college and graduate study.
10. Background check prior to matriculation

**COREQUISITE**

Students are expected to have basic academic preparation before entering the D.M.F.T. degree program. If a student is deficient in courses, such as those listed below, a plan of study incorporating these courses will be developed to give the student a solid grounding in the foundations of the field. Transcripts will be evaluated to determine readiness or deficiency in previous course work. These courses will be regarded as corequisites in that the student will be able to incorporate them into their program of study.

Theoretical knowledge in family systems/relational therapy	8.0
Clinical knowledge in marital and family therapy	16.0
Individual development and family relations	8.0
Additional study in the three preceding areas	4.0
Professional issues and ethics in marital and family therapy	4.0
Research	4.0
Additional related study	4.0

**Financial assistance**

Students who are accepted into the Doctor of Marital and Family Therapy degree program may apply for a variety of work study and departmentally funded assistantships. They may also apply for need-based financial aid, such as loans or other work-study programs on campus. Departmental awards are contingent on the availability of funds. Students accepted into the D.M.F.T. degree program are eligible and encouraged to apply for the AAMFT minority fellowships. See <[www.aamft.org](http://www.aamft.org)> for information.

Students may apply for financial aid by writing to:

Student Financial Aid Office  
 Student Services  
 Loma Linda University  
 Loma Linda, CA 92350  
 909/558-4509

**Knowledge and skills promoted**

Theory and practice

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 and evidence-based practice. D.M.F.T. degree students will develop skills in applying marriage and family therapy principles and frameworks to public and private clinical practice settings. They will develop a critical understanding of

the theoretical and philosophical foundations of marriage and family therapy, be conversant with the current issues in the field, and use this knowledge to develop programs and services.

#### Personal development

The program encourages students to develop a clear understanding of themselves and invites reflection and consideration of the impact of their personal values, social positions, and contexts on their clinical, administrative, and program development practices. Students are supported in the development of their strengths as they create an epistemological framework and ethical consciousness that guides their approach to professional practice in their lives.

#### Practice and supervisory skills

Students will apply an in-depth understanding of theory to the practice of marital and family therapy

interventions and program activities at the family, community, and societal levels—drawing on the core marriage and family therapy frameworks. They will develop sophistication in clinical, administrative, and supervisory skills necessary for multisystemic engagement.

#### Evaluation skills

Students will develop skills and understanding of the process of evaluation research related to marital and family therapy programs and services. 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. D.M.F.T. degree students will focus on evaluation of program performance and outcomes in practice-based settings.

### Theory and practice

		Ph.D.	D.M.F.T.
MFTH 504	Advanced Theory in Marital and Family Therapy	4.0	
MFTH 506	Clinical 1--Cybernetics (MRI, Milan)	3.0	3.0
MFTH 507	Clinical 2--Meaning (Narrative, Solution Focused)	3.0	3.0
MFTH 508	Clinical 3--Natural Systems (Structural, Bowen, etc.)	3.0	3.0
MFTH 509	Clinical 4--Clinical Issues (3.0)	6.0	3.0
MFTH 525	Advanced Marital and Family Therapy Assessment		3.0
MFTH 527	Advanced Legal and Ethical Issues		3.0
MFTH 634	Practicum (2.0)		6.0
Totals		19.0	24.0

### Individual development and family relations

		Ph.D.	D.M.F.T.
MFTH 505	Advanced Family Studies	4.0	4.0
Totals		4.0	4.0

### Supervision

		Ph.D.	D.M.F.T.
MFTH 501	Supervision in Marital and Family Therapy	2.0	2.0
MFTH 502	Advanced Supervision in Marital and Family Therapy	2.0	2.0
Totals		4.0	4.0

### Program development and administration

		Ph.D.	D.M.F.T.
MFTH 524	Administration in Marital and Family Therapy		3.0
MFTH 624	Program Development for Families and Communities		3.0
MFTH 625	Grant Writing		3.0
MFTH 626	Program Evaluation and Monitoring		3.0
MFTH 627	Advanced Program Development and Evaluation (2.0)		4.0
Totals		—	16.0

**Spirituality**

			<b>Ph.D.</b>	<b>D.M.F.T.</b>
RELE 5__	Graduate-level Ethics (3.0)	Choose one course	3.0	3.0
RELE 505	Clinical Ethics (3.0)			
RELR 535	Spirituality and Mental Health		3.0	3.0
RELT 615	Seminar in Philosophy of Religion		3.0	3.0
Totals			9.0	9.0

**Electives**

Choose one concentration (see choices below) for a minimum of 12 units

			<b>Ph.D.</b>	<b>D.M.F.T.</b>
_____	Elective	In addition to units required for concentration	6.0	3.0
Totals			6.0	6.0

**Research**

			<b>Ph.D.</b>	<b>D.M.F.T.</b>
MFTH 601	Statistics I		4.0	4.0
MFTH 602	Statistics II		4.0	
MFTH 603	Statistics III		4.0	
MFTH 604	Advanced Qualitative Methods		4.0	4.0
MFTH 605	Advanced Quantitative Methods		4.0	4.0
MFTH 606	Overview and Critique of Research in Families and Therapy		4.0	4.0
MFTH 607	Computer		1.0	1.0
MFTH 608	Analysis and Presentation Issues in Research		3.0	
MFTH 668	Qualitative Research Practicum		2.0	
Totals			30.0	17.0

**Dissertation/Doctoral project**

			<b>Ph.D.</b>	<b>D.M.F.T.</b>
MFTH 695	Project Research (1.0-12.0)			12.0
MFTH 698	Dissertation Research (1.0-10.0)		20.0	
Totals			12.0	12.0

**Professional development and practice**

700-numbered courses do not count in total graduate units required for the degree

			<b>Ph.D.</b>	<b>D.M.F.T.</b>
MFTH 634	Practicum (2.0)		6.0	
MFTH 694	Doctoral Seminar (0.5)		7.0	1.0
MFTH 785	Professional Clinical Training in MFT (1.5-3.0)	1000 client contact hours required = 30 units	—	—
MFTH 786	Professional Development Proposal (—)		—	—
MFTH 786A	Professional Development in Marital and Family Therapy (1.5-12.0)	36 non-academic units	—	—
Totals			13.0	1.0

**CONCENTRATION - Family Studies**

The family studies concentration focuses on the knowledge regarding family and child development that provides the theoretical basis for family interventions and programs. Students also may select from a variety of courses to enhance their skills in family life education and/or therapy.

		Ph.D.	D.M.F.T.
FMST 518	Advanced Theories in Child Development	3.0	3.0
FMST 526	Marriage and the Family	3.0	3.0
CHLS 507	Child Life Program: Medical Family Issues I (3.0)	Choose 6 units	6.0
CHLS 508	Grief and Loss (3.0)		
COUN 576	Exceptional and Medically Challenged Children (3.0)		
FMST 524	Family Resource Management (2.0)		
FMST 525	Sociology of the Family (2.0)		
FMST 528	Parenting (2.0)		
FMST 529	Family Life Education (3.0)		
MFAM 548	Men and Families (2.0)		
MFTH 514	Child and Family Therapy (2.0)		
MFTH 515	Couples Therapy (2.0)		
MFTH 516	Divorce and Remarriage (2.0)		
MFTH 519	Teaching in Higher Education (2.0)		
MFTH 525	Advanced Marital and Family Therapy Assessment (3.0)		
MFTH 544	Health and Illness in Families (3.0)		
Totals			

**CONCENTRATION - Family, Systems, and Health**

This concentration prepares marital and family therapists to work with issues related to health and illness in medical settings and/or in collaboration with other health care professionals. The concentration includes opportunities to work in the primary care LLU clinics to get life experience with patients, doctors, and other health care professionals (Family Medicine and SACH); as well as the opportunity to work with some specific health-related research projects.

		Ph.D.	D.M.F.T.
MFTH 534	Family Therapy and Medicine	3.0	3.0
MFTH 544	Health and Illness in Families	3.0	3.0
MFTH 564	Social Context of Health	3.0	3.0
MFTH 637	Special Projects in Health and Illness in Families	3.0	1.0
Totals		—	—

**CONCENTRATION - School Consultation**

The school consultation concentration broadens the systematic work of professionals in marital and family therapy or family studies to include more knowledgeable consultation with school administrators, teachers, counselors, and psychologists regarding the well-being of children, adolescents, and college or university students in educational environments. Doctoral students may select 12 units of study for this concentration from the list of courses below.

			Ph.D.	D.M.F.T.
COUN 574	Psychological Foundations of Education (4.0)	Choose 12 units	—	—
COUN 576	Exceptional and Medically Challenged Children (3.0)			
COUN 577	Assessment in Counseling (3.0)			
COUN 578	College and Career Counseling (3.0)			
COUN 678	Consultation and Leadership (3.0)			
COUN 679	School Counseling: History and Practice (3.0)			
Totals			—	—

**CONCENTRATION - Systems Consultation and Professional Relations**

			Ph.D.	D.M.F.T.
MFTH 528	Organizations: Structure, Process, and Behavior		3.0	3.0
MFTH 555	Organizational Development and Change		3.0	3.0
MFTH 556	Management Consulting and Professional Relations		3.0	3.0
MFTH 557	Organizational Assessment		3.0	3.0
Totals			—	—

**Additional courses for MFT licensure in California**

For students who have not previously met academic requirements for MFT licensure

			Ph.D.	D.M.F.T.
MFAM 674	Human Sexual Behavior (3.0)	Choose one course	—	—
MFTH 515	Couples Therapy (2.0)			
FMST 514	Cross-cultural Counseling and Family Values (2.0)		2.0	—
MFAM 524	Psychopharmacology and Medical Issues (3.0)		3.0	—
MFAM 556	Psychopathology and Diagnostic Procedures		3.0	
MFAM 638	Family Therapy and Chemical Abuse		2.0	
MFAM 644	Child Abuse and Family Violence (3.0)		3.0	—
MFTH 525	Advanced Marital and Family Therapy Assessment		3.0	
MFTH 527	Advanced Legal and Ethical Issues		3.0	
Totals			—	—

**Required standard master's degree courses**

Additional required interim master's degree courses for students who do not hold the M.S. degree in marital and family therapy prior to admission.

			Ph.D.	D.M.F.T.
FMST 514	Cross-cultural Counseling and Family Values (2.0)		2.0	—
MFAM 501	Research Tools and Methodology: Quantitative (3.0)			—
MFAM 515	Crisis Intervention Counseling (3.0)		3.0	—
MFAM 524	Psychopharmacology and Medical Issues (3.0)			—

MFAM 535	Case Presentation and Professional Studies (4.0)	4.0	—
MFAM 536	Case Presentation Seminar (2.0)	2.0	—
MFAM 537	Case Presentation Seminar (2.0)	2.0	—
MFAM 545	Gender Perspectives (2.0)	2.0	—
MFAM 547	Social Ecology of Individual and Family Development (3.0)	3.0	—
MFAM 551	Family Therapy: Foundational Theories and Practice (3.0)	3.0	—
MFAM 552	Couples Therapy: Theory and Practice (3.0)	3.0	—
MFAM 553	Family Systems Theory (3.0)	3.0	—
MFAM 556	Psychopathology and Diagnostic Procedures (3.0)	3.0	—
MFAM 564	Family Therapy: Advanced Foundational Theories and Practice (3.0)	3.0	—
MFAM 568	Groups: Process, and Practice (3.0)	3.0	—
MFAM 584	Advanced Child and Adolescent Problems (3.0)	3.0	—
MFAM 614	Law and Ethics (3.0)	3.0	—
MFAM 624	Individual and Systems Assessment (3.0)	3.0	—
MFAM 635	Case Presentation Seminar (2.0)	2.0	—
MFAM 636	Case Presentation Seminar	2.0	—
MFAM 638	Family Therapy and Chemical Abuse (2.0-3.0)		—
MFAM 644	Child Abuse and Family Violence (3.0)	3.0	—
MFAM 564	Family Therapy: Advanced Foundational Theories and Practice (—)	Choose one course	—
MFAM 574	Family Therapy: Theory and Practice (4.0)		
MFAM 670	Seminar in Sex Therapy (2.0) (—)		
MFTH 515	Couples Therapy (2.0)		
MFAM 734	Professional Clinical Training (1.5) (—)	500 client contact hours (15 units)	—
		Totals	—
		<b>Overall Totals</b>	<b>109.0</b>
			<b>120.0</b>

An interim master's degree will be awarded after students have completed:

- 90 units, including all required master's level units,
- 30 doctoral level units,
- An objective comprehensive examination, and
- 500 hours of direct client contact under an AAMFT-approved supervisor.

All doctoral requirements remain the same.

# Natural Sciences—ST

## (M.S.)

LEONARD R. BRAND, Ph.D., Program Director

### FACULTY

Leonard R. Brand  
 Doug Britton  
 H. Paul Buchheim  
 Ronald L. Carter  
 Stephen G. Dunbar  
 Raul Esperante  
 William K. Hayes  
 Ronald Nalin  
 Kevin E. Nick  
 Samuel Soret  
 Benjamin L. Clausen

The Natural Sciences Program leads to the Master of Science degree. Course work is selected from the allied fields of biology, paleontology, geology, earth systems science, and geographic information systems. Areas of curriculum strength include ecology, genetics, systematics, sedimentary geology, paleontology, environmental geology, earth systems science, and GIS.

### Objectives

Students completing the Master of Science degree in natural sciences will be:

1. Fluent in the fundamental concepts of biology, geology, GIS, and earth systems science.
2. Qualified to seek endorsement for subject teaching in secondary education and will be competent in either biological science or geoscience.
3. Able to exhibit effective skills in written and oral communication.
4. Familiar with the scientific method, hypothesis testing, and deductive reasoning.
5. Familiar with key issues related to the integration of faith and science.
6. Qualified to seek employment in K-12 teaching or civil or public service, or will be satisfied that the degree met other personal or professional development objectives.

### Program features

The Natural Sciences Program emphasizes ecology-oriented areas of biology and field-oriented geology, particularly sedimentology, stratigraphy, and paleontology. Fieldwork is emphasized because it provides a first-hand experience with biological and geological phenomena that cannot be satisfactorily grasped or understood solely from classroom or laboratory study. Throughout the natural sciences curriculum, students are encouraged to develop an open-minded and investigative approach in the application of the scientific method to the resolution of biological and geologic problems. Consideration of multiple working hypotheses is encouraged. The goal is to prepare students for effective careers in teaching or government.

### Learning outcomes

1. Develop breadth of knowledge in natural sciences.
2. Develop written and oral communication skills, and the integration of technology in communication.
3. Analyze and synthesize previous knowledge.
4. Develop a professional aptitude and attitude.
5. Develop critical evaluation skills in relating faith and science and public interest issues.

### Admission

Applicants must meet the general School of Science and Technology admission requirements. Acceptable undergraduate preparation includes a bachelor's degree in biology, geology, chemistry, physics, or other degree with typical biology and geology prerequisites. In addition, it must include two quarters of college mathematics (calculus recommended); one-year courses in biology, chemistry, and physics; and courses in general ecology and physical geology. Some of these courses may be taken during residence at this University, with approval of the admissions committee.

### Curriculum

A minimum of 50 quarter units, including 40 at or above the 500 level, constitutes the curriculum for the Master of Science degree in natural sciences. In addition to the general requirements of the School of Science and Technology, the following courses are required. Undergraduate courses must be 400 level:



Major		Units
GEOL 566	Sedimentary Processes	4.0
BIOL 588	Current Topics in Biology (4)	Choose one course
GEOL 558	Philosophy of Science and Origins (4)	
BIOL 607	Seminar in Biology (1)	Choose one course
GEOL 607	Seminar in Geology (1)	
BIOL 616	Research and Experimental Design (2)	Choose one course
GEOL 616	Research and Experimental Design (2)	
BIOL 534	Invertebrate Paleontology (4)	Choose one geology or paleontology course
BIOL 544	Vertebrate Paleontology (4)	
GEOL 524	Paleobotany (4)	
GEOL 545	Taphonomy (3)	
BIOL 505	Marine Biology (4)	Choose one ecology or conservation course
BIOL 515	Biogeography (3)	
BIOL 524	Paleobotany (4)	
BIOL 525	Paleopalynology (4)	
BIOL 539	Behavioral Ecology (4)	
BIOL 546	Techniques in Vertebrate Ecology (3)	
BIOL 549	Biodiversity and Conservation (3)	
BIOL 509	Mammalogy (4)	One additional biology course
BIOL 517	Ecological Physiology (4)	
BIOL 518	Readings in Ecology (2)	
BIOL 526	Principles and Methods of Systematics (3)	
BIOL 535	Animal Behavior (4)	
Totals		23.0-25.0

Religion		Units
REL_ 5__	Graduate-level Religion	3.0
Totals		3.0

Project		Units
BIOL 695	Special Projects in Biology (1)	Choose one course
BIOL 697	Research (1)	
GEOL 695	Special Projects in Geology (1)	
GEOL 697	Research (1)	
Totals		4.0
<b>Overall Totals</b>		<b>30.0-32.0</b>

**Project**  
As part of the core curriculum, the student will complete a project, in consultation with the advisor,

involving 4 units of registration in research or special projects.

**Other courses**

The remaining courses beyond the core will be selected in consultation with the student's faculty advisor.

**Seminar attendance requirements**

All graduate students in residence must register for and attend seminar each quarter at Loma Linda University.

**Registration and tuition after normative time**

Students who are past the normative time for completing their degree must register for two units without a tuition waiver each quarter until they complete their degree. After their normative time,

students may request a one-year grace period that must be approved by the department faculty.

**Final examinations**

Students are expected to pass a written comprehensive examination during their penultimate quarter in residence, and an oral comprehensive examination in their ultimate quarter in residence.

**Rosario Beach summer courses**

In cooperation with the Walla Walla University Marine Station in Anacortes, Washington, facilities are available for marine courses and research by graduate students of Loma Linda University School of Science and Technology's Department of Earth and Biological Sciences.

# Program Evaluation and Research—ST

**(PB certificate)**

BEVERLY J. BUCKLES, Program Director

**FACULTY**

Beverly J. Buckles  
 Kimberly Freeman  
 Sigrid James  
 Dianna Simon  
 Ignatius Yacoub

**ADJUNCT FACULTY**

Emily Ascencio  
 Siddharth Swaminathan

needs research skills to conduct program evaluation and outcome assessments. Students who complete this program will develop competencies in design and implementation of program evaluations in health care, human services, criminal justice, and economic development. The certificate may be combined with other graduate degrees offered by Loma Linda University or may be taken on its own by nondegree-seeking students. Students in the evaluation research certificate program are expected to have completed some undergraduate work in statistics and social research design. Students lacking appropriate preparation may be required to take necessary courses prior to admission to the program.

Students interested in applying for admission to the graduate certificate in program evaluation and research should contact the Department of Social Work and Social Ecology in the School of Science and Technology.

The graduate-level certificate program in evaluation research is designed for the working professional who

Required		Units
PSYC 501	Advanced Statistics I	4.0
PSYC 502	Advanced Statistics II	4.0
PSYC 503	Advanced Multivariate Statistics	4.0
SPOL 654	Research Methods I	4.0
SPOL 655	Research Methods II	4.0
Totals		20.0

Theory elective		Units
SPOL 614	Social Science Concepts II (4)	Choose one course 4.0
SPOL 615	Economic Theory and Social Policy (4)	
SPOL 624	Nature/Society Thought and Social Policy (4)	
Totals		4.0

Research elective		Units
SPOL 664	Applied Research for Social Policy (2)	Choose one course 2.0-4.0
SPOL 665	Information Technologies and Decision Science (4)	
Totals		2.0-4.0

<b>Religion</b>			<b>Units</b>
RELE 5__	Graduate-level Ethics (3)	Choose one course	3.0
RELR 528	Christian Citizenship and Leadership (3)		
		Totals	3.0
		<b>Overall Totals</b>	<b>29.0-31.0</b>

**Additional requirements**

Serve as project director or codirector of a selected program evaluation research project for a minimum of one term; and submit an approved written report of the project.

G.P.A. of 3.0 or higher in graduate study.

# Psychology—ST

## (M.A., Psy.D., Ph.D. in clinical psychology)

LOUIS JENKINS, Chair

ADAM ARECHIGA, Director of Psy.D. Clinical Training

DAVID VERMEERSCH, Director of Ph.D. Clinical Training

### FACULTY

Adam Arechiga  
Hector Betancourt  
Kendal C. Boyd  
Todd Burley  
Paul Haerich  
Richard Hartman  
Louis Jenkins  
Karen Lesniak  
Kelly R. Morton  
Jason Owen  
Susan Ropacki  
David A. Vermeersch

### LLU ASSOCIATE FACULTY

Jerry W. Lee  
Helen Marshak  
Johnny Ramirez

### 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, San Bernardino (CSUSB), a select number of professors whose primary appointment is at CSUSB have adjunct appointments in psychology at Loma Linda University. These faculty members teach, mentor, and supervise students in research.

Alan Butt  
David V. Chavez  
Gloria Cowan  
Charles D. Hoffman  
Faith McClure  
Frederick Newton  
Edward Teyber

### MISSION STATEMENT

The mission of Loma Linda University is "To make man whole." The mission, in concert with the University's values of compassion, integrity, excellence, freedom, justice, purity, and humility, provide the context within which the psychology programs are conducted.

The School of Science and Technology's Department of Psychology offers a combination of innovative training opportunities in clinical 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. Combined degrees programs—Ph.D./M.P.H., Psy.D./M.P.H., and Psy.D./Dr.P.H.—are offered. 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 School 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.

Applicants are no longer being admitted to the M.A. and Ph.D. degree programs in experimental psychology.

The specific objective of the APA-accredited Ph.D. degree program in clinical psychology is 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:

1. a solid academic foundation,
2. high-level training in the empirical methods of science so that they are capable of conducting independent and original research,
3. the skills to be highly competent clinicians for whom research and practice constantly inform each other, and
4. preparation for academic careers.

Among the outcomes measures used to determine the clinical Ph.D. degree program's success in achieving the above-mentioned objectives are the following:

1. Academic foundations course evaluations and successful completion of the comprehensive examination.
2. Training in empirical methods of science—master's degree thesis; a doctoral degree dissertation; presentations, publications, and grants; research and teaching assistantships; teaching positions in area colleges/universities; and membership in scientific/professional organizations.

- Clinical skills—ongoing clinical evaluations, the quality and type of internships obtained, and successful passing of the clinical proficiency examination and national licensing examination.

The specific objective of the APA-accredited Psy.D. degree program is 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 outcomes measures used to determine the Psy.D. degree program's success in achieving the above-mentioned objectives are the following:

- Academic foundations course evaluations and the comprehensive examination.
- Clinical skills, ongoing clinical evaluations, the quality and type of internships obtained, and the clinical proficiency examination.
- Application of research design and methods appropriate to the doctoral project; involvement in community-based program development, evaluation, and consultation; membership in professional organizations and passing the national licensing examination.

The Psychology Program emphasizes research and practice based on the scientific principles and methods of psychology and related disciplines. This emphasis takes place within the context of an approach to human health and welfare that is consistent with the institutional motto, "To make man whole." 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 Psychology Program provides, in addition to the traditional training, 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.

## GENERAL REQUIREMENTS

### Doctoral degrees

The following general requirements apply to doctoral degrees in the Clinical Psychology Program. Note that the first three sections—foundations, methodology, and wholeness care—are referred to as the core curriculum.

### Comprehensive examination

A written comprehensive examination must be taken after completing 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 his/her ability to integrate and use such knowledge for developing research and applications.

There is no language requirement.

### Clinical proficiency examination

The clinical proficiency examination is taken prior to application for the internship and is intended to demonstrate the student's highest level of competency up to that time. This will include demonstrating skill in:

- conceptualizing the present problem;
- obtaining information regarding personal history, interpersonal functioning, and present status;
- synthesizing psychodiagnostic data;
- justifying diagnostic impressions;
- applying relevant research to treatment planning;
- formulating a comprehensive treatment plan;
- engaging in effective intervention and evaluating treatment progress and outcome.

Professional, legal, and ethical issues are also covered in this examination.

## PSYCHOLOGY—PSY.D.

### Admission

Applicants must meet the requirements of the School of Science and Technology and Faculty of Graduate Studies: minimum undergraduate G.P.A. of 3.0, Graduate Record Examination with verbal and quantitative scores totaling the 100th percentile, with the lowest score at the 35th percentile; and a writing score of 4.0. These criteria represent the minimum for applicants to be given consideration.

### 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 doctoral research, students must complete PSYC 504 Research Methods in Clinical Psychology. In addition, students will complete PSYC 696 Psy.D. Research (proposal preparation) for a total of 8 units. Students will complete a doctoral project. Completion of the doctoral project will be submission of Form D.

**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 781-787), and
- the comprehensive examination; and
- after acceptance of the doctoral project proposal and upon recommendation of the faculty.

**PSYCHOLOGY—PH.D.**

**Admission**

Applicants must meet the requirements of the School of Science and Technology and the Faculty of Graduate Studies: a minimum undergraduate G.P.A. of 3.0, Graduate Record Examination with verbal and quantitative scores totaling the 100th percentile with the lowest score at the 35th percentile; and a writing score of 4.0. These criteria represent the minimum for applicants to be considered.

**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.

**Area of 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; social psychology and culture; pediatric psychology; and neuropsychology.

**Doctoral dissertation**

A doctoral dissertation is required of all students in the Ph.D. degree program in clinical psychology. The study 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; 13 units of PSYC 595 Directed Research; and a second-year project or thesis. These units normally will be completed by the beginning of the third year of study. Students will complete a thesis. Completion of the thesis will be submission of Form D.

**Advancement to candidacy**

Students may apply for doctoral candidacy upon:

- completion of the core curriculum (Parts I, II, III);
- completion of minimum specialty course work;
- completion of the practicum (PSYC 782-785);
- successful completion of comprehensive examination;
- acceptance of the doctoral dissertation proposal; and
- recommendation of the faculty.

**Course requirements**

In preparation for the dissertation, candidates must complete at least 30 units of doctoral research, PSYC 697; and 4 units of PSYC 699. Students will complete a doctoral dissertation. Completion of the dissertation will be submission of Form D.

**Qualifying examination**

Students must complete a qualifying examination prior to advancing to doctoral candidacy. This examination will be 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.

**Core Curriculum I: Foundations of psychological science**

		M.A.	Psy.D.	Ph.D.
PSYC 524	History, Systems, and Philosophy of Psychology	2.0	2.0	2.0
PSYC 545	Cognitive Foundations	4.0		4.0
PSYC 551	Psychobiological Foundations	4.0	4.0	4.0
PSYC 564	Foundations of Social and Cultural Psychology	4.0	4.0	4.0

PSYC 575	Foundations of Human Development		4.0		4.0
PSYC 591	Colloquia (1.0)	One unit each year for three years.	1.0	3.0	3.0
PSYC 544	Foundations of Learning and Behavior (4.0)	Minimum of one course	—	4.0	—
PSYC 545	Cognitive Foundations (4.0)				
PSYC 549	Sensation and Perception (4.0)				
PSYC 574	Personality Theory and Research (4.0)	Minimum of one course	—	4.0	—
PSYC 575	Foundations of Human Development (4.0)				
Totals			19.0	21.0	21.0

**Core Curriculum II: Quantitative psychology research methodology****M.A. Psy.D. Ph.D.**

PSYC 501	Advanced Statistics I		4.0	4.0	4.0
PSYC 502	Advanced Statistics II		4.0	4.0	4.0
PSYC 503	Advanced Multivariate Statistics		4.0		4.0
PSYC 504	Research Methods for Clinical Psychologists		4.0	4.0	
PSYC 505	Research Methods in Psychological Science		4.0		4.0
PSYC 511	Psychometric Foundations		3.0	3.0	3.0
Totals			23.0	15.0	19.0

**Core Curriculum III: Wholeness****M.A. Psy.D. Ph.D.**

PSYC 526	Ethics and Legal Issues in Clinical Psychology		3.0		
PSYC 554	Health Psychology				4.0
PSYC 567	Human Diversity				3.0
RELE 5__	Graduate-level Ethics (3.0)	Choose one course from each prefix. Only two courses required for MA degree	3.0	9.0	9.0
RELR 5__	Graduate-level Relational (3.0)				
RELT 5__	Graduate-level Theological (3.0)				
Totals			6.0	9.0	16.0

**Clinical psychology: General****M.A. Psy.D. Ph.D.**

PSYC 526	Ethics and Legal Issues in Clinical Psychology			3.0	3.0
PSYC 555	Psychopharmacology			2.0	2.0
PSYC 571	Adult Psychopathology		4.0	4.0	4.0
PSYC 572	Child Psychopathology			2.0	2.0
PSYC 686	Child, Partner, and Elder Abuse			2.0	
Totals			4.0	13.0	11.0



<b>Psychological assessment</b>		<b>M.A.</b>	<b>Psy.D.</b>	<b>Ph.D.</b>
PSYC 512	Assessment I		2.0	2.0
PSYC 512L	Assessment I, Practice Laboratory		1.0	1.0
PSYC 513	Assessment II		2.0	2.0
PSYC 513L	Assessment II, Practice Laboratory		1.0	1.0
PSYC 514	Assessment III		2.0	2.0
PSYC 514L	Assessment III, Practice Laboratory		1.0	1.0
Totals		—	9.0	9.0

<b>Psychological treatment</b>		<b>M.A.</b>	<b>Psy.D.</b>	<b>Ph.D.</b>
PSYC 581	Psychological Treatment I: Behavioral and Cognitive Therapies		2.0	2.0
PSYC 581L	Psychological Treatment I: Behavioral and Cognitive Therapies Practice		1.0	1.0
PSYC 582	Psychological Treatment II: Psychodynamic Therapy		2.0	2.0
PSYC 582L	Psychological Treatment II: Psychodynamic Therapy Practice		1.0	1.0
PSYC 583	Psychological Treatment III: Humanistic/Phenomenological Approaches to Therapy		2.0	2.0
PSYC 583L	Psychological Treatment III: Humanistic/Phenomenological Therapy Practice		1.0	1.0
PSYC 584	Psychological Treatment IV: Conjoint and Group Psychotherapies		2.0	2.0
PSYC 584L	Psychological Treatment IV: Group Psychotherapies Practice		1.0	1.0
PSYC 686	Child, Partner, and Elder Abuse			2.0
PSYC 676	Geropsychology (1.0)	Choose 6 units	—	6.0
PSYC 684	Human Sexual Behavior and Treatment (1.0)			
PSYC 685	Drug Addiction and Therapy (2.0)			
PSYC 687	Cognitive Behavioral Treatment of Anxiety Disorders (2.0)			
PSYC 688	Empirically Supported Treatments of Depression (2.0)			
Totals		—	18.0	20.0

<b>Professional concentration</b>		<b>M.A.</b>	<b>Psy.D.</b>	<b>Ph.D.</b>
PSYC 681	Clinical Supervision and Consultation		2.0	
PSYC 683	Management and Professional Practice		1.0	1.0
Totals		—	3.0	1.0

<b>Practicums and internships</b>		<b>M.A.</b>	<b>Psy.D.</b>	<b>Ph.D.</b>
Units do not count toward total graduate units required for the degree				
PSYC 721	Practicum Preparation I		3.0	3.0
PSYC 781	Internal Practicum (2.0)		8.0	2.0
PSYC 782	External Practicum I		4.0	4.0

PSYC 783	External Practicum II		4.0	4.0
PSYC 784	External Practicum III		4.0	4.0
PSYC 785	External Practicum IV		4.0	4.0
PSYC 798	Pre-Internship		4.0	
PSYC 799	Internship (0.5-1.0) (2000 hours)		5.0	0.5
Totals		—	—	—

**Research**

		M.A.	Psy.D.	Ph.D.
PSYC 595	Directed Research (1.0-13.0) Master's thesis	12.0		12.0
PSYC 597	Supervised Research (1.0)			8.0
PSYC 697	Doctoral Research			26.0
Totals		12.0	—	46.0
<b>Overall Totals</b>		<b>64.0</b>	<b>88.0</b>	<b>143.0</b>

**PSYCHOLOGY—M.A.**

A master's degree in psychology is available only to students enrolled in the Psy.D. or Ph.D. degree clinical program. A separate application to the School of Science and Technology for the master's degree is required. Students seeking this degree must submit a Form C Petition for Graduation two quarters prior to the completion of program requirements and a Form

D Statement of Completion of Requirements for Degree when the requirements have been completed.

**Minimum required grade-point average**

Students must maintain a minimum grade-point average of B (3.0) in all courses required for the degree.

# School Counseling—ST

## (PM certificates, PPS credential)

Meets requirements for California Pupil Personnel Services (PPS) Credential in School Counseling (see also M.S. degree in counseling for PPS option)

CHERYL J. SIMPSON, Program Director

### FACULTY

Jennifer Andrews  
 Ian P. Chand  
 Brian Distelberg  
 Curtis Fox  
 Barbara Hernandez  
 Douglas Huenergardt  
 Carmen Knudson-Martin  
 Michelle Minyard  
 Mary Moline  
 Cheryl Simpson  
 Randall Walker  
 Colwick Wilson

### DEPARTMENT

The School Counseling Program is one of two options in the Department of Counseling and Family Sciences leading to the California Pupil Personnel Services Credential (PPS) in school counseling. Credential requirements are embedded in the M.S. in Counseling degree outlined in the Loma Linda University CATALOG. The second option for meeting all requirements for the California Pupil Personnel Services Credential (PPS) in school counseling is the School Counseling Program which is open only to M.S. in marital and family therapy degree students. The PPS in school counseling is accredited by the California Commission on Teacher Credentialing (CTC) within the State Department of Education. Students enrolled in the M.S. in marital and family therapy may earn this certificate (credential).

### Mission statement

The school counseling certificate program is congruent with Loma Linda University's vision of transforming lives through whole-person health care. The department supports University's values of compassion, integrity, excellence, freedom, justice, purity, and humility. These attributes are depicted by the Good Samaritan statue located centrally on the campus, which contrasts human indifference and ethnic pride with empathy and service. Our mission is to bring health, healing, wholeness, and hope to individuals, families, and communities through education, research, clinical training, community service, and global outreach.

### PROFESSIONAL SCHOOL COUNSELING

Professional school counseling emerged a century ago as communities of multigenerational families were transformed through war, urbanization,

industrialization, immigration, compulsory education, increasing career choices, and other societal changes that brought about the need for mental health services. Providing counseling services through the schools was a logical extension of the family in the process known as "in loco parentis" while students are away from home and in the school's care. Throughout the United States, professional school counseling has continued to grow as an integral part of the educational system. Its focus is threefold: 1) personal and social development of students, 2) students' academic achievement and success, and 3) students' career interests, exploration, and preparation. In addition to working with students on campus, professional school counselors serve as consultants for school administrators, faculty, staff, parents, community leaders, and other professionals who work with and for students. The role of professional school counselors varies with the district and grade levels ranging from preschool through college and university.

### Degree and certificate requirements

The certificate in school counseling is designed specifically for M.S. degree students in the Marital and Family Therapy Program at Loma Linda University who wish to add the California Pupil Personnel Services (PPS) Credential in school counseling to their programs. All degree requirements and certificate requirements must be met and the degree awarded prior to recommendation for the PPS credential. Credential requirements are embedded in the degree requirements of the Counseling Program.

### Accreditation

Loma Linda University's academic programs are accredited by the Western Association of Schools and Colleges (WASC). The Pupil Personnel Services (PPS) Credential program in School Counseling is accredited by the California Commission on Teacher Credentialing (CTC). Additional PPS information can be obtained by going to the CTC Web site at <[www.ctc.ca.gov](http://www.ctc.ca.gov)>.

### Counseling credential and license information Credential

A California credential authorizes an individual to work for a specific institution, such as a public school. The Pupil Personnel Services Credential (PPS) in School Counseling is required for work as a salaried, certificated counselor in California public schools. Requirements include a master's degree in counseling or a related field, fitness clearance, and a passing score on all sections of the California Basic Educational Skills Test (CBEST). The PPS credential requirements are currently embedded in the M.S. Counseling degree program and offered as a certificate option in the M.S. Marital and Family Therapy degree program.

## License

A California license authorizes an individual to establish an independent business. In the case of counseling, this would provide opportunity to set up an independent or private practice. Legislation proposing licensure for counselors in the state of California is currently moving through the legislature, and approval is expected to be complete in 2009. The title of this license will be Licensed Professional Clinical Counselor (LPCC). In anticipation of legislative approval, the Department of Counseling and Family Sciences is preparing to diversify the M.S. Counseling degree in 2010 by offering two tracks: 1) a track for individuals seeking to become Licensed Professional Clinical Counselors and 2) a track (already in place) which prepares candidates to become credentialed as a school counselor. A common core of courses will be the foundation for these tracks which may be taken separately or efficiently combined to include preparation for both the LPCC and the PPS. Start date for the licensure track is tentative and will be determined by the timing of legislative approval.

## Certificates

The Department of Counseling and Family Sciences offers certificate programs which can be combined with masters or doctoral degrees offered in the department to broaden a student's counseling skills and marketability. Students wishing to add specializations in the following areas must formally apply and be accepted into the desired certificate program(s). Prior to application, the student is advised to consult the program coordinator.

- Child Life Specialist Certificate
- Clinical Mediation Certificate
- Drug and Alcohol Counseling Certificate
- Family Counseling Certificate
- Family Life Education Certificate
- School Counseling Certificate: California Pupil Personnel Services (PPS) Credential (open only to M.S. in Counseling and M.S. degree in marital and family therapy students)

## Professional experience

In addition to successful completion of the M.S. degree in marital and family therapy and the school counseling certificate courses, students must complete field experience in clinical and/or school settings. Each student is required to complete 100 clock hours of University-supervised practicum prior to placement in counseling field experience. Following practicum, students are required to complete 600 clock hours of counseling field experience in a minimum of two different settings, serving at least two different age groups. While enrolled in COUN 680 Field Experience in Counseling, students meet

regularly for University supervision each week in COUN 681 Counseling Seminar, as scheduled.

## ADMISSION REQUIREMENTS

Applicants to the Counseling Program must meet the School of Science and Technology admission requirements as outlined in the Loma Linda University CATALOG and give evidence of academic ability, emotional stability, and personal maturity. Applicants who meet these requirements, as well as the published deadlines for the following terms, may be admitted during Fall, Winter, Spring, or Summer quarters. Additional admission requirements include:

- M.S. degree in marital and family therapy combined with school counseling certificate requirements
- Minimum grade-point average 3.0 (on a 4.0 scale) in bachelor's course work for at least the final 45 units prior to graduation
- Health clearance
- A background check
- Official transcripts of all college or university credits
- Three letters of recommendation, as specified (two letters for students already admitted in the MFT program)
- Written personal statement that addresses career objectives, personal interest in the counseling profession, rationale for choosing to attend Loma Linda University, how life experiences have influenced applicant's choice to enter the field, and additional thoughts the applicant deems important
- Applicants for whom English is not their first language, a minimum score for the Test of English as a Foreign Language (TOEFL) of 213 on the computer administration of the test or a score of 550 for the pencil/paper administration
- Applicants who are not citizens or permanent residents of the U.S., a valid student visa
- Interview with department faculty, as scheduled (on-campus group interviews are scheduled for mid-March and mid-May; other on-campus and phone interviews are scheduled individually)

## DEGREE AND CERTIFICATE REQUIREMENTS

The school counseling certificate is offered through Loma Linda University for the purpose of meeting all requirements for the California Pupil Personnel Services (PPS) Credential in school counseling. The credential is awarded by the Commission on Teacher Credentialing after all University certificate/

credential/degree requirements are met and the masters degree is awarded. Requirements for the combined school counseling certificate/M.S. degree in marital and family therapy in include:

- Residence of at least two academic years, including residence in the M.S. degree in Marital and Family Therapy Program.
- Completion of M.S. degree in marital and family therapy at Loma Linda University.

**School counseling certificate**

- Passing score on all sections of the California Basic Education Skills Test (CBEST) prior to University recommendation to the California Commission on Teacher Credentialing (CTC) for the Pupil Personnel Services (PPS) Credential in school counseling.
- Counseling courses, as outlined in the curriculum.
- Certificate of Clearance prior to field placement.
- Prefield practicum and field experience, as outlined in the curriculum.

**Additional requirements: School counseling certificate**

Loma Linda University students in the M.S. degree in Marital and Family Therapy Program may complete the School Counseling Program certificate concurrently with their degree program. The application process for the certificate is separate, and acceptance is not automatic. Applicants whose master's degree in marital and family therapy was completed at another university must have their transcripts analyzed prior to enrollment in the School Counseling Certificate Program to determine whether there are deficiencies that need to be addressed.

**Financial assistance**

Students accepted into the Counseling Program may receive financial assistance through merit-based awards, teaching assistantships, research and student service assistantships; or through need-based financial aid, such as a loan or the university's work/study program. Students may apply for financial aid by writing to:

Student Financial Aid Office  
 Student Services  
 Loma Linda University  
 Loma Linda, CA 92350  
 909/558-4509

**Program learning outcomes**

School Counseling Program students will:

1. Integrate counseling concepts and skills with a personal epistemology
2. Demonstrate counseling interventions based upon a broad range of theoretical and legal/ethical frameworks through comprehensive written examination
3. Develop identity as a counselor through membership and participation in professional organizations
4. Satisfactorily complete 600 clock hours of supervised practicum in counseling
5. Meet all University qualifications for the California Pupil Personnel Services (PPS) credential in school counseling which is issued by the California Commission on Teacher Credentialing (CTC)

**CURRICULUM**

The curriculum for the School Counseling Program combines specialization courses for the California Pupil Personnel Services (PPS) credential in school counseling with the requirements for the M.S. degree in Marital and Family Therapy Program.

**Domain I: Educational foundations and beliefs**

Includes courses in learning theory, educational psychology, sociocultural competence, research, and introductory statistics.

**Domain II: Theory and cognitive competence**

Challenges students with a variety of theoretical constructs from which to develop an approach to counseling that is compatible with their own belief systems and personhood. Students are expected to learn how to deconstruct theories and create a foundation upon which to build their professional skills and relationships.

**Domain III: Counseling competence and service**

Integrates the first two curriculum domains with clinical education and experience, which emphasizes relational skill building, counseling practice, supervision, professional leadership, and altruism.

**REQUIREMENTS**

Required courses include all Counseling Program requirements and all M.S. degree in the Marital and Family Therapy Program. Courses required for both the Counseling Program and the Marital and Family Therapy Program that share common content are cross-listed with discipline-specific prefixes.

**Domain I: Educational foundations and beliefs**

Units

COUN 501	Research Tools and Methodology: Quantitative	3.0
COUN 502	Research Tools and Methodology: Qualitative	3.0
COUN 545	Gender Perspectives	2.0

COUN 547	Social Ecology of Individual and Family Development	3.0
COUN 574	Psychological Foundations of Education	4.0
MFAM 535	Case Presentation and Professional Studies	4.0
RELR 564	Religion, Marriage, and the Family	3.0
Totals		22.0

**Domain II: Theory and cognitive competence**

Units

COUN 556	Psychopathology and Diagnostic Procedures	3.0
COUN 568	Groups: Process and Practice	3.0
COUN 575	Counseling Theory and Applications	3.0
COUN 576	Exceptional and Medically Challenged Children	3.0
COUN 577	Assessment in Counseling	3.0
COUN 584	Advanced Child and Adolescent Development	3.0
COUN 674	Human Sexual Behavior	3.0
Totals		21.0

**Domain III: Counseling competence and service**

Units

COUN 514	Cross-cultural Counseling and Family Values	2.0
COUN 515	Crisis-Intervention Counseling	3.0
COUN 578	College and Career Counseling	3.0
COUN 614	Law and Ethics	3.0
COUN 624	Individual and Systems Assessment	3.0
COUN 638	Family Therapy and Chemical Abuse	3.0
COUN 644	Child Abuse and Family Violence	3.0
COUN 678	Consultation and Leadership	3.0
COUN 679	School Counseling: History and Practice	3.0
Totals		26.0

**Domain III: Field experience**

Field experience units not counted toward total units required for the certificate

Units

COUN 680	Field Experience in Counseling (3.0-18.0)	(600 hours)	18.0
COUN 681	Counseling Seminar (1.0)	Quarterly registration of all students enrolled in COUN 680 until graded out of all field experience. Minimum registration requirement is two (2) quarters.	2.0
Totals			—

**Required M.S. in M.F.T.**

Units

MFAM 524	Psychopharmacology and Medical Issues		3.0
MFAM 552	Couples Therapy: Theory and Practice		3.0
MFAM 551	Family Therapy: Foundational Theories and Practice (3)	Theory elective: choose one course	3.0
MFAM 553	Family Systems Theory (3)		
MFAM 564	Family Therapy: Advanced Foundational Theories and Practice (3)		
Totals			9.0
<b>Overall Totals</b>			<b>78.0</b>

# Social Policy and Social Research—ST

## (Ph.D.)

KIMBERLY FREEMAN, Ph.D., Program Director

### FACULTY

Beverly J. Buckles  
Kimberly Freeman  
Sigrid James  
Chris Schubert  
Dianna Simon  
Ignatius Yacoub

A complete list of all part-time and voluntary faculty can be viewed on the department Web site.

The mission of the Social Policy and Research Program is to extend the distinctive principles of "whole-person care" beyond the individual to include the care of communities and social institutions. The program's emphasis on an integrative approach to an advanced curriculum in social science, social policy, Christian ethics, and social research provides 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. Graduates of the Loma Linda University Social Policy and Social Research Program will demonstrate:

- The ability to integrate advanced concepts from social science theories, social ethics, and philosophy.
- The ability to utilize critical thinking to distinguish between the moral, ethical, and political differences that affect policies and their consequences.
- An understanding of the conceptual and analytical requirements of policy analysis through the integration of behavioral, political, economic, and social frameworks for understanding human conditions.
- An understanding of the process of defining policy problems, establishing criteria for policy choices, mapping alternative strategies, and applying appropriate analytical and research methods to policy questions.
- The ability to independently define research problems and formulate appropriate questions and hypotheses.
- An understanding of the rationale for particular qualitative and quantitative

research methods, and ability to select appropriate strategies for independent research and/or evaluation.

- Competence in utilizing different methods of collecting, recording, analyzing, and interpreting data.

### ADMISSION REQUIREMENTS

Admission to the program is governed by the policies and procedures established by the School of Science and Technology. Admission requirements 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 theology (M.Div.).
2. Evidence of adequate academic preparation in graduate education. This includes a minimum cumulative G.P.A. of 3.0 (on a 4.0 scale) for graduate/postgraduate work.
3. Strong intellectual abilities, including background in social sciences and statistics.
4. Evidence of research and policy interests that are compatible with the specialized emphases supported by the program faculty.
5. Professional experience and achievement that demonstrate 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).
9. Curriculum vitae or other description of education and employment history.

In addition to the above criteria, the application process for the Ph.D. degree in social policy and social research utilizes a pooled application process by which the top candidates meeting the admissions criteria are selected. The number of new candidates admitted each year is also reviewed in light of the total number of students completing the program and the program's ability to support potential candidates in their area of interest.

### Program of study

The program is structured around four primary requirements: course work, comprehensive examination, applied research, and the dissertation.



**Social science theory and policy**

Units

SPOL 613	Social Science Concepts I		4.0
SPOL 614	Social Science Concepts II		4.0
SPOL 615	Economic Theory and Social Policy		4.0
SPOL 656	Organizational Theory and Policy		4.0
SPOL 658	Methods of Policy Analysis and Research		4.0
Totals			20.0

**Religion**

Units

RELR 525	Health Care and the Dynamics of Christian Leadership (-3 to 4)	Choose one course	4.0
RELR 536	Spirituality and Everyday Life (4)		
RELT 557	Theology of Human Suffering		4.0
RELE 588	Philosophical Ethics	Required of all Ph.D. degree students	4.0
Totals			12.0

**Research methods, statistics, and information technology**

Choose one statistical sequence in consultation with advisor

Units

SPOL 654	Research Methods I		4.0
SPOL 655	Research Methods II		4.0
SPOL 665	Information Technologies and Decision Science		4.0
STAT ____	Statistics	Advanced course in statistics or methods	4.0
PSYC 501	Advanced Statistics I (4)	Sequence 1	—
PSYC 502	Advanced Statistics II (4)		
PSYC 503	Advanced Multivariate Statistics (4)		
MFTH 601	Statistics I (4)	Sequence 2	—
MFTH 604	Advanced Qualitative Methods (4)		
MFTH 605	Advanced Quantitative Methods (4)		
STAT 522	Biostatistics II (4)	Sequence 3	—
STAT 523	Biostatistics III (4)		
STAT 525	Applied Multivariate Analysis (3)		
Totals			28.0

**Applied/structured research**

Units

SPOL 671	Applied /Structured Research I	2.0-4.0
SPOL 672	Applied /Structured Research II	2.0-4.0
SPOL 673	Applied /Structured Research III	2.0-4.0
Totals		22.0

**Specialized electives**

		Units
_____	Elective	1.0-4.0
Totals		10.0-16.0

**Dissertation research**

		Units
SPOL 681	Dissertation Proposal I	2.0
SPOL 682	Dissertation Proposal II	2.0
SPOL 683	Dissertation Proposal III	2.0
SPOL 699	Dissertation (-4 to 12)	6.0
SPOL 697	Research (4)	12.0
Totals		24.0
<b>Overall Totals</b>		<b>116.0-122.0</b>

**Policy and research specialization**

Students admitted to the program have demonstrated evidence of policy and research interests that are compatible with the areas of expertise supported by program faculty. (Information regarding faculty areas of expertise is available by contacting the program.) During the first year of study, students further define their interests through advisement. During the second year of study, following the successful completion of a comprehensive examination, students are assigned a research mentor who guides the development of an individualized program of applied research and policy activities. An applied research product is the result of this year-long activity. This applied activity provides the experience needed for beginning the dissertation process.

During the third year of the program, students are assigned a Dissertation Committee chair with whom they work closely to develop and defend a dissertation proposal following University guidelines. During the final year of study, students actively engage in dissertation research, culminating in the successful defense of their dissertation.

**Qualifying examination**

Students must pass a comprehensive examination. The comprehensive examination is administered at the completion of the core curriculum (typically during Fall Quarter of the second year of the full-time curriculum).

**Candidacy**

Students must successfully complete:

1. required course work,
2. the comprehensive examination,
3. the applied research requirements, and
4. the defense of the dissertation proposal before advancing to candidacy.

**Dissertation**

The Ph.D. degree candidacy is spent in full-time dissertation research, culminating in the successful defense of the completed dissertation. Dissertation research for Ph.D. degree candidates follows University guidelines. Details regarding these requirements can be obtained from the program coordinator.

# Social Work—ST

## (M.S.W.)

KIMBERLY FREEMAN, Ph.D., Program Director

### FACULTY

Beverly J. Buckles  
Terrence J. Forrester  
Kimberly Freeman  
G. Victoria Jackson  
Sigrid James  
Viola Lindsey  
Froylana Miller  
Dianna Simon  
Ignatius I. Yacoub  
Sandy Suarez

A complete list of part-time and voluntary faculty can be viewed on the department Web site.

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 offered by the Social Work Program (M.S.W.) in the School of Science and Technology emphasizes an ecological 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 motto, "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 Social Work Program.

### Mission

The mission of the Social Work Program at Loma Linda University is to provide graduate-level education that prepares competent, ethical, and compassionate social work professionals who possess the knowledge, values, attitudes, and skills necessary for a life dedicated to whole-person care in advanced practice and to leadership in behavioral health institutions and agencies.

### Goals

The goals of the Social Work Program (M.S.W. degree) are to:

- Provide a graduate curriculum that infuses the knowledge, ethics, values, and skills expected of professional social work practitioners.
- Provide a graduate curriculum that prepares students for global practice; and that develops competency in and respect for all aspects of human diversity, populations at

risk, and the promotion of social and economic justice.

- Integrate throughout the graduate curriculum the research competencies that promote knowledge development and that equip students for advanced professional practice.
- Provide a graduate curriculum that develops social work leaders in both clinical and policy / planning / administration practice for work in behavioral health institutions and agencies.
- Provide curricular and cocurricular experiences that utilize strong linkages with behavioral health institutions, agencies, and the broader community for the purpose of transitioning students into professional roles, advanced practice, and lifelong learning.

### Objectives

The foundation and advanced program objectives for the M.S.W. degree are listed below. Overarching program objectives that apply to both the foundation and advanced curriculum are indicated with an asterisk (\*).

### Foundation program objectives

Program objectives related to goal 1 prepare M.S.W. degree graduates with the knowledge, ethics, values, and skills expected of professional social work practitioners. Graduates of the program will demonstrate the ability to:

- \*1.1. Apply critical thinking skills within the context of professional social work practice.
- \*1.2. Understand the value base of the profession and its ethical standards and principles, and practice accordingly.
- 1.3. Understand and interpret the history of the social work profession and its contemporary structures and issues.
- 1.4. Apply the knowledge and skills of a generalist social work perspective to practice with systems of all sizes.
- 1.5. Use theoretical frameworks supported by empirical evidence to understand individual development and behavior across the life span; and the interactions among individuals and between individuals and families, groups, organizations, and communities.
- 1.6. Analyze and evaluate social policies designed to resolve or prevent social and human problems, and formulate recommendations to

improve social policies and service delivery systems.

- 1.7. Use effective communication skills differentially across client populations, with colleagues, and/or within communities.
- \*1.8. Use supervision and consultation appropriate to social work practice.
- 1.9. Identify organizational structures and service delivery systems, as well as the mechanisms required for organizational or systems change.

Program objectives related to goal 2 prepare M.S.W. degree graduates for global practice; and develop competency in and respect for all aspects of human diversity, for populations at risk, and for the promotion of social and economic justice. Graduates of the program will demonstrate the ability to:

- \*2.1. Understand the theories, forms, and mechanisms of oppression and discrimination; and apply strategies of advocacy and social change that advance social and economic justice.
- \*2.2. Practice without discrimination and with respect, knowledge, and skills related to clients—age, physical and mental ability, gender, transgender, sexual orientation, color, culture, race, ethnicity, national origin, religion, and spirituality.

Program objectives related to goal 3 prepare M.S.W. degree graduates to integrate research competencies that equip them for advanced professional practice. Graduates of the program will demonstrate the ability to:

- \*3.1. Evaluate research studies, apply research findings to practice, and evaluate their own practice interventions.

**Advanced program objectives**

Program objectives related to goal 4 prepare M.S.W. degree graduates to be social work leaders in both clinical and policy/planning/administration practice for work in behavioral health institutions and agencies.

**PREREQUISITE**

**A balance of course work in three liberal arts areas:**

Humanities (e.g., history, philosophy, literature, art, music, etc.)	20.0-24.0
English and Communication Skills (e.g., oral and written communication media, etc.)	9.0-13.0
Natural and Social Sciences (e.g., mathematics, human biology, physiology, psychology, sociology, anthropology, human development, ethnic studies, economics, political science or government, etc.)	24.0-32.0

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. degree classes.

Specific to the clinical practice concentration, graduates of the Social Work Program will demonstrate the ability to:

- 4.1. Independently assess, diagnose, and treat clients—emphasizing evidence-based practices that reflect advanced social work practice in varying roles, agencies, and institutions.
- 4.2. Engage in self-critical analysis for the purpose of integrating therapeutic use of self with diverse client populations.

Specific to the policy, planning, and administration concentration, graduates of the Social Work Program will demonstrate:

- 4.3. Understanding of both the conceptual and analytical requirements of policy analysis used in considering human needs and applying policy choices that promote policy solutions.
- 4.4. Knowledge, values, and skills required of social work administrators—including the design, planning, implementation, and monitoring of effective service delivery systems in behavioral health institutions and agencies.

Program objectives related to goal 5 prepare M.S.W. degree graduates to use curricular and cocurricular experiences for the purpose of transitioning into professional roles, advanced practice, and lifelong learning. Graduates of the program will demonstrate the ability to:

- 5.1. Engage in cooperative and collaborative intradisciplinary and interdisciplinary practice.
- 5.2. Understand and prepare for leadership roles in the future.

**Accreditation**

The Social Work Program (M.S.W. degree) is accredited by the Council on Social Work Education to provide graduate-level social work education.

Please note: All prerequisite requirements must be completed before advancement to candidacy (prior to beginning the advanced curriculum).

### Admission requirements

Following are the admission requirements for the Social Work Program:

- 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:
  - the balance of course work, in three liberal arts areas, and
  - specific course work considered preparatory to the program's foundation (first year) courses (see also Liberal Arts Requirements in the *M.S.W. Student Handbook*).
- Applicants must submit a completed application—including a personal statement, application fee, all college and/or university transcripts, and at least three letters of recommendation (one from an academic source and one from a work supervisor).
- Applicants must meet the minimum academic and professional compatibility criteria established by the program.
- Applicants must have a cumulative grade-point average of 3.0 or above (on a 4.0 scale) (special consideration may be given to applicants with grade-point averages as low as 2.85 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 Social Work Program by providing a satisfactory GRE score, or two years of related employment and/or volunteer experiences. Work and volunteer experiences must be verified by employer/supervisor statements on official agency stationery. Further consideration will also be given to individuals who provide evidence of additional certifications and/or training that illustrate commitment to a career in social work. Anyone who is admitted to the Social Work Program with a cumulative G.P.A. below 3.0 will be admitted provisionally and will be required to participate in individualized academic assessment and a targeted learning assistance program.
- 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,
- comportment.

No academic credit is given for life experience or previous work experience for any part for the Social Work Program.

### Curriculum

The 78-unit curriculum of the Social Work Program provides the mix of academic, experiential, and research experiences essential for M.S.W. degree students. Students must maintain a program grade-point average of 3.0 (or a letter grade of B on a 4.0 scale) and meet the knowledge, skills, and professional performance competencies outlined by the program. The minimum acceptable grade for required (core) courses is a B- (2.7). Grades in selective courses must be a minimum of a C (2.0). 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 in which grades obtained do not meet the minimum standards.

### General overview

The program begins with the professional foundation content (first-year courses) common to all graduate social work education. Courses during the 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:

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. Core courses of the two concentrations—clinical practice and policy, planning, and administration; and
4. Culminating curriculum and processes—a capstone academic experience that 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.

#### **Program options**

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.

### **APPROVAL OF COURSE TRANSFERS AND PRACTICUM ADVANCED STANDING FOR B.S.W. STUDENTS**

Students who have received a B.S.W. degree from a CSWE accredited program within the past five years are supported in eliminating possible areas of redundancy in their education through (a) eligibility to transfer foundation course work and (b) consideration for practicum advanced standing.

These additional options for B.S.W. students recognize the accomplishments in knowledge and skills that individuals receiving a baccalaureate degree from an accredited social work program possess. As such, students are not admitted into the M.S.W. degree program with preapproval of course transfers or practicum advanced standing. Instead, once students are accepted into either the full-time or one of the part-time options, those students meeting the designated degree requirements may apply for course transfers and evaluation of their practicum advanced standing. Receipt of course transfers and evaluation of practice maturity are treated as separate processes, as described below. Students should contact the department for more information.

#### **Transfer students**

Individuals transferring from other accredited M.S.W. degree programs may transfer units for didactic course work in accordance with University policy and program guidelines. Field practicum experiences are nontransferable.

### **PROFESSIONAL CONCENTRATIONS IN BEHAVIORAL 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, modalities of intervention, and methods used in clinical social work. Study is required regarding the integration of advanced 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.

#### **Policy, planning, and administration concentration**

The policy, planning, and administration concentration represents a specialized study designed to prepare students for administrative roles in behavioral health organizations and institutions. As such, this concentration focuses on giving students understanding and skills in establishing and maintaining systems of care to assist individuals, families, and groups managing health and illness in context of the life cycle, promoting social change in public systems of care, policy analysis, program planning and implementation, program evaluation, and human resources management. Students' experiences and knowledge are expanded through the selection of practicum sites and selectives.

### **CENTRAL ACADEMIC PROCESSES AND COGNATES**

#### **Professional practica**

Professional practica experiences (field practica) are regarded as an integral part of the Social Work Program because these offer students opportunities to integrate and apply theoretical and research knowledge with social work practice and intervention skills in institutional or agency settings. Practica 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 in a qualified setting and 120 hours of concurrent integrated seminar for a total of 1,200 hours.

The emphasis of SOWK 757A,B,C Professional Foundation Practicum and Seminar (480 hours of practicum and 60 hours of seminar) is on achieving generalist 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. The 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.

The emphasis of SOWK 787A,B,C Advanced Professional Practicum and Seminar (600 hours of practicum and 60 hours of seminar) reflects students' choice of concentration and provides the depth and breadth of learning opportunities that underpin the acquisition of advanced practice capabilities. More specifically, advanced professional practica experiences are expected to promote increased insight and understanding of agency and/or client systems as these build on the professional foundation skills achieved during the first year of study.

#### **Research**

The program includes completion of course work in applied research. An individually authored thesis

option is available for students meeting program criteria. These study options aim to develop knowledge for the advancement of social work practice and 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 program.

**Professional processes and cognates**

Three academic review processes take place during the first year of the Social Work Program. These are:

1. M.S.W. degree advancement G.P.A.

The M.S.W. degree 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. degree 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.

3. Wholeness portfolio

All students complete a wholeness portfolio during the professional practicum and seminar experience. This review of the student's individualized objectives and professional development begins during the first year of study and culminates during the second year of study as the student completes the final quarter of SOWK 787A,B,C. This experience emphasizes the student's plans for employment, life-long learning, and integration of the core values of Loma Linda University; and is seen as a capstone academic experience that facilitates closure and the final stage of reflection and review in the development of the transitioning professional.

**Required cognates**

Units

RELE 522	Bioethical Issues in Social Work	3.0
STCJ 515	Researching and Writing Graduate Level Papers	2.0
Totals		5.0

**Professional foundation courses**

Courses eligible for waiver (unless otherwise noted) by students with a B.S.W. degree accredited by CSWE. University policies regarding time limits for transfer credits apply.

Units

SOWK 511	Human Behavior and Cross-cultural Environment I (3)	Sequence I: Human behavior and cross-cultural environment	6.0
SOWK 512	Human Behavior and Cross-cultural Environment II (3)		
SOWK 515	Social Policy I (3)	Sequence II: Social welfare policy and services	6.0
SOWK 615	Social Policy II (3)		
SOWK 547	Research Methods I (3)	Sequence III: Social research	6.0
SOWK 549	Research Methods II (3)		
SOWK 517	Foundation Practice I: Individuals (3)	Sequence IV: Practice	15.0
SOWK 518	Foundation Practice II: Groups (3)		

SOWK 519	Foundation Practice III: Organizations and Communities (3)		
SOWK 520	Foundation Practice IV: Families (3) <i>Not eligible for waiver.</i>		
SOWK 671	Foundation Practice V: Social Work Administration (3)		
SOWK 578	Field Orientation (1) <i>Not eligible for waiver.</i>	Sequence V: Field practicum; units not calculated into degree units	—
SOWK 757A	Professional Foundation Practicum and Seminar (3) <i>Not eligible for waiver.</i>		
SOWK 757B	Professional Foundation Practicum and Seminar (3) <i>Not eligible for waiver.</i>		
SOWK 757C	Professional Foundation Practicum and Seminar (3) <i>Not eligible for waiver.</i>		
Totals			33.0

**Conjoining curriculum and processes**

Required of all students

Units

SOWK 613	Human Behavior in a Cross-cultural Environment III	3.0
SOWK 660	Advanced Theory and Practice with Ethnically Diverse Clients	3.0
SOWK 682	Legal and Ethical Aspects in Health and Mental Health Services	3.0
Totals		9.0

**ADVANCED CURRICULUM NUCLEUS**

Units

SOWK 695A	Advanced Research Methods (2)	Thesis option is available for students meeting program criteria	6.0
SOWK 695B	Advanced Research Methods (2)		
SOWK 695C	Advanced Research Methods (2)		
SOWK 787A	Advanced Professional Practicum and Seminar (4)	Units not calculated into degree units	—
SOWK 787B	Advanced Professional Practicum and Seminar (4)		
SOWK 787C	Advanced Professional Practicum and Seminar (4)		
Totals			6.0



**Concentration**

Take courses in one of the following two concentrations

Units

SOWK 661	Time-Limited Services and Interventions (3)	Clinical practice	12.0
SOWK 663	Advanced Social Work Practice with Individuals (3)		
SOWK 665	Advanced Social Work Practice with Groups (3)		
SOWK 667	Advanced Integrative Practice (3)		
SOWK 672	Theories of Organizations and Systems (3)	Policy, planning, and administration	—
SOWK 673	Program Planning and Evaluation (3)		
SOWK 676A	Human Resources Planning and Development (3)		
SOWK 683	Advanced Policy Analysis (3)		
Totals			12.0

**CULMINATING CURRICULUM AND PROCESSES**

Units

SOWK 675	Supervision	3.0
SOWK 676B	Human Resources Planning and Development Seminar	3.0
Totals		6.0

**General selectives**

All students take a total of 8 units of selectives, including a 2-unit policy selective and 6 units from either of the following categories: population groups or problem areas. Students receiving specialized grant funding should check with program for additional requirements and / or restrictions on selective choices.

Units

SOWK 680	Children and Families Policies and Services (2)	All students must take one of these courses to meet the policy selective requirement	2.0
SOWK 681	Health and Mental Health Policy and Services (2)		
GERO 515	Diversity and Aging (3)	Population groups	6.0
MFAM 516	Play Therapy (2)		
MFAM 545	Gender Perspectives (2)		
MFAM 638	Family Therapy and Chemical Abuse (2)		
MFAM 644	Child Abuse and Family Violence (3)		
MFAM 665	Structural Family Therapy (2)		
PSYC 686	Child, Partner, and Elder Abuse (2)		
SOWK 648	Co-occurring Diagnosis: Substance Abuse with Mental Illness (2)		
SOWK 650	Children and Adolescents in Trauma (2)		
SOWK 653	Interventions with Special-Needs Children (2)		

SOWK 654A	Therapeutic Interventions with Older Adults I (3)		
SOWK 654B	Therapeutic Interventions with Older Adults II (3)		
SOWK 658	Children's Psychotherapy (2)		
SOWK 659	Interventions with Persons with Severe Mental Illness (2)		
CRMJ 518	Legal Discourse (2)	Problem areas	—
CRMJ 519	Moot Court (2)		
CRMJ 520	Restorative Justice (3)		
PSYC 685	Drug Addiction and Therapy (2)		
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 677	Advanced Integrative Seminar in Psychotherapy (2)		
SOWK 684	Advanced Policy Projects (2)		
SOWK 685	Understanding Global Cultures (2)		
Totals			8.0
<b>Overall Totals</b>			<b>79.0</b>

Please note: Students wishing to take courses that are not included in the above list of approved selectives must obtain an academic variance through the

department's Academic Standards Committee prior to enrolling in the course.

# Social Work, Clinical—ST

## (Ph.D.) Scheduled to begin Fall 2010

BEVERLY J. BUCKLES, Program Director

### FACULTY

See Social Work M.S.W.

The School of Science and Technology's Department of Social Work and Social Ecology is an interdisciplinary academic unit committed to the University's mission of human wholeness and to the belief that one's fullest development is achieved when all aspects of an individual's life are in balance. Both conceptually and pragmatically the programs in the Department of Social Work and Social Ecology are guided by an overarching ecological (bio-psycho-social-spiritual) perspective that employs scientific methods of problem analysis and program design. A key component in this framework is the importance of considering the relationships among behavioral, sociopolitical, economic, and environmental problems. The result is an interdisciplinary teaching, learning, and practice environment designed to create interventions that will improve the functions of individuals, families, groups, organizations, and communities. As such, priority has been given to creating an academic milieu favorable to educating competent, ethical, and compassionate professionals and scholars who are capable of respecting and addressing the needs of diverse populations.

### Mission and objectives

This doctoral program aims to provide social workers with advanced knowledge to become researchers, educators, and clinicians capable of applying this knowledge to every practice context in professional clinical social work. It purposefully instills a high appreciation for knowledge development and dissemination; and demonstrates respect and appreciation for the needs and issues inherent in human diversity, promotion of social and economic justice, and clinical populations at-risk.

### Student learning objectives

1. Students will be able to apply multiple theoretical frameworks to explain intrapersonal and interpersonal factors underpinning the diagnosis and treatment of persons with severe mental illness and/or serious emotional disorders.
2. Students will demonstrate a comprehensive understanding of the assessment process and diagnostic schemata involving intrapersonal and interpersonal factors, cultural diversity, and environmental influences on client systems and treatment.
3. Students will be able to demonstrate the use theory to develop research questions and

hypotheses for empirical testing and will possess an understanding of the conceptual nature of theory and the ways theory can be applied to the development of knowledge in clinical social work.

4. Students will be able to articulate the implications of empirical research findings within a theoretical framework, as well as the ability to discuss the implications of empirical research findings on theoretical relationships.
5. Students will demonstrate the ability to design and conduct a systematic, empirical, objective, public, and critical investigation of a clinical practice issue or problem.
6. Students will demonstrate a comprehensive understanding of how people learn and be able to translate this understanding into constructing and delivering appropriate didactic, interactive and experiential teaching strategies used to teach advanced clinical practice and human behavior concepts.
7. Students will demonstrate current knowledge of the context of social work education (knowledge, values, and skills), and be able to articulate this information into an educational program design, curriculum development, and the delineation and assessment of student educational objectives for both undergraduate and graduate social work programs.

### Admission requirements

The Clinical Social Work Program is open to students who demonstrate leadership and scholarly potential. Admission to the program is governed by the policies and procedures established by the School of Science and Technology. An admission committee of social work faculty oversees the admission process, reviews applications, and recommends students for admission to the program. Admission requirements to the doctoral program include:

- Master's degree in social work from an accredited institution of higher education.
- A minimum cumulative G.P.A. of 3.0 (4.0 scale) for graduate/postgraduate work.
- Commitment to advancing knowledge and research related to clinical social work.
- Professional experience and achievement that demonstrates competence, organization, leadership, and motivation to complete doctoral education in a timely manner.

- Personal interview; geographical circumstances may determine an individualized process.
- A sample of writing regarding a clinical treatment topic in the form of a published article, academic or professional research paper, or an essay prepared for admission to the program.
- Satisfactory performance on the Graduate Record Examination (GRE) defined as a minimum combined verbal and quantitative score of 1000, and an analytical writing score of 4.0 for admission with regular status. Students with lower scores may be considered for provisional status.)
- Curriculum vitae or other description of education, employment history, and experience in clinical practice.
- Prerequisite preparation. If an applicant has not had adequate clinical treatment experience, additional clinical course work of 6-12 units will be required. (Students needing to meet this requirement take CSWK 688 Clinical Treatment Practicum)

**Transfer credits**

As master's level clinical training is a prerequisite for admission to this program, transfer of previous course work is limited.

**Program of study**

This program is structured around three primary requirements: course work, comprehensive

examinations, and dissertation. The Ph.D. degree in clinical social work requires a minimum of 104 units beyond the M.S.W. degree. The curriculum is designed to accommodate the needs of college and university faculty. The program should be completed in three consecutive summers consisting of two six-week sessions. A more traditional curriculum model is also available that allows students to take some research and ethics courses during the regular academic year. Students can obtain curriculum planning guides for both program options from the program coordinator. (Students should consult the program coordinator regarding curriculum modifications.)

**Qualifying examination**

Students must pass a comprehensive qualifying examination usually taken at the completion of all clinical course work.

**Candidacy**

Students who successfully complete all course work, pass the qualifying examination, and successfully defend a dissertation proposal apply for Ph.D. degree candidacy. The candidacy period is spent in full-time dissertation research.

**Dissertation**

The Ph.D. degree candidacy is spent in full-time dissertation research, culminating in the successful defense of the completed dissertation. Dissertation research for Ph.D. degree candidates follows University guidelines. Details regarding these requirements can be obtained from the program coordinator.

**Research methods, statistics**

Units

CSWK 671	Research Orientation I	2.0
CSWK 672	Research Orientation II	2.0
CSWK 673	Research Orientation III	2.0
CSWK 681	Research Seminar I	2.0
CSWK 682	Research Seminar II	2.0
CSWK 683	Research Seminar III	2.0
CSWK 697	Research (4.0-8.0)	24.0
CSWK 699	Dissertation	12.0
PSYC 501	Advanced Statistics I	4.0
PSYC 502	Advanced Statistics II	4.0
PSYC 503	Advanced Multivariate Statistics	4.0
SPOL 654	Research Methods I	4.0
SPOL 655	Research Methods II	4.0
<b>Totals</b>		<b>68.0</b>

**Theory** Units

CSWK 676	Advanced Clinical Theory I: Psychoanalytic and Attachment	3.0
CSWK 677	Advanced Clinical Theory II: Ego Psychology, Self Psychology and Object Relations	3.0
Totals		6.0

**Clinical social work** Units

CSWK 684	Advanced Developmental Psychopathology I: Children/Adolescents	3.0
CSWK 685	Advanced Developmental Psychopathology II: Adult Lifespan	3.0
CSWK 686	Advanced Clinical Practice: Clinical Assessment, Diagnosis, and Paradigms of Practice	3.0
CSWK 687	Methods of Teaching and Evaluation in Clinical Social Work Education	3.0
Totals		12.0

**Philosophy and clinical ethics** Units

RELE 505	Clinical Ethics	4.0	
RELR 535	Spirituality and Mental Health	4.0	
RELT 5__	Graduate-level Theological	3.0	
RELR 568	Care of the Dying and Bereaved (4)	Select one of these two courses	4.0
RELR 584	Culture, Psychology, and Religion (4)		
Totals		15.0	

**Selectives** Units

AHCJ 556	Administration in Higher Education (3)	6.0
CSWK 688	Independent Study in Clinical Social Work (1)	
GLBH 519	Principles of Disaster Management I (3)	
GLBH 547	Refugee and Displaced Population Health (3)	
GLBH 550	Women in Development (3)	
MFAM 548	Men and Families (2)	
MFAM 644	Child Abuse and Family Violence (3)	
MFAM 674	Human Sexual Behavior (3)	
PSYC 511	Psychometric Foundations (3)	
PSYC 512	Assessment I (2)	
PSYC 544	Foundations of Learning and Behavior (4)	
PSYC 545	Cognitive Foundations (4)	
PSYC 556	Biofeedback (4)	
PSYC 567	Human Diversity (3)	
PSYC 574	Personality Theory and Research (4)	

PSYC 604	Advanced Topics in Multivariate Analyses (2)		
RELR 525	Health Care and the Dynamics of Christian Leadership (3)		
SOWK 648	Co-occurring Diagnosis: Substance Abuse with Mental Illness (2)		
SOWK 677	Advanced Integrative Seminar in Psychotherapy (2)		
STAT 515	Grant- and Contract-Proposal Writing (3)		
Totals			6.0
<b>Overall Totals</b>			<b>107.0</b>

# Spanish Studies for Health Care Professionals—ST

## (Certificate)

CLARA RAMIREZ, Program Director

Graduates of Loma Linda University have a long history of service, domestically and around the world. The purpose of this certificate program is to provide general education that articulates with community service, mission electives, or short mission trips in the United States and international settings. The certificate is consistent with WASC recommendations that baccalaureate programs actively foster an understanding of diversity and ensure breadth for all students in the areas of cultural, aesthetic, social, political, scientific, and technical knowledge expected of educated persons in this society. Course work in the certificate enables the student to engage the population served at a deeper level than possible without skills in language and knowledge of Hispanic history, literature, and society. The theoretical, structured course in service learning provides a philosophical and theological basis for service, as well as an opportunity to reflect on and integrate the various components.

The 27-unit Spanish studies for health professionals is available to those who complete a minimum of 17 of the required 27-quarter units at Loma Linda University. For undergraduate students, the courses also contribute to meeting general education requirements. Courses include language (12 units);

literature, history, and social sciences (4 units); diversity (4 units); and a service-learning course. For the certificate in Spanish studies, an immersion language and culture program is required, as well as an international or national service project with a Spanish-speaking population. The Christian-service course units are the two bookends of the certificate. The first units include a theoretical, theological, and philosophical basis for service and provides the outline for the portfolio. In the second unit, the student completes the portfolio that integrates and summarizes the entire experience.

Spanish-language proficiency at the high-elementary or low-intermediate level or higher is required and will be assessed by examination at the end of the certificate. Students may be required to take a proficiency examination for appropriate placement. All courses except the capstone portfolio course are currently available on campus. For students concurrently enrolled in a Loma Linda University program, all courses may be transferred in except for RELR 404 Christian Service and RELE 429 Cultural Issues in Religion. Spanish language, Spanish literature and history, and diversity courses must be taken for a letter grade, with a minimum G.P.A. of 2.0 for the certificate.

The certificate integrates three core values of Loma Linda University to promote spiritual life and wholeness, diversity, and community service and global outreach. These three values are essential to the Loma Linda University experience.

### Spanish language

Units

SPAN 101	Elementary Spanish I (4)		12.0
SPAN 102	Elementary Spanish II (4)		
SPAN 103	Elementary Spanish III (4)		
SPAN 201	Intermediate Spanish I (4)		
SPAN 202	Intermediate Spanish II (4)		
SPAN 203	Intermediate Spanish III (4)		
Totals			12.0

### Immersion language and culture program

Units

SPAN 123	Practicum in Spanish I (4)		4.0
SPAN 128	Practicum in Spanish II (4)		
Totals			4.0

<b>Spanish literature, history</b>			Units
SPAN 118	Spanish Literature I (4)		4.0
SPAN 119	Spain: Culture and Civilization (4)		
SPAN 122	Tradition and Paradox of Latin American Women (4)		
Totals			4.0

<b>Diversity</b>			Units
ANTH 304	Biological Anthropology (4)		4.0
ANTH 306	Language and Culture (4)		
SPAN 430	Diversity in Twenty-First Century (4)		
Totals			4.0

<b>Service-learning/Cultural issues in religion (must include portfolio)</b>			Units
RELR 404	Christian Service (1.0-2.0)	Must include portfolio.	3.0
Totals			3.0
<b>Overall Totals</b>			<b>27.0</b>



# Health Professions Education

## (PB certificate, M.S.)

ARTHUR B. MARSHAK, Program Director

The 27-quarter unit Health Professions Education certificate and the 48-quarter unit Master of Science degree are designed for faculty who want to enhance the effectiveness and efficiency of student learning in the classroom and clinic. Upon completion, graduates will be able to plan for effective learning experiences; improve assessment and evaluation of learning and instruction; and evaluate clinical performance with confidence, improve classroom performance, enhance

academic administration skills, and develop expertise in health professions education.

Courses to complete the Master of Science degree include the core 18 units and a minimum of 6 units in Domain I and 6 units in Domain II, to a total of 48 units.

Units to complete the postbaccalaureate certificate include the core 18 units and a minimum of 9 units selected in consultation with the program director from Domains I and II.

Additional courses may be added to each domain in consultation with the program director.

Required		Certificate	M.S.
AHCJ 506	Educational Evaluation and Clinical Assessment	3.0	
AHCJ 509	Teaching and Learning Styles	3.0	
AHCJ 515	Curriculum Development in Higher Education	3.0	
AHCJ 556	Administration in Higher Education	3.0	
HPRO 543	Writing for Health Professionals	3.0	
REL_5__	Graduate-level Religion	3.0	
AHCJ 506	Educational Evaluation and Clinical Assessment		3.0
AHCJ 509	Teaching and Learning Styles		3.0
AHCJ 515	Curriculum Development in Higher Education		3.0
AHCJ 556	Administration in Higher Education		3.0
HPRO 543	Writing for Health Professionals		2.0-3.0
RELE 5__	Graduate-level Ethics		3.0-4.0
Totals		36.0	18.0

### Domain I Electives

Teaching, learning, assessment, and evaluation

		Certificate	M.S.
AHCJ 564	Collaborative Learning in Higher Education (3.0)	—	6.0
AHCJ 599	Directed Teaching (3.0)		
AHCJ 699	Directed Study (3.0) <i>Current Issues in Health Professions Education</i>		
HPRO 588	Health Behavior Theory and Research (4.0)		
NRSG 544	Teaching and Learning Theory (3.0)		
NRSG 545	Teaching Practicum (3.0)		
NRSG 546	Curriculum Development in Higher Education (3.0)		
9 units from Domains I and II chosen in consultation with the program director			

PHIL 616	Seminar in the Philosophy of Science (3.0)			
PSYC 544	Foundations of Learning and Behavior (4.0)			
PSYC 545	Cognitive Foundations (4.0)			
PSYC 675	Cognitive Development (2.0)			
RELR 586	Psychology of Moral and Faith Development (3.0)			
AHCJ 564	Collaborative Learning in Higher Education (3.0)			
AHCJ 599	Directed Teaching (3.0)			
AHCJ 699	Directed Study (3.0) <i>Current Issues in Health Professions Education</i>			
HPRO 588	Health Behavior Theory and Research (4.0)			
NRSG 544	Teaching and Learning Theory (3.0)			
NRSG 545	Teaching Practicum (3.0)		—	6.0
NRSG 546	Curriculum Development in Higher Education (3.0)			
PHIL 616	Seminar in the Philosophy of Science (3.0)			
PSYC 544	Foundations of Learning and Behavior (4.0)			
PSYC 545	Cognitive Foundations (4.0)			
PSYC 675	Cognitive Development (2.0)			
RELR 586	Psychology of Moral and Faith Development (3.0)			
Totals			—	12.0

**Domain II Electives**

Leadership electives

**Certificate**

**M.S.**

AHCJ 539	Technology and Health Care Organizations (3.0)	9 units from Domains I and II chosen in consultation with the program director	—	6.0
AHCJ 545	Legal and Ethical Issues in the Health Professions (3.0)			
AHCJ 699	Directed Study (1.0-6.0)			
GLBH 517	Cultural Issues in Health Care (3.0)			
HADM 528	Organizational Behavior in Health Care (3.0)			
HADM 580	Foundations of Leadership (3.0)			
HADM 581	Orientation for leadership I: Vision and Understanding (4.0)			
HADM 582	Orientation for leadership II: Exploring the nature of leadership (4.0)			
HADM 583	Orientation for leadership III: Setting a new direction (4.0)			
PSYC 566	Cross-Cultural Psychology (2.0)			
PSYC 581	Psychological Treatment I: Behavioral and Cognitive Therapies (2.0)			
RELE 524	Christian Bioethics (3.0-4.0)			
RELE 525	Ethics for Scientists (3.0-4.0)			

RELE 589	Biblical Ethics (3.0-4.0)			
RELR 525	Health Care and the Dynamics of Christian Leadership (3.0-4.0)			
RELR 575	Art of Integrative Care (3.0-4.0)			
RELR 584	Culture, Psychology, and Religion (3.0-4.0)			
AHCJ 539	Technology and Health Care Organizations (3.0)			
AHCJ 545	Legal and Ethical Issues in the Health Professions (3.0)			
AHCJ 699	Directed Study (1.0-6.0)			
GLBH 517	Cultural Issues in Health Care (3.0)			
HADM 528	Organizational Behavior in Health Care (3.0)			
HADM 580	Foundations of Leadership (3.0)			
HADM 581	Orientation for leadership I: Vision and Understanding (4.0)			
HADM 582	Orientation for leadership II: Exploring the nature of leadership (4.0)		—	6.0
HADM 583	Orientation for leadership III: Setting a new direction (4.0)			
PSYC 566	Cross-Cultural Psychology (2.0)			
PSYC 581	Psychological Treatment I: Behavioral and Cognitive Therapies (2.0)			
RELE 524	Christian Bioethics (3.0-4.0)			
RELE 525	Ethics for Scientists (3.0-4.0)			
RELE 589	Biblical Ethics (3.0-4.0)			
RELR 525	Health Care and the Dynamics of Christian Leadership (3.0-4.0)			
RELR 575	Art of Integrative Care (3.0-4.0)			
RELR 584	Culture, Psychology, and Religion (3.0-4.0)			
		Totals	—	12.0
		<b>Overall Totals</b>	<b>27.0</b>	<b>48.0</b>



# Faculty of Graduate Studies

## Dean's Welcome

## Foundations of Graduate Study

Philosophy objectives  
General regulations

## General Regulations

Application and admissions  
Scholarship  
From master's to Ph.D. degree  
Bypassing master's degree

## Student Life

## Academic Information

## Financial Information

General financial practices  
On- and off-campus student housing  
Additional requirements

*The Faculty of Graduate Studies oversees the following doctoral and master's degrees, as well as combined degrees programs.*

## Master's Degrees

Anatomy  
Biochemistry  
Biology  
Biomedical and Clinical Ethics  
Clinical Ministry  
Endodontics  
Family Studies  
Geology  
Implant Dentistry  
Microbiology and Molecular Genetics  
Nutrition  
Oral and Maxillofacial Surgery  
Orthodontics and Dentofacial Orthopedics  
Pediatric Dentistry  
Periodontics  
Physiology  
Prosthodontics  
Religion and the Sciences

## Doctoral Degrees

Anatomy  
Biochemistry  
Biology  
Earth Science  
Family Studies  
Marital and Family Therapy  
Microbiology and Molecular Genetics  
Medical Scientist Training Program  
Nursing  
Pharmacology  
Physical Therapy  
Physiology  
Psychology (Ph.D. in clinical psychology)  
Social Policy and Social Research

## Combined Degrees Programs

Biology or Geology *with* Medicine or Dentistry  
(M.S./M.D., M.S./D.D.S., Ph.D./M.D. or  
Ph.D./D.D.S.)  
Psychology *with* Biomedical and Clinical Ethics  
(Ph.D./M.A.)  
Clinical Psychology *with* Health Education  
(Ph.D./M.P.H.)  
Clinical Psychology *with* Preventive Care  
(Ph.D./M.P.H. or Ph.D./Dr. P.H.)  
Social Policy and Social Research *with* Biomedical  
and Clinical Ethics (Ph.D./M.A.)  
Social Work *with* Social Policy and Social  
Research (M.S.W./Ph.D.)

## Dean's Welcome

We are very pleased that you have chosen to continue your education at Loma Linda University in a graduate program coordinated by the Faculty of Graduate Studies. The Faculty is an organization of scholars, scientists, and educators whose mission is to enhance the quality of research, scholarship, and discovery throughout the University. It cooperates with the eight schools in providing graduate programs that strive to meet the highest academic and intellectual standards.

Loma Linda University is a health-sciences campus dedicated to creating learning environments that enable students to develop personal wholeness; to train for careers that serve local, national, and international communities; and to accept every person as having equal worth in the sight of God. Its mission is embodied in the Good Samaritan sculptures, a tableau that occupies a central position on the campus.

The Faculty of Graduate Studies encourages students to engage in original research and creative study that will expand opportunities for wholeness, service, and mutual respect. You will find vigorous academic programs among the degrees sponsored by the Faculty, studies that will stretch your mind and that will encourage you to expand the boundaries of knowledge, understand your world, and apply Christian principles to your life and profession.

Our faculty and staff are here to assist you as you prepare for a career of creative service. Feel free to contact us by email at <[graduatestudies@llu.edu](mailto:graduatestudies@llu.edu)> or by calling toll free 1/800/422-4LLU.



A handwritten signature in black ink, appearing to read 'Anthony J. Zuccarelli'. The signature is stylized and somewhat abstract, with overlapping loops and a cursive style.

Anthony J. Zuccarelli  
Dean, Faculty of Graduate Studies

## Foundations of Graduate Study

Recognizing the need to provide advanced education, the College of Medical Evangelists (CME) organized its School of Graduate Studies in 1954. The new school conferred a Ph.D. degree in 1958, the first Ph.D. to be awarded by a Seventh-day Adventist institution of higher education.

In 1961 when CME became Loma Linda University, the University assumed oversight of the graduate education conducted by La Sierra College in Riverside, California. By 1963, the School of Graduate Studies had been renamed the Graduate School—with a home in a new building, named Frederick Griggs Hall, in honor of a former department chair. The two campuses comprising Loma Linda University—La Sierra and Loma Linda—were separated in 1990.

In 2005 the Graduate School was restructured as the Faculty of Graduate Studies. It continues to provide oversight of graduate programs, supported by other schools of the University; promotes and encourages independent judgment, mastery of research techniques, and contribution to scholarly communication; and relates intellectual achievements to the service of mankind.

### Philosophy

In the Faculty of Graduate Studies 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 Faculty of Graduate Studies 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 humankind.

## General Regulations

Students of the University are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation. Section III gives the general setting for the programs of each school. The subject and unit requirements for admission to individual professional programs are also outlined in this section. It is important to review specific program requirements in the context of the general requirements applicable to all programs (Section II).

### APPLICATION AND ADMISSIONS

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 schools 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.

### 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 other evidence of capability is available. Foreign applicants are not eligible for provisional admission.

### 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(s) of the respective school(s). 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.

## Student Life

The information on student life contained in this CATALOG is brief. The *Student Handbook*—which more comprehensively addresses University and school expectations, regulations, and policies—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.

## Academic Information

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

## Financial Information

Registration is not complete until tuition and fees on the required installment are paid; therefore, the student should be prepared to make these payments during scheduled registration for each academic year. There may be adjustments in tuition and fees as economic conditions warrant.

### GENERAL FINANCIAL PRACTICES

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

### ON- AND OFF-CAMPUS STUDENT HOUSING

Students may go to <[www.llu.edu/central/housing/index.page](http://www.llu.edu/central/housing/index.page)> for housing information and a housing application form.

### ADDITIONAL REQUIREMENTS

For additional policies governing Loma Linda University students, see Section II of this CATALOG, as well as the University *Student Handbook*. Students are responsible for informing themselves of and satisfactorily meeting all regulations pertinent to registration, matriculation, and graduation.



# The Combined Degrees Programs of the University

A number of combined degrees programs are offered—each intended to provide additional preparation in the biomedical sciences or in clinical, professional, or basic areas related to the student's field of interest. The combined degrees programs provide opportunities 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 humans.

For admission to a combined degrees program, students must have a baccalaureate degree and must already be admitted to the schools offering their chosen combined degrees program.

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.

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

Interested and qualified students may choose from the combined degrees programs offered by the University.

## DOUBLE LISTING

In the alphabetical list that follows, for convenience in locating a combined degrees program, the program name is listed twice—the second time in italics with the two program names reversed—e.g., *Anatomy with Medicine*; *Medicine with Anatomy*.

Program curriculum information is contained only in the first listing.

### **Anatomy—SM** *with*

#### **Medicine or Dentistry—SM or SD**

**M.S./M.D., M.S./D.D.S., Ph.D./M.D., or Ph.D./D.D.S.** Combined degrees programs allow qualified students to work on combined M.D./M.S. or Ph.D. (medicine with anatomy) or D.D.S./M.S. or Ph.D. (dentistry with anatomy) degrees. Details are provided in Dentistry and Medicine program descriptions earlier in Section III.

### **Biology or Geology—ST** *with*

#### **Medicine or Dentistry—SM or SD** **M.S./M.D. or M.S./D.D.S.**

For students selecting a combined degrees program with a Master of Science degree in biology or geology, up to 12 units of credit for basic science courses and up to 6 units of credit for research and/or graduate

courses completed as part of the electives of the professional curriculum may be applied to the master's degree program.

For students selecting a combined degrees program with a Doctor of Philosophy degree in biology, up to 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 completed as part of the electives of the professional curriculum, may be applied to the Doctor of Philosophy degree program.

The animal physiology and the statistics requirements would be met as part of the professional curriculum.

### **Biomedical and Clinical Ethics—SR** *with*

#### **Dentistry—SD** **M.A./D.D.S.**

MARK F. CARR, Program Coordinator, Biomedical and Clinical Ethics, School of Religion

RONALD J. DAILEY, Program Coordinator, School of Dentistry

## FACULTY

The faculty for the combined degrees program in biomedical and clinical ethics *with* dentistry is drawn from Loma Linda University's School of Religion and School of Dentistry.

## THE PROGRAM

The combined degrees program in biomedical and clinical ethics *with* dentistry is designed to fit the schedule of D.D.S. students. Ethics in dentistry is well-established at Loma Linda University. Loma Linda University's School of Dentistry is one of a select few in the nation known for their expertise in ethical issues. This program requires 48 units of credit.

### **Academic structure**

Students pursuing this combined degrees program must proceed through the standard D.D.S. curriculum without interruption from the M.A. degree course work.

During the first year of enrollment in the D.D.S. degree program, students will be made aware of the combined degrees option. A scholarship for one student will be advertised at both the local and national levels and, if received, will fund the combined degrees program for that student. Towards the conclusion of the Spring Quarter, students interested in the combined degrees program should apply to the program in conjunction with an application for the scholarship.

In the second year of study, the student should take only two courses in the M.A. degree program; RELG 504 Research Methods and RELE 524 Christian Bioethics are recommended.

Along with the dental curriculum in the third year, the student will enroll in routine M.A. degree ethics course work.

The fourth year concludes the required courses in the dental and clinical and biomedical ethics curricula. During this year, the student must complete the comprehensive examination in the Spring Quarter and a publishable paper-research option, which will be examined by School of Religion professors.

**Course requirements**

Students in this combined degrees program will complete all the requirements for both degrees with greater efficiency by taking a number of courses that fulfill requirements for both degrees and by careful selection of elective courses. Approval for both degree programs should be sought from the student's advisors for both degrees.

**M.A. DEGREE REQUIREMENTS**

**D.D.S. courses, transferred from standard dentistry course work**

RELR 715	Christian Dentist in Community	2.0
RELE 734	Christian Ethics for Dentists	2.0
RELT 775	Spirituality and the Christian Health Professional	2.0
RELR 749	Personal and Family Wholeness	2.0
RELR 717	Diversity and the Christian Health Professional	2.0
RELT ____	One additional selective from the RELT course offerings	2.0
Totals		12.0

**Core requirements, taken throughout the final three years of dental school**

SECOND YEAR

RELG 504	Research Methods	4.0
RELE 524	Christian Bioethics	4.0
Totals		8.0

THIRD YEAR AND FOURTH YEAR

RELE 548	Christian Social Ethics	4.0
RELE 554	Clinical Ethics Practicum I	4.0
RELE 555	Clinical Ethics Practicum II	4.0
RELE 577	Theological Ethics	4.0
RELE 588	Philosophical Ethics	4.0
RELE 589	Biblical Ethics	4.0
RELG 697	Independent Research	1.0-8.0
Totals		28.0
Overall Totals		48.0

**Biomedical and Clinical Ethics—SR  
with  
Medicine—SM  
M.A. /M.D.**

MARK F. CARR, Program Coordinator, Biomedical and Clinical Ethics, School of Religion

LEONARD S. WERNER, Program Coordinator, School of Medicine

**FACULTY**

The faculty for the combined degrees program in biomedical and clinical ethics *with* medicine is drawn from Loma Linda University's School of Religion and School of Medicine.

**THE PROGRAM**

The combined degrees program in biomedical and clinical ethics *with* medicine is designed to fit the schedule of medical students. This program requires 48 units of credit.

**Course requirements**

Students in this combined degrees program will complete all the requirements for both degrees with greater efficiency by taking a number of courses that fulfill requirements for both degrees and by careful selection of elective courses. Approval for the selective courses should be sought from the student's advisors for both degrees. The program requires:

- 12 units transferred from standard course work in medicine.
- 36 additional units taken throughout the four years of medical school.

In addition to required course work, students must successfully complete comprehensive examinations and a research project.

Benefits of taking the program include:

- Additional field of expertise within clinical practice.
- Unique interface between clinical and academic perspectives in bioethics.
- Excellent preparation for Ph.D. degree programs in ethics or bioethics.

**CORE REQUIREMENTS**

**FIRST YEAR**

**Fall Quarter**

RELG 504	Research Methods	4.0
Totals		4.0

**Winter Quarter**

RELE 548 or RELE 589	Christian Social Ethics  Biblical Ethics	4.0  4.0
Totals		4.0

**Spring Quarter**

RELE 577	Theological Ethics	4.0
Totals		4.0

**Summer Quarter**

RELE 524	Christian Bioethics	4.0
Totals		4.0

Note: No School of Medicine classes are scheduled for the Summer Quarter at the end of the first year; thus a student may take up to three of the required courses, if offered, during the Summer Quarter.

**SECOND YEAR**

**Fall Quarter**

RELE 588	Philosophical Ethics	4.0
Totals		4.0

**Winter Quarter**

RELE 554 or RELE 548 or RELE 589	Clinical Ethics Practicum I  Christian Social Ethics  Biblical Ethics	4.0  4.0  4.0
Totals		4.0

**Spring Quarter**

RELE 555	Clinical Ethics Practicum II	4.0
Totals		4.0

**Summer Quarter**

RELG 697	Independent Research	1.0-8.0
Totals		1.0-8.0

THIRD AND FOURTH YEARS

Students must:

- Finish any required course work for both SM and SR.
- Successfully complete a research project.
- Successfully complete comprehensive examinations.

Totals	4.0
Overall Totals	36.0

**Biomedical and Clinical Ethics—SR**  
*with*

**Nursing, Advanced Practice—SN**  
**M.A./M.S.**

MARK F. CARR, Program Coordinator, Biomedical and Clinical Ethics, School of Religion  
ELIZABETH BOSSERT, Program Coordinator, School of Nursing

**FACULTY**

The faculty for the combined degrees program in biomedical and clinical ethics *with* advanced practice nursing is drawn from Loma Linda University's School of Religion and School of Nursing.

**THE PROGRAM**

The M.S./M.A. combined degrees program in biomedical and clinical ethics *with* advanced practice

nursing 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.A degree program in biomedical and clinical ethics and the M.S. degree program in advanced practice nursing.

**Course requirements**

Students in this 80-unit combined degrees program will complete all the requirements for both degrees with greater efficiency by taking a number of courses that fulfill requirements for both degrees and by careful selection of elective courses. Approval for the selective courses should be sought from the student's advisors for both degrees.

**M.A. CURRICULUM**

**Biomedical and clinical ethics**

RELG 504	Research Methods	4.0
RELE 554	Clinical Ethics Practicum I	4.0
RELE 555	Clinical Ethics Practicum II	4.0
RELE 577	Theological Ethics	4.0
RELE 588	Philosophical Ethics	4.0
RELE 589	Biblical Ethics	4.0
RELE 524	Christian Bioethics	4.0
RELE 548	Christian Social Ethics	4.0
REL_/RELE	Electives in religion or ethics	3.0
Totals		35.0

**M.S. CURRICULUM**

**Growing family or Adult and aging family**

NRSG 515	Health Policy: Issues and Process	2.0
NRSG 516	Advanced Role Development	2.0
NRSG 547	Management: Principles and Practice	3.0
NRSG 651	Advanced Physical Assessment	3.0

NRSG 680	Intermediate Statistics	3.0
NRSG 684	Research Methods	4.0
PHSL 533	Physiology I	4.0
<b>Advanced practice nursing</b>		
either		
*NRSG 624	Adult and Aging Family I	4.0
*NRSG 626	Adult and Aging Family II	3.0
*NRSG 628	Clinical Practicum: Adult and Aging Family	6.0
or		
*NRSG 617	Clinical Practicum: Growing Family	6.0
*NRSG 645	Growing Family I	4.0
*NRSG 646	Growing Family II	3.0
		Totals
		Overall Totals
		45.0
		80.0

\* Course offered alternate years

### Biomedical and Clinical Ethics—SR *with*

### Psychology—ST M.A./Psy.D. or M.A./Ph.D.

MARK F. CARR, Program Coordinator, Biomedical and Clinical Ethics

LOUIS E. JENKINS, Chair, Department of Psychology

### FACULTY

The faculty for the combined degrees program in biomedical and clinical ethics *with* psychology is drawn from the School of Religion and from the Department of Psychology in the School of Science and Technology.

### THE PROGRAM

This program combines study for the M.A. degree in biomedical and clinical ethics (offered by the School of Religion) with either the Psy.D. or Ph.D. degree in psychology (offered by the Department of Psychology of the School of Science and Technology). The purpose of the combined degrees program is to facilitate more efficient completion of graduate programs in ethics and psychology for the student with interests in both areas. Students who complete

the program should be prepared to make significant interdisciplinary contributions to the fields of psychology and of ethics. In order to enter this combined degrees program, students must gain separate acceptance into the M.A. degree program in ethics and to one of the doctoral programs in psychology. Information about admission to these programs is available from the School of Science and Technology.

### Course requirements

Students in this combined degrees program will complete all the requirements for both degrees with greater efficiency by taking a number of courses that fulfill requirements for both degrees. Approval for selective courses should be sought from the student's advisors for both degrees.

### M.A. CURRICULUM

A total of 48 quarter units is required for the M.A. degree. The following courses constitute the core requirements for students completing the M.A. degree in biomedical and clinical ethics when taken with psychology as part of the combined degrees program:

### Core requirements

RELE 524	Christian Bioethics	4.0
RELE 548	Christian Social Ethics	4.0
RELE 554	Clinical Ethics Practicum I	4.0
RELE 555	Clinical Ethics Practicum II	4.0
RELE 577	Theological Ethics	4.0
RELE 588	Philosophical Ethics	4.0
RELG 504	Research Methods	2.0
RELR 584	Culture, Psychology, and Religion	3.0
RELR 585	Psychology of Religion	3.0
PSYC 505	Research Methods in Psychological Science	4.0
		Totals
		36.0

In addition to the preceding 36 units, students completing the M.A. degree will choose 12 units from the following list of selectives:

**Selectives**

PSYC 524	History, Systems, and Philosophy of Psychology	2.0
PSYC 526	Ethics and Legal Issues in Clinical Psychology	3.0
PSYC 536	Seminar in Psychology and Religion	3.0
PSYC 551	Psychobiological Foundations	4.0
PSYC 564	Foundations of Social Psychology and Culture	4.0
PSYC 566	Cross-cultural Psychology	2.0
PSYC 567	Human Diversity	3.0
PSYC 574	Personality Theory and Research	4.0
PSYC 575	Foundations of Human Development	4.0
Totals		12.0
Overall Totals		48.0

**PSYCHOLOGY—PH.D. OR PSY.D. CURRICULUM**

Students completing one of the doctoral programs in psychology will complete all of the course requirements as listed in the School of Science and Technology, 2 units of minor concentration, which will be fulfilled by 12 of the selective units listed above. See the Psychology Program for full information.

**Biomedical and Clinical Ethics—SR**

*with*

**Social Policy and Social Research—ST**

**M.A./Ph.D.**

MARK F. CARR, Program Coordinator, Biomedical and Clinical Ethics

KIMBERLY FREEMAN, Program Coordinator, Social Policy and Social Research, Department of Social Work and Social Ecology

**FACULTY**

The faculty for the combined degrees program in biomedical and clinical ethics *with* social policy and social research is drawn from the School of Religion and from the Department of Social Work and Social Ecology in the School of Science and Technology.

**PURPOSE OF THE PROGRAM**

The purpose of this M.A./Ph.D. combined degrees program in biomedical and clinical ethics *with* social policy and social research is to facilitate more efficient completion of two graduate degrees for students with strong interests in both bioethics and social policy. Students who complete this combined degrees

program will be prepared to make significant interdisciplinary contributions to the field of social policy and ethics. 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 real-world policy scenarios. Graduates will be able to provide leadership to the social policy arena by conducting interdisciplinary research on various issues and agendas that have significant moral implications. Students in the combined degrees program will utilize the important resource networks within the University (ethics, social sciences, health professions) and those organizations and persons working on solutions to social problems.

**COURSE WORK REQUIREMENTS**

To enter the proposed program, students must gain separate acceptance to both graduate programs. Students complete all the core requirements for each degree and complete approved electives for both degrees by taking course work in bioethics and social policy, authorized by their respective advisors 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, are to be completed as prescribed in the two programs.

Students can obtain an outline of the combined degrees program from the program coordinator for the Ph.D. degree in social policy and social research.

**Ethics core**

RELG 504	Research Methods	4.0
RELE 554	Clinical Ethics Practicum I	4.0
RELE 555	Clinical Ethics Practicum II	4.0
RELE 577	Theological Ethics	4.0

RELE 588	Philosophical Ethics	4.0
RELE 589	Biblical Ethics	4.0
RELE 524	Christian Bioethics	4.0
RELE 548	Christian Social Ethics	4.0
Totals		32.0

**Social policy core courses that apply**

SPOL 614	Social Science Concepts and Theories	4.0
SPOL 615	Economic Theory and Social Policy	4.0
SPOL 624	Nature/Society Thought and Social Policy	4.0
SPOL 654	Qualitative Research Methods	4.0
Totals		12.0

**SOCIAL POLICY AND SOCIAL RESEARCH CORE****Social science**

SPOL 614	Social Science Concepts and Theories	4.0
SPOL 615	Economic Theory and Social Policy	4.0
SPOL 624	Nature/Society Thought and Social Policy	4.0
Totals		12.0

**Social policy**

SOWK 683	Advanced Policy Analysis	3.0
SPOL ____ SPOL ____	Two courses in a selected area of social policy specialization	6.0
Totals		9.0

**Research**

SPOL 654	Qualitative Research Methods	4.0
SPOL 655	Quantitative Research Methods	4.0
PSYC 501	Advanced Statistics I	4.0
PSYC 502	Advanced Statistics II	4.0
PSYC 503	Advanced Multivariate Statistics	4.0
SPOL 664	Applied Research for Social Policy	2.0
SPOL 665	Information Technologies and Decision Science	4.0
SPOL 671, 672, 673	Research Orientation I, II, III	2.0, 2.0, 2.0
SPOL 681, 682, 683	Research Seminar I, II, III	2.0, 2.0, 2.0
Totals		38.0

**Dissertation**

SPOL 697	Research	20.0
SPOL 699	Dissertation	12.0
Totals		32.0

**Bioethics core courses for transfer credit**

	All are available	12.0
Overall Totals		103.0
Joint Program Totals		135.0

**Biomedical Science—ST***with***Dentistry—SD****Ph.D./D.D.S.**

The Ph.D./D.D.S. is a combined degrees program leading to the Doctor of Dental Surgery degree and the Doctor of Philosophy degree. This biomedical sciences program provides opportunity for well-qualified and motivated students to pursue both a professional and a graduate education and to prepare for careers in clinical specialization, teaching, or investigation in health and human disease. The student who has a baccalaureate degree and the approval of the Biomedical Advisory Committee may enter the combined degrees program and work concurrently toward both degrees. A minimum of six years is required to complete this combined degrees program, offered cooperatively by the School of Dentistry and the Faculty of Graduate Studies.

**Clinical Ministry—SR***with***Marital and Family Therapy—ST****M.A./M.S.**

SIROJ SORAJJAKOOL, Program Director, Clinical Ministry

MARY E. MOLINE, Program Director, Counseling and Family Sciences

**FACULTY**

The faculty for the combined degrees program in clinical ministry with marital and family therapy is drawn from the School of Religion and from the Department of Counseling and Family Sciences in the School of Science and Technology.

**THE PROGRAM**

The combined Master of Arts degree program in clinical ministry and Master of Science degree program in marital and family therapy (MFAM) have many common subject areas, such as the spiritual and clinical emphasis in caring for the whole person. The joining of the two degree programs provides the student with the added Christian clinical counseling skills needed to minister to many spiritual and mental health problems.

The marital and family therapy degree also prepares the student for a clinical license. Licensure allows the student in the M.A./M.S. combined degrees program more options for practice, including private practice. The student's ability to provide more services to the community—in addition to the traditional areas of practice, such as hospitals, churches, and schools—is increased.

**OBJECTIVES**

The combined degrees Clinical Ministry with Marital and Family Therapy Program has the following objectives:

1. Students will gain clinical skills related to the field of spiritual care and marriage and family therapy that will enable them to become competent practitioners.
2. Students will learn to integrate theoretical, theological, biblical, and philosophical foundations pertaining to the study of spirituality and marriage and family therapy.
3. Students will be able to identify spiritual issues within the context of marital relations and health care and offer spiritual interventions.
4. Students will be knowledgeable of the legal and ethical standards relevant to the fields of chaplaincy and marital and family therapy and apply their knowledge to their clinical practice.

The family clinical ministry track provides the basis for doctoral work in mental health and religious studies. Outstanding students are encouraged to explore possibilities for further studies.

**Admission**

Applicants will need to apply to both programs separately, be accepted to both programs separately, and follow their admission requirements in order to qualify for the dual degree. See the CATALOG for specific instructions. Student can start the dual program either with taking marital and family therapy courses their first year or taking clinical ministries courses their first year.

**Clinical placements**

Students who take case presentation in MFAM will be placed in secular sites. When students are taking course work in Clinical Ministries but continuing their case presentation in MFAM will be placed in a Christian oriented site, such as Christian Counseling Center.

**Course requirements**

In order to complete the combined degrees Master of Arts in clinical ministry with Master of Science degree in marital and family therapy program, the student will complete a minimum of 101 units of course work as specified—with an overall grade average of B or better, with no grade lower than a C, and with no grade in a core course lower than a B-. The required curriculum is as follows:



**CURRICULUM****FIRST YEAR****Postsummer Session (intensive)**

MFAM 535	Case-Presentation and Professional Studies	4.0
Totals		4.0

**Fall Quarter**

MFAM 515	Crisis-Intervention Counseling	3.0
MFAM 551	Family Therapy: Foundational Theories and Practice	3.0
MFAM 556	Psychopathology and Diagnostic Procedures	3.0
MFAM 614	Laws and Ethics	3.0
MFAM 547	Social Ecology of Individual and Family Development	3.0
Totals		15.0

**Winter Quarter**

MFAM 536	Case-Presentation Seminar	2.0
FMST 514	Cross-cultural Counseling Family Values	2.0
MFAM 553	Family-Systems Theory	3.0
MFAM 644	Child Abuse and Family Violence	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		10.0

**Spring Quarter**

MFAM 501	Research Tools and Methodology: Quantitative	3.0
MFAM 537	Case-Presentation Seminar	2.0
MFAM 564	Family Therapy: Advanced Foundational Theories and Practice	3.0
MFAM 584	Advanced Child and Adolescent Development	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		11.0

**Summer Quarter**

MFAM 568	Groups: Process and Procedures	3.0
MFAM ____	Modality elective	2.0
*MFAM 734	Professional Clinical Training	3.0
Totals		5.0

**SECOND YEAR****Fall Quarter**

MFAM 502	Research Tools and Methodology: Qualitative	3.0
MFAM 552	Couples Therapy: Theory and Practice	3.0
*MFAM 734	Professional Clinical Training	1.5
RELR 567	Pastoral Counseling	3.0
Totals		9.0

**Winter Quarter**

MFAM 524	Psychopharmacology and Medical Issues	3.0
MFAM 624	Individual and Systems Assessment	3.0
RELR 568	Care of the Dying and Bereaved	3.0
RELR 584	Culture, Psychology, and Religion	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		12.0

**Spring Quarter**

MFAM 545	Gender Perspectives	2.0
MFAM 674	Human Sexual Behavior	3.0
RELT 559 or RELR 587	New Testament Thought Religion and the Social Sciences	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		8.0

## THIRD YEAR

**Summer Quarter**

RELE 524	Christian Bioethics	3.0
RELT 558	Old Testament Thought	3.0
Totals		6.0

**Fall Quarter**

MFAM 635	Case-Presentation Seminar	2.0
RELR 565	Introduction to Pastoral Theology and Methodology	3.0
RELR 564	Religion, Marriage, and the Family	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		8.0

**Winter Quarter**

MFAM 636	Case-Presentation Seminar	2.0
MFAM 638	Family Therapy and Chemical Abuse	3.0
RELR 574	Preaching	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		8.0

**Spring Quarter**

MFAM 637	Case-Presentation Seminar	2.0
RELT 557	Theology of Human Suffering	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		5.0

\*Clinical training is a nonacademic activity and requires a fee

MFAM 734	Professional Clinical Training (15 clinical units)	-
Overall Totals		101.0

**Dentistry—SD (Fall Quarter)***with***Anatomy—SM****D.D.S./Ph.D.**(See program in Anatomy *with* Dentistry.)**Dentistry—SD***with***Biology—ST****D.D.S./M.S.**(See program in Biology *with* Dentistry.)**Dentistry—SD***with***Biomedical and Clinical Ethics—SR****D.D.S./M.A.**(See program in Biomedical and Clinical Ethics *with* Dentistry.)**Dentistry—SD***with***Biomedical Sciences—SM****D.D.S./Ph.D.**(See program in Biomedical Sciences *with* Dentistry.)

**Dentistry—SD***with***Geology—ST****D.D.S./M.S.**(See program in Biology or Geology *with* Dentistry.)**Dentistry—SD***with***Master of Science—SD****D.D.S./M.S.**

The D.D.S./M.S. is a combined degrees program leading to the Doctor of Dental Surgery and the Master of Science degrees. It is open to qualified students of dentistry. The student who is interested in establishing a broader professional base in science or who is looking toward a career in teaching or research may take an interim leave from the School of Dentistry to fulfill the professional degree requirements subsequent to or concurrent with completing course work and research for the Master of Science degree.

**Health Education—PH***with***Marital and Family Therapy—ST****M.P.H./M.S.**

MARY E. MOLINE, Ph.D., Dr.P.H., Program Director

NAOMI MODESTE, Dr.P.H., Program Director

**DEPARTMENTS**

The M.S. degree in marital and family therapy is housed in the Department of Counseling and Family Sciences in the School of Science and Technology, along with master's degree programs in child life, counseling, and family studies; and doctoral programs in family studies and marital and family therapy. The master's degree in health education is housed in the School of Public Health.

**DUAL DEGREE**

The Master of Public Health degree in health education and the Master of Science degree in marital and family therapy have many subject areas in common, specifically the emphasis on the systems approach to solving health and family problems. The area of prevention is also strongly emphasized in both degrees, as also are substance abuse, eating disorders, sexuality, and mental and physical health.

The motto of Loma Linda University, "To make man whole," can be greatly facilitated by the goals contained in the motto of the Counseling and Family Sciences Department's Marriage and Family Therapy Program: "To make family whole." It is proposed that the joining of the two degree programs in a family health track will provide the student with the Christian counseling and health education skills needed to solve many of the world's physical and mental health problems.

The marriage and family therapy major will also provide the option of a clinical license that will allow the student who has completed the combined

M.S./M.P.H. degree family health track to open up a private practice to increase his/her ability to provide services to the community.

The M.P.H. degree in health education is a 58-unit degree program for health professionals. The M.S. degree in marriage and family therapy is a 66-unit degree. Jointly, there is a 14-unit crossover between the two degree programs and shared field or clinical training.

A total of 124 units, or approximately nine quarters of full-time study, is needed to complete the combined M.P.H./M.S. degrees program. The combined degrees program contains sufficient HPRO courses to qualify the graduate to sit for the credentialing examination in health education. The program also contains 66 units of MFAM courses, which prepares the student didactically for the state license as a marriage and family therapist (MFT).

**Admission**

The applicant must be admitted to both degrees separately, with his/her stated goal of the dual degree.

An applicant who begins his/her program with an emphasis in public health needs to seek advisement from the director. An applicant who begins his/her program with marital and family course work should see the director of that program.

For specific admission requirements to both programs, applicants should consult the University Catalog.

**Objectives**

The joint program in health education with marital and family therapy aims to:

1. Produce skilled professionals in health education and marital and family therapy in the family health track.
2. Expose the student to the currently available content material in the fields of public health education and marital and family therapy.
3. Provide for supervised field and clinical training that will give the student the opportunity to apply and integrate theoretical knowledge toward the development of health education and clinical skills and competencies.
4. Provide activities for the student to develop personal maturity as a professional who identifies with the preventive and curative aspects of health education and marital and family therapy.

This dual degree (M.P.H./M.S.) will provide a basis for doctoral work in mental and public health, and

superior students will be encouraged to explore possibilities for further graduate studies.

## CURRICULUM

### M.P.H.

#### Public health core courses

ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I (concurrent or after STAT 509)	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
NUTR 509	Public Health Nutrition and Biology	3.0
PHCJ 605	Overview of Public Health	1.0
PHCJ 675	Integrated Public Health Capstone	2.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 509	General Statistics	4.0
Totals		27.0

#### Health education core courses

HPRO 524	Adolescent Health	3.0
HPRO 535	Health Education Administration and Leadership	3.0
HPRO 537	Community Programs Laboratory (A,B,C)	1.0, 2.0, 1.0
HPRO 538	Health Education Program Development and Evaluation (after HPRO 509 and 536)	3.0
HPRO 539	Policy and Issues in Health Education	3.0
HPRO 589 or MFAM 502	Qualitative Research Methods or Research Methodology Qualitative	3.0 3.0
NUTR 534	Maternal and Child Nutrition	3.0
Totals		22.0

#### Concentration and/or electives

MFAM ____		9.0
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#### Field experience

HPRO 798D	Field Practicum (400 clock hours) **These units are not counted in the final number of units required.	12.0
M.P.H. Totals		58.0

#### Culminating activity for public health

Students are required to demonstrate the ability to integrate the core public health competency areas: administration, epidemiology, public health biology, health disparities, statistics, environmental health, and health behavior. The culminating activity is comprised of a written examination, field experience,

professional portfolio, and exit interview with the department chair.

Students who do not meet minimum standards of performance on the culminating activity are subject to academic review or remedial course work to address deficiencies in preparation; or they may be asked to withdraw from the program.

## CURRICULUM

### M.S. IN MARITAL AND FAMILY THERAPY

#### DEGREE REQUIREMENTS

##### Theoretical foundations of marital and family therapy

MFAM 551	Family Therapy: Foundational Theories and Practice	3.0
MFAM 552	Couples Therapy: Theory and Practice	3.0
MFAM 553	Family Systems Theory	3.0

MFAM 564	Family Therapy: Advanced Foundational Theories and Practice	3.0
Totals		12.0
<b>Assessment and treatment in marriage and family therapy</b>		
MFAM 515	Crisis-Intervention Counseling	3.0
MFAM 524	Psychopharmacology and Medical Issues	3.0
MFAM 556	Psychopathology and Diagnostic Procedures	3.0
MFAM 568	Groups: Process and Practice	3.0
MFAM 624	Individual and Systems Assessment	3.0
MFAM 638	Family Therapy and Chemical Abuse	3.0
MFAM 644	Child Abuse and Family Violence	3.0
Totals		21.0
<b>Human development and family studies</b>		
FMST 514	Crosscultural Counseling Family Values	2.0
MFAM 545	Gender Perspectives	2.0
MFAM 547	Social Ecology of Individual and Family Development	3.0
MFAM 584	Advanced Child and Adolescent Development	3.0
MFAM 674	Human Sexual Behavior	3.0
Totals		13.0
<b>Ethics and professional studies</b>		
MFAM 614	Law and Ethics	3.0
MFAM 535	Case Presentation and Professional Studies	4.0
Totals		7.0
M.S. Totals		66.0
Overall Totals		116.0

**Health Education—PH***with***Nursing, Advanced Practice—SN****M.P.H./M.S.****PREREQUISITE**

Demonstrate college-level conceptualization and writing skills

Community service or public health experience preferred

General statistics (descriptive and beginning inferential) (3 quarter units)

Introduction to research methods (2 quarter units)

Graduate Record Examination (GRE)

Bachelor's degree

**COREQUISITE**

(may be taken during first two quarters of program, in addition to units required for degree)

Anatomy and physiology / Physiology (one course or course sequence)

Behavioral science (two courses, one of which is an introductory psychology course)

**M.P.H. DEGREE REQUIREMENTS****Public health core courses**

ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence & Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
NUTR 505	Public Health Biology	2.0
PHCJ 605	Overview of Public Health	1.0

RELE 534 or RELE 524	Ethical Issues in Public Health Christian Bioethics	3.0 3.0
<b>Totals</b>		<b>20.0</b>

**Health education core courses**

HPRO 535	Health Education Administration Leadership	3.0
HPRO 537	Community Programs Laboratory	1.0, 2.0, 1.0
HPRO 538	Health Education-Program Development and Evaluation	3.0
HPRO 539	Policy and Issues in Health Education	3.0
HPRO 553	Addiction Theory & Program Development	3.0
HPRO 589	Qualitative Research Methods	3.0
NUTR 509 or NUTR 534	Public Health Nutrition and Biology Maternal and Child Nutrition	3.0
<b>Totals</b>		<b>22.0</b>
<b>M.P.H. Totals</b>		<b>42.0</b>

**M.S. DEGREE REQUIREMENTS****Core/Concentration graduate nursing courses**

NRSG 516	Advanced-Practice Role Development	2.0
NRSG 517	Theoretical Foundations for Advanced Practice	4.0
NRSG 544	Teaching and Learning Theory	3.0
NRSG 555	Pharmacology in Advanced Practice I	3.0
NRSG 556	Pharmacology in Advanced Practice II	2.0
NRSG 680	Intermediate Statistics	3.0
NRSG 684	Research Methods	4.0
PHSL 588	Pathophysiology	4.0
<b>Totals</b>		<b>25.0</b>

**Clinical courses****Option 1**

NRSG 624*	Adult and Aging Family I	4.0
NRSG 626*	Adult and Aging Family II	3.0
NRSG 628*	Clinical Practicum: Adult and Aging	9.0
NRSG 651	Advanced Physical Assessment	3.0
<b>Totals</b>		<b>19.0</b>

**Option 2**

NRSG 645*	Growing Family I	4.0
NRSG 646*	Growing Family II	3.0
NRSG 617*	Clinical Practicum: Growing Family	9.0
NRSG 651	Advanced Physical Assessment	3.0
<b>Totals</b>		<b>19.0</b>
<b>M.S. Totals</b>		<b>44.0</b>

Electives from biomedical and clinical ethics	16.0
Clinical hours from nursing (390 hours)	-
Overall Totals	92.0

\* An asterisk indicates a course that is offered alternate years

### Health Education—PH

*with*

### Psychology, Clinical—ST

### M.P.H./Psy.D.

The Master of Public Health (M.P.H.) degree curriculum in health education is taught through the School of Public Health. The Doctor of Psychology (Psy.D.) degree program in clinical psychology is taught in the School of Science and Technology. Information regarding the Doctor of Psychology degree curriculum is available from the School of Science and Technology. Below is the curriculum for the Master of Public Health degree only.

### PREREQUISITE

Demonstrate college-level conceptualization and writing skills

Community service or public health experience preferred

Graduate Record Examination (GRE)

Bachelor's degree

### COREQUISITE

(may be taken during first two quarters of program, in addition to units required for degree)

Anatomy and physiology / Physiology (one course or course sequence)

Behavioral science (two courses, one of which is an introductory psychology course)

### M.P.H. DEGREE REQUIREMENTS

#### Public health core courses

ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 509	Principles of Health Behavior	3.0
RELE 534	Ethical Issues in Public Health	3.0
NUTR 505	Public Health Biology	2.0
PHCJ 605	Overview of Public Health	1.0
PHCJ 675	Integrated Public Health Capstone	2.0
STAT 509	General Statistics	4.0
or STAT ____	Advanced statistics from Psy.D. program	4.0
Totals		26.0

#### Health education core courses

HPRO 526	Lifestyle Disease and Risk Reduction	3.0
HPRO 527	Obesity and Disordered Eating	3.0
HPRO 535	Health Education-Administration and Leadership	3.0
HPRO 537	Community-Programs Laboratory	2.0, 2.0
HPRO 538	Health Education Program Development and Evaluation	3.0
HPRO 539	Policy and Issues in Health Education	3.0
HPRO 589	Qualitative Research Methods	3.0
NUTR 509	Public Health Nutrition and Biology	3.0
or NUTR 534	Maternal and Child Nutrition	3.0
Totals		25.0

**Electives**

Psy.D. units		9.0
<b>Field experience</b>		
HPRO 798D	Field Practicum (400 clock hours)	-
		Overall Totals (Total does not include Psy.D. program units)
		63.0

**Culminating activity**

Students are required to demonstrate the ability to integrate the core public health competency areas: administration, epidemiology, public health biology, health disparities, statistics, environmental health, and health behavior. The culminating activity is comprised of a written examination, field experience, professional portfolio, and an exit interview with the department chair.

Students who do not meet minimum standards of performance on the culminating activity are subject to academic review or remedial course work to address deficiencies in preparation.

**Marital and Family Therapy—ST with**

**Biomedical and Clinical Ethics—SR M.S./M.A.**

(See program in Biomedical and Clinical Ethics *with* Marital and Family Therapy.)

**Marital and Family Therapy—ST with**

**Clinical Ministry—SR M.A./M.S.**

SIROJ SORAJJAKOOL, Program Director, Clinical Ministry

MARY E. MOLINE, Program Director, Counseling and Family Sciences

**FACULTY**

The faculty for the combined degrees program in clinical ministry with marital and family therapy is drawn from the School of Religion and from the Department of Counseling and Family Sciences in the School of Science and Technology.

**THE PROGRAM**

The combined degrees Master of Arts in clinical ministry and Master of Science in marital and family therapy have many common subject areas, such as the spiritual and clinical emphasis in caring for the whole person. The joining of the two degree programs provides the student with the added Christian clinical counseling skills needed to minister to many spiritual and mental health problems.

The marital and family therapy degree also prepares the student for a clinical license. Licensure allows the student in the M.A./M.S. combined degrees program more options for practice, including private practice. The student's ability to provide more services to the community—in addition to the traditional areas of

practice, such as hospitals, churches, and schools—is increased.

**Objectives**

The combined degrees program in clinical ministry with marital and family therapy has the following objectives:

1. Students will gain clinical skills related to the field of spiritual care and marriage and family therapy that will enable them to become competent practitioners.
2. Students will learn to integrate theoretical, theological, biblical, and philosophical foundations pertaining to the study of spirituality and marriage and family therapy.
3. Students will be able to identify spiritual issues within the context of marital relations and health care and offer spiritual interventions.
4. Students will be knowledgeable of the legal and ethical standards relevant to the fields of chaplaincy and marital and family therapy and apply their knowledge to their clinical practice.

The family clinical ministry track provides the basis for doctoral work in mental health and religious studies. Outstanding students are encouraged to explore possibilities for further studies.

**Admission**

Applicants will need to apply to both programs separately, be accepted to both programs separately, and follow their admission requirements in order to qualify for the combined degree. See the CATALOG for specific instructions. Students can start the combined degrees program either by taking marital and family therapy courses their first year or taking clinical ministries courses their first year.

**Clinical placements**

Students take case presentation in MFAM will be placed in secular sites. When students are taking course work in Clinical Ministries but continuing their case presentation in MFAM will be placed in a Christian oriented site, such as Christian Counseling Center.

**Course requirements**

In order to receive the Master of Arts degree in clinical ministry and the Master of Science degree in



marital and family therapy from Loma Linda University, the student will complete a minimum of 101 units of course work as specified—with an overall

grade average of B or better, with no grade lower than a C, and with no grade in a core course lower than a B-. The required curriculum is as follows:

**CURRICULUM**

**FIRST YEAR**

**Postsummer Session (intensive)**

MFAM 535	Case-Presentation and Professional Studies	4.0
Totals		4.0

**Fall Quarter**

MFAM 515	Crisis-Intervention Counseling	3.0
MFAM 551	Family Therapy: Foundational Theories and Practice	3.0
MFAM 556	Psychopathology and Diagnostic Procedures	3.0
MFAM 614	Laws and Ethics	3.0
MFAM 547	Social Ecology of Individual and Family Development	3.0
Totals		15.0

**Winter Quarter**

MFAM 536	Case-Presentation Seminar	2.0
FMST 514	Cross-cultural Counseling Family Values	2.0
MFAM 553	Family-Systems Theory	3.0
MFAM 644	Child Abuse and Family Violence	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		10.0

**Spring Quarter**

MFAM 501	Research Tools and Methodology: Quantitative	3.0
MFAM 537	Case-Presentation Seminar	2.0
MFAM 564	Family Therapy: Advanced Foundational Theories and Practice	3.0
MFAM 584	Advanced Child and Adolescent Development	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		11.0

**Summer Quarter**

**SECOND YEAR**

**Fall Quarter**

MFAM 502	Research Tools and Methodology: Qualitative	3.0
MFAM 552	Couples Therapy: Theory and Practice	3.0
*MFAM 734	Professional Clinical Training	1.5
RELR 567	Pastoral Counseling	3.0
Totals		9.0

**Winter Quarter**

MFAM 524	Psychopharmacology and Medical Issues	3.0
MFAM 624	Individual and Systems Assessment	3.0
RELR 568	Care of the Dying and Bereaved	3.0
RELR 584	Culture, Psychology, and Religion	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		12.0

**Spring Quarter**

MFAM 545	Gender Perspectives	2.0
MFAM 674	Human Sexual Behavior	3.0
RELT 559 or RELR 587	New Testament Thought Religion and the Social Sciences	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		8.0

## THIRD YEAR

**Summer Quarter**

RELE 524	Christian Bioethics	3.0
RELT 558	Old Testament Thought	3.0
Totals		6.0

**Fall Quarter**

MFAM 635	Case-Presentation Seminar	2.0
RELR 565	Introduction to Pastoral Theology and Methodology	3.0
RELR 564	Religion, Marriage, and the Family	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		8.0

**Winter Quarter**

MFAM 636	Case-Presentation Seminar	2.0
MFAM 638	Family Therapy and Chemical Abuse	3.0
RELR 574	Preaching	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		8.0

**Spring Quarter**

MFAM 637	Case-Presentation Seminar	2.0
RELT 557	Theology of Human Suffering	3.0
*MFAM 734	Professional Clinical Training	1.5
Totals		5.0

\* Clinical training courses are nonacademic units and require a fee

MFAM 734	Professional Clinical Training (15 clinical units)	-
Overall Totals		101.0

**Marital and Family Therapy—ST  
with****Health Education—PH  
M.S./M.P.H.**

(See program in Health Education *with* Marital and Family Counseling.)

**Master of Science—SD  
with****Dentistry—SD  
M.S./D.D.S.**

(See "Combined degrees" programs in the School of Dentistry.)

**Maternal and Child Health—PH  
with****Social Work—ST  
M.P.H./M.S.W.**

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.P.H. degree and M.S.W. 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.P.H. degree is 58 units and the M.S.W. degree is 78 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. Interested students should obtain from the department a curriculum plan showing the integration of the M.P.H. degree and M.S.W. degree programs.

**Medical Scientist—SM  
(M.D. with Ph.D.)**

The program is designed to attract students who are energized by doing research and want to contribute substantially to this enterprise.

Students enter this combined degrees program through the graduate program. In the first year, students participate in a new and revised, scientifically integrated program that includes biochemistry, molecular biology, physiology, pharmacology, and anatomy. While in the first year, students also rotate through the laboratories of selected faculty members.

In the second year, students increase their involvement with individual laboratory projects while continuing to complete graduate course requirements. Students in selected areas may also be asked to serve as teaching assistants for graduate or medical classes. Students pursuing the combined degrees will also be involved with joint basic science and clinical meetings and conferences with the aim of understanding the interrelationships between laboratory-based and clinical research.

Upon demonstration of laboratory success, as indicated by completion of a first-author manuscript, the student will continue on to the traditional first two years of the medical school curriculum. It is anticipated that the amount of time required to demonstrate laboratory success will be two to three years. Successful students who have acquired essential laboratory skills should continue their affiliation with the host laboratory and continue research progress as time permits while in the medical school curriculum.

Upon successful completion of the first two years of the medical curriculum and Step 1 of the USMLE examination, students will begin a series of rotations between the clinical sciences and the research laboratory. During these later years, students will complete all the standard clinical rotations and continue progress on laboratory projects. It is the intent of this program that students will acquire the requisite skills needed for a successful career at the interface of laboratory-based and clinical research.

**Program admission**

Admission into the Medical Scientist Program is competitive and requires evidence that the student is likely to develop into a successful medical scientist. The student must submit separate applications to the School of Medicine for both the M.D. and the Ph.D. degree programs, and meet the stated admissions requirements for each of these programs. The application package for the Ph.D. degree program requires scores for the general test of the Graduate Record Examination. Both programs must accept the scores before the student is admitted to the Medical Scientist Program. Students entering the M.D./Ph.D. combined degrees program who determine that a research career is inappropriate may elect to complete the M.D. degree program independently. Students entering the Ph.D. degree program who desire a career in academic medicine may choose to apply for admission to the M.D./Ph.D. combined degrees program at a point after their entry into the Ph.D. degree program; however, the standard medical school application process will be required at that point.

For information regarding tuition waivers and scholarships, contact the director of the Medical Scientist Program.

**Medicine—SM  
with**

**Anatomy—SM  
M.D./M.S.**

(See program in Anatomy *with* Medicine.)

**Medicine—SM  
with**

**Biology—ST  
M.D./M.S.**

(See program in Biology or Geology *with* Medicine.)

**Medicine—SM  
with**

**Biomedical and Clinical Ethics—SR  
M.D./M.A.**

(See program in Biomedical and Clinical Ethics *with* Medicine.)

**Medicine—SM  
with**

**Geology—ST  
M.D./M.S.**

(See program in Biology or Geology *with* Medicine.)

**Medicine—SM  
with**

**Master of Science—SM or  
Doctor of Philosophy—SM  
M.D./M.S. or M.D./Ph.D.**

(See program in Medicine *with* Master of Science and program in Medicine *with* Doctor of Philosophy.)

**Medicine—SM***with*

**Oral and Maxillofacial Surgery (OMS)—SD M.D./Post-D.D.S. OMS specialty certificate**  
(See Oral and Maxillofacial Surgery—SD *with* Medicine.)

**Oral and Maxillofacial Surgery (OMS)—SD *with*****Medicine—SM****Post-D.D.S. specialty certificate /M.D.**

The M.D./OMS program is designed to provide an opportunity for qualified dentists to obtain the Doctor of Medicine degree in a customized three-year period. Clinical surgical health care delivery is emphasized. 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. Oral and maxillofacial surgery residents begin their residency program on the OMS service. They subsequently enter the second-year class at Loma Linda University School of Medicine (with advanced

standing). The residents then complete the second, third, and fourth years of medical school. The fourth year of the OMS residency consists of a full postgraduate year of general surgery. The resident completes the final two years of the OMS training on the OMS service. During the final year, s/he functions as chief resident.

**Application process**

Application for admission should be submitted to the School of Dentistry by October 15 of the year prior to the summer of intended enrollment. The School of Dentistry participates in the Post Doctoral Application Service (PASS). Applicants are recommended to the School of Medicine for consideration in the six-year OMS program.

**Tuition**

Students in the OMS program with the School of Medicine are charged tuition and fees for the first two and one-half years of the program; tuition for the remaining years is waived.

**REQUIRED COURSES**

MDCJ 561	Physical Diagnosis and Medical Interviewing	7.0
PATH 514	Systemic Pathology	14.0
PHRM 511	Medical Pharmacology	7.0
PSYT 514	Psychopathology	4.0
PSYT 522	Understanding Your Patient	3.0
MDCJ 524	Pathophysiology and Applied Physical Diagnosis	10.0
FMDN 701	Family Medicine Clerkship	6.0
GYOB 701	Gynecology / Obstetrics Clerkship	9.0
MEDN 701	Internal Medicine Clerkship	18.0
PEDS 701	Pediatrics Clerkship	12.0
PSYT 701	Psychiatry Clerkship	9.0
SURG 701	Surgery Clerkship	18.0
RELR 714	Advanced Medical Ethics	2.0
EMDN 821	Emergency Medicine Clerkship	3.0
NEUR 701	Neurology Clerkship	6.0
MDCJ 821	Preventive and Community Medicine	6.0
<b>Totals</b>		<b>134.0</b>

In addition, students will complete 6 units of religion courses, 3 units of intensive care, 6 units of ENT subinternship, and 30 units of electives comprised of anesthesia and oral and maxillofacial surgery.

Upon completion of the medical school curriculum, the student enters a one-year general surgery internship, followed by two years of oral and maxillofacial surgery residency.

**Medicine—SM**

*with*

**Oral and Maxillofacial Surgery (OMS)—SD  
PD-OMS, M.S./M.D.**

(See Oral and Maxillofacial Surgery, SD post-D.S.S. advanced certificate /M.S. option program *with* Medicine.)

**Nursing, Advanced Practice—SN**

*with*

**Biomedical and Clinical Ethics—SR  
M.S./M.A.**

(See program in Biomedical and Clinical Ethics *with* Nursing, Advanced Practice.)

**Nursing, Advanced Practice—SN**

*with*

**Health Education—PH  
M.S./M.P.H.**

(See program in Health Education *with* Nursing, Advanced Practice.)

**Preventive Care—PH**

*with*

**Psychology, Clinical—ST  
Dr.P.H./Psy.D.**

The Doctor of Public Health (preventive care) with Doctor of Psychology (clinical) combined degrees program (Dr.P.H./ Psy.D.) is designed for individuals who wish to combine public health science with clinical psychology.

**Admission requirements**

For acceptance into the Doctor of Public Health/Doctor of Psychology combined degrees program, the applicant must meet the required prerequisites for each program (see programs for respective prerequisites).

**Course of study**

The course of study for the Doctor of Public Health/Doctor of Psychology combined degrees program consists of a minimum of 245 units, as outlined below.

**Corequisite for public health/biomedical sciences**

ENVH 509	Principles of Environmental Health	3.0
EPDM 509	Principles of Epidemiology I	3.0
GLBH 524	Cultural Competence and Health Disparities	2.0
HADM 509	Principles of Health Policy and Management	3.0
HPRO 501	Human Anatomy and Physiology I	4.0
HPRO 502	Human Anatomy and Physiology II	4.0
HPRO 503	Human Anatomy and Physiology III	4.0
HPRO 519 or PSYC 555	Pharmacology Psychopharmacology	3.0 2.0
HPRO 531	Pathology of Human Systems I	3.0
HPRO 532	Pathology of Human Systems II	3.0
HPRO 536	Program Planning and Evaluation	2.0
PHCJ 605	Overview of Public Health	1.0
NUTR 509	Public Health Nutrition and Biology	3.0
Totals		37.0-38.0

**DEGREE REQUIREMENTS**

**Preventive care**

EPDM 566 or EPDM 565	Epidemiology of Cardiovascular Disease Epidemiology of Cancer	3.0 3.0
HPRO 515	Mind-Body Interactions and Health Outcomes	3.0
HPRO 526	Lifestyle Diseases and Risk Reduction	3.0
HPRO 527	Obesity and Disordered Eating	3.0
HPRO 529	Preventive and Therapeutic Interventions / Chronic Disease	4.0
HPRO 553	Addiction Theory and Program Development	3.0
HPRO 565	Tobacco Use: Prevention and Interventions	3.0

HPRO 573	Exercise Physiology I	3.0
HPRO 575	Immune Systems: Public Health Application	3.0
HPRO 578	Exercise Physiology II	3.0
HPRO 586	Introduction to Preventive Care	1.0
HPRO 588 or PSYC 554	Health-Behavior Theory and Research Health Psychology	4.0 4.0
HPRO 606B	Motivational Interviewing	2.0
NUTR 504	Nutritional Metabolism	5.0
NUTR 517	Advanced Nutrition I: Carbohydrates and Lipids	4.0
NUTR 518	Advanced Nutrition II: Proteins, Vitamins, and Minerals	4.0
NUTR 556	Nutritional Application in Lifestyle Intervention	1.0
NUTR 578	Exercise Nutrition	3.0
Totals		55.0

**Research and evaluation**

Applicable to both programs

PSYC 501 or STAT 509	Advanced Statistics General Statistics	4.0 4.0
PSYC 502 or STAT 514	Advanced Statistics Intermediate Statistics for Health-Science Data	4.0 3.0
PSYC 511	Psychometric Foundations	3.0
PHCJ 534	Research Methods	2.0, 2.0
PHCJ 604	Research Seminar	2.0
HPRO 694	Dissertation Proposal	6.0
HPRO 698	Dissertation	12.0
Totals		35.0

**Psychological science foundation**

PSYC 524	History, Systems, and Philosophy of Psychology	2.0
PSYC 544 or PSYC 545	Foundations of Learning Cognitive Foundations	4.0 4.0
PSYC 551	Psychobiological Foundations	4.0
PSYC 564	Foundations of Social Psychology and Culture	4.0
PSYC 574 or PSYC 575	Personality Theory Foundations of Human Development	4.0 4.0
PSYC 591A	First-Year Colloquium	1.0
PSYC 591B	Second-Year Colloquium	1.0
PSYC 591C	Third-Year Colloquium	1.0
Totals		21.0

**General clinical**

PSYC 571	Adult Psychopathology	4.0
PSYC 572	Child Psychopathology	2.0
PSYC 721	Practicum Preparation	3.0
Totals		9.0

**Psychological assessment**

PSYC 512/L	Psychological Assessment I Laboratory	3.0
PSYC 513/L	Psychological Assessment II Laboratory	3.0
PSYC 514/L	Psychological Assessment III Laboratory	3.0
Totals		9.0

**Psychological treatment**

PSYC 581/L or HPRO 606A	Cognitive and Behavioral Therapy Laboratory Stress Management	3.0 2.0
PSYC 582/L	Psychodynamic Therapy Laboratory	3.0
PSYC 583/L	Phenomenological Therapy Laboratory	3.0
PSYC 584/L	Group Psychotherapy /Laboratory	3.0
Totals		11.0-12.0

**Wholeness**

PSYC 526	Ethics and Legal Issues in Psychology	3.0
PSYC 554	Health Psychology	4.0
PSYC 567	Human Diversity	3.0
RELR ____	Religion elective (500 or 600 level.0	3.0
RELT ____	Religion elective (500 or 600 level.0	3.0
RELE 534	Ethical Issues in Public Health (applied to both programs)	3.0
Totals		19.0

**Clinical practica**

PSYC 781	Internal Practicum	2.0, 2.0, 2.0, 2.0
PSYC 782	External Practicum	4.0
PSYC 783	External Practicum II	4.0
PSYC 784	External Practicum III	4.0
PSYC 785	External Practicum IV	4.0
PSYC 786 or HPRO 704	External Practicum V Internship	4.0 4.0
PSYC 787 or HPRO 704	External Practicum VI Internship	4.0 4.0
PSYC 798	Pre-Internship	4.0, 4.0, 4.0, 4.0
PSYC 799	Internship	4.0
PSYC 799L	Internship hours (2000 in blocks of 500.0	40.0
Totals		52.0

**Electives**

PSYC 552	Brain and Behavior Relationships	4.0
PSYC 566	Cross-cultural Psychology	2.0
PSYC 676	Geropsychology (California licensure.0	1.0
PSYC 684	Human Sexuality (California licensure.0	1.0
PSYC 685	Drug Addiction/Treatment (California licensure.0	2.0
PSYC 686	Elder, Partner, Child Abuse (California licensure.0	2.0
PSYC ____	Other electives as required	1.0
Totals		13.0

**Psychology—professional concentration**

PSYC 681	Clinical Supervision	2.0
PSYC 683	Management, Consultation, Education	2.0
PSYC 527	Psychological/Emotional Aspects: Health Disease	2.0
PSYC 537	Applied Behavioral Medicine	2.0
PSYC 546	Clinical Applications in Primary Care	2.0
PSYC 547	Health Psychology Assessment	2.0
PSYC 556	Biofeedback	4.0
PSYC ____	Health Psychology Electives	4.0
Totals		20.0
Overall Totals		245.0

**Psychology—ST***with***Biomedical and Clinical Ethics—SR****Psy.D. or Ph.D./M.A.**(See program in Biomedical and Clinical Ethics *with* Psychology.)**Psychology, Clinical—ST***with***Health Education—PH****Psy.D./M.P.H.**(See program in Health Education *with* Psychology, Clinical.)**Psychology, Clinical—ST***with***Preventive Care—PH****Psy.D./M.P.H. or Dr. P.H.**(See program in Preventive Care *with* Psychology, Clinical.)**Public Health—PH***with***Nursing, Advanced Practice—SN****M.P.H./M.S.**(See program in Nursing, Advanced Practice *with* Public Health.)**Social Policy and Social Research—ST***with***Biomedical and Clinical Ethics—SR****Ph.D./MA**(See program in Biomedical and Clinical Ethics *with* Social Policy and Social Research.)**Social Policy and Social Research—ST***with***Social Work—ST****M.S.W./Ph.D.**(See program in Social Work *with* Social Policy and Social Research)**Social Work—ST***with***Criminal Justice—ST****M.S.W./M.S.**(See program in Criminal Justice *with* Social Work.)**Social Work—ST***with***Maternal and Child Health—PH****M.S.W./M.P.H.**(See program in Maternal and Child Health *with* Social Work.)**Social Work—ST***with***Health Education—PH****(M.S.W./M.P.H.)**(See program in Health Education *with* Social Work.)



**Social Work—ST***with***Social Policy and Social Research—ST****M.S.W./Ph.D.**

BEVERLY J. BUCKLES, Program Coordinator

KIMBERLY FREEMAN, Program Coordinator

**PURPOSE OF THE PROGRAM**

The combined degrees M.S.W./Ph.D. program at Loma Linda University provides students with the opportunity to learn the professional skills of social work simultaneously with advanced theory and research study. The combined degrees program makes it possible for a more efficient completion of two graduate degrees for students with strong interests in social policy, social research, and social work practice. Students who complete this combined degrees program will be prepared to make significant contributions to the field of social policy and social work education. Graduates will be able to provide leadership to social work practice and social policy areas. Participants in the combined degrees program will utilize the important resource networks within the University and those affiliated organizations working on solutions to significant social problems.

**Course requirements**

Students admitted to the M.S.W. degree program may subsequently apply to the Ph.D. degree program and be admitted to the combined degrees program. Students should refer to the M.S.W. and Ph.D. degree program descriptions for information about the admission requirements of each program. Students admitted to the combined degrees program must meet all of the requirements of each of the participating programs. Students should refer to the M.S.W. and Ph.D. degree curricula for a detailed listing of requirements. Students can also obtain an outline of the combined degrees program from the program coordinator for the Ph.D. degree in social policy and social research.



# IV

## THE COURSES

## Course Prefixes

<b>AHCJ</b>	Allied Health—Conjoint	<b>MDCJ</b>	Medicine—Conjoint
<b>ANAT</b>	Anatomy	<b>MEDN</b>	Medicine
<b>ANES</b>	Anesthesiology	<b>MFAM</b>	Marriage and Family
<b>ANTH</b>	Anthropology	<b>MFTH</b>	Marital and Family Therapy
<b>ARTA</b>	Art Appreciation and History	<b>MICR</b>	Microbiology
<b>BCHM</b>	Biochemistry	<b>MNES</b>	Medical Education Services
<b>BIOL</b>	Biology	<b>MUHL</b>	Music History and Literature
<b>CHIN</b>	Chinese	<b>NEUR</b>	Neurology
<b>CHLS</b>	Child Life Specialist	<b>NEUS</b>	Neurosurgery
<b>CLSC</b>	Cytotechnology	<b>NRSB</b>	Nursing Bridge
<b>CLSM</b>	Clinical Laboratory Science	<b>NRSG</b>	Nursing
<b>CMBL</b>	Cell and Molecular Biology	<b>NSCI</b>	Natural Sciences
<b>CMSD</b>	Communication Sciences and Disorders	<b>NUTR</b>	Nutrition
<b>COMM</b>	Communication	<b>OCTA</b>	Occupational Therapy Assistant
<b>COMP</b>	Composition	<b>OCTH</b>	Occupational Therapy
<b>COUN</b>	Counseling	<b>ODRP</b>	Oral Diagnosis, Radiology and Pathology
<b>CRMJ</b>	Criminal Justice	<b>OMFS</b>	Oral and Maxillofacial Surgery
<b>CSWK</b>	Clinical Social Work	<b>OPHM</b>	Ophthalmology
<b>DERM</b>	Dermatology	<b>ORDN</b>	Orthodontics
<b>DNES</b>	Dental Educational Services	<b>ORPA</b>	Oral Pathology
<b>DNHY</b>	Dental Hygiene	<b>ORPR</b>	Orthotics and Prosthetics
<b>DTCH</b>	Dietetic Technology	<b>ORTH</b>	Orthopaedic Surgery
<b>DTCS</b>	Dietetics	<b>OTOL</b>	Otolaryngology
<b>EMDN</b>	Emergency Medicine	<b>PAST</b>	Physicians Assistant
<b>EMMC</b>	Emergency Medical Care	<b>PATH</b>	Pathology
<b>ENDN</b>	Endodontics	<b>PEAC</b>	Physical Education Activity
<b>ENGL</b>	English	<b>PEDN</b>	Pediatric Dentistry
<b>ENSL</b>	English as a Second Language	<b>PEDS</b>	Pediatrics
<b>ENVH</b>	Environmental Health	<b>PERI</b>	Periodontics
<b>ENVS</b>	Environmental Sciences	<b>PHCJ</b>	Public Health—Conjoint
<b>EPDM</b>	Epidemiology	<b>PHIL</b>	Philosophy
<b>ESSC</b>	Earth System Science	<b>PHRM</b>	Pharmacology
<b>FMDN</b>	Family Medicine	<b>PHSL</b>	Physiology
<b>FMST</b>	Family Studies	<b>PHTH</b>	Physical Therapy
<b>GEOL</b>	Geology	<b>PMPT</b>	Physical Therapy—Progression Master's
<b>GERO</b>	Gerontology	<b>PROS</b>	Prosthodontics
<b>GLBH</b>	Global Health	<b>PRVM</b>	Preventive Medicine
<b>GRDN</b>	Graduate Dentistry	<b>PSYC</b>	Psychology
<b>GSCJ</b>	Graduate Studies—Conjoint	<b>PSYT</b>	Psychiatry
<b>GYOB</b>	Gynecology and Obstetrics	<b>PTAS</b>	Physical Therapist Assistant
<b>HADM</b>	Health Administration	<b>PUAD</b>	Public Administration
<b>HCAD</b>	Health Care Administration	<b>RADS</b>	Radiology
<b>HLCS</b>	Coding Specialist	<b>RDMN</b>	Radiation Medicine
<b>HLIN</b>	Health Information Administration	<b>RDNG</b>	Reading
<b>HPRO</b>	Health Promotion and Education	<b>RELE</b>	Religion—Ethical Studies
<b>HUMN</b>	Humanities	<b>RELG</b>	Religion—General Studies
<b>IBGS</b>	Integrated Biomedical Graduate Studies	<b>RELR</b>	Religion—Relational Studies
<b>IDPC</b>	International Dentist Program—Clinics	<b>RELT</b>	Religion—Theological Studies
<b>IDPG</b>	International Dentist Program—General	<b>RESC</b>	Rehabilitation Science
<b>IDPO</b>	International Dentist Program—Oral Pathology	<b>RESD</b>	Restorative Dentistry
<b>IDPP</b>	International Dentist Program— Periodontics and Pediatric Dentistry	<b>RSTH</b>	Respiratory Therapy
<b>IDPR</b>	International Dentist Program—Restorative	<b>RTCH</b>	Radiation Technology
<b>IMPD</b>	Implant Dentistry	<b>RTII</b>	Radiation Technology—Imaging Informatics
		<b>RTMD</b>	Radiation Technology—Medical Dosimetry

<b>RTMR</b> Radiation Technology—Medical Radiography	<b>RXSA</b> Pharmacy—Social and Administrative Sciences
<b>RTMS</b> Radiation Technology—Medical Sonography	<b>RXTH</b> Pharmacy Practice—Therapeutics
<b>RTNM</b> Radiation Technology—Nuclear Medicine	<b>SDCJ</b> School of Dentistry—Conjoint
<b>RTRA</b> Radiation Technology—Radiologist Assistant	<b>SDCL</b> School of Dentistry—Clinical
<b>RTRS</b> Radiation Technology—Radiation Sciences	<b>SOCI</b> Sociology
<b>RTSI</b> Radiation Technology—Special Imaging	<b>SOWK</b> Social Work
<b>RTTH</b> Radiation Technology—Radiation Therapy	<b>SPAN</b> Spanish
<b>RXDI</b> Pharmacy Practice—Drug Information	<b>SPOL</b> Social Policy
<b>RXEE</b> Pharmacy Practice—Experiential Education	<b>STAT</b> Statistics
<b>RXPC</b> Pharmacy Practice—Pharmaceutical Care	<b>STCJ</b> Science and Technology—Conjoint
<b>RXPS</b> Pharmaceutical Sciences	<b>SURG</b> Surgery
<b>RXXR</b> Pharmacy Conjoint	<b>UROL</b> Urology
	<b>WRIT</b> Writing

## Course Listing

### ALLIED HEALTH—CONJOINT

#### AHCJ 101 Introductory Chemistry (4)

Basic survey of matter, energy, and measurement. Includes atoms and molecules; chemical bonding; chemical reactions and reaction rates; gases, liquids, and solids; solutions and colloids; acids and bases; nuclear chemistry.

Prerequisite: High school algebra or equivalent.

#### AHCJ 102 Introductory Organic Chemistry (4)

Introduces the study of compounds that contain carbon. Covers alkenes, alkynes, and aromatic compounds; alcohols, phenols, ethers, and halides; aldehydes and ketones; carboxylic acids and esters; amines and amides.

Prerequisite: AHCJ 101; or equivalent.

#### AHCJ 103 Introductory Biochemistry (4)

Introduces the chemistry of living systems, including carbohydrates, lipids, proteins, and nucleic acids; enzyme chemistry; bioenergetics; carbohydrate, lipid, and protein metabolism; biosynthetic pathways; protein synthesis; chemical transmitters and immunoglobulins; body fluids, nutrition, and digestion.

Prerequisite: AHCJ 101, AHCJ 102; or equivalent.

#### AHCJ 105 Procedures in Phlebotomy (5)

Designed for individuals who are interested in laboratory medicine and would like to become certified phlebotomists and for students trained in venipuncture and skin puncture. Medical terminology, laboratory safety, CPR, basic anatomy and physiology, specimen-collection techniques, hazards/complications, quality-assurance methods, and medico-legal issues of phlebotomy. Clinical rotation arranged at Loma Linda University Medical Center. CPR training and certificate arranged for students who are not already certified.

Corequisite: Current CPR certificate.

#### AHCJ 111 Introductory Physics (4)

Focuses on mechanics and properties of matter and heat; emphasizes concepts. Per week: lecture 3 hours, laboratory 3 hours. Designed for students entering programs in the allied health sciences and nursing.

#### AHCJ 112 Introductory Physics (4)

Focuses on sound, light, electricity and magnetism, atomic and nuclear physics, and relativity; emphasizes concepts. Per week: lecture 3 hours, laboratory 3 hours. Designed for students entering programs in the allied health sciences and nursing.

#### AHCJ 129 Basic Communication Skills (1, 2)

Instruction in ESL communication skills necessary for successful engagement in college-class discussions. Individual testing and interviews given to determine specific needs.

**AHCJ 131 Communication Skills (1, 2)**

Advanced ESL oral communication designed to provide students with the opportunity to develop and practice oral communication techniques in professional and academic contexts, e.g., research and case presentations. Additionally, overall non-native speech patterns facilitated within these contexts to increase speech intelligibility. Course may be repeated up to four times for additional credit.

**AHCJ 177 Professional Literacy for Nonnative Readers (3)**

Emphasizes English literacy for students whose official language of instruction is other than English. Focuses on reading, analyzing, and responding to articles relevant to students' professional studies.

Prerequisite: AHCJ 129. Corequisite: AHCJ 131.

**AHCJ 205 Essentials of Microbiology (4)**

Integrates lecture and laboratory. Introduces basic concepts of microbiology, including functional anatomy, metabolism, and genetics of microorganisms. Examines host-parasite relationships in the context of pathogenesis and disease. Includes a survey of human microbial diseases, with emphasis on communicable disease and public health applications. Cannot be used as a prerequisite for admission to nursing and certain allied health programs.

**AHCJ 214 Fundamentals of Computer Systems (2)**

Concepts of information systems—including systems modeling, hardware, software, systems development, network topologies, and systems lifecycle. Also includes a focus on building and repair of systems, and general maintenance and understanding of system components.

**AHCJ 215 Microsoft Office Excel Applications (2)**

Instruction in Microsoft Excel, including basic-to-advanced features. Emphasizes data presentation. Uses case studies for assessment. Online instruction.

Prerequisite: AHCJ 426; or acceptable acceptable.

**AHCJ 235 Essentials of Human Anatomy and Physiology (4)**

Studies the structure and function of the human body, including organ systems. Prerequisite to many certificate and associate degree programs, e.g., coding specialist/certificate, occupational therapy assistant/A.A. Lecture and laboratory required.

**AHCJ 235L Essentials of Human Anatomy and Physiology Laboratory (1)**

Studies the structure and function of the human body, including organ systems. Prerequisite to many certificate and associate degree programs, e.g., coding specialist/certificate, occupational therapy assistant/A.A. Lecture and laboratory required.

**AHCJ 241 Microbiology (2.5)**

Designed for students in the health sciences. History, classification, morphology, growth, control, transmission, and pathology of selected bacteria, viruses, fungi, rickettsia, and parasites. Host defenses against microbial pathogens, including specific and nonspecific immunity. Per week: lecture 30 hours, laboratory 30 hours. Course covers two quarters. Grade given upon completion of the 241, 242 sequence.

Prerequisite: A college-level chemistry course.

**AHCJ 242 Microbiology (2.5)**

Designed for students in the health sciences. History, classification, morphology, growth, control, transmission, and pathology of selected bacteria, viruses, fungi, rickettsia, and parasites. Host defenses against microbial pathogens, including specific and nonspecific immunity. Per week: lecture 30 hours, laboratory 30 hours. Course covers two quarters. Grade given upon completion of 241, 242 sequence.

Prerequisite: AHCJ 241.

**AHCJ 250 Anatomy and Physiology (4)**

An 8-unit course (4 units Winter Quarter plus 4 units Spring Quarter) that covers structure and function of human biology. For students entering two- and four-year health- professional programs such as physical therapy, occupational therapy, cardiopulmonary sciences, communication sciences and disorders, radiation technology, nursing, and other programs with an anatomy and physiology prerequisite.

**AHCJ 251 Anatomy and Physiology (4)**

An 8-unit course (4 units Winter Quarter plus 4 units Spring Quarter) that covers structure and function of human biology. For students entering two- and four-year health professional programs such as physical therapy, occupational therapy, cardiopulmonary sciences, communication sciences and disorders, radiation technology, nursing, and other programs with an anatomy and physiology prerequisite.

Prerequisite: AHCJ 250\* (\*may be taken concurrently).

**AHCJ 252 Human Anatomy and Physiology (4)**

Function of enzymes, cell respiration and metabolism, secretion and action of hormones, and circulatory and respiratory systems. Lecture and laboratory.

Prerequisite: AHCJ 251.

**AHCJ 305 Infectious Disease and the Health Care Provider (1)**

Current issues related to infectious disease, with special emphasis on principles of epidemiology and the etiology of HIV/AIDS. Discusses disease pathology and modes of transmission compared with hepatitis, tuberculosis, and influenza. Development of ethical response to psychosocial, economic, and legal concerns. Strategies and programs for education, prevention, and identification of resources. Impact on the health care worker; risk factors; and precautions for blood-borne pathogens, HIV, hepatitis, and tuberculosis.

**AHCJ 308 Professional Communications (1-2)**

Forms of written and verbal communication routinely required in the performance of the health care manager's duties. Projects include memos, letters, confidential FAX cover design, short reports, meeting notices, minutes, and creation of agendas.

**AHCJ 311 Medical Terminology (2)**

Language of medicine, including word construction, word analysis, definitions, and the use of terms related to medical science. Course organized by body systems.

**AHCJ 321 Dynamics of Communication (2)**

Surveys communication skills, including group dynamics, self-awareness, interpersonal relationships, learning styles, problem solving, listening skills, and body language. Systematic observation, patient-interviewing techniques, and objective medical documentation. Problem identification and goal setting in a multiperson health care-delivery system.

**AHCJ 324 Psychosocial Models and Interventions (2)**

Major models of stress, crisis, and psychological trauma; and how they relate to health care providers. Psychosocial reactions and responses of populations, individuals, and care providers to societal disruption and trauma, medical emergencies, and death and dying. Applies principles for suicide intervention, critical incident debriefings, and death notification. Roles of psychiatrists, psychologists, social workers, family therapists, and chaplains. Methods of providing temporary, adequate psychological care for individuals in psychosocial crisis.

Cross-listing: GLBH 559.

**AHCJ 325 U. S. Health Care-Delivery System (2)**

Overview of U.S. health care delivery, including the history of health care institutions, accrediting bodies, organizations that provide health care; regulations and standards, reimbursement methods used, and the professionals who provide services. Presents course from a systems perspective, including research into the future of health care.

**AHCJ 326 Fundamentals of Health Care (2)**

Foundation of basic patient-care information and skills for allied health professionals entering the clinical environment. Integrated basic care knowledge and skills required by each profession.

**AHCJ 328 Wholeness Portfolio I (1)**

Introduces SAHP goals for graduates. Student demonstrates progression toward wholeness, compassion, support of diversity, appreciation of human worth, and commitment to lifelong personal and professional growth.

**AHCJ 329 Organic Chemistry with Laboratory (5)**

Studies carbon chemistry as related to organic compounds found in the human organism.

**AHCJ 331 Human Resource Management (3)**

Theory and practice of the management of people at work. Organizational behavior concepts and the problems of employee procurement, training, and motivation. Job evaluation, wage administration, employee benefits, and negotiating with labor unions. Preparation for both managing people and directing a department in a complex organization.

**AHCJ 334 Biochemistry (5)**

Chemistry and metabolism of carbohydrates, lipids, nucleic acids, and proteins. Chemical basis of life processes. Lecture and laboratory demonstrations to support student competency.

**AHCJ 336 Rehabilitation Specialty Workshops (2, 3)**

Introduces advanced clinical models and techniques of rehabilitation that Loma Linda University's physical and occupational therapy programs have to offer, e.g., community model of OT, electrotherapy, hydrotherapy, hippotherapy, etc. Topics selected to meet the needs and interests of student groups.

**AHCJ 351 Statistics for the Health Professions (3)**

Fundamental procedures in collecting, summarizing, analyzing, presenting, and interpreting data. Measures of central tendency and variation, probability, binomial and normal distribution, hypothesis testing and confidence intervals, t-tests, chi-square, correlation, and regression. Introduction to SPSS statistical package for computer data analysis.

Prerequisite: A passing score of at least 75 percent must be achieved on the mathematics competency examination.

**AHCJ 402 Pathology I (4)**

Fundamental mechanisms of disease, including cell injury; inflammation, repair, regeneration, and fibrosis; and vascular, cardiac, respiratory, gastrointestinal, hepatobiliary, urinary, reproductive, endocrine, and integumentary pathologies.

**AHCJ 403 Pathology II (3, 4)**

Fundamental mechanisms of disease, including the central and peripheral nervous systems, bone and joint, skeletal muscle, developmental, genetic, infectious, and parasitic pathologies; and neoplasia. Fourth unit requires two autopsy viewings and written report.

Prerequisite: AHCJ 402.

**AHCJ 404 Pharmacology (1, 2)**

Introduces pharmacology, including study of pharmacokinetics, pharmacodynamics, and actions of pharmaceuticals commonly encountered in various allied health professions. Different sections register for 1 or 2 units. Identical topics for both sections, with greater depth and detail for 2-unit course.

**AHCJ 405 Dynamics of Learning and Teaching (2)**

Examines the theories of learning applied to the teaching process. Evaluates current research and methods of instruction.

**AHCJ 407 Financial Management (2)**

Financial aspects of health care involving prospective reimbursement system, analysis of various health care-reimbursement schemes, and hospital financial disbursements. Budget-variance analysis, analysis of cost components, operating statements, and productivity related to a department budget. Special projects may be assigned as needed. Per week: lecture 2 hours.

**AHCJ 408 Health Care Management (4)**

Management theory: planning, organizing, directing, and controlling (including budgetary controls). Department productivity and theories of work simplification. Preparation of resumes, interviewing skills, professional attitudes, group theory, and group dynamics. Students spend the last two-to-three weeks doing special projects designed and supervised by their departments. (Department of Nutrition and Dietetics students register for a 2-unit practicum in conjunction with this course.)

**AHCJ 409 Adult Learning Styles (3)**

Theories and styles of learning; personality factors related to learning; and implications of effective intellectual, emotional, and social functioning included within the context of structuring education for the adult learner. Analyzes the teaching process, including setting objectives, selecting content, and designing classroom and clinical teaching strategies—with emphasis on alternatives to lecturing.

**AHCJ 412 Anatomy (9)**

Gross anatomy of the musculoskeletal system, emphasizing spatial orientation, joint structure, skeletal muscle origins, insertions, actions, nerve, and blood supply. A cadaver-based course.

**AHCJ 415 Educational Psychology for Health Professionals (3)**

Psychological factors related to learning processes in professional and higher education. Emphasizes the role of communication skills in learning settings, gender influences on learning, objectives setting and course design, stimulation of higher-level thinking, motivation, and retention.

Prerequisite: AHCJ 409.



**AHCJ 418 Physiology I (4)**

Physiology of the human body, including cellular, neuromuscular, cardiovascular, respiratory, gastrointestinal, renal, and endocrine physiology.

**AHCJ 419 Physiology II (3)**

Detailed study of neuromuscular physiology.

Prerequisite: AHCJ 418.

**AHCJ 421 Psychology of Physical Disability (2)**

Psychological reactions to illness or disability. Methods of dealing with these reactions considered with reference to the clinical situation. Seminar approach to professional responsibilities for health care.

**AHCJ 426 Introduction to Computer Applications (2)**

Hands-on instruction in Word, Excel, and PowerPoint. Lectures, laboratory assignments, quizzes, projects, and a practical examination. (Course not taught every quarter.)

**AHCJ 432 Database Management I (2)**

Theories and steps of database development using Microsoft Access. Topics include but are not limited to: relationships, form building, advanced queries, reporting, and macros. Requires a project creating a basic health information database from scratch.

**AHCJ 433 Database Management II (2)**

continuation of AHCJ 432 with the development of an advanced database in Microsoft Access. Includes the application of drop-down menus, reports, security features, and macros.

Prerequisite: AHCJ 432; or consent of instructor.

**AHCJ 443 Neuroanatomy I (4)**

Basic anatomy and function of the central, peripheral, and autonomic nervous systems and related structures. Gross anatomy of the brain and spinal cord. Functional consideration of cranial nerves, tracks, and nuclei of major systems. Lecture, slides, and laboratory with specimens.

**AHCJ 444 Neuroanatomy II (2)**

Studies neuroanatomical systems, structures, and pathways—with application to lesions of the human nervous system.

**AHCJ 445 Biostatistics (3)**

Fundamental procedures of analyzing and interpreting data. Sampling, probability, binomial distribution, normal distribution, sampling distributions and standard error, confidence intervals, hypothesis testing, t-tests, chi-square, correlation, and regression. Introduces one- and two-way ANOVA and nonparametric statistics. Interprets computer output and use of the SPSS statistical package for data analysis. Determines validity and reliability of research instruments.

**AHCJ 459 Current Issues: National and Global Perspectives (3)**

Reviews and discusses concerns relative to the health field, i.e., legislation, regulations, and professional organizations. Project or paper required.

**AHCJ 461 Research Methods (2)**

Introduces the scientific method in research. Focuses on the major steps of the research process as they relate to research-report evaluation, proposal writing, literature review, development of conceptual framework, identification of variables, statement of hypotheses, research design, and analysis and presentation of data.

Prerequisite: AHCJ 351.

**AHCJ 464 Group Process and Dynamics (3)**

Introduces principles and techniques of group theories, processes, and dynamics, as applied to the health-professional setting. Concepts include group functions, roles, structures, and characteristics; group membership, norms, dynamics, and relations. Theoretical perspectives on group development, dynamics, and conflicts. Practical issues, including educational applications, negotiation, observation, and diagnosis. Leadership issues, facilitation, expedition, and termination. Simulation exercises, active learning, and flexible choices of study and application.

**AHCJ 465 Seminars in Leadership (2)**

Prepares graduates for entry into the new work requirements. Through observation and participation, students explore the responsibility of today's employee to successfully integrate customer and community service and social responsibility.

**AHCJ 471 Statistics and Research for Health Professionals I (3)**

Presents statistical methods relative to research design for health professionals, with introduction to SPSS statistical package for computer data analysis. Discusses philosophical approaches to scientific inquiry, range of research designs, roles of variables, and ethics.

**AHCJ 472 Statistics and Research for Health Professionals II (3)**

Advanced conceptual frameworks, data analyses, and techniques in quantitative and qualitative research. Emphasizes process for obtaining and using evidence-based research.

Prerequisite: AHCJ 471.

**AHCJ 485 Technology in Education (3)**

Introduces instructional technologies and their applications in education, including computer-generated media, Internet resources, chat rooms, Web courses, two-way audio, videos, desktop conferencing, and teleconferencing.

**AHCJ 496 Special Topics in Allied Health Studies (1-4)**

Lecture and discussion on a current topic in allied health studies. May be repeated for a maximum of 4 units applicable to degree program.

**AHCJ 497 Advanced Clinical Experience (40 to 480 hours)**

Advanced clinical experience in selected areas of professional practice.

**AHCJ 498 Wholeness Portfolio II (1)**

Student develops portfolio that illustrates the potential graduate's ability to meet the goals set by the School of Allied Health Professions for graduates of baccalaureate and master's degree programs.

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

Individual arrangements for students to study under the guidance of a program faculty member. May include readings, literature review, or other special or research projects. Minimum of thirty hours required for each unit of credit. Laboratory may be required in addition to class time. A maximum of 4 units applicable to any degree program.

**AHCJ 505 Educational Psychology for Health Professionals (2, 3)**

Studies psychological factors that relate to the learning process in professional and higher education. Particularly emphasizes the role of communication skills in learning settings, gender influences on learning, objective setting and course design, stimulating higher-level thinking, motivation, and retention. Major focus on applications to health professional clinical setting.

**AHCJ 506 Educational Evaluation and Clinical Assessment (3)**

Introduces principles and techniques of designing evaluation activities and tests for measuring classroom learning and instructional products. Includes criteria referenced approaches, formative and summative instruments, critical-incident observations, portfolio assessment, and other measurement concepts.

**AHCJ 507 Pharmacology in Rehabilitation (3)**

Principles of pharmacology as related to diagnosis, prevention, and treatment of disease, including a presentation of the pharmacology and therapeutic value of drugs used in rehabilitation medicine. Related topics include pharmacokinetics, pharmacodynamics, adverse effects, drug interactions, and drug toxicity—with special consideration given to pediatric and geriatric pharmacology.

**AHCJ 508 Current Issues in Basic Science (3)**

Studies the current issues in basic science as related to physical therapy. Topics may include current advances in biomechanics, cell and molecular biology, tissue engineering and transplants, pharmacology, and presentation of basic science research. Lecture and discussions of current literature.

**AHCJ 509 Teaching and Learning Styles (3)**

Explores theories and styles of learning and personality factors that relate to learning. Implications of effective intellectual, emotional, and social functioning included within the context of structuring education for the adult learner. Includes analysis of the teaching process—from the setting of objectives, selection of content, and design of classroom and clinical teaching strategies (with particular emphasis on alternatives to lecturing) to assessment and evaluation.

**AHCJ 511 Biostatistics I (3)**

Fundamental procedures of collecting, summarizing, presenting, analyzing, and interpreting data. Sampling, measures of central tendency and variation, probability, binomial distribution, normal distribution, sampling distributions and standard error, confidence intervals, hypothesis testing, t-tests, chi-square, correlation, and regression. Introduces computer analysis for solution of statistical problems.

**AHCJ 512 Biostatistics II (3)**

Introduces analysis of data using ANOVA (one-way, two-way, and repeated measures) with multiple comparisons; multiple correlation and regression; and nonparametric statistics. Interprets computer output and use of the SPSS statistical package for data analysis. Determines validity and reliability of research instruments.

**AHCJ 514 Kinesiology: Motor Control and Learning (3)**

Advanced kinesiology, including movement science dealing with behavioral basis of motor control and motor learning from an information-processing perspective.

**AHCJ 515 Curriculum Development in Higher Education (3)**

Examines principles of curriculum development. Selection, organization, and evaluation of learning experiences. Examines the nature, place, and interrelationship of general and specialized education in higher education.

**AHCJ 516 Clinical Imaging (3)**

Studies the etiology, pathogenesis, and clinical manifestations of selected bone and joint pathologies. Discusses current literature for selected pathologies.

**AHCJ 518 Advanced Physiology I: Neurobiology (3)**

Surveys cell and whole-body physiology. Includes physiology of the neuron and nerve conduction, molecular transport at the cellular level, cardiovascular and renal physiology, gastrointestinal physiology, endocrinology, and neurophysiology. Emphasizes muscles and neurophysiology as they relate to the cardiovascular, respiratory, and endocrine systems.

**AHCJ 519 Graduate Wholeness Portfolio (1)**

Student develops portfolio that demonstrates the graduate student's ability to meet the goals set by the School of Allied Health Professions.

**AHCJ 520 Global and Community Outreach (0)**

Student develops a capstone global or community portfolio to better understand the importance of embracing and serving a diverse world. Emphasizes the promotion of outreach through education, motivation, and personal involvement in addition to the development of global and community perspectives as they relate to service. Student participates in a practical local or global outreach experience.

**AHCJ 526 Computer Applications II (3)**

Hands-on instruction in Word, Excel, and PowerPoint. Class activities include hands-on lectures, laboratory assignments, quizzes, projects, and a final examination. A special Web page project required.

**AHCJ 527 Medical Screening for Rehabilitation Professionals (3)**

Screening for nonneuromusculoskeletal origins for the musculoskeletal complaints of patients who commonly seek rehabilitation. Particularly emphasizes components of the history and physical examination that suggest medical pathology requiring referral and/or physician consultation. Knowledge and skills related to screening for medical pathology in patients with musculoskeletal complaints of the lumbar spine, pelvis, lower extremities, thoracic spine, shoulder girdle, and upper extremities.

**AHCJ 534 Advanced Neurological Rehabilitation (3)**

Studies in-depth the patient with spinal cord injury, including etiology, current treatment techniques in acute and outpatient settings, and principles of exercise physiology. Reviews research activities with regard to a cure for spinal cord injury, as well as the legal aspects of ADA and the individual with a spinal cord injury.

**AHCJ 535 Advanced Physiology II: Exercise and Thermoregulation (3)**

Focuses on energy sources utilized by the body for exercise, neural and mechanical structures of mechanisms that control body movements, environmental influences on exercise performance, the physiology of thermoregulation, and principles of aerobic and anaerobic exercise. Applies concepts and principles to normal and disabled human conditions.

**AHCJ 536 Health Care Financial Management (3)**

Focuses on understanding the finances of health care, including financial statements, reimbursement models of fee-for-service, capitation, managed care, and risk pools. Concepts of modeling and scenario planning, with emphasis on return on investment.

**AHCJ 537 Organizational Structure and Behavior (3)**

Understanding, predicting, and influencing human behavior in an organization. Provides students with a variety of theories, models, strategies, and experiences in organizational behavior through which managers can find their own solutions in specific situations.

**AHCJ 538 Histology (2, 3)**

Advanced histology of joint pathology and the associated changes in bone, cartilage, and other connective tissues. Paper required for third unit.

**AHCJ 539 Technology and Health Care Organizations (3)**

Explores the direct and indirect impacts of technology on health care systems. Examines technology in terms of its definition, limits, change factors, and diffusion at the personal, managerial, corporate, and governmental levels of health care.

**AHCJ 544 Advanced Functional Neuroanatomy (3)**

Analyzes and applies neuroanatomy to lesions of the human nervous system; clinical significance of such lesions.

**AHCJ 545 Legal and Ethical Issues in the Health Professions (3)**

History and structure of federal and state governments, including torts, contracts, administrative law, criminal law, and reporting issues. Legal and ethical issues in patient confidentiality and release of patient information. The impact of technology on the collection and dissemination of patient information. Medical-legal liability issues, including corporate compliance.

**AHCJ 551 Professional Systems in Management I (3)**

Administering the academic department: personnel selection, development, and evaluation; finance; team development; and leadership theories.

**AHCJ 552 Professional Systems in Management II (3)**

Administering the clinical setting, including assessing needs, implementing a business plan, and negotiating contracts; management philosophies.

**AHCJ 556 Administration in Higher Education (3)**

Leadership philosophy and styles of administrative leadership in higher education, with particular application to health professions educational programs. Includes personnel management; budgeting; contracting for clinical placement; group leadership in committees; faculty selection, development, and evaluation; strategic planning; and policy development.

**AHCJ 558 Stress and Health Behavior (3)**

Evaluates effects of stress on individuals, families, students, and health professionals in the educational setting. Analyzes biopsychological foundations, social systems, technological influences, life-development factors, and unique aspects of health-professional education analyzed. Explains coping strategies—such as nutrition, exercise, humor, time management and organization, cognitive therapies, relaxation, and imagery.

**AHCJ 559 Health Communication in Rehabilitation Science (3)**

Provides a broad introduction to human communication in a health care context. Provider-client communication, provider communication and education, intercultural health communication, alternative medicine, health ethics, and mass-media health images.

**AHCJ 564 Collaborative Learning in Higher Education (3)**

Collaborative learning, theories of group-individual interaction, and the communication process. Educational orientation to the utilization of groups to enhance motivation, commitment, and learning in higher education.

**AHCJ 565 Health Communication: Counseling Patients and Personnel (3)**

Communication in health care, multiple applications of communication theory to health promotion, and essentials of professional communication in clinical teaching and leading groups of health professionals. Emphasizes counseling techniques, nondefensive communication, and increased communications awareness.

**AHCJ 566 Theoretical Foundations of Leadership (3)**

A Web-based course that introduces students to leadership theory and its application in organizations today.

**AHCJ 567 Personal Leadership (3)**

Focuses on discovering and improving the individual's personal leadership style in order to apply this knowledge to the personal and professional realms. Design and implementation of a personal leadership-growth plan.

**AHCJ 569 Computers and Electronics for Clinicians (3)**

Explains the roles of computers and electronics in a clinical setting. Equipment used in a classroom setting.

**AHCJ 574 Behavioral Modification and Personal Change (3)**

Explores and applies health-behavior change models. Educational, psychosocial, and behavioral issues—with emphasis on leadership, decision making, group process, and persuasion.

**AHCJ 576 Basics of Marketing (3)**

Provides an overview of the principles of developing a marketing strategy, and illustrates how marketing can assist an organization in arriving at a competitive advantage and create, capture, and sustain value in the eyes of the buyer.

**AHCJ 578 Health Care Finance and Reimbursement (3)**

Covers financial management in a health care setting, including: starting a new service, reimbursement, capital and operational budgeting, reading financial statements, and cost-saving measures.

**AHCJ 579 Instructional Effectiveness (3)**

Develops strategies for instructional effectiveness, evaluation, and assessment processes.

**AHCJ 585 Technology in Education (3)**

Introduces instructional technologies and their applications in education, including computer-generated media, Internet resources, chat rooms, Web courses, two-way audio, videos, desktop conferencing, and teleconferencing. (Course not taught every year.)

**AHCJ 586 Curricula Planning in Health Sciences (3)**

Applies curriculum-development theories and approaches to the health-science arena. Students develop a learning-centered curriculum.

**AHCJ 591 Research I (3)**

Introduces the scientific method in health-science research. Focuses on the major steps of the research process: problem identification, literature review, conceptual framework, identification of variables, statement of hypothesis, experimental design, and analysis and presentation of data. Includes critical evaluation of research literature. Applies the research process to problems in related specific allied health fields. Develops a research proposal. Pilot-tests a research proposal. Tests procedures and data forms. Implements the research proposal in a practice setting.

**AHCJ 592 Research II (3)**

Computer data analysis and preparation of a research report. Student prepares a poster appropriate for a professional meeting. Graphics, tables, and abstracts.

**AHCJ 595 Research and Statistics Concepts and Methods: Intermediate (3)**

An in-depth study of research designs, including completely randomized designs, randomized block designs, and statistical tests—such as ANOVA (one-way, repeated measures, factorial)—used to analyze data. Introduces multiple linear regression and correlation, as well as model-building techniques. Interprets multivariate analysis computer output and hands-on statistical computer experience. Introduces nonparametric statistical tests and their appropriate use. Measures and analyzes data for validity and reliability studies. Evaluates research literature that uses multivariate analysis for data analysis.

**AHCJ 599 Directed Teaching (3)**

Student develops a specialty module and presents it in a classroom or clinical setting. Includes course application, course syllabus, measuring instrument, student course evaluation, and lesson plans.

Prerequisite: Consent of instructor or of program director.

**AHCJ 600 Active Online Learning (3)**

Online course (organized around the AVLL standard for online instruction). Focuses on integration of active learning strategies, meaningful interactions, and stimulating learning experiences. Modules include: introduction, course organization, a safe learning environment, the relational basis of learning, integration of faith, appropriate assessment, and the needs of individual learners.

**AHCJ 601 Research-Proposal Writing (3)**

Student prepares a research proposal, including components essential for submission to the Institutional Review Board. Emphasizes writing skills in preparation of literature review, purpose, conceptual framework, proposed methodology, and statistical analysis. Includes the ways in which proposal serves as a basis for an article for publication.

**AHCJ 605 Critical Analysis of Scientific Literature (2, 3)**

Evaluates the scientific literature, including critical evaluation of the rationale for the study; population inclusion/exclusion criteria; sampling and randomization techniques; sample size; appropriateness of the research design; choice of the data analysis; structure and content of tables and graphs; interpretation of statistical results; and applications to practice. Students evaluate research articles by answering questions posed by the instructor in a Web discussion board and virtual classroom. Students submit weekly evaluation papers for the articles discussed.

**AHCJ 696 Research Rotations (1-3)**

Involves students in the research and discovery culture of the University and clinical settings through observation of and/or participation in ongoing faculty research and grant projects, as well as graduate student research projects. Includes research data-collection equipment, mentorship, dissertation defenses, research-finding presentations, and/or pilot studies that students design for this practicum experience

**AHCJ 699 Directed Study (1-6)**

Individual arrangements for advanced students to study under the guidance of a program faculty member. May include reading, literature review, and/or other special projects. Minimum of thirty hours required for each unit of credit.

**ANATOMY****ANAT 301 Head and Neck Anatomy, DH (4)**

Gross anatomy of the head and neck. Lecture and demonstration.

**ANAT 303 General and Oral Histology and Embryology (3)**

Microscopic study of fundamental cells, organs, tissues, and systems of the body. Analyzes in detail the pulp, periodontal membrane, alveolar process, oral mucosa, and calcified tissues of the tooth.

**ANAT 511 Human Anatomy for Dentists I (5)**

An in-depth study of the human anatomical sciences, including: gross anatomy, general and oral histology, embryology and neuroscience as they relate to the dental profession. Designed for students in the first year of dentistry, and for students in the dental track of the biomedical sciences postbaccalaureate certificate program.

**ANAT 512 Human Anatomy for Dentists II (5)**

An in-depth study of the human anatomical sciences, including gross anatomy, general and oral histology, embryology, and neuroscience as they relate to the dental profession. Designed for students in the first year of dentistry, and for students in the dental track of the biomedical sciences postbaccalaureate certificate program.

**ANAT 513 Human Anatomy for Dentists III (5)**

An in-depth study of the human anatomical sciences, including gross anatomy, general and oral histology, embryology and neuroscience as they relate to the dental profession. Designed for students in the first year of dentistry, and for students in the dental track of the biomedical sciences postbaccalaureate certificate program.

**ANAT 514 Head and Neck Anatomy and Human Embryology (5)**

An in-depth look at the gross anatomy of the head and neck, including general human embryology.

**ANAT 516 Neuroscience GS (6)**

Integrated approach to the fundamentals of neuroanatomy and neurophysiology, with applications to clinical neurology.

**ANAT 518 Basic Human Histology (4)**

Studies tissues and organs of the human body as seen with routinely stained histological sections. Basic understanding of relationship of structure and function. Autumn Quarter: two lectures and two laboratories per week.

**ANAT 521 Gross Anatomy/Embryology (1)**

Regional systemic study of the human body, with correlation to radiology and clinical medicine. Surveys human embryonic development. Considers origins of common birth defects.

**ANAT 522 Gross Anatomy/Embryology II (5)**

Regional systemic study of the human body, with correlation to radiology and clinical medicine. Surveys human embryonic development. Considers origins of common birth defects.

Prerequisite: ANAT 521.

**ANAT 523 Gross Anatomy/Embryology III (2)**

Regional systemic study of the human body, with correlation to radiology and clinical medicine. Surveys human embryonic development. Considers origins of common birth defects.

Prerequisite: ANAT 522.

**ANAT 524 Gross Anatomy/Embryology IV (1)**

Regional systemic study of the human body, with correlation to radiology and clinical medicine. Surveys human embryonic development. Considers origins of common birth defects.

Prerequisite: ANAT 523.

**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 535 Medical Neuroscience I (.5-6)**

Integrated approach to the fundamentals of neuroanatomy and neurophysiology, with applications to clinical neurology.

**ANAT 536 Medical Neuroscience II (.5-6)**

Integrated approach to the fundamentals of neuroanatomy and neurophysiology, with applications to clinical neurology. Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

**ANAT 537 Medical Neuroscience III (.5-6)**

Integrated approach to the fundamentals of neuroanatomy and neurophysiology, with applications to clinical neurology. Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

Prerequisite: ANAT 541 strongly recommended. Cross-listing: MDCJ 543.

**ANAT 538 Medical Neuroscience IV (.5-6)**

Integrated approach to the fundamentals of neuroanatomy and neurophysiology, with applications to clinical neurology. Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

Prerequisite: ANAT 537\* (\*may be taken concurrently); ANAT 541 strongly recommended. Cross-listing: MDCJ 544.

**ANAT 541 Gross Anatomy GS (4, 6)**

Anatomy of the head, neck, locomotor system, thorax, abdomen, pelvis, and perineum. Correlated with radiology, applied features, and embryological development. Summer and Autumn quarters.

**ANAT 542 Cell, Tissue, and Organ Biology (5)**

The microscopic structure of cells, tissues, and organs of the human body. Autumn Quarter.

**ANAT 544 Human Embryology Lecture (2)**

The plan of development as it pertains to humans. Considers principles. Summer through Autumn Quarter.

**ANAT 544L Human Embryology Laboratory (1)**

Students work with both human and comparative materials. Winter Quarter.

Prerequisite: A course in vertebrate embryology.

**ANAT 545 Advanced Neuroanatomy (3)**

Studies in detail and dissects the human nervous system. Spring Quarter, 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 three-hour laboratories/conferences weekly. Summer Quarter, even years.

Prerequisite: ANAT 542; a course in biochemistry.

**ANAT 548 Advanced and Molecular Cytology (3)**

Studies the ultrastructural and cytochemical analysis of a variety of differentiated cells. Spring Quarter, 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 550 Gross Anatomy/Embryology (.5-6)**

Regional systemic study of the human body, with correlation to radiology and clinical medicine. Surveys human embryonic development. Considers origins of common birth defects. Restricted to Biomedical Science Program (certificate). Cross-listing: ANAT 521.

**ANAT 551 Medical Gross Anatomy/Embryology II (.5-6)**

Regional systemic study of the human body, with correlation to radiology and clinical medicine. Surveys human embryonic development. Considers origins of common birth defects. Restricted to Biomedical Science Program (certificate). Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

Cross-listing: ANAT 522.

**ANAT 552 Medical Gross Anatomy/Embryology III (.5-6)**

Regional systemic study of the human body, with correlation to radiology and clinical medicine. Surveys human embryonic development. Considers origins of common birth defects. Restricted to Biomedical Science Program (certificate). Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

Prerequisite: ANAT 551. Cross-listing: ANAT 523.

**ANAT 553 Medical Gross Anatomy/Embryology IV (.5-6)**

Regional systemic study of the human body, with correlation to radiology and clinical medicine. Surveys human embryonic development. Considers origins of common birth defects. Restricted to Biomedical Science Program (certificate). Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

Prerequisite: ANAT 552. Cross-listing: ANAT 524.

**ANAT 554 Techniques in Experimental Morphology (2)**

Introduces selected methods used in the morphological analysis of organ and cellular function. Spring Quarter, odd years.

**ANAT 555 Advanced Gross Anatomy—Articulation/Joints (3)**

Studies in detail the anatomical design of joints, linking function through clinical correlations. Spring Quarter, odd years.

Prerequisite: ANAT 541.

**ANAT 556 Comparative Embryology (2)**

Comparison of common models of development, their historic contributions, their benefits/limitations, and current practical applications.

Prerequisite: ANAT 544.

**ANAT 557 Psychoneuroimmunology (4)**

Psychoneuroimmunology (PNI) (or science about mind-body interactions) examines bidirectional communication among the nervous, endocrine, and immune systems. Critically reviews contemporary topics that teach students about the role of the key regulatory systems and how interaction among these systems maintains homeostasis. Presents basic information necessary to interpret current literature in psychoneuroimmunology (PNI) and to facilitate design of research in this area.

Prerequisite: Consent of instructor.

**ANAT 594 Special Topics in Anatomy (1-7)**

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.

**ANAT 697 Research (1-8)****ANAT 698 Thesis (1-2)****ANAT 699 Dissertation (1-5)****ANAT 891 Anatomy Elective (1.5-18)****ANESTHESIOLOGY****ANES 314 Dental Anesthesia: Local Anesthesia and Inhalation Sedation (4)**

Physiologic and psychologic aspects of pain and anxiety. A philosophy of patient management, including use of local anesthetics and nitrous oxide/oxygen sedation. History and patient evaluation. Pharmacology, armamentarium, and complications regarding use of these agents. Management of office emergencies. Students practice local anesthetic injections and administer nitrous oxide/oxygen to each other.

**ANES 521 Principles of Medicine, Physical Diagnosis, and Hospital Protocol (1)**

Studies methods recognizing normal and abnormal physical conditions. Reviews organ systems to expand the dentist's general medical knowledge. Specific topics reviewed include blood diseases, systemic diseases, cardiac disease, patient admission, physical examination, and hospital charting. Repeated registrations required to fulfill total units.

**ANES 547 Anesthesia Grand Rounds (1)**

Weekly meeting of the Department of Dental Anesthesiology featuring guest lecturers who present a variety of current topics in anesthesiology. One session per month designated as the Mortality and Morbidity Conference.

**ANES 548 Anesthesia Residents Seminar (2)**

Comprehensive didactic course covers the entire field of anesthesiology in a two-year cycle. Sectional written examinations given.

**ANES 604 Anesthesia Literature Review (1)**

Weekly session reviews current anesthesia literature.

**ANES 624 Intravenous Conscious Sedation (4)**

Reviews physiology, pathophysiology, pharmacology, monitoring airway management, and potential emergencies associated with the implementation of intravenous conscious sedation in the dental office.

**ANES 654 Practice Teaching in Anesthesia (1-2)**

Supervision of pre- and postdoctoral dental students administering local anesthesia and conscious sedation.

**ANES 696 Scholarly Activity in Dental Anesthesiology (1)**

Selected didactic, clinical, and/or laboratory activity developed by the program director or a designated program faculty member. Primarily designed for resident to fulfill the certificate requirements for scholarly activity/research in dental anesthesiology. Multiple registrations may be needed to complete these activities.

**ANES 697 Research (1)**

Student participates in ongoing research or original projects. All clinical research subject to approval by the Institutional Research Board. Multiple registrations may be needed to complete research activities.

**ANES 697A Research (1)**

Student identifies a research project, prepares a protocol, and obtains approval for the protocol. Multiple registrations may be needed to complete these research activities.

**ANES 697B Research (1-2)**

Student participates in ongoing research or original projects, collects and analyzes data, and writes a report of findings. Multiple registrations may be needed to complete research activities.

**ANES 746 General Anesthesia (9)**

Administration of general anesthesia and regional block anesthesia to a variety of medical and dental patients in the operating room, under the supervision of attending anesthesiologists. A minimum of 270 clock hours per quarter (8 quarters) required to fulfill total units.

**ANES 751 Dental Anesthesia: Local Anesthesia and Inhalation Sedation (4)**

A philosophy of patient management, including use of local anesthetics and nitrous oxide/oxygen sedation, as well as the physiologic and psychological aspects of pain and anxiety. Course covers the history of anesthesia, patient evaluation, pharmacology, armamentarium, complications regarding use of these agents, and the management of office emergencies. Students practice local anesthetic injections and administer nitrous oxide/oxygen to each other.

**ANES 801 Dental Anesthesia: Advanced Topics (2)**

Theory of general anesthesia. Hospital dentistry, patient evaluation, medical consultations. Reviews local anesthesia and introduces additional techniques of pain and anxiety control.

**ANES 891 Anesthesiology Elective (1.5-18)****ANTHROPOLOGY****ANTH 304 Biological Anthropology (4)**

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 paleopathology (disease in ancient populations), humankind 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)**

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 glossolalia.

**ANTH 315 Cultural Anthropology (4)**

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 provide 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 respect for their differences.

**ANTH 448 Medical Anthropology (4)**

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.

**ART APPRECIATION AND HISTORY****ARTA 205 The Language of Art (2-4)**

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

**BIOCHEMISTRY****BCHM 306 Introduction to Organic and Biochemistry (6)**

Meets the organic and biochemistry requirements of nursing and allied health students. Covers the nomenclature, structure, and salient chemical properties of the nine classes of organic compounds. Covers the structures and biological functions of proteins, carbohydrates, lipids, and nucleic acids; intermediary metabolism. Emphasizes relevant health-related topics.

**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)**

Chemistry of amino acids and proteins. Enzyme properties and mechanisms. Bioenergetics. Chemistry and metabolism of carbohydrates, lipids, amino acids, and nucleic acids. Protein biosynthesis and the control of gene expression. Special topics in physiological chemistry: connective tissue components, acid-base balance, hormones, vitamins, and minerals.

**BCHM 511 Medical Biochemistry, Molecular Biology, and Genetics I (.5-6)**

Comprehensive sequence in biochemistry and molecular biology that establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells. Sequence restricted to Biomedical Science Program (certificate). Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

**BCHM 512 Medical Biochemistry, Molecular Biology, and Genetics II (.5-6)**

Comprehensive sequence in biochemistry and molecular biology that establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells. Sequence restricted to Biomedical Science Program (certificate). Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

**BCHM 513 Medical Biochemistry, Molecular Biology, and Genetics III (.5-6)**

Comprehensive sequence in biochemistry and molecular biology that establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells. Sequence restricted to Biomedical Science Program (certificate). Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

**BCHM 514 Medical Biochemistry, Molecular Biology, and Genetics IV (.5-6)**

Comprehensive sequence in biochemistry and molecular biology that establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells. Sequence restricted to Biomedical Science Program (certificate). Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

**BCHM 515 Introduction to Bioinformatics (2)**

Introduces bioinformatics methods and their application to biological research. Provides a conceptual understanding of the algorithms behind standard bioinformatics software, as well as practical experience in programs and databases commonly utilized in biological research.

**BCHM 521 Fundamentals of Human Biochemistry SM (1)**

A lecture sequence for freshman medical students in biochemistry and molecular biology that establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, and examines the mechanisms for genetic information flow in eukaryotic cells.

**BCHM 522 Fundamentals of Human Biochemistry SM (3)**

A lecture sequence for freshman medical students in biochemistry and molecular biology that establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, and examines the mechanisms for genetic information flow in eukaryotic cells.

**BCHM 523 Introduction to Physical Biochemistry (3)**

Introduces 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.

Prerequisite: BCHM 508 or CMBL 501. Cross-listing: CMBL 502, MICR 539.

**BCHM 531 Biochemical Basis of Human Disease SM (1)**

A lecture sequence for sophomore medical students designed to provide a biochemical/genetic/molecular basis for understanding human diseases.

**BCHM 532 Biochemical Basis of Human Disease SM (1)**

A lecture sequence for sophomore medical students designed to provide a biochemical/genetic/molecular basis for understanding human diseases.

**BCHM 533 Biochemical Basis of Human Disease SM (1)**

A lecture sequence for sophomore medical students designed to provide a biochemical/genetic/molecular basis for understanding human diseases.

**BCHM 534 Techniques of Biochemistry (2-6)**

Intensive, integrated and problem-based laboratory experience in protein chemistry and the physical characterization of macromolecules. Students gain experience with the oral and written presentation of experimental techniques and scientific findings.

**BCHM 544 Advanced Topics in Biochemistry (2-4)**

Recommended for the Ph.D. degree (2+2+2). Recent examples include proteins: modern methods of study; selected cellular events in carcinogenesis; enzyme kinetics; transgenic plants for human health.

Cross-listing: CMBL 538; BIOL 546; MICR 538.

**BCHM 551 Special Problems in Biochemistry (2-6)****BCHM 697 Research (1-10)****BCHM 698 Thesis (1-3)****BCHM 699 Dissertation (1-5)****BIOLOGY****BIOL 116 Introduction to Human Biology (3)**

Introductory course in human biology. Explores basic principles of human anatomy and physiology and their relationships to social functioning. Fulfills the human biology prerequisite for the master's degree Social Work Program.

**BIOL 314 Genetics and Speciation (4)**

Introduces 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 that examine ecological principles. Per week: class 3 hours, laboratory 3 hours.

**BIOL 475 Philosophy of Science and Origins (4)**

Concepts in the history and philosophy of science, and the application of these principles in analyzing current scientific trends.

Cross-listing: GEOL 475.

**BIOL 488 Current Topics in Biology (1-4)**

Reviews cutting-edge literature in the biological sciences. Different sections may be repeated for additional credit.

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

Student pursues original investigation and/or literature study under the direction of a faculty member. May be repeated for additional credit.

Prerequisite: Consent of instructor.

**BIOL 497 Special Projects in Biology (1-4)**

Student responsible for a special research project in the field, laboratory, museum, or library. May be repeated for additional credit.

**BIOL 504 Biology of Marine Invertebrates (4)**

Behavior, physiology, ecology, morphology, and systematics of marine invertebrates, with emphasis on morphology and systematics. Per week: class 3 hours; one-day field trip alternate weeks, or the equivalent.

**BIOL 505 Marine Biology (4)**

Surveys marine species of the world, and the oceanographic processes and ecological interactions that affect them. Emphasizes tropical and coral ecosystems. Includes an independent project. Per week: class 4 hours, plus all-day field trips (usually on Sundays).

**BIOL 509 Mammalogy (4)**

Studies the mammals of the world, with emphasis on North America. Includes classroom and field study of systematics, distribution, behavior, and ecology. Per week: class 3 hours, one three-hour laboratory.

**BIOL 515 Biogeography (3)**

Present and past distribution and migrations of the natural populations of organisms.

**BIOL 517 Ecological Physiology (4)**

Studies the interface between the individual and the environment, with emphasis on unusual environments, in order to explore the limits of physiological systems. Per week: class 4 hours. Offered alternate years.

**BIOL 518 Readings in Ecology (2)**

Studies, analyzes, and discusses current and classic papers.

**BIOL 524 Paleobotany (4)**

Fossil plants; their morphology, paleoecology, taphonomy, classification, and stratigraphic distribution. Analyzes floral trends in the fossil record. Per week: class 3 hours, plus one three-hour laboratory or field trip.

Prerequisite: Consent of instructor. Cross-listing: GEOL 524.

**BIOL 525 Paleopalynology (4)**

Morphology, paleoecology, classification, and stratigraphic distribution of plant microfossils. Includes introduction to biostratigraphic and paleoecologic analytical methods. Per week: class 3 hours, plus one three-hour laboratory or field trip.

Cross-listing: GEOL 525.

**BIOL 526 Principles and Methods of Systematics (3)**

Studies 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. Considers principles and methods involved in the study and analysis of invertebrate fossils. Per week: class 3 hours, plus one three-hour laboratory.

Prerequisite: Consent of instructor. Cross-listing: GEOL 534.

**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 instructor.

**BIOL 537 Advances in Sociobiology (3)**

Studies current concepts and ideas relating to the origin and structure of social behavior of animals. Focuses special attention on the adaptive significance of species-specific behavior in a wide variety of environments.

**BIOL 538 Behavior Genetics (4)**

Studies 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 539 Behavioral Ecology (4)**

Examines in depth how behavior contributes to the survival of animals, with an emphasis on behavioral strategies that reflect adaptation to the animal's environment.

**BIOL 544 Vertebrate Paleontology (4)**

Fossil vertebrates, with emphasis on the origins of major groups. Systematics, biology, and biogeography of ancient vertebrates. Per week: class 3 hours, plus one three-hour laboratory.

Prerequisite: General biology or consent of instructor. Cross-listing: GEOL 544.

**BIOL 545 Genetics and Speciation (4)**

Comparative analysis of species concepts, mechanisms of speciation, and analysis of micro- and macroevolution.

Prerequisite: A course in genetics and philosophy of science.

**BIOL 546 Techniques in Vertebrate Ecology (3)**

Theory and practice of vertebrate ecology research, including marking methods, population estimation, home range and habitat analysis, and radiotelemetry. Software used extensively for analysis of data, some of which will be collected during field trips.

**BIOL 547 Molecular Biosystematics (4)**

Analyzes at the molecular level of genetics events that underlie speciation. Laboratory work integrated with lecture, demonstrating basic molecular genetic research tools applicable to molecular biosystematics studies.

**BIOL 548 Molecular Ecology (4)**

Applies molecular markers to the study of ecology and natural history of populations. Emphasizes molecular techniques that uniquely contribute to resolving major problems in phylogeography and measures of adaptiveness.

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

**BIOL 549 Biodiversity and Conservation (3)**

Examines contemporary issues related to diminishing biodiversity on regional and global scales and the need to conserve both biodiversity and the critical habitats that support threatened flora and fauna.

**BIOL 558 Philosophy of Science and Origins (4)**

Studies selected topics in the history and philosophy of science, and applies these principles in analyzing contemporary scientific trends.

Cross-listing: GEOL 558.

**BIOL 588 Current Topics in Biology (1-5)**

Reviews cutting-edge literature in the biological sciences. Different sections may be repeated for additional credit.

Prerequisite: Consent of instructor.

**BIOL 589 Readings in Biology (1-4)**

Studies, analyzes, and discusses current and classic papers.

**BIOL 607 Seminar in Biology (1)**

Seminar presentations by guest scientists on recent research and developments in biological science. No student 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)**

Student responsible 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 Research (1-8)**

Credit for writing the master's thesis.

**BIOL 699 Dissertation Research (1-8)**

Credit for writing the doctoral dissertation.

**CHINESE****CHIN 105 Chinese Civilization (4)**

Introduces and discusses important aspects of Chinese civilization: language, literature, history, geography, culture, economics, philosophies, and religions; as well as modern-day politics. Surveys the Mandarin Chinese language, focusing on basic pronunciation, grammar, traditional and simplified written characters, and sentence construction. Communication in everyday life, e.g., in restaurants, on public transportation, in health care encounters. Includes interactive learning, role play, media, music, and cultural presentations to enhance understanding and synthesize learning. Provides basic skills and understanding necessary for further Chinese studies and research.

**CHIN 106 China Today—Its Language and Culture (4)**

Briefly discusses China's past as background for study of important aspects of the country's changing, diverse, and modern culture—including its politics, economics, and religion. Introduces the richness of the Chinese language, while emphasizing common vocabulary used in everyday conversation, especially in a health care environment. Uses role-play and interactive learning to prepare students, faculty, and staff in their varied roles and missions to interact with modern China. Provides fundamental skills and understanding for further Chinese studies and research. Includes one local field trip.

**CHIN 111 Mandarin I (4)**

Concentrates on study of modern vernacular Mandarin Chinese in both spoken and written forms. Listening, speaking, reading, and simple writing skills immerse students in vocabulary and simple grammatical rules. Emphasizes applied learning, individual inquisitiveness, and fearless verbal practice. Some homework required. Students expected at the end of the course to pronounce a list of common words, distinguish them by listening, and use them in simple dialogues and mini-speeches. Provides competence to read simple road signs, restaurant menus, some simple newspaper headlines and advertisements, simple biblical texts, and Chinese idioms. No knowledge of Chinese language required. Full attendance expected.

**CHIN 112 Mandarin II (4)**

Sequel to CHIN 111. Continues study in modern vernacular Mandarin Chinese in both spoken and written forms. Emphasizes further proficiency in the four basic language skills (listening, speaking, reading, and writing Chinese); increases competence in vocabulary and grammatical knowledge. Introduces health care-related terminology, Christian texts in Chinese, Chinese idioms and English translations. Examination includes a simple speech in class and a short narrative written in Chinese.

Prerequisite: CHIN 111; unless student can speak Chinese and write some Chinese characters.

**CHIN 205 Immersion Language and Culture Program (4)**

Integrates program with a domestic or an international service project within a Chinese community. Applies classroom learning in real-life situations. Student receives an educational "China experience" firsthand through eighty clock hours of lectures, discussion, and service learning.

Prerequisite: CHIN 105\* or CHIN 106\* or CHIN 305\* (\*may be taken concurrently).

**CHIN 206 Health Care-Service Learning in a Chinese Context (2, 4)**

Focuses on an international service-learning project within a Chinese community. Classroom lectures applied to a health-exposition project. Student receives an in-depth China education experience through language and cultural immersion with practical learning while serving people's needs.

Prerequisite: CHIN 105\* or CHIN 106 or CHIN 111 or CHIN 305 (\*may be taken concurrently).

**CHIN 305 Mandarin for Health Care Professionals (2, 4)**

Focuses on the ability to listen, speak, read and write in a Chinese health care-related setting, such as medical and dental offices, clinics, hospitals, nursing homes, public health facilities, and childcare centers. Students study and role play common communication exchanges with patients, physicians, dentists, nurses, and paramedical personnel.

Prerequisite: CHIN 105 or CHIN 106 or CHIN 111; unless student demonstrates competence in Chinese language and knowledge commensurate with that gained as a result of completing the prerequisites.

**CHIN 399 Directed Study (2-4)**

Researches Chinese medicine, therapeutics, culture, education, prose, poetry, music, drama, biblical texts, and religious literature; influence of globalization, market dominance, entrepreneurship; religious liberty in China; or other topics in consultation with the instructor.

Prerequisite: CHIN 105 or CHIN 111; or permission of instructor.

**CHIN 500 Chinese Language Structure and Translation into English (4)**

Descriptive analysis of morphology, syntax, and phonology of modern Chinese; and basic skills of translation into English using scriptural texts and contemporary writing. Conducted in English with liberal use of spoken and written Chinese.

Prerequisite: (CHIN 105 or CHIN 106 or CHIN 111), (CHIN 205 or CHIN 206).

**CHIN 599 Directed Study (4)**

With consent of the instructor, student chooses a topic in the field of Chinese culture and/or language for focused research.

Prerequisite: CHIN 105 or CHIN 106, CHIN 205 or CHIN 206.

**CHILD LIFE SPECIALIST****CHLS 504 Child Life Administration and Program Development (3)**

Introduces students to the history and development of the child life profession. Health care environment, administrative issues, program development, and outcome assessment process. Develops competencies and skills necessary to effectively administer a child life program.

**CHLS 506 Child Life Specialist: Educational and Therapeutic Intervention (3)**

Teaches the developmental aspects of play therapy, in collaboration with the developmental stages of the child/teen and family in the context of a health care setting. Provides student with an experiential understanding of play therapy, recreation therapy, education, and practice.

**CHLS 507A Aspects of Illness and Disease (3)**

Teaches the child life student about the childhood disease process and describes the pathophysiology, symptoms, diagnostic testing, and treatment of disease. How disease affects the child and family's behavioral, social, and emotional development and coping strategies.

**CHLS 507B Aspects of Illness and Disease (3)**

Focuses on childhood disease process and describes the pathophysiology, symptoms, diagnostic testing, and treatment of disease. Discusses how disease affects the child and family's behavioral, social, and emotional development and coping strategies.

Prerequisite: CHLS 507A.

**CHLS 508 Grief and Loss (3)**

Promotes understanding of various theories, and practices specific interventions that assist hospitalized children/teens or adult family members when they encounter issues of death, loss and/or grief. Students examine how these issues affect them personally and professionally; and describe their own epistemology regarding death, loss and grief. Examines these issues from a family-system's perspective in a hospital setting.

**CHLS 604 Child Life Internship and Supervision I (3)**

Student works with children/teens and families in a hospital and/or related setting under the supervision of a certified child life specialist while accumulating the 480 hours required for the certificate. Gives special attention to legal, ethical, moral, educational, cultural, spiritual, and gender issues as these issues relate to work with children/teens and families.

**CHLS 605 Child Life Internship and Supervision II (3)**

Student works with children/teens and families in a hospital and/or related setting under the supervision of a certified child life specialist while accumulating the 480 hours required for the certificate. Gives special attention to legal, ethical, moral, educational, cultural, spiritual, and gender issues as these issues relate to work with children/teens and families.

**CHLS 606 Parenting Medically Fragile Children (3)**

Introduces students to parenting issues related to the medically fragile child. Provides knowledge of theories, techniques, skills, available community resources, and legal and ethical considerations that pertain to this specific group.

**CHLS 607 Child Life Professional (3)**

Prepares students for entering the professional field of child life by demonstrating clinical assessment, documentation, and skills related to child life practice. Includes application of ethical principles, as well as issues of professionalism. Requires a 100-hour practicum.



**CYTOTECHNOLOGY****CLSC 301 Introduction to Radiographic Procedures I (2)**

Nature and description of radiologic procedures for the nonradiologic technologist. Applies principles and medical techniques to the radiographic setting. Surveys anatomy and instrumentation. Includes observation laboratory.

**CLSC 302 Introduction to Radiographic Procedures II (2)**

Nature and description of radiologic procedures for the nonradiologic technologist. Applies principles and medical techniques to the radiographic setting. Surveys anatomy and instrumentation. Includes observation laboratory.

**CLSC 341 Female Genital Cytology (6)**

Histology and cytology of the female genital tract. Cytohormonal changes, nonneoplastic abnormalities, premalignant lesions, and rare malignancies. Lecture, demonstration, and microscopic examination.

**CLSC 351 Respiratory Cytology (1, 6)**

Histology and cytology of the respiratory tract. Lecture, demonstration, and microscopic examination. Research methods, with emphasis on experimental design and interpretation of results.

**CLSC 353 Urinary Tract and Prostate Cytology (3)**

Histology and cytology of the urinary tract and prostate. Lecture, demonstration, and microscopic examination.

**CLSC 357 Gastrointestinal Tract Cytology (2)**

Histology and cytology of the gastrointestinal tract. Lecture, demonstration, and microscopic examination.

**CLSC 361 Body Cavity and Miscellaneous Secretions Cytology (3, 5)**

Histology and cytology of fluids from body cavities and other sites. Research methods applicable to cytology, with emphasis on experimental design and interpretation of results. Lecture, demonstration, and microscopic examination. Course completed over two quarters.

**CLSC 363 Bone Biopsy Cytology (1)**

Histology and cytology of bone. Lecture, demonstration, and microscopic examination.

**CLSC 365 Breast Cytology (1)**

Histology and cytology of the breast. Lecture, demonstration, and microscopic examination.

**CLSC 367 Cytogenetics (1)**

Meiosis, mitosis, and karyotype preparation. Genetic disorders. Lecture, demonstration, and laboratory.

**CLSC 371 Cytopreparation Techniques (1, 2)**

Procedures on collection and fixation techniques from all organ sites. Techniques in assuring cumulation of follow-up data and laboratory quality control. Clinical and social aspects of AIDS. Lecture, demonstration, and laboratory. Course completed over two quarters.

**CLSC 373 Histotechnology Techniques (1)**

Histologic preparatory techniques, with emphasis on special stains.

**CLSC 404 General Histology (5)**

Microscopic study of fundamental tissues, cells, organs, and systems of the human body, with emphasis on laboratory and conference exercises.

Prerequisite: AHCJ 402, AHCJ 403.

**CLSC 405 Pathology (5)**

Advanced pathology, with emphasis on the cytologic changes of cells in disease. Reviews all organ systems, with correlation between tissue-biopsy material and cytologic findings.

Prerequisite: PATH 305, PATH 306.

**CLSC 424 Hematology (3)**

Theory and background of routine and special laboratory procedures used in diagnosis and treatment of hematologic and other diseases. Evaluates and compares methodologies. Emphasizes bone marrow, body fluid, and peripheral blood-cell morphology: hematopoiesis, maturation, kinetics. Atypical and abnormal cellular morphology, including leukemias, lymphomas, and anemias. Clinical and social aspects of AIDS.

**CLSC 431 Advanced Specialties (3)**

Principles and techniques of electron microscopy, including basic cell ultrastructure, immunohistochemistry, and molecular biology.

**CLSC 432 Current Research Techniques (3)**

Introduces current research techniques and skills development. Techniques in immunocytochemistry, image and flow cytometry, and molecular pathology.

**CLSC 481 Supervised Cytology Research Project (2)**

Research project under the supervision of the program director. Oral presentation and paper. Course completed over two quarters. Students register for 2 units Spring Quarter and 2 units Fall Quarter, for a total of 4 units.

**CLSC 483 Supervised Hematology Research Project (2)**

Supervised research project under the direction of the hematopathologist. Oral presentation and paper.

**CLSC 491 Cytology Affiliation I (2, 4)**

Three two-week (40 hours/ week) internships in the cytopathology laboratory. Rotation through all phases of diagnostic service work and laboratory functions in cytology. Independent screening of routine gynecologic and nongynecologic specimens.

**CLSC 492 Cytology Affiliation II (6)**

Three two-week (40 hours/ week) internships in the cytopathology laboratory. Rotation through all phases of diagnostic service work and laboratory functions in cytology. Independent screening of routine gynecologic and nongynecologic specimens.

**CLINICAL LABORATORY SCIENCE****CLSM 105 Procedures in Phlebotomy (4)**

Training in venipuncture and skin puncture, medical terminology, laboratory safety, CPR, basic anatomy and physiology, specimen-collection techniques, hazards/complications, quality-assurance methods, and medicolegal issues of phlebotomy. Clinical rotation arranged at Loma Linda University Medical Center. CPR training and certificate arranged for students not already certified.

Corequisite: Current CPR certificate.

**CLSM 105L Procedures in Phlebotomy Laboratory (1)**

Clinical experience to accompany CLSM 105. Training in venipuncture and skin puncture, medical terminology, laboratory safety, CPR, basic anatomy and physiology, specimen-collection techniques, hazards/complications, quality-assurance methods, and medicolegal issues of phlebotomy. Clinical rotation arranged at Loma Linda University Medical Center.

**CLSM 303 Urine and Body Fluid Analysis I (1)**

Urinalysis screening procedure and its application in the diagnosis of renal, systemic, and metabolic diseases. Analysis and morphology of body fluids. Lecture and laboratory.

**CLSM 307 Medical Parasitology (3)**

Medically important parasites: life cycles, clinical features, infective diagnostic stages. Demonstrations, slide studies, and diagnostic procedures. Lecture and laboratory.

**CLSM 309 Quantitative Analysis (Chemical) (4)**

Provides a rigorous background in chemical principles particularly important to analytical clinical chemistry. Develops an appreciation for the task of judging the accuracy and precision of experimental data and the application of statistical methods. Covers both fundamental and practical aspects of chemical analysis; neutralization titrations; acid-base titrations; spectrophotometric methods; and electrochemical and chromatographic methodologies. Lecture and laboratory.

**CLSM 321 Hematology I (4)**

Examines normal hematologic physiology, cellular development, and hemostasis in the human. Introduces pathophysiology, with emphasis on clinical and laboratory evaluation of hematologic status. Theory and background of laboratory procedures used in diagnosis and treatment of hematologic and other diseases. Stresses proficiency in evaluation of normal and abnormal cellular morphology. Lecture and laboratory.

**CLSM 322 Hematology II (4)**

Theory and background of routine and special laboratory procedures used in diagnosis and treatment of hematologic and other diseases. Emphasizes peripheral blood-cell morphology, hematopoiesis, maturation, and kinetics. Pathophysiology of hematologic disorders, including anemias and hematologic malignancies. Correlation of hemostasis testing with clinical hemostatic disorders. Lecture and laboratory.

Prerequisite: CLSM 321.

**CLSM 324 Immunology I (4)**

Fundamentals of humoral- and cell-mediated immunity. Mediators of immune response and aspects of human immunopathology. Clinical and social aspects of HIV/AIDS. Immunologic laboratory tests as tools for patient care. Research methods applicable to immunology, with emphasis on experimental design and interpretation. Per week: lecture 3 hours, laboratory 3 hours.

**CLSM 327 Clinical and Pathogenic Microbiology I (5)**

Introduces microbiological concepts, leading to an in-depth study of the major groups of pathogenic bacteria and their relationship to human disease. Emphasizes clinical-laboratory identification methods and procedures. Lecture and laboratory.

**CLSM 328 Clinical and Pathogenic Microbiology II (5)**

Nature and control of microorganisms encountered in clinical material and various anatomical sites. Emphasizes antimicrobial agents, mycology, and virology, including hepatic viruses and HIV/AIDS. Lecture and laboratory.

Prerequisite: CLSM 327; or consent of instructor.

**CLSM 331 Biochemistry (5)**

Chemical structure and metabolism of carbohydrates, amino acids, lipids, and nucleic acids. Protein synthesis, functions, and analysis. Enzymes and their structure, function, kinetics, and regulation. Lecture and laboratory.

**CLSM 332 Clinical Chemistry I (4)**

Clinical chemistry procedures and their clinical significance in medicine, with focus on the following areas: fluids and electrolytes, acid-base balance, carbohydrates and diabetes mellitus, proteins, iron, hemoglobin, and porphyrins. Presents quality assurance, method evaluation, and establishment of reference ranges. Lecture and laboratory.

Prerequisite: CLSM 331; or consent of instructor.

**CLSM 333 Clinical Chemistry II (4)**

Clinical chemistry procedures and their clinical significance in medicine, with focus on the following areas: lipids, lipoproteins, cardiovascular disease, enzymes, liver function, the endocrine system; thyroid, parathyroid, adrenal cortex and catecholamines, and steroids; reproduction, pregnancy, and fetal well-being; therapeutic drug monitoring and toxicology. Lecture and laboratory.

Prerequisite: CLSM 332.

**CLSM 341 Immunohematology I (3)**

Fundamentals of antigen-antibody reactions. Studies major blood-group systems, compatibility testing, and antibody-identification techniques. Clinical analysis of hemolytic disease of the newborn. Lecture and laboratory.

**CLSM 342 Immunohematology II (3)**

Blood collection, donor testing, component preparation, and quality management in the collection facility. Identification of multiple antibodies, typing discrepancies, hemotherapy, hazards of transfusion, and investigation of autoimmune hemolytic disease. Lecture and laboratory.

Prerequisite: CLSM 341.

**CLSM 401 Immunology II (1)**

Correlates theory and clinical experience with and applies them to analytical techniques. Assesses and interprets data. Evaluates and compares methodologies. Directed study and review, including standard serological techniques, nephelometry, and electrophoresis.

Prerequisite: CLSM 324. Corequisite: CLSM 472.

**CLSM 411 Urine and Body-Fluid Analysis II (1)**

Correlates theory and clinical experience with and applies them to analytical techniques. Assesses and interprets data. Evaluates and compares methodologies. Urinalysis screening procedures and applications in the diagnosis of renal, systemic, and metabolic diseases. Processing, analysis, and morphologic evaluation of body fluids.

Prerequisite: CLSM 303. Corequisite: CLSM 471.

**CLSM 413 Diagnostic Microbiology (1-5)**

Correlates theory and clinical experience with, and applies them to, analytical techniques. Assesses and interprets data. Evaluates and compares methodologies. Directed study and review of diagnostic bacteriology, mycology and virology. Emphasizes isolation and identification of pathogenic microorganisms. Includes susceptibility testing, instrumentation, and rapid identification methods. Course completed over two quarters.

Prerequisite: CLSM 307, CLSM 327, CLSM 328. Corequisite: CLSM 472.

**CLSM 414 Clinical Parasitology (1)**

Correlates theory and clinical experience with and applies them to analytical techniques. Assesses and interprets data. Evaluates and compares methodologies. Directed study and review of medical parasitology. Emphasizes testing for and identification of pathogenic parasites. Grade given after course is repeated with different content, for a total of 2 units.

Prerequisite: CLSM 307. Corequisite: CLSM 471.

**CLSM 422 Hematology III (1-5)**

Correlates theory and clinical experience with and applies them to analytical techniques. Assesses and interprets data. Evaluates and compares methodologies. Directed study and review of hemostasis, cellular quantification and identification techniques, and clinical hematology. Includes white cell, red cell, platelet, and hemostatic disorders. Course completed over two quarters.

Prerequisite: CLSM 321, CLSM 322. Corequisite: CLSM 471.

**CLSM 431 Immunoassay (2)**

Fundamentals and principles of radioisotopic and nonradioisotopic immunoassays. Methods discussed include fluorescence polarization, enzyme immunoassay, chemiluminescence, radioassay, and molecular diagnostic techniques. Clinical uses of the above methods discussed and applied to clinical laboratory science.

Prerequisite: CLSM 332; or consent of instructor.

**CLSM 434 Clinical Chemistry III (1-4)**

Correlates and applies theory and clinical experience with analytical techniques. Assesses and interprets data. Evaluates and compares methodologies. Directed study and review include: carbohydrates, proteins, lipids, enzymology, electrolytes, acid-base balance, endocrine system, and therapeutic drug monitoring. Course completed over two quarters.

Prerequisite: CLSM 333. Corequisite: CLSM 473.

**CLSM 442 Immunohematology III (1, 2)**

Applies theory and techniques routinely used in transfusion medicine. Emphasizes correlation with clinical experience. Directed study and review include type and screen, antibody identification, investigation of hemolytic disease of the newborn, hemotherapy, and hazards of transfusion. Assesses and interprets data. Overview of donor facilities: donor criteria, records management, component preparation, blood storage, and infectious disease testing. Course completed over two quarters.

Prerequisite: CLSM 341, CLSM 342. Corequisite: CLSM 472.

**CLSM 451 Clinical Laboratory Management I (2)**

Introduces management theory, including: management styles, professional communications, business ethics, group theory, team building, process management, process control, and personnel.

**CLSM 452 Clinical Laboratory Management II (2)**

Financial management, with emphasis on concepts, tools, and strategies underlying financial decision making. Topics include health care reimbursement systems, coding, billing, development of operating budgets, and financial reports. Concepts of financial negotiations, inventory management, and financial planning. Integrates and applies analytical techniques used in the service industries.

**CLSM 453 Clinical Laboratory Management III (2)**

Introduces theories of quality management, organization, strategic planning, and the decision-making process. Reviews and analyzes government agencies, legislation, and regulatory bodies that impact laboratory management. Compares quality systems-management philosophies.

**CLSM 455 Special Procedures (1-3)**

Correlates and applies theory and clinical experience requiring assessment and interpretation of data. Evaluates and compares methodologies. Directed study and review include the following immunoassays: chemiluminescence, enzyme and radioisotopic assays, microparticle enzyme immunoassay, and fluorescence polarization and nephelometry. Also includes thin-layer and high-pressure liquid chromatography, electrophoresis, spectrophotometry, toxicology, amino acids assay, rapid-detection testing for bacteria and viruses, polymerase and ligase chain reactions, Western blot assays, serology, and current immunologic techniques. Course completed over two quarters.

Prerequisite: CLSM 324, CLSM 333. Corequisite: CLSM 473.

**CLSM 471 Clinical Practicum I (1-5)**

Thirteen weeks of supervised clinical laboratory experience in selected areas, including parasitology, hematology, urinalysis, and body fluids. Student performs tests routinely done in these areas of the clinical laboratory. Includes selected case studies as part of floor rounds.

Prerequisite: Satisfactory completion of Clinical Laboratory Science Program junior-year courses.

**CLSM 472 Clinical Practicum II (1-5)**

Thirteen weeks of supervised clinical laboratory experience in selected areas, including: microbiology and immunohematology, with experience in transfusion services and in a blood-collection facility. Student performs tests routinely done in these areas of the clinical laboratory. Emphasizes clinical-laboratory quality-control procedures and evaluation. Course completed over two quarters.

Prerequisite: Satisfactory completion of Clinical Laboratory Science Program junior-year courses.

**CLSM 473 Clinical Practicum III (1-5)**

Thirteen weeks of supervised clinical laboratory experience in selected areas, including: chemistry and special procedures. Student performs tests routinely done in these areas of the clinical laboratory. Incorporates experience in administrative duties. Course completed over two quarters.

Prerequisite: Satisfactory completion of Clinical Laboratory Science Program junior-year courses.

**CLSM 495 Laboratory Science (3)**

Clinical laboratory experience in an area selected for a project designed to develop a degree of specialized technical ability.

**CLSM 496 Clinical Laboratory Science Seminar I (1)**

Introduces an assigned capstone project designed to incorporate skills developed and knowledge obtained in the Clinical Laboratory Science Program junior year. Project must be of current interest to the laboratory field. Topics related to the project include literature-search methods, research methods, presentation skills, team building, assessment of impact on clinical outcomes, and analysis and implementation of clinical applications.

Prerequisite: Satisfactory completion of Clinical Laboratory Science Program junior-year courses, or consent of instructor.

**CLSM 497 Clinical Laboratory Science Seminar II (1)**

Continues assigned capstone project. Presents relevant contemporary topics.

Prerequisite: CLSM 496; or consent of instructor.

**CLSM 498 Clinical Laboratory Science Seminar III (2)**

Students apply educational methodologies and objective writing to the capstone presentation, incorporating skills developed and knowledge obtained during the Clinical Laboratory Science Program junior and senior years. Project-related topics include presentation skills, assessment of impact on clinical outcomes, and analysis and implementation of clinical applications. Requires regular meetings with faculty advisors to formulate plans and provide status reports on the progress of the capstone project, as well as additional time outside regular class periods. Culminates with submission and presentation of the assigned capstone project to faculty and administration.

Prerequisite: CLSM 496, CLSM 497; or consent of instructor.

**CLSM 499 Clinical Laboratory Science Independent Study (1-5)**

Project or paper to be submitted on a topic of current interest in an area related to medical technology. Regular meetings provide student with guidance and evaluation. Elected on the basis of need or interest.

**CELL AND MOLECULAR BIOLOGY****CMBL 501 Steady-State Cell (3-8)**

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. Emphasizes 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)**

Surveys 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.

Prerequisite: CMBL 501.

**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. Emphasizes underlying molecular mechanisms of specialized cell function. Spring Quarter.

**CMBL 511 Clinical Correlates (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 512 Clinical Correlates (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 513 Clinical Correlates (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)**

Introduces medical genetics, human chromosomal abnormalities, Mendelian inheritance, multifactorial inheritance, prenatal diagnosis, newborn screening, and genetic counseling. Spring Quarter.

**CMBL 541 Cellular Structural Elements (3-4)**

Comprehensively describes 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 (2-3)**

Describes signal transduction pathways and other cellular regulatory mechanisms that form the basis of receptor-response phenomena. Spring Quarter.

**CMBL 543 Immunology (4)**

Discusses the role of cell-cell interactions and the mechanism for cellular specialization emphasizing the immune system. Spring Quarter.

**CMBL 544 Cell and Molecular Neurobiology (3)**

A comprehensive, introductory, lecture-based course that introduces basic biomedical science graduate students to the cellular and molecular concepts that underlie most forms of neurobiological phenomena. Selected topics 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.

Prerequisite: (CMBL 541\*, CMBL 542\*) or CMBL 503\* (\*may be taken concurrently). Cross-listing: PHSL 544.

**COMMUNICATION SCIENCES AND DISORDERS****CMSD 216 Deaf Bicultural-Bilingual Development (2)**

Issues important to speech, language, and literacy development. Clinicianship that is sensitive to deaf culture. May not be taught every year.

**CMSD 217 Beginning Sign Language (3)**

Focuses on learning American Sign Language (ASL) for conversational purposes. Finger spelling, a sign vocabulary of approximately 500 words, and acquisition of the basic grammatical rules of ASL. ASL contrasted with the various sign systems currently being used in educational settings in this country.

**CMSD 267 Speech-Language Pathology Assistant Fieldwork (2)**

Guided observation of clinical management of individuals with communication disorders. Supervised clinical experience in assisting the speech-language pathologist in a school and hospital setting. Course may not be taught every year.

**CMSD 276 Communication across the Lifespan (4)**

Overview of language development and normal changes over the lifespan. Development of language from infancy to adolescence, and the effects of aging on communication. Includes study of hearing.

**CMSD 284 Introduction to Speech-Language Pathology and Audiology (3)**

Major types of disorders. Etiology and treatment. Survey course for students majoring in speech-language pathology and audiology, prospective teachers, and others who may encounter speech-language or hearing disorders in their professions.

**CMSD 304 Hearing Science (4)**

Introduces basic theories and laboratory exercises in acoustics, psychoacoustics, and physiological acoustics.

**CMSD 314 Language Analysis for Speech-Language Pathology (4)**

Introduces techniques of linguistic analyses used in the study of phonology, morphology, syntax, and semantics.

**CMSD 317 Acoustic and Physiological Phonetics (2)**

Acoustic and physiological correlates of speech-sound production.

**CMSD 318 Transcription Phonetics (3)**

Student develops transcription skills using the International Phonetic Alphabet.

**CMSD 324 Language Disorders of Children (4)**

Impairments of language development in children. Formal and informal assessment of children. Program planning and remediation procedures.

Prerequisite: SPPA 276.

**CMSD 334 Phonological and Articulation Disorders (4)**

Definition, classification, etiology, diagnosis, and treatment of phonological/articulation disorders.

Prerequisite: SPPA 318.

**CMSD 375 Assistive Technology (2)**

Introduces the development and use of assistive technology. Uses assistive technology for individuals in need of augmentative or alternative means of communication.

**CMSD 376 Anatomy of Speech-Hearing Mechanism (4)**

Anatomy and physiology of auditory-vocal communicative process.

**CMSD 377 Bilingualism and Biculturalism I (2)**

Explores theories and issues of bilingualism and biculturalism, introducing the literature that gives insights into the experiences and achievements of minority college students and young adults. Opportunities given to examine student's own identity and competence when faced with another culture or language. Critiques the efficacy of various bilingual/dual language-education practices, based on psycholinguistic models.

**CMSD 424 Adult Language Pathology (4)**

Impairment of language and speech related to organic neuropathology.

**CMSD 426 Behavior Management Applications with Special Populations (2)**

Addresses the principles of behavior modification and discrete-trials training as they apply to persons with autism, developmental delays, congenital syndromes, and attention deficit hyperactivity disorders.

**CMSD 434 Disorders of Fluency (2)**

Characteristics, theories of etiology, and principles of management of stuttering and other fluency disorders.

**CMSD 435 Voice Disorders (2)**

Definition, classification, etiology, diagnosis, and treatment of voice disorders. Pitch, intensity, quality, and resonance.

**CMSD 444 Organic Speech Disorders (4)**

Introduces the classification, cause, manifestations, assessment, and treatment of craniofacial disorders / cleft palate, tongue thrust, dysarthria, apraxia of speech, and dysphagia.

**CMSD 445 Techniques for ESL and Accent Modification (2)**

Principles and procedures for teaching English as a second language (ESL) and accent modification to bilingual speakers of English.

**CMSD 454 Hearing Problems and Basic Audiometry (4)**

Anatomy and physiology of the auditory mechanism. Nature of the acoustic stimulus, disorders of the ear, problems of the hard-of-hearing. Pure-tone audiometry. Applicable toward California audiometric certification.

**CMSD 467 Speech-Language Pathology and Audiology Practicum (1-4)**

Supervised practice in diagnosis and therapy.

**CMSD 477 Bilingualism and Biculturalism II (2)**

Addresses the clinical competencies and cultural sensitivity needed in dealing with bicultural and bilingual clients. Discusses the impact of such knowledge on assessment and intervention.

**CMSD 485 Clinical Methods in Speech-Language Pathology (4)**

Principles and procedures of speech-language therapy within and across disorders. Methods of determining treatment effectiveness. Regulations governing public school services.

**CMSD 486 Diagnostic Methods in Speech-Language Pathology (4)**

Purposes for assessment. Procedures employed in describing and diagnosing speech-language impairments.

**CMSD 496 Workshops in Speech-Language Pathology and Audiology (1-4)**

May be repeated with new content for additional credit.

**CMSD 499 Speech-Language Pathology and Audiology Independent Study (1-2)**

Student submits a project or paper on a topic of current interest in an area related to speech-language pathology and audiology. Regular meetings to provide the student with guidance and evaluation. Elected on the basis of need or interest.

**CMSD 511 Graduate Portfolio I (1)**

The first in a series of two courses that provides students with a format for demonstrating their acquisition of the knowledge and skills that prepare them for entry into the profession. Students learn the requirements for professional accreditation and certification, and of licensing entities; and develop a professional portfolio.

**CMSD 512 Graduate Portfolio II (1)**

The second in a series of two courses that teaches students the requirements for professional accreditation and certification, and of licensing entities; and that helps them continue to develop an organized means of demonstrating the knowledge and skills acquired during their graduate program. Requires development of a professional portfolio.



**CMSD 523 Seminar in Early Childhood Language Disorders (3)**

Addresses the principles and procedures in assessment and interventions of language disorders in children. Emphasizes early-language learners (birth to 3 years).

**CMSD 525 Seminar in School-Aged Child Language Disorders (3)**

Addresses the principles and procedures of assessment and intervention of preschool, primary, and adolescent school-age children with language disorders. Emphasizes school-age learning in the areas of semantics, syntax, pragmatics, narrative, and phonological awareness.

**CMSD 535 Voice Disorders (3)**

Discusses 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.

**CMSD 545 Issues in School Speech-Language Pathology (3)**

Addresses issues confronted by school speech-language pathologists, including PL 94-142, IDEA, NCLB, planning for and conducting IEPs, scheduling and caseload management, evaluating and assessing students from diverse backgrounds, due process, and advocating for students.

**CMSD 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. Addresses ethical and cultural issues. Emphasizes analysis of current literature and clinical applications. Selected laboratory experiences.

**CMSD 564 Auditory Rehabilitation and Hearing Aids (3)**

Studies the mechanisms for achieving hearing rehabilitation—including amplification, speech reading, auditory training, hearing-aid orientation, and speech conservation. Considers hearing-aid function and philosophies of rehabilitation for the hearing impaired (e.g., auditory, aural, manual, and total communication).

**CMSD 567 Clinical Practice in Speech-Language Pathology and Audiology, Advanced (1)**

Supervised practice in diagnosis and therapy.

**CMSD 575 Instrumentation in Speech and Hearing (1)**

Lecture, discussion, and laboratory experience in the areas of speech acoustics, speech production and perception, psychoacoustics, and speech and hearing physiology.

**CMSD 576 Instrumentation II (1)**

Guides students through practical application of theoretical information acquired in CMSD 575 regarding speech instrumentation. Individually paced, with guided assistance, so that student can complete competency on selected speech instrumentation.

**CMSD 585 Seminar in Professional Aspects of Speech-Language Pathology (3)**

Emphasizes ethical, business, and legislative considerations in speech-language pathology. Students develop a professional resume and practice interviewing. Covers professional issues such as advocacy, clinical supervision, and diversity.

**CMSD 587 Counseling in Communication Disorders (3)**

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.

**CMSD 588 Directed Teaching in Speech-Language Pathology (8)**

Supervised therapy on the elementary and/or secondary level and/or in a classroom for the severely language-handicapped child.

**CMSD 597 Externship in Speech-Language Pathology (8)**

Supervised clinical practice in a medical center, rehabilitation facility, or skilled-nursing facility.

**CMSD 598 Research Methods and Professional Literature in Speech-Language Pathology (3)**

Lecture and discussion that facilitates the student's ability to read and interpret professional literature, develop research ideas, and develop professional writing skills.

**CMSD 679 Seminar: Motor Speech Disorders/Augmentative Communication (3)****CMSD 682 Seminar: Traumatic Brain Injury (3)**

Explores pathophysiology, diagnosis, and rehabilitation of cognitive communication disorders in children and adults with traumatic closed-head injuries. Lecture and discussion format emphasizes reading current professional literature and developing skills in formal and informal assessment and functional treatment.

**CMSD 684 Seminar: Adult Language Disorders (3)****CMSD 685 Seminar: Stuttering (3)****CMSD 687 Seminar: Open Seminar (1-3)****CMSD 687A Seminar: Open Seminar (1)****CMSD 687B Seminar: Open Seminar (1)****CMSD 688 Seminar: Articulation (3)****CMSD 697 Research (1-4)****CMSD 698 Thesis (1-6)****CMSD 699 Directed Study (1-3)**

Independent study on a research project selected in consultation with the advisor. 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.

**COMMUNICATION****COMM 178 Oral Communication I (2)**

Enhances oral communication skills by improving word-recognition skills and fluency of language usage. Includes a study of phonetics, using linguistic patterning with all five senses working simultaneously to create a deep neurological impression.

**COMM 278 Oral Communication II: Public Speaking (2)**

Develops and reinforces students' skills in oral communication. Focuses on sequential, logical thinking as an integral part of developing specific techniques for delivering dynamic, effective, and engaging oral presentations.

**COMPOSITION****COMP 088 Basic English Composition (2)**

Foundational principles of composition, rules of usage, matters of form, and considerations of style.

**COMP 099 English As an Additional Language (2)**

Focuses on active listening and writing skills, with an introduction to the fundamental structure and vocabulary of the English language.

**COMP 375 Professional Writing in Health Care (2, 3)**

Techniques for specialized writing, with attention to format and content, proofreading and editing, references and footnotes. Equips students to write publishable papers in their professional fields. Additional project required for third unit.

**COUNSELING****COUN 501 Research Tools and Methodology: Quantitative (3)**

Current social research methods; practice in the use of techniques. Considers the philosophy of the scientific method, and familiarizes with counseling test instruments.

Prerequisite: An introductory course in statistics as an undergraduate research methods course. Cross-listing: MFAM 501.

**COUN 502 Research Tools and Methodology: Qualitative (3)**

Qualitative methodology. Prepares students to undertake research projects using the intensive interview method of qualitative research. Explores practical and epistemological issues and problems in qualitative research explored in a workshop format.

Cross-listing: MFAM 502.

**COUN 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. Student becomes familiar with a wide range of social and ethnic backgrounds—including but not limited to people of color, Asians, Native Americans, and Hispanics.

Cross-listing: FMST 514.

**COUN 515 Crisis-Intervention Counseling (3)**

Experiential course in which theory, techniques, and practices of crisis intervention are presented, with special attention to 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.

Cross-listing: MFAM 515.

**COUN 545 Gender Perspectives (2)**

Explores the identities, roles, and relationships of women and men in light of social, cultural, and historical perspectives. Implications for family therapists, educators, and other professionals explored.

Cross-listing: MFAM 545.

**COUN 547 Social Ecology of Individual and Family Development (3)**

Studies human individual development and its relationship to the family life cycle from birth through aging and death of family members. Discusses biological, psychological, educational, social, and spiritual development in the context of family, education, and career dynamics involving traditional two-parent families, alternative partnerships, single parents, blended families, and intergenerational communities.

Cross-listing: MFAM 547.

**COUN 556 Psychopathology and Diagnostic Procedures (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. Addresses classifications such as ADD / ADHD that affect school achievement and educational placement. Utilizes the multiaxial classifications of the DSM-IV as a practical basis for diagnostics.

Prerequisite: A course in abnormal psychology.  
Cross-listing: MFAM 556.

**COUN 568 Groups: Process and Practice (3)**

Surveys major theoretical approaches, including 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.

Cross-listing: MFAM 568.

**COUN 574 Psychological Foundations of Education (4)**

Explores educational psychology through application of development and learning theories to instruction, achievement motivation, self-esteem, classroom management, supportive and disruptive processes on school sites, campus standards, disciplinary practices, legal/ethical issues. Requires research of effective educational practices and related foundations. Additional research for graduate credit.

Prerequisite: General psychology.

**COUN 575 Counseling Theory and Applications (3)**

Counseling theories and applications necessary for work as counselors, therapists, and other mental health professionals. Historical overview of all theories from psychoanalytic, Adlerian, existential, person-centered, Gestalt, behavior, cognitive behavior, reality, feminist, postmodern (solution-focused and narrative), family systems, and integrative perspectives. Meaningful integration of ethics, theory, and experience on personal and case-study levels.

**COUN 576 Exceptional and Medically Challenged Children (3)**

Studies 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. Emphasizes education and career planning.

**COUN 577 Assessment in Counseling (3)**

Develops 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 with hands-on applications. Practicum required.

Cross-listing: PSYC 404, with additional requirements in research and clinical applications with schools and families.

**COUN 578 College and Career Counseling (3)**

Examines vocational and career-choice theories, trends, and related educational programming, including introduction to interest, attitude, and ability evaluation used for career counseling. Includes administration, scoring, and interpretation as part of hands-on application in schools and clinic settings.

**COUN 584 Advanced Child and Adolescent Development (2, 3)**

Advanced study of child and adolescent development using topical instructional format. Explores relationship of development to family attachments, self-esteem, school achievement, and social competence. Explores counseling interventions related to development of support for relational and educational success.

Cross-listing: MFAM 584.

**COUN 614 Law and Ethics (3)**

Laws pertaining to the family and related systems: child welfare and education, 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. Explores the practitioner's sense of self and human values and his/her professional behavior and ethics.

Cross-listing: MFAM 614.

**COUN 624 Individual and Systems Assessment (3)**

Applies psychological testing methods in the diagnostic assessment of individual, family, and group behavioral dynamics as encountered in marriage and family counseling and related experience. Observations and/or laboratory experience.

Cross-listing: MFAM 624.

**COUN 638 Family Therapy and Chemical Abuse (3)**

Current theories and treatment of chemical dependencies. Emphasizes family therapy, assessment techniques, understanding of how chemicals affect the mental and biological systems, issues of dual diagnosis.

Cross-listing: MFAM 638.

**COUN 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.

Cross-listing: MFAM 644.

**COUN 674 Human Sexual Behavior (3)**

Sexuality in contemporary society from the sociopsychological 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.

Cross-listing: MFAM 674.

**COUN 678 Consultation and Leadership (3)**

Studies school organization and relationships to other systems and consultants in education, career, and mental health. Emphasizes human relations, leadership development, professionalism, legal/ethical mandates, team building, and advocacy for school counselors.

**COUN 679 School Counseling: History and Practice (3)**

Integrates 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.

**COUN 680 Field Experience in Counseling (3-9)**

Student demonstrates 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.

**COUN 681 Counseling Seminar (1)**

Includes group supervision and mentoring of students registered for counseling field experience. Develops counselor identity through readings, case presentation, discussion of field placements, counseling-program evaluation, and group process. Reviews California standards for the pupil personnel services credential (PPS) in school counseling and standards for U.S. licensure (excluding California) for professional counselors. Student progress monitored toward completion of required counseling hours. Student applies for membership in professional organization(s). Quarterly registration for this course required of all students enrolled in COUN 680 Field Experience in Counseling until graded out of field experience. Minimum registration of five quarters required for M.S. degree students in counseling. Minimum registration of two quarters required for school counseling certificate students.

**CRIMINAL JUSTICE****CRMJ 515 Crime and Society (3)**

Discusses crime as a social problem and surveys its criminal justice responses. Provides an overview of criminological theory by placing crime in its cultural, social, political, and historical context. Describes the criminal justice system from an institutional perspective; and examines the intersecting roles of the police, forensic science agencies, the courts, and corrections as they aim to promote justice in the context of the social good.

**CRMJ 517 Criminal Procedure and Rules of Evidence (3)**

Studies criminal procedures as they are guided by the U.S. Constitution. Focuses on 4th-, 5th-, 6th-, and 14th-Amendment rights with regard to searches and seizures, confessions, due process, jury trials, assistance of counsel, and equal protection under the law. Discusses the introduction of scientific evidence in criminal trials as the point of intersection between science and law. Pretrial discovery rules, access to expert witnesses and testing, as well as federal and state rules of admissibility examined as they shape the content and process of evidence presentation in the courts by expert witnesses.

**CRMJ 518 Legal Discourse (2)**

Overviews the different specialties in forensic science. Discusses different kinds of evidence in terms of evidence processing; methods of testing, analyzing, and recording laboratory results; interpreting results as criminal evidence.

**CRMJ 519 Moot Court (2)**

Provides an opportunity for students to practice testifying as expert witnesses in a simulated trial setting.

**CRMJ 520 Restorative Justice (3)**

Provides a new perspective on the purpose and role of the criminal justice system by examining how restorative justice attempts to forge new relationships between offenders and the people and communities they have victimized.

**CRMJ 574 Criminological Theory (4)**

Provides students with a detailed examination of the best-known and most influential theories of crime causation. Examines and evaluates selected theories from sociological, psychological, and behavioral perspectives.

**CRMJ 588 Topics in Forensic Science (2)**

Addresses current interests in specific areas of forensic science, offered at the discretion of the Department of Social Work and Social Ecology. Topics may include quality assurance, forensic chemistry and controlled substances, forensic biology, forensic toxicology, questioned documents, and others. Sections consist of lectures but may also include laboratory experience under the guidance of criminalists.

**CRMJ 599 Directed Study/Special Project (1-4)**

Limited to matriculating master's degree in criminal justice students who wish to pursue independent investigations in criminal justice practice or policy under the direction of a department faculty member.

**CRMJ 620 Forensic Mental Health (3)**

Overviews the specialized mental health and substance-abuse disorders treatment for persons incarcerated in jails, prisons, or special forensic psychiatric hospitals. Reviews effective treatment methods in forensic institutions and examines the current criminal justice system's handling of persons with mental illness and substance-abuse disorders.

**CRMJ 630 Criminal Justice Planning and Administration (3)**

Examines the structure, function, and effective operation of criminal justice agencies and organizations—including law enforcement, the courts, and corrections—within the overall context of the criminal justice system.

**CRMJ 640 Forensic Evidence (3)**

Overviews specialties in forensic science. Discusses different kinds of evidence in terms of evidence processing; methods of testing, analyzing, and recording laboratory results; interpreting the results as criminal evidence.

**CRMJ 697 Research (2)**

Supports students who choose 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.

**CRMJ 698 Thesis (2)**

The culminating work of the student's independent research, under the direction of the research advisor. Registration during the quarter in which student defends research and submits final document to the department and School of Science and Technology.

**CRMJ 757A Professional Practicum and Seminar (3)**

Experiential learning in criminal justice. Students must satisfactorily complete 160 practicum hours and 20 hours of concurrent seminar.

**CRMJ 757B Professional Practicum and Seminar (3)**

Experiential learning in criminal justice. Students must satisfactorily complete 160 practicum hours and 20 hours of concurrent seminar.

**CRMJ 757C Professional Practicum and Seminar (3)**

Experiential learning in criminal justice. Students must satisfactorily complete 160 practicum hours and 20 hours of concurrent seminar.

**CRMJ 787 Advanced Professional Practicum and Seminar (4)**

Experiential learning in advanced criminal justice practice. Students must satisfactorily complete 200 practicum hours and 20 hours of concurrent seminar.

**CLINICAL SOCIAL WORK****CSWK 652 Social Problems within Racial and Ethnic Minority Populations (2)**

Overviews 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 emphasizes the unique practice role of social work in structuring interventions and culturally appropriate treatment approaches.

**CSWK 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. Addresses racial, ethnic, and sociopolitical-economic issues.

**CSWK 668 Men's Clinical Interventions and Treatment (2)**

Focuses on psychosocial issues faced by men that have implications for clinical interventions. Gives attention 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).

**CSWK 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.

**CSWK 671 Research Orientation I (2)**

First quarter of a three-quarter sequence that introduces doctoral students to the research process, with an 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.

**CSWK 672 Research Orientation II (2)**

Second quarter of a three-quarter sequence that introduces doctoral students to the research process, with an 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.

**CSWK 673 Research Orientation III (2)**

Third quarter of a three-quarter sequence that introduces doctoral students to the research process, with an emphasis on research-problem identification and formulation. Students focus on writing competence and presentation of a theory paper to seminar participants and doctoral program faculty. 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: CSWK 681, CSWK 672.

**CSWK 676 Advanced Clinical Theory I: Psychoanalytic and Attachment (3)**

The first course of a two-part sequence that differentially examines a number of interrelated psychodynamic theories as they apply to clinical practice. Considers differing views of the therapeutic process with clients from a wide range of diagnostic categories. Illuminates theoretical perspectives from classic and contemporary case material. Introduces content that deals with the effects of trauma on psychosocial development, as well as issues of race and historical and cultural context. Discusses salient themes of pioneering psychodynamic theories such as psychic conflict, interpreting resistance, interpreting transference, and the working alliance. Reviews the relevance of the contribution of Attachment Theory as it relates to bio-psycho-social-spiritual developmental normalcy.

**CSWK 677 Advanced Clinical Theory II: Ego Psychology, Self Psychology and Object Relations (3)**

The last course of a two-part sequence that differentially examines a number of interrelated psychodynamic theories, as well as ecological perspectives as they apply to clinical practice. Considers differing views of the therapeutic process with clients from a wide range of identity/self-esteem, adaptation, and competency. Illuminates theoretical perspectives from the classic works of Perlman, Hollis, and Hamilton to the more contemporary work of Germain and Gitterman. Uses the Life Model Approach to examine the effects of trauma on psychosocial development, underscoring the influence of race and culture.

**CSWK 681 Research Seminar I (2)**

First quarter of a three-quarter sequence. Introduces students to 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 presentation. Students present to the faculty the research problem and research design for their research paper. The research paper is a requirement of the comprehensive examination.

**CSWK 682 Research Seminar II (2)**

Second quarter of a three-quarter sequence. Students proceed through the steps of the research design. Students focus on data analysis, presentation, and interpretation. Students present the findings of their research to seminar participants and the doctoral program faculty.

Prerequisite: CSWK 681.

**CSWK 683 Research Seminar III (2)**

Third quarter of a three-quarter sequence. Students focus on writing and presenting a competent research paper to seminar participants and doctoral program faculty. Paper must demonstrate 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: CSWK 681, CSWK 682.

**CSWK 684 Advanced Developmental Psychopathology I: Children/Adolescents (3)**

A practice course that examines psychopathology, viewed from the intrapsychic and interpersonal perspectives. Central theme analyzes the development and expression of psychopathology from the perspective of person-in-the-environment. Pays particular attention to issues of poverty, class, race, ethnicity, gender, and distributive justice as influences on psychopathology. Emphasizes critical analysis of treatment interventions as it applies to the educator and advanced practitioner. Considers research methods for the study of clinical practice.

**CSWK 685 Advanced Developmental Psychopathology II: Adult Lifespan (3)**

A practice course that examines psychopathology viewed from the intrapsychic and interpersonal perspectives. Places particular emphasis on conducting a developmental diagnosis and evolving psychosocial treatment strategies that are sensitive to different levels of psychic structure and social oppression. Pays particular attention to issues of poverty, class, race, ethnicity, gender, and distributive justice as influences on psychopathology. Emphasizes critical analysis of treatment interventions as it applies to the educator and advanced practitioner. Consideration given to research methods for the study of clinical practice.

**CSWK 686 Advanced Clinical Practice: Clinical Assessment, Diagnosis, and Paradigms of Practice (3)**

Examines the relevance and practical utility of remaining attuned to current assessment and diagnostic protocols within behavioral health professions. Discussion utilizes the Diagnostic and Statistical Manual but is not limited to one structural viewpoint or clinical philosophy. Gives attention to the affect of culture-bound syndromes on assessment and diagnosis. Prepares social worker educators and advanced clinicians for the realities of the nonstatic evolutionary process of assessment and diagnosis. Paradigms of practice explain changes in the bio-psychosocial-spiritual configurations of individual clients, as well as changes in the formulations of assessment and diagnosis over time.

**CSWK 687 Methods of Teaching and Evaluation in Clinical Social Work Education (3)**

Reviews the history of social work education within the changing context of the profession. Examines learning and teaching theories as applied to practice knowledge and skills in social work education. Examines differences in the educational requirements of the settings in which teaching about clinical social work takes place—academic, agency, and supervisory. Discusses modalities and techniques of classroom teaching. Describes and analyzes the national curriculum standards that govern schools of social work at baccalaureate and master's degree levels.

**CSWK 688 Independent Study in Clinical Social Work (1-6)**

Limited to Ph.D. degree clinical social work students who intend to obtain clinical practice experience. A diversity of clinical settings acceptable, as long as psychotherapy is provided.

**CSWK 697 Research (4, 8)**

Credit for dissertation research. Total of 20 units required.

**CSWK 699 Dissertation (12)**

Credit for the doctoral dissertation. Should be taken during the last quarter of registration prior to completion and defense.

**DERMATOLOGY****DERM 891 Dermatology Elective (1.5-18)****DENTAL EDUCATIONAL SERVICES****DNES 305 Etiology and Management of Dental Caries (2)**

Etiology, prevention, and management of dental caries. The specific plaque hypothesis; the role of diet, host resistance, and time in caries. Remineralization, principles of medical management, caries risk assessment, patient education.

**DNES 504 Spanish for the Dental Professional (2)**

Provides specific words, phrases, and dental terminology used by the dental professional to communicate with patients whose primary language is Spanish.

**DNES 700 Orientation to Tooth Morphology (2)**

Tooth morphology, terminology, morphologic characteristics, and the interrelationship of permanent teeth. Laboratory experience waxing various teeth.



**DNES 705 Etiology and Management of Dental Caries (2)**

Etiology, prevention, and management of dental caries. The specific plaque hypothesis; role of diet, host resistance, and saliva in caries. Diagnosis, lesion progression, remineralization. Principles of medical and surgical management. Caries risk assessment. Establishes a caries-management program. Patient education.

**DNES 707 Personal Development (2)**

Practical introduction to human behavior, self-acceptance, personal development, stress management, and development of a professional manner.

**DNES 708 Introduction to the Dental Profession (1)**

Overview of dentistry as it has evolved into a health care profession. History of dentistry, characteristics of professions, dental ethics, purpose and structure of professional organizations, discussion of the specialties. Introduces personal finance.

**DNES 718 Communication Basics for the Dentist (1)**

Student develops interpersonal competencies in the various professional communication roles expected of a dentist. Topics include team building, cross-cultural communication, dental fears and phobias, mental illness, and behavior change.

**DNES 789 National Board Part I Review (1)**

Reviews basic and preclinical sciences to prepare students for the National Board Examination Part I.

**DNES 794 Public Health Dentistry (2)**

Introduces community dentistry, oral epidemiology, public health programs, preventive dentistry, health education, and volunteer programs.

**DNES 804 Applied Statistics (2)**

Introduces research methodology. Develops critical statistical thinking, enabling students to critique research results reported in dental journals and to understand and correctly interpret the research so that new findings can be properly implemented in dental practice. Provides students with statistical tools necessary to pursue lifetime learning in the dental sciences.

**DNES 806 Research Design (2)**

Developing a research protocol. Authoring skills, role of the mentor and investigator, topic selection, assurances and approvals (animals/IRB), fiscal responsibility, and research misconduct.

**DNES 806L Research Design Laboratory (1)**

Student reviews literature and designs a research proposal in preparation for professional presentation of a table clinic. Student conducts research experiment or project culminating in presentation of the results at a professional meeting.

**DNES 807 Practice Management I (2)**

Management of a dental practice, including: business economic principles, practice-management systems, financial considerations in dental practice, budgeting and debt management, dental service fees and collections, and third-party payment systems.

**DNES 809 Practice Management II (2)**

Establishing and monitoring practice goals, leadership and staff relations, patient relations, and marketing. Employment as a dentist, locating practice opportunities, attaining practice ownership, incorporating technology into dental practice, ongoing professional growth.

**DNES 817 Practice Management I for IDP Students (1)**

Introduction to the management of a dental practice, including: business economic principles, practice management systems, financial considerations in dental practice, budgeting and debt management, dental service fees and collections, and third-party payment systems.

**DNES 818 Practice Management II for IDP Students (1)**

Establishing and monitoring practice goals, leadership and staff relations, patient relations, and marketing. Employment as a dentist, locating practice opportunities, attaining practice ownership, incorporating technology into dental practice, ongoing professional growth.

**DNES 851 The Dentist and the Law (2)**

Introduces legal limitations and compliance with legal requirements.

**DNES 889 National Board Part II Review (2)**

Reviews basic and clinical sciences and their application in case-based testing format to prepare students for National Board Examination Part II.

**DENTAL HYGIENE****DNHY 303 Dental Materials and Techniques (2)**

Materials and equipment used in dentistry. Practice in the manipulation and use of common materials.

**DNHY 305 Dental Anatomy Lecture (2)**

Anatomy of the teeth and surrounding tissues.

**DNHY 305L Dental Anatomy Laboratory (1)****DNHY 309 Radiology I (3)**

Principles governing radiation production and safety relative to radiographic anatomy/dental materials. Fundamentals of intraoral and extraoral techniques, darkroom procedures, and mounting of radiographs. Practical application of techniques. Basic fundamentals of quality assurance.

**DNHY 310 Radiology II (2)**

Continues laboratory techniques. Intraoral and extraoral radiographic interpretation, including anatomy, pathology and interpretation of the disease process of the oral hard tissues. Basic fundamentals of radiographic selection criteria.

**DNHY 321 Preclinical Dental Hygiene I Lecture (2)**

Preclinical phases of dental hygiene, including instrumentation techniques, patient management, intra- and extraoral soft-tissue assessment, charting procedures, disease processes, patient-health assessment, basic operator preparation, clinical asepsis, and oral health care techniques.

Corequisite: DNHY 321L.

**DNHY 321L Preclinical Dental Hygiene I Laboratory (2)**

Corequisite: DNHY 321.

**DNHY 322 Preclinical Dental Hygiene II Lecture (2)**

Continues DNHY 321.

Prerequisite: DNHY 321. Corequisite: DNHY 322L.

**DNHY 322L Preclinical Dental Hygiene II Laboratory (2)**

Prerequisite: DNHY 321, DNHY 321L.  
Corequisite: DNHY 322.

**DNHY 323 Preclinical Dental Hygiene III (2)**

Continues DNHY 322.

Prerequisite: DNHY 321, DNHY 322\*, DNHY 321L, DNHY 322L\* (\*may be taken concurrently).  
Corequisite: DNHY 323L.

**DNHY 323L Preclinical Laboratory (1)**

Prerequisite: DNHY 321L, DNHY 322L\*, DNHY 321, DNHY 322\* (\*may be taken concurrently).  
Corequisite: DNHY 323.

**DNHY 328 Dental Hygiene Portfolio Practicum (1)**

Student develops a project to show evidence of personal growth and success in the dental hygiene core competencies.

**DNHY 375 Dental Hygiene Clinic (1)**

Clinical application of skills and techniques of dental hygiene. Prophylaxes on pediatric and adult patients.

**DNHY 376 Dental Hygiene Clinic (4)**

Continues DNHY 375.

Prerequisite: DNHY 375\* (\*may be taken concurrently).

**DNHY 380 Medically Compromised Patients (2)**

Lectures dealing with the medically compromised patient relative to the use of local anesthetics, drug interactions, need for antibiotic premedication, and necessary modification in treatment planning. Repeated registrations required to fulfill total units.

**DNHY 381 Pharmacology for the Dental Hygienist I (2)**

Introduces the basic principles of pharmacology. Emphasizes the use, actions, and clinical implications/contraindications to medications used by dental patients.

**DNHY 382 Pharmacology for the Dental Hygienist II (1)**

Continues DNHY 381. Emphasizes application through the use of case studies.

**DNHY 390 Introductory Statistics (2)**

Fundamentals of statistical analysis and critique of research data in scientific literature and in student research projects. Inferential and descriptive statistics, frequency distribution, histograms, bar graphs, and statistical tests. Laboratory computer practice in preparing and analyzing research data. Domain II.

**DNHY 405 Introduction to Periodontics (2)**

Reviews gross and microscopic anatomy of the periodontium in health and disease. Primary etiology of periodontal disease. Examines patient's clinical periodontal status. Introduces the diagnostic and treatment-planning process.

**DNHY 406 Orthodontics Concepts for Dental Hygiene (1)**

Basic skeletal and dental growth and development as applied to orthodontics. Treatment modalities. Retention principles and methods. Impressions for orthodontic models. Intraoral measurements for orthodontic procedures. Placing and removing orthodontic separators. Placing, ligating, and removing prepared arch wires. Removing excess cement from orthodontic bands. Checking for loose bands. Seating adjusted retainers and headgear. Instructing the patient. Using ultrasonic scaler to remove excess cement.

**DNHY 408 Professional Ethics (2)**

Develops understanding of hygienist's obligations to the public and to his/her professional association. Defines the ethical and mature conduct expected of professional health care providers. Compares and contrasts professional ethics and personal morality as they relate to dental hygiene practice.

**DNHY 409 Jurisprudence (2)**

Laws and regulations that govern the practice of dental hygiene, with special emphasis on California regulations. Standards of government regulations. Obligations of the hygienist to the public and to his/her profession. Domain I.

**DNHY 411 Dental Hygiene Topics I (2)**

Student develops advanced hygiene-care planning skills, with emphasis on knowledge synthesis. Topics cover aspects of patient care, including whole-patient care and patients with special needs.

**DNHY 412 Dental Hygiene Topics II (2)**

Continues instruction in advanced clinical skills. Areas covered include pulp vitality, dentinal hypersensitivity, esthetic whitening procedures, chemotherapeutic agents, and use of technology for the dental hygiene process of care.

**DNHY 413 Dental Hygiene Topics III (2)**

Topics related to employment for dental hygienists. Additional topics include various opportunities in the dental hygiene profession and educational advancement strategies.

**DNHY 414 Personal Finance (2)**

Personal finance topics, including credit, taxes, insurance, real estate, budgeting, housing, and inflation.

**DNHY 415 Applied Nutrition (2)**

Basic concepts of nutrition. Balance, adequacy, nutrient density, dietary choice, weight management, nutrition, and oral health. Addresses nutritional needs of children and the aged, and medically and dentally compromised patients. Dietary assessment and counseling.

**DNHY 416 Dental Health Education I (2)**

Current theories and principles of psychology as they relate to learning and teaching, personality development and change, and interpersonal processes and dynamics.

**DNHY 417 Dental Health Education II (2)**

Principles and practices involved in teaching dental public health. Fieldwork in local schools and community. Methods and practice of professional presentation.

**DNHY 418 Critical Issues of Health Care (2)**

Old age as part of the natural developmental sequence. Physical, psychological, and social needs of the elderly. Ways the allied health practitioner can contribute to wellness and independence. Important issues of HIV / AIDS, including global impact, prevention, treatment, and ethical issues.

**DNHY 419 Essentials of Public Health for Dental Hygienists (4)**

Public health background, issues and concepts—including history from ancient times to HMOs; definitions, organization and infrastructure; function, practices, programs, and services. Contributions of important public health practitioners. Political, social, and economic considerations of public health programs.

Cross-listing: PHCJ 401.

**DNHY 421 Research I (2)**

Introduces research methodology. Evaluates literature, emphasizing statistics adequate for interpretation of the literature. Student reviews literature and designs a research proposal in preparation for professional presentation of a table clinic. Student conducts a research experiment or project culminating in presentation of the results at a professional meeting.

**DNHY 422 Research II (2)**

Introduces research methodology. Evaluates literature, emphasizing statistics adequate for interpretation of the literature. Student reviews literature and designs a research proposal in preparation for professional presentation of a table clinic. Student conducts research experiment or project culminating in presentation of the results at a professional meeting.

Prerequisite: DNHY 421\* (\*may be taken concurrently).

**DNHY 425 Educational Psychology for Health Professionals (3)**

Psychological factors related to learning processes in professional and higher education. Emphasizes the role of communication skills in learning settings, influences on learning, objectives setting and course design, stimulation of high-level thinking, motivation and retention.

Cross-listing: AHCJ 415.

**DNHY 428 Health Care Management (3)**

Management theory, planning, organizing, directing, and controlling (including budgetary controls). Department productivity and theories of work simplification. Preparation of resumes, interviewing skills, professional attitudes, group theory, and group dynamics. Students spend the last two-to-three weeks doing special projects designed and supervised by their department.

Cross-listing: AHCJ 408.

**DNHY 431 Dental Public Health (3)**

Philosophy, principles, language, and objectives of public health and public health dentistry. Critical review of the literature.

**DNHY 435 Special Topics in Periodontal Therapy (2)**

Studies advanced periodontal topics and special problems related to periodontal therapy.

**DNHY 436 Legal and Ethical Principles in Education (2)**

Discusses theoretical and practical applications of the ethical and legal principles and issues encountered in an educational setting.

**DNHY 437 Ethical Principles in Public Health for the Dental Hygienist (2)**

Discusses theoretical and practical appraisals of the ethical principles and issues encountered by public health administrators, educators, and investigators.

**DNHY 441 Principles of Education I (3)**

Provides students with an introduction to course development and classroom teaching. Topics include: development of course goals and objectives; teaching methods and strategies; learning styles, with emphasis on alternatives to lecturing. Presents and practices communication theory and instruction resources. Implications of effective intellectual, emotional, and social functioning for the adult learner. Analyzes the teaching process, syllabus, and course design with micro teaching demonstration.

**DNHY 442 Principles of Education II (3)**

Provides the student and public health educator with evaluative methodologies, testing techniques, and strategies. Students prepare and present lectures and an examination for a didactic course.

Prerequisite: DNHY 441.

**DNHY 444 Teaching Practicum (3, 4)**

Develops the student teacher's skills in the preparation and presentation of didactic material relevant to the education of dental hygiene students. Provides practical experience in teaching methods through active participation in all aspects of the assigned didactic or laboratory. Optional unit available for portfolio development.

**DNHY 446 Principles of Clinical Instruction (3)**

Provides students experience in developing criteria and methods for teaching strategies and evaluation mechanisms to be used in preclinical and clinical instruction. Emphasizes clinical evaluation procedures and the skills and strategies utilized to promote interpersonal and psychomotor skill development in students.

**DNHY 449 Treating the Special-Needs Patient (3)**

Develops the student-teacher's ability not only to identify patients with special care needs, but also to recognize and understand the appropriate care alternatives. Addresses the role of commonly prescribed medications used for treatment to determine if treatment modifications are appropriate.

**DNHY 451 Clinical Seminar I (1)**

Topics and issues related to clinical competency and development of critical-thinking skills through the use of patient-care examples and class discussion.

**DNHY 452 Clinical Seminar II (1)**

Topics and issues related to clinical competency and preparation for the clinical board examination. Student development of advanced patient-care plans.

Prerequisite: DNHY 451\* (\*may be taken concurrently).

**DNHY 453 Clinical Seminar III (1)**

Topics and issues related to clinical competency. Presentation of advanced patient-care plans.

Prerequisite: DNHY 452\* (\*may be taken concurrently).

**DNHY 464 Web-Based Techniques (2)**

Introduces students to use of the Web for instructional purposes. Students evaluate the usefulness of various on-line journals and databases, as well as conduct productive database literature searches. Critical analysis of scientific publications provides practice applying formal rules of evaluating and ranking scientific evidence.

**DNHY 475 Dental Hygiene Clinic I (4)**

Integrates all components of oral health care into the clinical treatment of patients.

Prerequisite: DNHY 475\* (\*may be taken concurrently).

**DNHY 476 Dental Hygiene Clinic II (4)**

Integrates all components of oral health care into the clinical treatment of patients.

Prerequisite: DNHY 475\* (\*may be taken concurrently).

**DNHY 477 Dental Hygiene Clinic III (4)**

Integrates all components of oral health care into the clinical treatment of patients.

Prerequisite: DNHY 476\*, DNHY 475 (\*may be taken concurrently).

**DNHY 478 Advanced Clinical Concepts (2)**

Reviews advanced skills in dental hygiene instrumentation needed as a clinical educator. Topics include alternative fulcrums and hand positions, uses of specialty instruments, and alternative techniques for instrumentation and clinician ergonomics.

**DNHY 484 Legal Issues in Health Care (2)**

Introduces the legal system as it pertains to health care professionals. Concepts of malpractice, litigation, consent for and refusal of dental treatment, advanced directives, and patient confidentiality. Discusses employment issues, including discrimination and sexual harassment. Development of health and safety programs per OSHA regulation, risk management, legal issues in vehicle operations and equipment, and EMS and law-enforcement interactions.

Cross-listing: EMMC 484.

**DNHY 495 Dental Hygiene National Board Preparation (1, 2)**

Lecture and case-based reviews of the entire dental hygiene curriculum—including, but not limited to: prerequisite basic sciences; preclinical, laboratory and clinical sciences; and behavioral sciences. Reviews in preparation for the dental hygiene national board examination will be directly related to concurrent test-taking skill workshops based on standardized testing evidence for success.

**DNHY 498 Dental Hygiene Directed Study (1-10)**

Independent research on problems/topics related to dentistry, dental hygiene, and dental education; collaboration with researcher/faculty member. Written report required.

Prerequisite: DNHY 421, DNHY 422, DNHY 390.

**DNHY 499 Research Writing (2)**

Elective course for students wishing to write their research study for submission to professional journals for possible publication.

**DIETETIC TECHNOLOGY****DTCH 201 Human Nutrition (3)**

Fundamentals of normal nutrition. Carbohydrates, proteins, fats, vitamins, and minerals; their roles in human metabolism. Introduces nutrition in the life cycle. Per week: lecture 3 hours.

**DTCH 202 Food Selection and Presentation (5)**

Foods and their nutritive values. Changes associated with maturation, preservation, table preparation, transportation, and storage in relation to food safety. Nutritional concepts and cultural food patterns in planning and producing meals. Meal service in family, social, and professional settings. Per week: lecture 3 hours, practicum 6 hours. Laboratory fee.

**DTCH 203 The Art of Food Presentation (3)**

Art of food presentation to enhance acceptance of food. Nutritional concepts and cultural food patterns in planning and producing meals. Focuses on meal service at home and in professional and social settings. Per week: lecture 2 hours, practicum 3 hours. Laboratory fee.

Prerequisite: DTCH 201\*, DTCH 202\* (\*may be taken concurrently); or consent of instructor.

**DTCH 204 Community Nutrition (4)**

Education of community members in different areas related to nutrition requiring knowledge of normal nutrition and life-cycle issues. Nutrition assessment; medical nutrition-therapy topics such as obesity, CHD, diabetes, etc. Legislative process and politics. Program planning, implementation, management, and evaluation. Counseling, teaching, and facilitating group processes. Interpreting data and research findings. Identifying and accessing community-nutrition resources. Community interactions that promote a healthy lifestyle, including but not limited to nutrition topics. Per week: lecture 2 hours, practicum 6 hours.

Prerequisite: DTCH 201, DTCH 239, DTCH 241.

**DTCH 205 Professional Issues in Nutrition and Dietetics (1)**

Growth of dietetic technology and of nutrition and dietetics as professions, and their role in the restoration and maintenance of health. Illustrates nontraditional roles of the dietetic technician and the registered dietitian. Emphasizes the development of professionalism accountability, and the responsibility for lifelong learning. Preparation of a professional portfolio.

**DTCH 239 Life-Cycle Nutrition (2)**

Management of the normal nutrition needs of individuals across the lifespan. Focuses on pregnancy, lactation, normal infant growth and development, childhood, and adolescence—with an overview of school feeding programs. Adult men and women's health issues. Geriatrics. Per week: lecture 1 hour, practicum 3 hours.

Prerequisite: DTCH 201 or DTCS 301.  
Corequisite: DTCH 241.

**DTCH 241 Introduction to Clinical Nutrition (5)**

Basic knowledge of the responsibilities of the clinical dietetic technician and clinical dietitian: review of the medical record, documentation in the medical record, medical terminology, and patient interviewing. Clinical management that includes normal nutrition needs of individuals across the lifespan, with a focus on pregnancy and lactation; normal infant growth and development; childhood and adolescence, with an overview of school feeding programs. Introduces nutrition assessment, adult men and women's health issues, geriatrics, anemia, food allergies, vegetarian patterns. Per week: lecture 3 hours, practicum 6 hours.

Prerequisite: Introductory chemistry, complete sequence with laboratory; anatomy and physiology, with laboratory; or equivalent.

**DTCH 242 Medical Nutrition Therapy I (5)**

Basic biochemical and physiological conditions that necessitate dietary modifications in the clinical management of the patient, including cardiovascular disease and hypertension, diabetes, cancer, HIV / AIDS, and other disorders. Continues practice in interviewing and counseling the patient, nutrition assessment and documentation, and use of computer-assisted nutritional analysis. Ongoing study of medical terminology. Advanced topics: lipids, antioxidants, and phytochemicals. Per week: lecture 3 hours, practicum 6 hours.

**DTCH 243 Medical Nutrition Therapy II (5)**

Basic biochemical and pathophysiologic processes that necessitate dietary modifications in the clinical management of the patient with pulmonary disease, including cystic fibrosis; digestive disorders; disorders of the liver, biliary system, and pancreas; alcoholism; renal disease; solid-organ transplantation; sepsis/trauma; metabolic disorders; and neurologic disorders, including spinal cord injury and stroke. Continues nutrition assessment, patient interviewing, and counseling. Applies enteral and parenteral nutrition support when indicated in the clinical management of patients with these conditions; introduces preparation of an in-depth case study. Per week: lecture 2 hours, practicum 9 hours.

**DTCH 271 Quantity Food Purchasing, Production, and Service (5)**

Emphasizes methods to achieve quantitative and qualitative standards in quantity food production. Menu planning for institutions. Practicum in food purchasing, production, and service. Open to dietetics students only. Per week: lecture 2 hours, practicum 9 hours.

**DTCH 272 Food-Systems Management (4)**

Studies food-service systems. Effective utilization of resources within the food system. Computer application in food-systems management. Per week: lecture 2 hours, practicum 6 hours.

Prerequisite: DTCH 271.

**DTCH 281 Operations Management in Quantity Food Productions (4)**

Applies operations-management techniques to food-systems management, including: quantitative decision making, development of work standards, and productivity management. Operations-analysis evaluation and quality control. Role of the nutritional services department supervisor. Leadership. Per week: lecture 2 hours, practicum 6 hours.

Prerequisite: DTCH 272.

**DTCH 291 Dietetic Technology Affiliation (2)**

Supervised experience in dietetic technology in community hospitals, extended-care facilities, county hospitals, public health departments, and school food service. Performance review and evaluation. Minimum of three weeks (120 clock hours) at the end of the program.

Prerequisite: DTCH 281.

**DTCH 299 Independent Study in Dietetic Technology (1-5)**

Project or paper submitted by student on a topic of current interest in an area of dietetic technology. Regular meetings provide student with guidance and evaluation.

**DIETETICS****DTCS 300 Contemporary Nutrition (3)**

Provides the essential science foundation needed to adequately comprehend nutrition topics. Includes scientific discussions and a variety of real-life applications and examples. Provides nutrition information that can be utilized by the student to modify his or her diet to meet personal needs. Discusses vegetarian diets and the Seventh-day Adventist approach to health. For students with a limited background in college-level biology, chemistry, or physiology.

**DTCS 301 Human Nutrition (3)**

Fundamentals of normal nutrition. Carbohydrates, proteins, fats, vitamins, minerals; their roles in human metabolism. Introduction to nutrition in the life cycle. Per week: lecture 3 hours.

**DTCS 302 Food Selection and Presentation (5)**

Foods and their nutritive values. Changes associated with maturation, preservation, table preparation, transportation, and storage in relation to food safety. Nutritional concepts and cultural food patterns in planning and producing meals. Meal service in family, social, and professional settings. Per week: lecture 3 hours, practicum 6 hours. Laboratory fee.

**DTCS 303 The Art of Food Presentation (3)**

Art of food presentation to enhance acceptance of food. Nutritional concepts and cultural food patterns in planning and producing meals. Focuses on meal service at home and in professional and social settings. Per week: lecture 2 hours, practicum 3 hours. Laboratory fee.

**DTCS 304 Community Nutrition (5)**

Education of community members in different areas related to nutrition. Requires knowledge of normal nutrition and life-cycle issues. Nutrition assessment; medical nutrition-therapy topics such as obesity, CHD, diabetes, etc. Legislative processes and politics. Program planning, implementation, management, and evaluation. Counseling, teaching, and facilitating group processes. Interpreting data and research findings. Identifying and accessing community nutrition resources. Community interactions that promote a healthy lifestyle, including but not limited to nutrition topics. Per week: lecture 2 hours, practicum 6 hours.

**DTCS 305 Professional Issues in Nutrition and Dietetics (1)**

Growth of nutrition and dietetics as a profession, and the role of the professional in restoration and maintenance of health. Illustrated nontraditional roles of the registered dietitian and dietetic technician, registered. Emphasis on development of professionalism, accountability, and responsibility for life-long learning. Preparation of a professional portfolio.

**DTCS 311 Human and Clinical Nutrition for Nursing (4)**

Fundamentals of normal nutrition. Carbohydrates, proteins, fats, vitamins, minerals; their roles in human metabolism. Investigates the role of nutrition at various stages in the life cycle of the individual in health and disease. Nutrition intervention in the prevention and treatment of disease in the clinical setting.

**DTCS 312 Clinical Nutrition for Nursing (2)**

Nutrition intervention in the prevention and treatment of disease in the clinical setting.

**DTCS 321 Nutrition and Human Metabolism (4)**

Nutritional requirements and metabolism of essential nutrients for the human organism at the cellular level. Focuses on macro- and micronutrients metabolism. Per week: lecture 4 hours.

Prerequisite: Anatomy and physiology, biochemistry.

**DTCS 339 Life-Cycle Nutrition (2)**

Management of the normal nutrition needs of individuals across the lifespan. Focuses on pregnancy and lactation, normal infant growth and development, childhood, and adolescence—an overview of school feeding programs. Adult men and women's health issues. Geriatrics. Per week: lecture 1 hour, practicum 3 hours.

Prerequisite: DTCS 301. Corequisite: DTCS 341.

**DTCS 341 Introduction to Clinical Nutrition (5)**

Basic knowledge of the responsibilities of the clinical dietitian: review of the medical record, documentation in the medical record, medical terminology, and patient interviewing. Clinical management will include normal nutrition needs of individuals across the lifespan, with a focus on pregnancy and lactation normal infant growth and development; childhood and adolescence, with an overview of school feeding programs. Introduces nutrition assessment, adult men and women's health issues, geriatrics, anemia, food allergies, vegetarian diets, nutrition quackery, obesity, eating disorders, and ethnic dietary patterns. Per week: lecture 3 hours, practicum 6 hours.

Prerequisite: or equivalent; anatomy and physiology with laboratory; introductory chemistry.

**DTCS 342 Medical Nutrition Therapy I (5)**

Basic biochemical and physiological conditions that necessitate dietary modifications in the clinical management of the patient, including: cardiovascular disease and hypertension; diabetes; cancer; HIV / AIDS; and other disorders. Continues practice in interviewing and counseling the patient, nutrition assessment and documentation, and use of computer-assisted nutritional analysis. Ongoing study of medical terminology. Advanced topics: lipids, antioxidants, and phytochemicals. Per week: lecture 3 hours, practicum 6 hours.

Prerequisite: DTCS 341; or equivalent course.



**DTCS 343 Medical Nutrition Therapy II (5)**

Basic biochemical and pathophysiologic processes that necessitate dietary modifications in the clinical management of the patient with pulmonary disease—including cystic fibrosis; digestive disorders; disorders of the liver, biliary system, and pancreas; alcoholism; renal disease; solid-organ transplantation; sepsis/trauma; metabolic disorders; and neurologic disorders—including spinal cord injury and stroke. Continues nutrition assessment, patient interviewing, and counseling. Applies enteral and parenteral nutrition support when indicated in the clinical management of patients with these conditions. Introduces preparation of an in-depth case study. Per week: lecture 2 hours, practicum 9 hours.

**DTCS 371 Quantity Food Purchasing, Production, and Service (5)**

Emphasizes methods to achieve quantitative and qualitative standards in quantity food production. Menu planning for institutions. Practicum in food purchasing, production, and service. Open to dietetics students only. Per week: lecture 2 hours, practicum 9 hours.

**DTCS 372 Food Systems Organization and Management (4)**

Studies food-service systems. Effective utilization of resources within the food system. Computer application in food-systems management. Per week: lecture 2 hours, practicum 6 hours.

**DTCS 395 Nutrition and Dietetics Practicum (12)**

Supervised experience in medical nutrition therapy, community, and administrative dietetics in hospitals, outpatient clinics, public health departments, and food systems. Performance review and evaluation. Ten weeks (400 clock hours) during the summer at the end of the junior year.

**DTCS 396 Food Systems Management—Affiliation (6)**

Supervised experience in community dietetics in public health departments and other public health facilities. Performance and review. Five weeks (200 hours) during the summer at the end of the junior year.

**DTCS 397 Community Nutrition Affiliation (6)**

Supervised professional practice affiliation for community nutrition.

Prerequisite: DTCS 305.

**DTCS 405 Senior Seminar (1)**

Develops professional skills, team efforts to market nutrition in the community, volunteer efforts in the community, professional networking, and special topics as determined by nutrition and dietetics faculty. Emphasizes professional portfolio and transition to entry-level nutrition educator/dietitian/food service director. Introduces preparation of an in-depth case study.

**DTCS 425 Pharmacology in Medical Nutrition Therapy (2)**

General overview of pharmacology, including kinetics, dynamics, and therapeutics of drugs. Basic definitions, sources of information, classification of drugs, and principles and mechanisms of drug actions. Emphasizes drug-nutrient interactions.

**DTCS 442 Nutrition Counseling (3)**

Applies techniques of nutrition counseling, with emphasis on improving skills in verbal and nonverbal communication, assertiveness, dealing with cultural differences, dealing with death and dying. Skills in administration for the nutrition counselor. Ethical implications in health care. Per week: lecture 2 hours, practicum 3 hours.

Corequisite: DTCS 343.

**DTCS 445 Nutrition Care Management (4)**

Applies operations analysis, financial management, quantitative decision making, and productivity-management techniques to enhance the delivery of nutrition care. Staff justification, continuous quality improvement, reimbursement for nutrition services, case management, and entrepreneurship.

**DTCS 452 Advanced Nutrition (4)**

Presents advanced topics of normal nutrition, with emphasis on case studies to illuminate metabolic pathways and effects of disease.

**DTCS 453 Advanced Medical Nutrition Therapy (3)**

Case-study approach to the theory and application of critical-care nutrition to complex medical conditions. Interprets and synthesizes the following information: fluid and electrolyte balance, acid/base balance, vital signs, ICU monitoring forms, interpretation of laboratory data and diagnostic tests, medical and surgical history, and drug/nutrient interactions. Focuses on a problem-list approach to nutrition assessment, documentation, intervention, and outcome evaluation. Clinical rotation in critical-care setting. Per week: lecture 2 hours, practicum 3 hours.

**DTCS 461 Food Science (4)**

Chemical, physical, and biological effects of maturation, processing, storage, and preservation on the structure, composition, palatability, product quality, and microbiological safety of food and its additives. Per week: lecture 4 hours, laboratory 3 hours. Laboratory fee.

Prerequisite: Basic foods, human nutrition, organic chemistry.

**DTCS 473 Medical Nutrition-Therapy Affiliation (12)**

Applies knowledge and skills in clinical facilities as a staff dietitian. Regular conferences to aid in developing professional competence. Major applied project relating to clinical or community nutrition. Minimum of ten weeks (400 clock hours) during the Spring Quarter of the senior year.

**DTCS 474 Food Systems-Management Affiliation (3)**

Develops competencies in total quality management; quality control; production planning, including forecasting production demand; linear programming; program evaluation and review technique (PERT), productivity management, including line balancing; financial management, including economics; food and labor cost control; budgeting project; and financial analysis of operations. Per week: lecture 3 hours, practicum 3 hours.

Prerequisite: DTCS 445.

**DTCS 476 Exercise Physiology in Medical-Nutrition Therapy (3)**

Basic preparation for development and leadership of exercise programs. Includes: exercise-physiology training, acute and chronic effects of exercise, simple assessment of fitness, role of exercise in prevention of common health problems, and management of selected risk factors. Discusses endurance, strength, flexibility, and aerobic exercises. Laboratory included.

Prerequisite: Anatomy and physiology.

**DTCS 479 Food-Systems Management Affiliation (12)**

Applies knowledge and skills in the administrative dietetics area as a staff dietitian. Regular conferences to aid in developing professional experience. Minimum of ten weeks (400 clock hours) during the Spring Quarter of the senior year.

**DTCS 491 Orientation to Research in Dietetics Laboratory (1)**

Experience in nutrition and dietetics research, including hypothetical-formulation research methods, data collection, and presentation of findings. Per week: practicum 3 hours.

Prerequisite: AHCJ 351. Corequisite: AHCJ 461.

**DTCS 497 Advanced Clinical Experience (40 to 480 hours)**

Advanced clinical experience in selected areas of professional dietetic practice.

Prerequisite: DTCS 473 or DTCS 478 or DTCS 479.

**DTCS 499 Nutrition and Dietetics Independent Study (1-5)**

Project or paper to be submitted on a topic of current interest in an area of nutrition and dietetics. Regular meetings provide the student with guidance and evaluation. Elected on the basis of need or interest.

**DTCS 505 Graduate Seminar—Portfolio (3)**

Discusses issues related to the profession of technology and its application in the delivery of nutrition care. Student portfolio documents personal development of advanced management and leadership skills.

**DTCS 525 Nutrition Care Marketing (3)**

Applies marketing concepts to health care-delivery systems and food and nutrition services. Emphasizes strategic market-management approach for developing and evaluating strategies and programs in food and nutrition services. Includes development of a case study in nutrition care marketing.

**DTCS 526 Pharmacology in Medical Nutrition Therapy (2)**

Pharmacology at the graduate level, including kinetics, dynamics, and therapeutics of drugs. Basic definitions, sources of information, classification of drugs, and principles and mechanisms of drug actions. Emphasizes drug-nutrient interactions.

**DTCS 536 Health Care Financial Management (3)**

Management of the nutrition care-management system involving prospective reimbursement and dietitian billing, business plan development, budget development and analysis of budget variances, operation statements, and productivity related to a department budget.

**DTCS 554 Advanced Medical Nutrition Therapy (3)**

Uses case-study approach to apply critical care nutrition to complex medical conditions. Interprets and synthesizes decision information regarding fluid and electrolyte balance, acid-base balance, vital signs, ICU and surgical history, and drug-nutrient interactions. Focuses on problem-based evaluation. Develops and analyzes a clinical case study. Emphasizes geriatric care and the special needs of this population.

**DTCS 574 Advanced Food Systems Management (3)**

Develops competencies in total quality management; quality control; production planning, including forecasting production demand; linear programming; program evaluation and review technique (PERT); productivity management, including line balancing; financial management, including economics; food and labor cost control; budgeting project; and financial analysis of operations. Per week: lecture 3 hours, practicum 3 hours.

**DTCS 575 Food Systems Management (4)**

Develops administrative skills in effective management of food systems. Qualitative and quantitative standards, budget development and analysis, labor-management relations, computer-assisted information system.

**DTCS 576 Exercise Physiology in Medical Nutrition Therapy (3)**

Develops leadership in the development and presentation of exercise programs. Includes exercise-physiology training, acute and chronic effects of exercise, simple assessment of fitness, role of exercise in prevention of common health problems, and management of selected risk factors. Discusses endurance, strength, flexibility, and aerobic exercises. Laboratory included.

**DTCS 578 Clinical Nutrition Affiliation (6, 12)**

As a staff dietitian, student applies knowledge and skills in medical nutrition therapy. Regular conferences to aid in developing advanced level professional competence. Major applied project relating to medical nutrition therapy. Ten-week (400 hours) affiliation. May also be taken for five weeks (200 hours) for 6 units.

**DTCS 579 Capstone Course in Nutrition Care Management (3)**

Develops a systems viewpoint of advanced management skills and application of technology. Advanced application of operations management in nutrition care management; development and application of high ethical standards in all aspects of the profession—including patient care, purchasing, and human-resource management. Delivery of food in emergency or crisis situations. Identification of trends that affect the operation of the department—including sustainable food supplies, organic foods, and modified foods.

**DTCS 696 Nutrition Care-Management Project (6)**

Develops a nutrition care-management project

**EMERGENCY MEDICINE****EMDN 821 Emergency Medicine Clerkship (1.5-3)**

Two-week required rotation of seven eight-hour emergency department (ED) shifts. A variety of Loma Linda University Community Hospital ED, Loma Linda University Medical Center ED, Loma Linda University Children's Hospital ED shifts (pediatric side); and an administrative shift—including time in the radio room, on the triage desk, and with the transport nurse. Didactic sessions include attendance at emergency medicine residency conferences and grand rounds, and one-on-one learning experience with the senior administrative resident each Monday morning. Also included are hands-on suture laboratory, EKG reading tutorial, and case studies in reading common emergency radiographs.

**EMDN 891 Emergency Medicine Elective (1.5-18)**

Two-week or four-week rotation of four eight-hour emergency department (ED) shifts weekly. Shifts include a variety of Loma Linda University Community Hospital ED, Loma Linda University Medical Center ED, Loma Linda University Children's Hospital ED shifts (pediatric side); and an administrative shift—including time in the radio room, on the triage desk, and with the transport nurse. Didactic sessions include attendance at emergency medicine residency conferences and grand rounds, and one-on-one learning experience with the senior administrative resident each Monday morning. Also included are a hands-on suture laboratory, EKG reading tutorial, and case studies in reading common emergency radiographs.

**EMERGENCY MEDICAL CARE****EMMC 308 Pharmacology (3)**

General overview of pharmacology—including pharmacokinetics, pharmacodynamics, and therapeutics of drugs. Basic definitions, sources of information, classification of drugs, and principles and mechanisms of drug actions. Emphasizes prehospital drug categories.

**EMMC 314 ECG Interpretation and Analysis (2)**

Develops basic ECG interpretation skills. Focuses on anatomy and physiology, underlying pathophysiology, and basic rhythm recognition. Overview of related treatments. Emphasizes skills needed by bedside practitioner to differentiate between benign and life-threatening dysrhythmias.

**EMMC 315 Cardiology (3)**

Assists the health care provider to develop assessment skills and to increase knowledge of medical management of the patient with acute and chronic cardiovascular disorders. Focuses on anatomy and physiology, underlying pathophysiology, advanced history taking and physical assessment, cardiovascular pharmacology, electrical modalities, cardiac diagnostic testing, and current research. Emphasizes the emergency care of patients with myocardial infarction and trauma to the cardiovascular system. Assignment includes interaction with cardiac patients and observation of diagnostic studies in the clinical setting.

**EMMC 316 12-Lead ECG Interpretation (2)**

Designed for health care providers who are familiar with basic ECG monitoring and are seeking to learn principles of application and interpretation of the 12-lead system. Emphasizes recognition of the acute myocardial infarction. Additional topics include identifying axis deviation, acute ischemic conditions, electrolyte imbalances, bundle-branch block, and infarct impostors. Practical application of information to bedside care of cardiac patients, emphasizing patient assessment, data collection, and use of the 12-lead to guide rapid intervention. Certificate issued upon successful completion of the course.

Prerequisite: Successful completion of a basic ECG interpretation examination.

**EMMC 325 Current Issues in Emergency Medical Care (2)**

Seminar-style discussion on current issues and controversies in emergency medicine. May include topics such as prehospital use of thrombolytic therapy; managed care; primary-care, advanced scope paramedic practice, etc.

**EMMC 331 Introduction to Theories of Emergency Medical Services (2)**

Introduces prehospital medical services. Roles and responsibilities of paramedics and EMTs. EMS systems design, constraints, and operating problems. EMS environment and scene issues. Medical-legal issues. History and current state of prehospital care and medical oversight.

**EMMC 332 Theories of Emergency Medical Services (2)**

Investigates the dimensions of emergency medical services. Influence of environment on oxygen delivery. Develops paradigms for EMS. Decision making in the constrained environment. Stress models and role theories. Discusses EMS as sequential environments from public health to critical care.

**EMMC 351 Neonatal Resuscitation (1)**

Neonatal anatomy and physiology. Asphyxia and its effects on the newborn. Intubation, medications, and ventilation techniques. Thermoregulation as it relates to resuscitation of the neonate. Skills laboratory for delivery resuscitation, including megacode.

**EMMC 389 Junior Seminars (1)**

Discusses issues of professionalism and career development in the whole-person context; written, oral, and electronic communication; writing and research skills; use of computer resources.

**EMMC 425 Instruction and Curriculum Design in Emergency Services (3)**

Methods of effective instruction and curriculum design for adult learners. Discusses classroom-management techniques and instructional presentation in public education, in-service and continuing education, college classroom, clinical teaching, conferences, and individual guidance. Applies curriculum design theories to development of instructional units and objectives, evaluation procedures, and assessment tools. Introduces learning-experience design, appropriate technology selection, learner-centered handout/syllabus development, and cultivation of respect for diversity in learning.

**EMMC 435 Disasters, WMD, and Terrorism (3)**

Introduces EMS response involving large-scale natural disasters and weapons of mass destruction (WMD). Explores prehospital and hospital treatment. Evaluates current issues facing EMS personnel. Crisis and consequence management, theories of terrorism response, and state and federal resources. Discusses interagency roles, overview of social and psychological aspects, policy development and the media, comparison of response protocols of disaster versus terrorist incidents.

**EMMC 436 Trauma and Surgical Care (2)**

Emergency evaluation, assessment, and care of the trauma patient. Prehospital resuscitation, stabilization, and rapid transport. Overview of traumatic injuries, multisystem trauma, surgical management, and care of the trauma patient. Principles of care of the patient after stabilization and surgery. Discusses kinematics, emerging trends in trauma care, trauma centers, and injury-prevention programs.

**EMMC 444 Diversity in EMS (2)**

A senior-level emergency medical care core-curriculum course designed to expose students to specialty areas of EMS that often are overlooked. Includes wilderness medicine, search and rescue, event/mass-gathering medicine, sports medicine, aeromedical EMS, water-rescue and dive EMS, hazardous materials and toxicology, tactical and forensic EMS, catastrophic and disaster EMS, and international EMS.

**EMMC 445 Perinatal and Pediatric Care (3)**

Emergency evaluation and care of the perinatal and pediatric patient. Cardiac, gastrointestinal, hematologic, renal, and metabolic conditions and treatment. Discusses appropriate versus inappropriate child development and behavior, including developmental stages, temperaments, feeding disorders, sleep disorders, mentally challenged, and attention deficit. Psychosocial aspects of pediatric, child, and adolescent psychiatric disorders.

**EMMC 446 Physical Diagnosis (2)**

Systemic review of assessment techniques utilized in patient assessment. Emphasizes assessment of major body systems. Overview of physical examination techniques and interpretation of findings. Lecture, reading, and discussion of case.

**EMMC 447 Geriatrics and Aging (3)**

A forum for discussing current trends in aging and for identifying the needs of an older population. Discusses psychological and social changes in the older adult. Physiologic process of aging and the medical considerations unique to age. Management of geriatric trauma, medical emergencies, and the impact of chronic diseases. Establishing a social response to aging and viable health care-delivery models for older adults.

**EMMC 448 Advanced Physical Diagnosis and Critical Care (2)**

Advanced assessment techniques utilized in management of critical care patient. Emphasizes interpretation of laboratory tests, chest radiographs, arterial blood gases, and other tests used to evaluate the patient. Theories of mechanical ventilation and oxygen therapy. Administration of aerosol treatments, gases, and gas mixtures. Operation of transport ventilators and intravenous pumps and infusion devices.

**EMMC 451 Health Care Management for Prehospital Providers (2)**

Basic principles of management and how they relate to EMS systems. Federal, state, and local authority for EMS delivery and services, resources for and constraints of EMS systems, relationship to and impact on public safety and health care-delivery systems, interface of public and private organizations, current and future issues.

**EMMC 452 Seminars in EMS Management I (2)**

Management theories applied to EMS management and practice. Public/private sector integration, public/media relations, government relations, stress management, management/leadership-skills development, decision making, performance improvement.

Prerequisite: EMMC 451.

**EMMC 453 Seminars in EMS Management II (2)**

Further applies management theories to EMS management and practice. The quality management process and its relationship to continuous learning, promoting organizational/system change, evaluating effectiveness of performance-improvement projects, strategic planning, and integration of EMS with public safety and public health.

Prerequisite: EMMC 451, EMMC 452.

**EMMC 464 Ethics and Leadership in Emergency Services (2)**

Examines the theory and conceptual framework to view and practice ethical leadership as a collective enterprise. Explores emerging paradigms of leadership. Clarifies and contrasts differing approaches to leadership and leadership development. Compares and contrasts the situational approach of the processes of administration, management, and leadership. Utilizes learner-designated activities to develop a personal philosophy of leadership, assess individual characteristics, and relate those strengths to a leadership situation.

**EMMC 471 Senior Project I (2)**

Project developed, implemented, and evaluated by students for in-depth experience in area of choice. May include research; community projects; and/or education, management, or clinical affiliations. Students work under direct supervision of assigned faculty mentor.

**EMMC 472 Senior Project II (2)**

Continues project developed in EMMC 471.

Prerequisite: EMMC 471.

**EMMC 484 Legal Issues in Health Care (2)**

Introduces the legal system as it pertains to health care professionals. Concepts of malpractice, litigation, consent for and refusal of medical treatment, advanced directives, and patient confidentiality. Discusses employment issues, including discrimination and sexual harassment. Develops health and safety programs per OSHA regulations, risk management, legal issues in vehicle operations and equipment, and EMS and law-enforcement interactions.

**EMMC 489 Senior Seminars (1)**

Discusses issues of professionalism, portfolio development and refinement, short- and long-term goal setting, and development of resume/curriculum vitae. Prerequisite: Senior-level academic status.

Prerequisite: Senior-level academic status.

**EMMC 498 Special Topics (1-4)**

Special topics in emergency medical care.

**EMMC 499 Special Topics Laboratory/Clinical Practicum (1-8)**

Special topics in emergency medical care laboratory and clinical practicum.

Corequisite: EMMC 498.

**ENDODONTICS****ENDN 534 Endodontic Treatment Conference (2)**

Evaluates and discusses diagnosis, treatment planning, prognosis, and outcome of endodontic treatment cases. Repeated registrations required to fulfill the total units.

**ENDN 601 Principles of Endodontics (2)**

Comprehensive study of various aspects of endodontics. Repeated registrations required to fulfill the total units.

**ENDN 604 Literature Seminar in Endodontics (2)**

Reviews literature pertaining to the principles and practice of endodontics. Repeated registrations required to fulfill total units.

**ENDN 654 Practice Teaching in Endodontics (1)**

Supervised teaching in the endodontic preclinical laboratory and predoctoral clinic. Repeated registrations required to fulfill total units.

**ENDN 697A Research (1)**

Student identifies a research project, prepares a protocol, and obtains approval for the protocol. Multiple registrations may be needed to complete these research activities.

**ENDN 697B Research (1, 2)**

Conducting the actual research project, including the data collection. Multiple registrations may be needed to complete these research activities.

**ENDN 698 Thesis (1)****ENDN 725 Clinical Practice in Endodontics (8)**

Provides practice and experience in all aspects of endodontics. Emphasizes obtaining experience in treating complex endodontic cases. Repeated registrations required to fulfill total units.

**ENDN 831 Endodontics I (1)**

Didactic course provides foundational knowledge to prepare the student to manage patients with diseases of pulpal origin.

**ENDN 832 Endodontics II (2)**

The first part of the preclinical laboratory course allows the students to learn basic skills necessary to perform endodontic treatment on permanent teeth with uncomplicated root canal systems. In the second part, students will be able to expand their skills in performing endodontic procedures using more advanced techniques and instruments.

**ENDN 834 Endodontics IV (1)**

Didactic course containing essential information on various topics in endodontics elevates the students' diagnostic and treatment-planning skills.

**ENDN 875 Endodontics Clinic (1)****ENGLISH****ENGL 111 Freshman English (3)**

Reading skills and techniques. Student practices 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 112 Freshman English (3)**

Reading skills and techniques. Student practices 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 113 Freshman English (3)**

Reading skills and techniques. Student practices 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 478 Theory and Application 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.

**ENGLISH AS A SECOND LANGUAGE****ENSL 077 English as a Second Language (2-10)**

Teaches American English to speakers of other languages so that they may use this language for whatever purposes they choose. Meets the needs of English for academic purposes and is also open and adaptable to students with a variety of language needs. Students progress at their own rate as individual language needs in areas such as pronunciation, reading, writing, grammar, and conversation are met. Students expected to have fifteen contact hours for each unit of registration.

**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. Emphasizes appropriate listening and conversation skills, as well as attention to problems arising from the student's native language.

**ENVIRONMENTAL HEALTH****ENVH 414 Introduction to Environmental Health (3)**

Introduces an overview of the major areas of environmental health, such as ecology, environmental law, and population concerns; environmental diseases and toxins; food, water, and air quality; radiation; noise; and solid and hazardous waste.

**ENVH 421 Cartography and Map Design (3)**

Cartographic principles and guidelines, including geodesy, map projections, coordinate and locational systems, scale and distance, direction, vertical factors, mapping methods and techniques, and graphic representation of Earth patterns. Provides the foundation for understanding advanced geospatial technologies including GIS, remote sensing, and global positioning systems.

Cross-listing: ENVH 521.

**ENVH 422 Principles of Geographic Information Systems (4)**

Comprehensive overview of the concepts, functions, applications, technologies, and trends pertaining to automated geographic information systems (GIS). Framework for understanding the design, development, implementation, and management of GIS. Topics include: GIS hardware and software considerations, data resources, technical issues and applications in GIS.

**ENVH 423 Practical Issues in GIS (4)**

Key tasks and issues faced by GIS managers and practitioners responsible for implementing and managing health GIS systems in government or private-sector organizations. Presents sound principles and approaches for GIS implementation, as well as project management and organizational issues, to provide the necessary foundation of information on alternatives and pitfalls. Main topics include: GIS needs assessment, software/hardware considerations, financial and staffing requirements, project-scope delineation, project planning and control, pilot projects.

Prerequisite: Consent of instructor. Cross-listing: ENVH 523.

**ENVH 424 Desktop GIS Software Applications (4)**

Introduces state-of-the-art, PC-based GIS applications. Student acquires the conceptual knowledge as well as the hands-on experience needed to optimally utilize available functions within desktop GIS technology for display, editing, analysis, and presentation of spatial and thematic data. Focuses on ArcView GIS and its analytical extensions.

Cross-listing: ENVH 524.

**ENVH 434 Advanced GIS Software Applications (3)**

Comprehensive overview of the concepts, functions, skills, applications, technologies, and trends of modern remote sensing in environmental and health-data acquisition and analysis; as well as applications in related public health issues. Topics include GIS-based image interpretation and data generation, satellite remote sensing, introduction to IDRISI Kilimanjaro and ERDAS Imagine; as well as other modeling tools, such as ArcGIS Modler, Stella, ArcPAD, GPS, CARTALink, etc.

Prerequisite: Consent of instructor. Cross-listing: ENVH 549.

**ENVH 435 Sources, Capture, and Integration of GIS Data (3)**

Provides overview of some of the technologies and methods used in capturing, processing, integrating, and displaying GIS data. Topics include: global positioning systems, satellite digital imagery, image processing, aerial photography, digital orthophotography, GIS applications for the World Wide Web, and GIS data sources on the Internet. Fundamentals of conceptual and physical design, construction, currency, and integrity of geospatial databases.

Prerequisite: Consent of instructor.



**ENVH 436 Spatial Analysis with GIS (4)**

Focuses on GIS functionality suited for modeling and analyzing complex spatial relationships. Basic functions for the selective retrieval of spatial information and the computation or mapping of statistical summaries. Advanced quantitative methods of spatial statistics for analyzing different data-feature types and data structures, and investigating patterns in spatial data. Main topics include: feature manipulation, distance measurement, spatial overlay, proximity analysis, spatial-correlation analysis, point-pattern analysis, spatial interaction, surface analysis, network analysis, grid analysis, and spatial modeling within GIS.

Prerequisite: Consent of instructor.

**ENVH 437 GIS in Public Health (2)**

Reviews GIS methods and analytical techniques with potential for improving public health research and practice. Fields of public health considered individually. Identifies specific GIS approaches and techniques. Considers specific disciplines, including: epidemiology, health promotion, international health/development, health care administration, environmental health and contamination, and emergency management. Current applications of GIS technology and methods at the international, national, and local levels.

Prerequisite: ENVH 436. Cross-listing: ENVH 537.

**ENVH 498 Health Geographics Senior Project (4)**

Three-quarter senior research or applications project conducted during the student's final academic year. Student demonstrates mastery of spatial analysis skills by assessing relevant public and oral presentations. May be repeated for additional credit. Must have a total of 12 units. Paper and oral presentation required during final quarter of registration.

**ENVH 499 Directed Study/Special Project (1-4)**

Individual arrangements for undergraduate, upper division students to study under the guidance of a program faculty member. May include readings, literature review, or other special projects. Minimum of thirty hours required for each unit of credit. A maximum of 4 units applicable to any undergraduate degree program.

**ENVH 509 Principles of Environmental Health (3)**

Rural and urban environmental factors that affect human-health status, enjoyment of the quality of life, and human survival. Focuses within a framework of air, water, food quality, residential environments, industrial sites, recreational patterns, and environmental risk avoidance. Stresses prevention of disease and promotion of healthful environments. Not applicable toward a major in environmental health.

**ENVH 515 Food Quality Assurance (3)**

Principles and techniques of quality assurance for food preparation and prevention of food-borne diseases. Sanitary and safe preparation, storage, transportation, and handling of foodstuffs and products—both commercially and residentially. Criteria and practical methodology of inspection and surveillance techniques, facilities design, and plan checking. Food degradation, contamination, additives, and toxicants. Performance criteria for food handlers, with application to environmental techniques in education, enforcement, and consultation. Field trips.

Prerequisite: Program prerequisite courses or written consent of program advisor.

**ENVH 521 Cartography and Map Design (2)**

Map design and content, design procedures, production techniques, color selection, use of text, creation of visual hierarchy and visual balance. Explores thematic and general mapping with use of GIS data for mapping purposes. Discusses ArcGIS software. Map critiquing. Provides the foundation for understanding advanced geospatial technology, including GIS, remote sensing, and global positioning systems.

Prerequisite: Consent of instructor.

**ENVH 522 Principles of Geographic Information Systems and Science (3)**

Comprehensive overview of the concepts, functions, applications, technologies, and trends pertaining to automated geographic information systems (GIS). Topics include: GIS hardware and software considerations, data resources, technical issues and applications in GIS.

Cross-listing: ENVH 422.

**ENVH 523 Practical Issues in GIS (3)**

Key tasks and issues faced by GIS managers and practitioners responsible for implementing and managing health GIS systems in government or private-sector organizations. Presents sound principles and approaches for GIS implementation, as well as project management and organizational issues, to provide the necessary foundation of information on alternatives and pitfalls. Main topics include: GIS needs assessment, software/hardware considerations, financial and staffing requirements, project-scope delineation, project planning and control, pilot projects.

Prerequisite: Consent of instructor. Cross-listing: ENVH 423.

**ENVH 524 GIS Software Applications and Methods (3)**

Project-oriented course introduces state-of-the-art, PC-based GIS technology and applications. Provides the conceptual knowledge and hands-on experience needed to optimally utilize available functions within desktop GIS technology for modeling, displaying, editing, analyzing, and presenting spatial and thematic data. Focuses on ArcGIS and its analytical extensions, as well as Leica Geosystems ERDAS Imagine.

Cross-listing: ENVH 424.

**ENVH 525 Special Topics in Environmental and Occupational Health (1-4)**

Lecture and discussion on a current topic in environmental and occupational health. May be repeated for a maximum of 4 units applicable to degree program.

Prerequisite: Consent of instructor.

**ENVH 526 Seminar in Geographic Information Systems (1)**

Covers various aspects of GIS technology and its applications to health that might otherwise be excluded from the usual and customary health geoinformatics academic curriculum. Topics of interest include metadata creation and management, health geoinformatics spatial data infrastructure, data interoperability, and mobile mapping technology. Presenters with specific expertise invited to cover areas of interest.

**ENVH 527 Geospatial Technologies for Emergency Preparedness and Management (3)**

Applies geospatial data, tools, and methods to preparedness and emergency management. Examines the current status of the use of geospatial data, tools, and infrastructure in preparedness and disaster management. Explores approaches for the effective integration of existing geospatial tools into the framework of emergency preparedness and management; strategies for improving geospatial decision support in this field; and various other issues related to data availability, security, and policies. Emphasizes technology application.

Prerequisite: ENVH 524; prior knowledge of GIS.

**ENVH 535 Integration of Geospatial Data in GIS (2)**

Surveys capturing, processing, integrating, and displaying GIS data. Focuses on public health applications of global positioning systems, satellite digital imagery, image processing, aerial photography, digital orthophotography, GIS applications for the World Wide Web, and GIS data sources on the Internet.

Prerequisite: Consent of instructor.

**ENVH 536 Spatial Analytic Techniques and GIS (3)**

Modeling and analyzing complex spatial relationships through GIS technology. Selective retrieval of spatial information and computation or mapping of statistical summaries. Advanced methods of analysis using spatial statistics.

Prerequisite: Consent of instructor.

**ENVH 537 Health Care Geographics (2)**

GIS in health services research and the health care sector. Introduces GIS-based methods of mapping, modeling, and analyzing issues, such as patients' access to health care and services, locating new medical facilities and health services, delineating medical service areas and consumer markets. Presents emerging applications of GIS to the scale of individual facilities and the mapping of the human body itself.

**ENVH 539 GIS Applications in Environmental Health (2, 3)**

GIS display, modeling, and analysis of environmental hazards/toxicants, as well as population's exposure to environmental contaminants. Includes geography and modeling of hazard sources, hazard surveillance, spatial characterization/modeling of contamination and GIS-enhanced risk assessment/management. Considers the use of GIS for managing public health safety problems. Presents current applications of GIS in environmental health and disaster/emergency response. Third unit requires additional GIS project that includes substantial analysis of environment data and discussions of results through written and oral presentation.

Prerequisite: ENVH 524 or ENVH 536; or consent of instructor.

**ENVH 546 Introduction to Spatial Epidemiology (2)**

Provides overview of GIS-based mapping and statistical methods for describing, displaying, quantifying, and modeling spatial variations in disease, especially with respect to exposures at the small-area scale. Main topics include disease mapping, analysis of spatial clustering of health events, disease surveillance, and ecological modeling. Presents currently implemented spatial epidemiologic applications at the international, national, and local levels.

**ENVH 547 GIS for Public Health Practice (2)**

Community health assessment and planning, chronic-disease prevention, public health, health-disparities analysis, and immunization.

Prerequisite: Consent of instructor.

**ENVH 549 Remote Sensing Applications in the Health Services (3)**

Comprehensive overview of the concepts, functions, skills, applications, technologies, and trends of modern remote sensing in environmental and health data acquisition and analysis, as well as applications in related public health issues. Topics include GIS-based image interpretation and data generation, satellite remote sensing, remote sensing applications, and case studies in public health. Software tools used include introduction to IDRISI Kilimanjaro and ERDAS Imagine; as well as other modeling tools such as ArcGIS, STELLA, ArcPAD, GPS, CartaLinx, etc.

Prerequisite: Consent of instructor.

**ENVH 555 Advanced Remote Sensing Application and Systems Modeling in Health and Earth Science (3)**

Introduction to "systems science" as both a conceptual approach to analysis and as a methodology for enhancing research and application within the environment, health, and earth systems. Provides students with fundamental knowledge of dynamic modeling tools, particularly focused on using STELLA and iThink (from Isee Systems); as well as other tools that integrate spatial and nonspatial datasets, e.g. ArcModeler, Geode, TerraVIVA, Netweaver, and various SAS tools, etc. Applies "systems thinking and analysis" to specific interdisciplinary issues within public health and other applied sciences.

Prerequisite: Consent of instructor.

**ENVH 557 Geographical Techniques for Health and Environmental Analysis (3)**

Geographic tools for graphic display and spatial analysis of international and U.S. domestic health, epidemiological health services, and environmental health problems and issues. How geographical information systems (GIS); desktop mapping; geocoded, computerized databases and medical geographical applications are used in health and environmental planning, decision making, and research.

**ENVH 558 Global Environmental Health (2)**

Global implications of human impact on terrestrial, atmospheric, and marine environments. Considers dilution and dispersion of pollutants, climatic changes, endangered species, desertification, deforestation, vehicle emissions, free-trade agreements, renewable resources, and export of hazardous industry to developing nations. Impact of political, economic, and cultural factors on present and future mitigation strategies.

**ENVH 559 Environmental Health for Developing Countries (3)**

Major challenges associated with environmental health and hygiene practices in developing nations. Water-resource development/operations and maintenance, infection and disease-vector control, pesticide management, food quality and availability, solid-waste management, uncontrolled urban settlements, occupational health, and the implications of localized atmospheric pollutants.

**ENVH 566 Outdoor Air Quality and Human Health (3)**

Sources and characteristics of air pollutants and their effects on humans and human environment. Methods used in sampling of pollutants, controls, and abatement of air-quality standards violations.

Prerequisite: Program prerequisite courses; or written consent of program advisor.

**ENVH 567 Hazardous Materials and Solid-waste Management (3)**

Production, collection, transportation, treatment, recycling, and disposal of solid wastes and hazardous materials. Toxic effects and hazard-producing characteristics of these materials; and the process of disposal-site design, siting, and operation.

Prerequisite: Program prerequisite courses; or written consent of program advisor.

**ENVH 568 Water Quality Assurance (3)**

Principles and processes involved in providing safe and adequate water supplies. Water-source development, quantity and quality assurance, source and system design, and inspection parameters. Protection of water sources from contamination; and the abatement of, and correction techniques applied to, degraded water quality. Potable water supplies, fresh and saline bodies of water, and municipal liquid-waste disposal.

Prerequisite: Program prerequisite courses; or written consent of program advisor.

**ENVH 569 Environmental Sampling and Analysis (4)**

Practical laboratory experience that serves as an introduction to techniques used in measurement and evaluation of environmental health problems. Techniques pertinent to air, water, and food sanitation. Occupational stressors and radiological health.

Prerequisite: Program prerequisite courses; or written consent of program advisor.

**ENVH 575 Indoor Air Quality (3)**

Social and technical factors associated with nonindustrial, indoor air-quality issues. Ventilation, source assessment, complaint investigations, control measures, sanitation, building design, enforcement criteria, and case studies.

Prerequisite: Microbiology or consent of instructor.

**ENVH 578 Principles of Occupational Health (3)**

Issues related to the effects of occupational exposures on health and safety of workers. Principles of preplacement evaluations, biological and environmental monitoring of hazards, surveillance testing, and disease/injury prevention and treatment.

**ENVH 579 Occupational Health Management (3)**

Planning, implementing, and evaluating health programs in occupational settings. Principles of case management, cost containment, worker evaluation and placement, referrals, and rehabilitation. Current legislation, regulations, and legal issues.

**ENVH 581 Principles of Industrial Hygiene (3)**

Introductory course in industrial hygiene. Industrial/occupational health, hygiene and safety, philosophy, legislation, and regulation.

Prerequisite: Program prerequisite courses; or written consent of program advisor.

**ENVH 585 Institutional Environmental Health (3)**

Biological and chemical methods for identifying and controlling the environmental factors influencing health in institutional sites, hospitals, acute- and extended-care facilities, foster- and day-care sites, correctional institutions, schools, and other related institutions. Includes epidemiology and etiology of hospital-acquired infections and their control.

**ENVH 586 Environmental Health Administration (3)**

Introduces the administration and management of organizations involved in environmental health within the context of the health care system. Provides an overview of regulatory and policy issues, applicable statutes, and emerging management systems.

**ENVH 587 Environmental Toxicology (3)**

Principles and mechanisms of toxicology as applied to environmentally encountered toxic agents. Toxicants of current public health importance and their pathologic effect on representative tissues and organs. Dose-response relationships; hazard and risk assessment; and determination of toxicity of environmental carcinogens, teratogens, mutagens, pesticides, metals, plastics, and organic solvents.

Prerequisite: Program prerequisite courses; or written consent of program advisor.

**ENVH 589 Environmental Risk Assessment (3)**

Principles and methods of risk assessment associated with human exposure to toxic chemicals and other environmental hazards. Quantitative risk-assessment methodologies and approaches. Ecological risk assessment; risk management issues involved in taking appropriate public health action; risk communication, acceptability, and perception; and informational resources.

**ENVH 605 Seminar in Environmental and Occupational Health (1)**

Areas of current interest. May be repeated for additional credit.

**ENVH 694 Research (1-14)**

Independent research on problems currently receiving study in the department. Research program arranged with faculty member(s) involved. Minimum of thirty hours required for each unit of credit. Limited to qualified master's degree students.

Prerequisite: Consent of instructor responsible for supervision and of program advisor.

**ENVH 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.

Prerequisite: Consent of instructor responsible for supervision and of program advisor.

**ENVH 698 Laboratory (1-6)**

Individual and/or group arrangements for selected students to participate in a structured laboratory experience in specified areas of environmental health.

Prerequisite: Consent of instructor responsible for supervision and of program advisor.

**ENVH 699 Applied Research (2)**

Assignment to private, government, international, or voluntary health agency or other approved organization where practical application of the materials studied on campus is made under the guidance of the department faculty and the organization involved. Research project that includes substantial analysis of data and discussion of results. Written report and oral presentation required.

Prerequisite: Consent of department advisor and of instructor(s) for responsible supervision.

**ENVH 797 MIP Residency in Environmental Health (12)**

Individual guided study in operational field practice under faculty supervision. Limited to graduate students in the ENVH Master's International Program (M.P.H. /MIP) whose projects have been approved by their committees.

**ENVH 798A Field Practicum (6)**

Assignment to private, government, international, or voluntary health agency or other School of Public Health-approved organization in which practical application of the materials studied on campus is made under the guidance of the department faculty and the organization involved. May consist of a research project. May be repeated for additional credit.

Prerequisite: Course requirements; and consent of instructor(s) responsible for supervision and of program advisor.

**ENVH 798B Field Practicum (12)**

Assignment to private, government, international, or voluntary health agency or other School of Public Health-approved organization in which practical application of the materials studied on campus is made under the guidance of the department faculty and the organization involved. May consist of a research project. May be repeated for additional credit.

Prerequisite: Course requirements; and consent of instructor(s) responsible for supervision and of program advisor.

**ENVIRONMENTAL SCIENCES****ENVS 401 Earth System Science and Global Change I (4)**

Part I of a two-quarter sequence that takes a systems-level approach to understanding environmental issues. Explores the dynamic biogeophysical processes in the geosphere and hydrosphere. Focuses on acquiring an interdisciplinary understanding of the basic principles and concepts of earth system science and the human dimensions of global environmental change.

**ENVS 402 Earth System Science and Global Change II (4)**

Part II of a two-quarter sequence that takes a systems-level approach to understanding environmental issues. Explores the dynamic biogeophysical processes in the atmosphere, biosphere, and sociosphere. Focuses on acquiring an interdisciplinary understanding of the basic principles and concepts of earth system science and the human dimensions of global environmental change.

**ENVS 434 The Environmental Context of Community Health (3)**

Studies the biological, ecological, and human environmental factors of a region; and of community health and how environmental factors affect it. Students engage local communities, learn about local ecology and health issues, and participate in ongoing projects that build on community assets and address the key needs. Includes dialogue with community partners as they consider interventions to improve the health of their communities, along with possible implementation strategies. Initial meeting on Loma Linda University campus, followed by three weeks of on-site environmental and community health study in a developing country.

**ENVS 455 Environmental Law and Regulation (4)**

Introduces local, state, federal, and global laws and policies regarding the use, ownership, protection, and regulation of natural resources. Emphasizes understanding of the decision-making process behind the rights and limits of private, public, and governmental parties when utilizing or protecting natural resources.

**ENVS 475 Field Practicum: Applied Environmental Sciences (4)**

Students and teachers working together in the field apply geospatial tools, environmental and conservation science methods and concepts, and social policy analytical frameworks to sustainability problems within a given ecosystem, community, or region. Study includes both domestic and international locations, e.g., Mesoamerica, the U.S. Southwest, southern California, etc.

**ENVS 485 Seminar in Environmental Sciences (1)**

Selected topics dealing with recent developments. May be repeated for additional credit.

**ENVS 487 Internship in Environmental Sciences (4, 8)**

Working under the joint supervision of a faculty member and an off-campus sponsor, student develops an environmental sciences academic component within the internship. Student also participates directly in the maintenance or conservation of the environment. May be repeated for additional credit for up to 8 units.

Prerequisite: Internship and registration approval by a faculty member in the Department of Earth and Biological Sciences.

**ENVS 488 Topics in Environmental Sciences (1-4)**

Reviews current knowledge in specified areas of environmental sciences. Registration indicates specific topic to be studied. May be repeated for additional credit. Offered on demand.

**ENVS 495 Special Projects in Environmental Sciences (1-4)**

Special project in the field, laboratory, or library under the direction of a faculty member. May be repeated for additional credit.

**ENVS 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.

**ENVS 534 The Environmental Context of Community Health (3)**

Studies the biological, ecological, and human environmental factors of a region; and of community health and how environmental factors affect it. Students engage local communities, learn about local ecology and health issues, and participate in ongoing projects that build on community assets and address the key needs. Includes dialogue with community partners as they consider interventions to improve the health of their communities, along with possible implementation strategies. Initial meeting on Loma Linda University campus, followed by on site environmental and community health study in a developing country.

**EPIDEMIOLOGY****EPDM 414 Introduction to Epidemiology (3)**

Methods and strategies used to investigate distribution, determinants, and prevention of disease in human populations. Disease classification, measures of disease frequency and relative effect, and methods used to isolate effects. Assessments of environmental conditions, lifestyles, and other determinants of disease. Interpretation of results and statistical associations. Critical evaluation of scientific literature. Student presents personal literature study. Laboratory included.

Prerequisite: STAT 414\* (\*may be taken concurrently).

**EPDM 509 Principles of Epidemiology I (3)**

Outlines the principles and methods used to investigate the distribution, determinants, and prevention strategies for disease in human populations. Major topics include measures of disease frequency, measures of effect, measures of potential impact, comparison and contrast of study designs, methods to control confounding and assess causation, statistical significance testing, screening for latent disease, and interpretation of results. Laboratory included.

Prerequisite: STAT 509\* or STAT 521\* or STAT 505 (\*may be taken concurrently).

**EPDM 510 Principles of Epidemiology II (3)**

Continues exploring topics in cumulative incidence, incidence rates (density), hazard rates, matching, stratified analysis, confounding, interaction, and validity. Includes topics on Mantel-Haenszel relative-effect measures; statistical power; confidence intervals; sample size; and least-significant, relative-risk measures. Covers sources of information bias, selection bias, incidence-prevalence biases, and confounding in epidemiologic studies—including quantitative measures to assess and correct for these biases (i.e., correlation analysis, Bland Altman plot, intraclass correlation coefficient, Cohen's kappa, sensitivity analysis, correction for measurement error in the gold standard, selection ratios). Laboratory includes EPI INFO, SAS, and other computer programs; as well as problem sets used in applied epidemiology.

Prerequisite: EPDM 509.

**EPDM 511 Advanced Epidemiologic Methods (2)**

Studies complex epidemiologic models found in current epidemiology literature. Course topics include: analysis of study design, bias and misclassification, building a linear model for epidemiologic inference, logistic regression analysis, and analytic strategies used in epidemiologic analysis of complex data sets. Laboratory component of course involves microcomputer analyses of epidemiologic data sets.

Prerequisite: EPDM 510, STAT 521.

**EPDM 512 Multivariate Modeling in Epidemiology (1, 3)**

The third course in epidemiologic methods. Focuses on methods of multivariable modeling common in biomedical data analysis. Covers the theory of these models in lectures on generalized linear models and maximum likelihood methods. Emphasizes use of the logistic regression model to analyze data from case-control studies (simple, nested, matched-pair), cohort studies, and prevalence surveys. Poisson regression techniques. Principles of multivariable model building (variable selection, variable specification, trend testing), model diagnostics (influence, fit), and the power/sample size needed to fit these models. Basic nonparametric survival analysis (hazard [instantaneous, cumulative] and survival [instantaneous, cumulative] functions). Provides the basis for lectures on multivariate survival analyses using the Cox proportional hazard model. Models nonproportional hazards. Laboratory exercises include analysis of epidemiologic data sets in SAS.

Prerequisite: EPDM 509, STAT 522.

**EPDM 515 Clinical Trials (3)**

Theory and practice of intervention studies, including community and clinical trials. Design, analysis methods, randomization, masking schemes, management of complex trials, ethical considerations, and meta analysis. Laboratory includes: power calculations, interpretation of published reports, randomization, and design of trials.

Prerequisite: EPDM 509\* (\*may be taken concurrently).

**EPDM 525 Special Topics in Epidemiology (1-4)**

Lecture and discussion on a current topic in epidemiology. May be repeated for a maximum of 4 units applicable to degree program.

Prerequisite: EPDM 509\* (\*may be taken concurrently).

**EPDM 534 Epidemiology of Maternal-Child Health (3)**

Applies epidemiologic issues to maternal and child health topics, emphasizing analysis and interpretation of data. Introduces key studies and standard data sets used to describe and compare maternal and child health outcomes both domestically and globally. Includes framework for critical review of studies in the field. Limited to maternal and child health, epidemiology, and doctoral students; or consent of instructor.

Prerequisite: EPDM 509, (STAT 509 or STAT 521).

**EPDM 544 Epidemiology of Infectious Disease (3)**

Epidemiology of major acute and chronic infectious diseases worldwide. Characteristics of host, agent, environment. Immunity of individuals and populations. Methods of control and eradication. Types of epidemics. Experimental, serological, and analytical techniques used in epidemiology of infectious disease.

Prerequisite: EPDM 509.

**EPDM 555 Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement (3)**

Epidemiologic methods of outcomes research and continuous quality-improvement techniques in medical care processes. Medical care as a process, use of control charts in process improvement, measurement of quality of care, and patient satisfaction with medical care. Cost benefit, cost effectiveness, cost utility, and decision-tree analysis applied to medical care and public health. Laboratory includes: demonstration of process control charts, flow charts, Pareto diagram, decision tree, and data scanning.

Prerequisite: EPDM 509 or EPDM 510.



**EPDM 564 Epidemiology of Chronic Diseases (3)**

Critical review of the epidemiology of the leading chronic diseases, including cardiovascular disease, cancer, and diabetes. Acquaintance with coding systems for the diseases. Emphasizes research and health-promotion issues that relate to control and prevention of these diseases. Acquaintance with experimental designs and analytic techniques commonly used in chronic disease epidemiology. Experimental and epidemiologic evidence relating risk factors such as diet, smoking, exercise, and biologic variables; as well as interactions between genes and environment to these chronic diseases. Incidence, secular trends, burden, mortality, survival, and surveillance as they relate to chronic diseases. Brief overview of anatomy, pathology/morphology of these diseases.

Prerequisite: EPDM 509\* (\*may be taken concurrently).

**EPDM 565 Epidemiology of Cancer (3)**

Critically reviews epidemiology of the major causes of cancer death in developed nations, including anatomic (ICD-9 and ICD-0-2/3) and morphologic/pathogenic (ICD-0-2/3) classifications schemes. Emphasizes research and health-promotion issues that relate to control and prevention of cancer. Topics include pathology vocabulary; multistage model of carcinogenesis; sources of cancer data; validity and value of population measures of cancer; magnitude of the cancer problem; trends in cancer frequency, incidence, burden, mortality, and survival; surveillance objectives and methods; consistent risk and protective factors for major cancer types; the role of infectious diseases in cancer etiology and progression; nutrition and cancer; screening objectives, recommendations, and controversies; and interactions.

Prerequisite: EPDM 509.

**EPDM 566 Epidemiology of Cardiovascular Disease (3)**

Descriptive epidemiology of the major cardiovascular diseases, including: myocardial infarction, sudden death, angina pectoris, hypertension, and stroke. Acquaintance with experimental designs and analytic techniques commonly used in cardiovascular epidemiology. Experimental and epidemiological evidence relating risk factors such as diet, smoking, blood lipids, blood pressure, and exercise to cardiovascular diseases. Acquaintance with the design and results of the major intervention studies.

Prerequisite: EPDM 509.

**EPDM 567 Epidemiology of Aging (3)**

Global demographic trends, determinants, and measures of population-age structure. Health, morbidity, disability, and mortality; comprehension of morbidity and mortality; mechanisms, biomarkers, and genetics of aging. Aging research: surveys, clinical trials, and ethics. Chronic conditions/diseases (i.e., dementia, musculoskeletal conditions, osteoporosis, obesity, diabetes, cardiovascular disease); risk factors (i.e., diet, smoking, physical activity); and prevention. Economic aspects, drug use. Laboratory includes critical evaluation of current literature reports.

Prerequisite: (EPDM 509\* or EPDM 510\*), (STAT 509\* or STAT 521\*) (\*may be taken concurrently).

**EPDM 568 International Epidemiology (2)**

Introduces research methods for conducting global health surveys using complex sampling techniques (cluster sampling, lot quality-assurance sampling). Exercises include data analysis and programming with EPI INFO, survey design, and geographic information systems.

Prerequisite: EPDM 509, (STAT 509 or STAT 521).

**EPDM 588 Environmental and Occupational Epidemiology (3)**

Evaluates epidemiologic principles and methodologic approaches used in the assessment of environmental exposure, selection of applicable study designs, and determination of analytic methods used in the investigation of environmental health problems within populations. Epidemiologic analysis of selected and controversial environmental exposures that impact significantly on public health practice and on disease morbidity and mortality outcomes.

Prerequisite: (EPDM 509 or EPDM 510), (STAT 509 or STAT 521).

**EPDM 605 Seminar in Epidemiology (1)**

Presentations and discussions of topics of current interest in epidemiology. Students work in groups on topics selected at the beginning of a quarter. Requires a written report and oral presentation at the completion of a project. Seminar facilitates maximal interaction among doctoral students and faculty to facilitate professional development. Doctoral students required to enroll Fall Quarter each year they are in the program, but attendance and participation are required Fall, Winter, and Spring quarters.

Prerequisite: EPDM 509; doctoral degree status or consent of instructor.

**EPDM 625 Special Topics in Epidemiology (1-3)**

Lecture and discussion on a current topic in epidemiology. May be repeated for a maximum of 6 units applicable to degree program. Recommended for doctoral students.

Prerequisite: EPDM 509.

**EPDM 635A Epidemiological Studies of Seventh-day Adventists A (1)**

Background, objectives, methodologies, results, and public health implications of most epidemiological studies conducted on Seventh-day Adventists worldwide, but especially in California. Data on the health behaviors and health/disease experience of this low-risk population. Discussion of potential biases and other issues.

Prerequisite: EPDM 509\* (\*may be taken concurrently).

**EPDM 635B Epidemiological Studies of Seventh-day Adventists B (1)**

Discusses methodological issues pertinent to studies of Adventists, including the evidence for the longevity of California Adventists. Student critically evaluates current literature on epidemiologic studies of Adventists—including a thorough discussion of lifestyle, selection, and survival hypotheses—and presents findings during a discussion session. Student writes a scholarly paper on one topic relevant to epidemiologic studies among Adventists.

Prerequisite: EPDM 635A\* (\*may be taken concurrently).

**EPDM 682A Seminar in Preventive Medicine (1)**

Provides an overview of preventive medicine topics. Includes a framework for critical review of scientific literature, as well as opportunities to develop additional necessary professional skills. General guidance in development of a research project, including design, analysis, and interpretation. Restricted to preventive medicine residents.

**EPDM 682B Seminar in Preventive Medicine (1)**

Provides an overview of preventive medicine topics. Includes a framework for critical review of scientific literature, as well as opportunities to develop additional necessary professional skills. General guidance in development of a research project, including design, analysis, and interpretation. Restricted to preventive medicine residents.

Prerequisite: EPDM 509\*, (STAT 509\* or STAT 521\*) (\*may be taken concurrently).

**EPDM 682C Seminar in Preventive Medicine (1)**

Provides an overview of preventive medicine topics. Includes a framework for critical review of scientific literature, as well as opportunities to develop additional necessary professional skills. General guidance in development of a research project, including design, analysis, and interpretation. Restricted to preventive medicine residents.

Prerequisite: EPDM 509\*, (STAT 509\* or STAT 521\*) (\*may be taken concurrently).

**EPDM 682D Seminar in Preventive Medicine (1)**

Provides an overview of preventive medicine topics. Includes a framework for critical review of scientific literature, as well as opportunities to develop additional necessary professional skills. General guidance in development of a research project, including design, analysis, and interpretation. Restricted to preventive medicine residents.

**EPDM 683A Preventive Medicine in Public Health (1)**

Includes advanced concepts in epidemiology, as necessary for the public health medical professional. Provides a supervised opportunity for development of leadership and presentation skills. Restricted preventive medicine residents.

Prerequisite: EPDM 509\*, (STAT 509\* or STAT 521\*) (\*may be taken concurrently).

**EPDM 683B Preventive Medicine in Public Health (1)**

Includes advanced concepts in epidemiology, as necessary, for the public health professional. Provides a supervised opportunity for development of leadership and presentation skills. Restricted to preventive medicine residents.

Prerequisite: EPDM 509\*, (STAT 509\* or STAT 521\*) (\*may be taken concurrently).

**EPDM 683C Preventive Medicine in Public Health (1)**

Includes advanced concepts in epidemiology, as necessary, for the public health professional. Provides a supervised opportunity for development of leadership and presentation skills. Restricted to preventive medicine residents.

Prerequisite: EPDM 509\*, (STAT 509\* or STAT 521\*) (\*may be taken concurrently).

**EPDM 683D Preventive Medicine in Public Health (1)**

Includes advanced concepts in epidemiology, as necessary, for the public health professional. Provides a supervised opportunity for development of leadership and presentation skills. Restricted to preventive medicine residents.

**EPDM 685 Preliminary Research Experience (2)**

Experience gained in various aspects of research under the guidance of a faculty member and by participation in an ongoing project. Must be completed prior to beginning dissertation research project. Limited to doctoral degree students.

**EPDM 692 Research Consultation (1-4)**

Individual advice on project design, data collection, analysis, and evaluation. Restricted to School of Public Health students and staff.

**EPDM 694 Research (1-14)**

Independent epidemiologic research. Research program arranged with faculty member(s) involved. Written report and oral presentation required.

Prerequisite: Consent of instructor responsible for supervision and of academic advisor.

**EPDM 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.

Prerequisite: Consent of instructor responsible for supervision and of program advisor.

**EPDM 698 Dissertation (1-14)**

Student prepares manuscript presenting results of doctoral research study. Limited to doctoral degree candidates.

**EPDM 699A Applied Research (1)**

Assignment to private, government, international, or voluntary health agency or other department-approved organization where practical application of the materials studied on campus is made under the guidance of the department faculty and the organization involved. Research project that includes substantial analysis of data and discussion of results. Written report and oral presentation required.

**EPDM 699B Applied Research II (1)**

Assignment to private, government, international, or voluntary health agency or other department-approved organization where practical application of the materials studied on campus is made under the guidance of the department faculty and the organization involved. Research project that includes substantial analysis of data and discussion of results. Written report and oral presentation required.

**EPDM 699C Applied Research III (1)**

Assignment to private, government, international, or voluntary health agency or other department-approved organization where practical application of the materials studied on campus is made under the guidance of the department faculty and the organization involved. Research project that includes substantial analysis of data and discussion of results. Written report and oral presentation required.

**EPDM 699D Applied Research IV (1)**

Assignment to private, government, international, or voluntary health agency or other department-approved organization where practical application of the materials studied on campus is made under the guidance of the department faculty and the organization involved. Research project that includes substantial analysis of data and discussion of results. Written report and oral presentation required.

**EPDM 798 Field Practicum (1-4)**

Prerequisite: EPDM 511.

**EARTH SYSTEM SCIENCE****ESSC 541 Remote Sensing in the Social, Health, and Biosciences (4)**

Provides students fundamental, modern, remote sensing knowledge and skills for environmental data acquisition and analysis; as well as applications in related social, earth, health, and biosciences. Topics include GIS-based image interpretation and spatial data generation; satellite remote sensing applications; and case studies in sustainable development, social policy, health, and biosciences. Spatial analysis software tools used include Clark Laboratories' IDRISI Kilimanjaro and Leica-Geosystems' ERDAS Imagine; as well as ArcPAD, ArcGIS, GPS/Garmin-Recon.

Prerequisite: Consent of the instructor. Cross-listing: ESSC 441.

**FAMILY MEDICINE****FMDN 599 Directed Elective Study (1.5-18)****FMDN 701 Family Medicine Clerkship (1.5-6)**

Students spend a four-week rotation in family practice clinical setting. Assignments vary and may be with community physicians or in residency-based clinics. Emphasizes integrating biomedical, psychosocial, and spiritual issues, as well as appropriate preventive care. An OSCE is given at the end of every twelve-week block in conjunction with pediatrics.

**FMDN 821 Family Medicine Subinternship (1.5-6)**

Students spend four weeks participating as members of the Family Medicine Inpatient Service team providing patient care at Loma Linda University Community Medical Center and affiliated hospitals, and two afternoons seeing patients in a residency-based outpatient clinic.

**FMDN 891 Family Medicine Elective (General Family Medicine) (1.5-18)**

Students work with Loma Linda Family Practice faculty to provide both inpatient and outpatient care.

**FAMILY STUDIES****FMST 504 Advanced Family Studies (4)**

A 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.

**FMST 505 Social Research Methods: Quantitative (3)**

Analyzes 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 (3)**

Qualitative methodology. Prepares 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.

**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. Student becomes familiar 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 517 Hispanic Family: Theory and Research (3)**

Covers three areas pertaining to Hispanic family issues. Covers a psycho-sociocultural theoretical framework; explores an array of issues (e.g., acculturation, biculturalism, values development, crisis and conflict); develops a model for understanding the multicultural family in the U.S.A. based on Hispanic family experiences.

**FMST 518 Advanced Theories in Child Development (3)**

Examines child development from the perspectives of family systems, symbolic interactionism, structural functionalism, family development, social construction, and others. Investigates theories and stages of development—from birth through adolescence—from classical and contemporary literature in the physical, cognitive, language, social, emotional, and moral development domains.

**FMST 519 Teaching in Higher Education (2)**

Discusses theory, techniques, and processes in the teaching of MFT, including an examination of didactic and experiential techniques.

Cross-listing: MFTH 519.

**FMST 524 Family Resource Management (2)**

Challenges of health care costs, child care, 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 525 Sociology of the Family (2)**

Studies the structure, function, and changing patterns of families in society; the relationships between family problems and changes in society, and their impact on children.

**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. Emphasizes family roles, communication, conflict resolution, values development, and parenting-skill development.

**FMST 529 Family Life Education (3)**

Systematic comparative analysis of the historical development, theoretical perspectives, types of programs, and research in family-life studies.

**FMST 577 Family Life Workshop (2)****FMST 601 Statistics I (4)**

Introduces 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.

Cross-listing: MFTH 601.

**FMST 602 Statistics II (4)**

Broad introduction using linear (matrix) algebra to maximize 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; also evaluates alternatives to maximum likelihood estimation.

Prerequisite: MFTH 601 or FMST 601. Cross-listing: MFTH 602.

**FMST 603 Statistics III (4)**

An advanced course in multivariate statistics that includes topics such as multidimensional scaling, cluster analysis, factor analysis, path analysis, structural equations modeling, log-linear modeling, time-series analysis, and hierarchical linear models. Focuses on understanding these advanced techniques and their application to data analysis.

Prerequisite: MFTH 602 or FMST 602. Cross-listing: MFTH 603.

**FMST 604 Advanced Qualitative Methods (4)**

An overview of qualitative methods and their application to research of marriage and family therapy. Includes an examination of ethnographics, naturalistic inquiry, phenomenological research, the grounded theory approach, and narrative inquiry.

Cross-listing: MFTH 604.

**FMST 605 Advanced Quantitative Methods (4)**

An advanced overview of quantitative research methods in marriage and family therapy, including experiments and quasi-experiments, survey methodology, and outcome studies.

Cross-listing: MFTH 605.

**FMST 608 Analysis and Presentation Issues in 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. Emphasizes problems of coherently and succinctly presenting research results in proposals, posters, brief reports, and articles.

Cross-listing: MFTH 608.

**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 668 Qualitative Research Practicum (2)**

Provides students with practical experience in conducting and evaluating qualitative research. Emphasizes methods of analysis and presentation of the research. Students review a manuscript that is ready for submission to an academic journal and critically analyze the work of others.

Cross-listing: MFTH 668.

**FMST 684 Doctoral Seminar (1)**

Students develop and refine their dissertation proposals through presentation and discussion with faculty and other students in a workshop format. Dissertation proposal is an expected outcome of this series of courses.

Cross-listing: MFTH 694.

**FMST 694 Directed Study: Family Studies (1-3)****FMST 695 Internship in Family Studies (1-4)****FMST 696A Advanced Topics in Family Studies: Parenting (3)**

Directed study in parenting.

**FMST 696B Advanced Topics in Family Studies: Family Resource Management (3)**

Directed study in family resource management

**FMST 696C Advanced Topics in Family Studies: Family Life Education (3)**

Directed study in family life education.

**FMST 696D Advanced Topics in Family Studies: Child Development in Family Context (3)**

Directed study in child development in family context.

**FMST 696E Advanced Topics in Family Studies: Divorce and Remarriage (3)**

Directed study in divorce and remarriage.

**FMST 696F Advanced Topics in Family Studies: Marriage and the Family (3)**

Directed study in marriage and the family.

**FMST 697 Research (1-6)**

Independent research relating to marital and family therapy, under the direction of a faculty advisor.

Cross-listing: FMTH 697.

**FMST 698 Project or Thesis (3)****FMST 699 Dissertation Research (1-20)**

Completes independent research contributing to the field of family studies.

Prerequisite: Advancement to doctoral candidacy.

**GEOLOGY****GEOL 126 Introduction to Field Geology (2-3)**

Studies principles of geology at classic field locations. Students required to prepare a report illustrated with digital photos (PowerPoint presentation or equivalent). Includes camping and extended hikes. A good-quality digital camera and accessories required. Variable units dependent on course duration and content.

**GEOL 204 Physical Geology (4)**

Introductory geology course that provides 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)**

Studies minerals, including: crystallography and crystal chemistry, phase diagrams, and systematic classification. Mineral identification based on hand sample, optical, and other analytical techniques. Three class hours and one three-hour laboratory or field trip per week.

Prerequisite: Consent of instructor.

**GEOL 317 Igneous and Metamorphic Petrology (4)**

Systematically studies igneous and metamorphic rocks, including: classification by petrography and geochemical methods; application of one-, two-, and three-component phase diagrams; and models of petrogenesis. Three class hours and one three-hour laboratory or field trip per week.

**GEOL 325 Rocky Mountain Field Geology (2, 3)**

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.

Prerequisite: Consent of instructor.

**GEOL 326 Geology of Southern California (3, 4)**

Studies 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).

Prerequisite: Consent of instructor.

**GEOL 384 Paleobotany (4)**

Fossil plants; their morphology, paleoecology, taphonomy, classification, and stratigraphic distribution. Analyzes floral trends in the fossil record. Three class hours and one three-hour laboratory or field trip per week.

**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.

**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: General biology or consent of instructor.

**GEOL 416 Sedimentology and Stratigraphy (6)**

Interprets the sedimentary rock record through a study of rock types, depositional processes, and models. Studies stratigraphic nomenclature and approaches to correlation on local, regional, and/or global scales. Laboratory analysis of primary and diagenetic mineralogy, textures, and sedimentary structures in clastic and carbonate rocks. Field descriptions of sedimentary rocks, structures, and sequences; and field experience in interpreting depositional processes and stratigraphic relationships.

**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—with required full-day and half-day field trips—and one three-hour laboratory or field trip per week.

**GEOL 431 Geochemistry (4)**

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

Prerequisite: College chemistry; or consent of instructor.

**GEOL 437 Geophysics (4)**

Applies classical physics to the study of the earth. Studies the earth's gravitational, geomagnetic, geothermal, and seismic characteristics; as well as the dynamics of the earth's crust, plate tectonics, and radioactive dating.

Prerequisite: Physics and college mathematics.

**GEOL 443 Historical Geology (4)**

Introduces earth history with in-depth examination of the stratigraphic record of rocks and fossils. Three class hours and one three-hour laboratory per week.

**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: Consent of instructor.

**GEOL 455 Modern Carbonate Depositional Systems (3)**

Examines modern and Pleistocene carbonate systems in the field, using these environments as models for understanding sediment production, facies development, and early diagenesis for many ancient carbonates. Presentations and readings on specific environments combined with field descriptions, mapping, analysis, and reports. Requires rigorous hiking and snorkeling in shallow water.

Prerequisite: Consent of instructor.

**GEOL 456 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.

**GEOL 464 Environmental Geology (3)**

Geological and hydrogeological principles that apply to subsurface waste and contaminant characterization. Reviews remediation techniques and hazardous-waste disposal alternatives. Three class hours per week.

Prerequisite: GEOL 441, 442 recommended.

**GEOL 465 Hydrogeology (4)**

Theory and geology of groundwater occurrence and flow, the relation of ground water to surface water, and the potential distribution of ground water by graphical and analytical methods. Three class hours and one three hour laboratory per week.

Prerequisite: Consent of instructor.

**GEOL 475 Philosophy of Science and Origins (4)**

Concepts in the history and philosophy of science, and application of these principles in analyzing current scientific trends.

Cross-listing: BIOL 475.

**GEOL 484 Readings in Geology (1-4)**

Reviews 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 in Geology (1)**

Selected topics dealing with recent developments.

**GEOL 486 Research and Experimental Design (2)**

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 fieldwork 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)**

Reviews 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 instructor.

**GEOL 489 Readings in Paleontology (1-4)**

Reviews 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 instructor.

**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 instructor.



**GEOL 524 Paleobotany (4)**

Fossil plants; their morphology, paleoecology, taphonomy, classification, and stratigraphic distribution. Analyses of floral trends in the fossil records. Three class hours and one three-hour laboratory or field trip per week.

Prerequisite: Consent of instructor. Cross-listing: BIOL 524.

**GEOL 525 Paleopalynology (4)**

Morphology, paleoecology, classification, and stratigraphic distribution of plant microfossils. Introduces biostratigraphic and paleoecologic analytical methods. Per week: lecture 3 hours, laboratory 3 hours; or one field trip.

Prerequisite: GEOL 405; consent of instructor. Cross-listing: BIOL 525.

**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. Three class hours and one three-hour laboratory per week.

Prerequisite: Consent of instructor. Cross-listing: BIOL 534.

**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 and one three-hour laboratory per week.

Prerequisite: General biology; or consent of instructor. Cross-listing: BIOL 544.

**GEOL 545 Taphonomy (4)**

Processes that affect an organism from death until its final burial and fossilization, and utilization of this information in reconstructing ancient assemblages of organisms. Three class hours per week. One laboratory per week to study, describe, and interpret fossil assemblages of vertebrates, invertebrates, and microfossils.

**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 in-depth examination of paleontologic and lithologic changes of the geologic column. Emphasizes concepts of interpretation, particularly the causes of mass extinctions within the context of their accompanying sedimentologic variations. Term paper or research project report required.

**GEOL 554 Limnogeology (4)**

Ancient lake deposits, including their sedimentologic, paleontologic, mineralogic, geochemical, and stratigraphic characteristics. Investigates as analogs the depositional processes occurring in modern lakes. Laboratory and several extended field trips.

Prerequisite: Consent of instructor.

**GEOL 555 Carbonate Geology (4)**

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. Field trip to an ancient carbonate sequence.

Prerequisite: Consent of instructor.

**GEOL 556 Paleoenvironments (4)**

Applies paleontologic, sedimentologic, and geochemical data and methods to interpretation of past sedimentary environments, with emphasis on organism-sediment relationships. Investigates as analogs processes, sediments, and organisms in modern depositional environments.

Prerequisite: GEOL 441, GEOL 442; or consent of instructor.

**GEOL 558 Philosophy of Science and Origins (4)**

Selected topics in the history and philosophy of science, and application of these principles in analyzing contemporary scientific trends.

Cross-listing: BIOL 558.

**GEOL 565 Analysis of Sedimentary Rocks (4)**

Provides exposure to a range of analytical tools used to answer questions in sedimentary geology. Emphasizes three instruments—optical microscope, x-ray diffractometer, and scanning electron microscope—and introduces other analytical approaches. Participants will use case studies to develop skills in project design, collection of quantitative data, and evaluating existing datasets.

**GEOL 566 Sedimentary Processes (4)**

Advanced methods and principles of sedimentology, with emphasis on analysis and interpretation of sedimentary structures and the processes that produced them. Discusses in detail sedimentary facies, depositional environments, chemogenic and biogenic sedimentation, and postdepositional diagenetic processes. Research or project paper required. Three class hours and one three-hour laboratory or field trip per week, and several extended field trips.

**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 and one laboratory or field trip per week, and two extended field trips.

**GEOL 569 Tectonics and Sedimentation (4)**

Analyzes depositional systems developed in various tectonic settings. Compares 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: Consent of instructor.

**GEOL 574 Environmental Geology (3)**

Geological and hydrogeological principles that apply to subsurface waste and contaminant characterization. Reviews re dedication techniques and hazardous waste-disposal alternatives. Three class hours per week.

Prerequisite: GEOL 441, 442 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 and one three-hour laboratory per week.

Prerequisite: Consent of instructor.

**GEOL 588 Topics in Geology (1-4)**

Reviews 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 instructor.

**GEOL 589 Readings in Paleontology (1-4)**

Reviews 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)**

Reviews 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, multiday field trip required.

**GEOL 607 Seminar in Geology (1)**

Selected topics dealing with recent developments.

**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 (1-8)****GEOL 698 Thesis Research (1-8)****GEOL 699 Dissertation Research (1-8)**

Credit for writing the doctoral dissertation.

**GERONTOLOGY****GERO 515 Diversity and Aging (3)**

Assists students in understanding the complexity of variables related to the aging process. Examines ethnicity, gender, social class, and culture within the context of the physical, mental, social, political, and financial effects of aging.

**GERO 599 Directed Study/Special Project (1-4)**

Limited to matriculating master's degree in gerontology students who wish to pursue independent investigations in criminal justice practice or policy under the direction of a department faculty member.

**GERO 615 Economics and Management Issues of Older Adult Services (4)**

Acquaints students with economic and management issues and their impact on social policies that direct older adult services. Uses descriptions of economic and management issues to analyze system impact on social policies related to the older adult population. Students learn how to meet the challenges inherent in a dynamic and rapidly changing environment and develop skills and competencies for meeting future challenges and bridging the gap between theory and practice.

**GERO 617 Bio-psycho-social-spiritual Theories of Aging (4)**

An interdisciplinary team-taught learning experience that provides an integrative understanding of the bio-psycho-social-spiritual aspects and theories of aging, and the impact of these on older adults and their families.

**GERO 687A Field Practicum and Seminar in Gerontology (3)**

Experiential learning in gerontology. Students placed in practicum sites as determined by program committee. Students satisfactorily complete 160 practicum hours and 20 hours of concurrent seminar.

**GERO 697 Research (2-4)**

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.

**GERO 698 Thesis (2)**

The culminating portion of the student's independent research, under the direction of the research advisor. Students register for class during the quarter in which they defend their research and submit their final document to the department and to the School of Science and Technology.

**GERO 757A Professional Practicum and Seminar (3)**

Students complete 3 units of professional practicum during each quarter. Each 3 units require 160 hours of practicum and 20 hours of seminar.

**GERO 757B Professional Practicum and Seminar (3)**

Students complete 3 units of professional practicum during each quarter. Each 3 units require 160 hours of practicum and 20 hours of seminar.

**GERO 757C Professional Practicum and Seminar (3)**

Experiential learning in gerontology settings. Students placed at practicum sites that serve geriatric clients. Students must satisfactorily complete 160 practicum hours and 20 hours of concurrent seminar.

**GERO 787 Advanced Professional Practicum and Seminar (4)**

Experiential learning in advanced gerontology practice. Students must satisfactorily complete 200 practicum hours and 20 hours of concurrent seminar.

**GLOBAL HEALTH****GLBH 514 Ethnographic Methods in Public Health (3)**

Systematically examines issues of health care access, policy, disease burden, and client-provider interactions within social, historical, and cultural contexts for at-risk populations.

**GLBH 515 Understanding Health Disparities (3)**

Systematically examines issues of disease distribution, health care access, policy, and client-provider interactions within social, economic, historical, and cultural contexts for the main minority groups in the U.S.: Asian and Pacific Islanders, Blacks, Latinos, and Native Americans.

**GLBH 516 HIV/AIDS: Implications for Public Health (3)**

Historical, epidemiological, and public health aspects of HIV/AIDS. Viral, immunologic, laboratory, and clinical manifestations associated with HIV/AIDS. Approaches to preventing/controlling the epidemic. Socioeconomic, political, and health impact of HIV/AIDS; and the related implications in terms of legal, ethical, and health care-management issues. Laboratory/field work earned by the student's active participation and involvement in a variety of field-based activities, such as: clinic-intake interviews, analysis of existing epidemiologic databases, grant writing, health education, hospice care, etc.

**GLBH 517 Cultural Issues in Health Care (3)**

Analyzes cross-cultural issues that affect the delivery of health care. Applies practical health education models in multicultural communities. Uses case studies, videos, and selected readings illustrating the important role that cultural beliefs and practices play in public health—both in domestic and international settings. Indicates how to use this awareness to provide better health care.

**GLBH 519 Principles of Disaster Management I (3)**

Through the dynamics of disaster management, familiarizes students with the complex issues and problems associated with the planning, organizing, and managing of disaster-relief services. Identification, distribution, and public health impact of disasters. Provides overview of the skills utilized in emergency preparedness, nationally and internationally.

**GLBH 520 Principles of Disaster Management II (3)**

The second in a series of disaster management courses that focuses on advanced topics from GLBH 519, including terrorism, emergency management, incident command, and communications. Discusses policy, legal, social, psychological implications in disasters. Includes the design and play of a disaster table-top exercise.

Prerequisite: GLBH 519; OR consent of instructor.

**GLBH 521 Principles of Disaster Management III (3)**

The third in a series of disaster management courses that focuses on advanced topics from GLBH 519, including terrorism, emergency management, incident command, and communications. Discusses policy, legal, social, psychological implications in disasters. Includes the design and play of a disaster field exercise.

Prerequisite: GLBH 520; OR consent of instructor.

**GLBH 524 Cultural Competence and Health Disparities (2)**

Introduces and examines diversity and cultural responsiveness in public health and health care. Examines the roles played by population diversity, health professions diversity, and cultural responsiveness in addressing and eliminating health and health care disparities in both national and global health. Discusses the historic context of social inequities impacting health and health care; and the roles played by biological inheritance, race and ethnicity identifiers, socioeconomics, socioenvironment, and health care beliefs and behavior in health care services delivery. Introduces cultural competency in public health and tenets for developing and applying cultural awareness in the field. Explores culture—defined as the values and beliefs that generate patterned behaviors, expectations, and world view—and its role in accessing, utilizing, and delivering positive outcomes in health care.

**GLBH 534 Agriculture in Development (3)**

Food-production systems and issues in agricultural development. Attitudes and approaches for rural development practitioners.

**GLBH 543 Epidemiology of Infectious Disease Projects (1)**

Appropriate project/study or a comprehensive review of an infectious disease of major public health significance.

Prerequisite: EPDM 509. Corequisite: GLBH 544.

**GLBH 544 Epidemiology of Infectious Disease (3)**

Epidemiology of major acute and chronic infectious diseases worldwide. Characteristics of host, agent, environment, immunity of individuals, and populations. Methods of control and eradication; types of epidemics; and experimental, serological, and analytical techniques used in epidemiology of infectious disease.

Prerequisite: EPDM 509. Cross-listing: EPDM 544.

**GLBH 545 Integrated Community Development (4)**

Issues, problems, resources, and strategies of implementing integrated community-development projects. Basic developmental needs of rural and urban communities. Taught from perspectives of developmental anthropology, agriculture, economic development, and the role of global health organizations. Includes fieldwork in a developing country.

Prerequisite: GLBH 566, GLBH 568.

**GLBH 547 Refugee and Displaced Population Health (3)**

Studies the current global issue of refugees and displaced persons—including internally displaced persons (IDPs)—focusing on physical and psychological health risks to the affected populations. Addresses public health organization of a refugee/IDPs camp—including triage systems, levels of health care, environmental control, and social organization; as well as international legal and regulatory issues, and targeted programs to promote health and security by international, national, and private organizations. Discusses economic, political, and ethical issues relating to the repatriation and resettlement of displaced populations.

**GLBH 548 Violence and Terrorism Issues (3)**

Different types of violence and terrorism, methods of attack, training, funding, communication, and responses to terrorism (counter-terrorism). Socioeconomic, political, and medical impact of violence and terrorism, with focus on approaches for intervention and prevention. Public health implications of violence and terrorism. Design of a violence intervention/prevention program.

**GLBH 550 Women in Development (3)**

Global epidemiological profile of women in terms of educational patterns, economic productivity, social status, and mortality patterns. Risks to physical and psychosocial health. National and international legal and regulatory issues and programs to promote access to health care, economic productivity, and the health of women.

Cross-listing: HPRO 550.

**GLBH 555 Technology in Emergency Management (3)**

Overview of technology concepts and tools that support decision-making, communication, and incident command toward more effective preparedness, response, recovery, and mitigation efforts. Explores application of the Internet, networks and communication systems, maps and geographic systems (GIS and GPS), direct and remote sensing, decision-support systems, hazard analysis and modeling, and warning systems. Discusses current operational problems and limitations, and emerging tools and trends in application of technology.

**GLBH 556 Community Data Analysis for Sustainable Development (3)**

Explores analysis of community-health aspects in local and international settings, applying GIS tools and techniques to pertinent health and development data sets for the purpose of identifying assets and risk factors contributing to and affecting sustainable development in marginalized and underserved communities.

Prerequisite: ENVH 522, ENVH 524. Corequisite: ENVH 521.

**GLBH 557 Epidemiology of Disasters (3)**

Assesses the health effects of natural and man-made disasters and identifies factors that contribute to these effects. Addresses selection of health indicators in disaster situations; means of evaluating data collected within the constraints of the disaster situation; reporting systems; techniques of statistical sampling; and modern information-technology systems used for emergency preparedness, including rapid computerization of post-disaster health information. Analyzes risk factors for adverse health effects; discusses baseline for measuring trends over time and monitoring population-based mortality; and identifies limitations and weaknesses of methods of disaster assessment.

Prerequisite: Consent of instructor.

**GLBH 558 Public Health Issues in Emergencies (3)**

Explores the immediate, critical public health considerations and environmental health issues of concern in an emergency or disaster, including safe drinking water and food, shelter, sanitation, and prevention of communicable diseases. Explores these topics in depth as they pertain to disaster and emergency planning, response, and mitigation. Utilizes case studies and a table-top exercise to ensure practical application of the principles presented in the class.

**GLBH 559 Psychosocial Models and Interventions (3)**

Major models of stress, crisis, and psychological trauma; and how they relate to health care providers. Psychosocial reactions and responses of populations, individuals, and care providers to societal disruption and trauma, medical emergencies, and death and dying. Applies principles for suicide intervention, critical-incident debriefings, and death notification. Roles of psychiatrists, psychologists, social workers, family therapists, and chaplains. Methods of providing temporary, adequate psychological care for individuals in psychosocial crisis.

Cross-listing: AHCJ 324.

**GLBH 560 Economic, Legal, and Policy Issues in Disasters (3)**

Addresses economic, legal, and policy issues arising from disasters. Overview of economic disaster-assistance models and practices for individuals and communities, including grants, loans, and hazard-mitigation programs. Examines the confluence of disaster legislation and policy; public health law; disaster declarations; and the authority of federal, state, and local governments. Implications of vulnerable populations, socioeconomic assessments, population displacement, and sustainable development.

**GLBH 561 Epidemiology of Tobacco Use and Control I (3)**

A module-based course (the first of a three-part series) that presents a comprehensive overview of the tobacco pandemic and provides a foundation for understanding global/national tobacco-prevention and -control issues and strategies. Explores the epidemiology of this growing public health challenge and its significant impact on societal health and economics. Examines the underlying principles governing the multi-sectoral and multidisciplinary approaches developed as part of the coordinated public health response (within the context of the WHO Framework Convention on Tobacco Control). Introduces basic techniques of monitoring, surveillance, and evaluation as used in tobacco- prevention/control programs.

**GLBH 562 Epidemiology of Tobacco Use and Control II (3)**

Explores the theoretical foundation for tobacco control. Considers the impact of tobacco-control policy and legislative and regulatory measures on prevalence, initiation, and cessation of tobacco use. Compares the effect of socioeconomic status variables on measures of smoking behavior among racial/ethnic groups. Reviews validity studies in tobacco use. Explores clustering of tobacco use with other drugs, other risk behavior, and psychiatric disorders. Estimates sensitivity and specificity of individual and environmental factors that influence the susceptibility of individuals to tobacco dependence. Includes issues such as counteracting the tobacco industry and forming effective partnerships in tobacco control; monitoring, surveillance, evaluation, and reporting of tobacco use and control; and developing a national plan of action for tobacco control.

**GLBH 564 Community Health and Development I (3)**

The first of a three-part series of module-based learning experiences necessary to the management of primary health care and development programs serving vulnerable populations in resource-scarce areas. Current world health programs, with a focus on the ecologic, demographic, developmental, and sociocultural determinants of health. Topical areas include: program management and evaluation, food security and agricultural sustainability, communicable diseases, essential drugs and immunizations, population/family planning and maternal-child health, traditional practices and cross-cultural communications, environmental issues, urban health, populations at risk, relief operations, literacy, microenterprise, and public health policy/advocacy.

**GLBH 565 International Health Programming (2)**

A module-based course that presents selected methodological techniques and skills useful in the planning, implementation, and evaluation of primary health care programs—particularly in international settings. Student describes key principles in program planning, implementation, and evaluation of sustainable public health programs in international settings; becomes familiar with the use of specific tools and approaches associated with program planning, implementation, and evaluation (including the use of the Logical Framework Analysis or LogFRAME model); demonstrates the ability to plan and conduct a thirty-cluster sample survey to assess immunization coverage; develops and presents a project-specific, detailed implementation plan (DIP); understands and summarizes the key aspects of project-evaluation methods, as required by international funding agencies.

Prerequisite: EPDM 509, STAT 509.

**GLBH 566 Community Health and Development II (3)**

The second of a three-part series of module-based learning experiences necessary to the management of primary health care and development programs serving vulnerable populations in resource-scarce areas. Current world health programs, with a focus on the ecologic, demographic, developmental, and sociocultural determinants of health. Topical areas include: program management and evaluation, food security and agricultural sustainability, communicable diseases, essential drugs and immunizations, population/family planning and maternal-child health, traditional practices and cross-cultural communications, environmental issues, urban health, populations at risk, relief operations, literacy, microenterprise, and public health policy/advocacy.

**GLBH 567 Evaluation of Global Health and Development Programs (3)**

Approaches and methodology of evaluation in the setting of multiple stakeholders and varied cultural perspectives and expectations. Need for objectivity and improved measurement of outcomes balanced with the need for participation and feedback to the decision-making process. Limited to doctoral degree students or consent of instructor.

**GLBH 568 Community Health and Development III (3)**

The third of a three-part series of module-based learning experiences necessary to the management of primary health care and development programs serving vulnerable populations in resource-scarce areas. Current world health programs, with a focus on the ecologic, demographic, developmental, and sociocultural determinants of health. Topical areas include: program management and evaluation, food security and agricultural sustainability, communicable diseases, essential drugs and immunizations, population/family planning and maternal-child health, additional practices and cross-cultural communications, environmental issues, urban health, populations at risk, relief operations, literacy, microenterprise, and public health policy/advocacy.

**GLBH 584 Special Topics in Global Health (1-3)**

Lecture and discussion on a current topic in global health. May be repeated for a maximum of 4 units applicable to degree program.

**GLBH 605 Seminar in Global Health (1)**

Issues, trends, organizational structure, and practice of international public health. Issues impacting global health, the structure and functions of government and NGOs in the delivery of public health services, and preparation to practice international health. Selected guest lecturers and student participation.

**GLBH 606 Advanced Seminar in Global Health (2)**

Research methodologies applied to program operations and health and development problems in developing countries. Cultural, ethical, and technical issues in conducting research in other societies. May be repeated for additional credit. Limited to doctoral degree students.

**GLBH 685 Preliminary Research Experience (2)**

Various aspects of research under the guidance of a faculty member and by participation in an ongoing project. Must be completed prior to beginning dissertation/research project. Limited to doctoral degree students.

Prerequisite: Consent of instructor.

**GLBH 692 Research Consultation (2)**

Individual advice on research design, data collection, data analysis, and reporting of results.

Prerequisite: Consent of instructor.

**GLBH 694 Research (1-4)**

Independent research on problems being studied in the School of Public Health or associated institutions; collaboration with researcher/faculty member. Research program arranged with faculty member(s) involved and approved by advisor. Minimum of thirty hours required for each unit of credit. Written report required. Limited to qualified master's and doctoral degree students.

Prerequisite: Consent of instructor responsible for supervision and of program advisor.

**GLBH 695 Practicum in Field-Based Survey and Evaluation (3)**

Individualized, arranged participation in field survey and evaluation, with preceptorship by affiliating nongovernment organizations (NGOs) in the developing world or underserved population settings. Limited to doctoral degree students.

Prerequisite: GLBH 567.

**GLBH 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.

Prerequisite: Consent of instructor responsible for supervision and of program advisor.

**GLBH 698 Dissertation (1-12)**

Student prepares manuscript presenting results of doctoral research study. Limited to doctoral degree candidates.

**GLBH 699 Applied Research in Global Health (2, 4)**

Focuses on operations/evaluation research and/or program development that involves application of knowledge/skills acquired earlier in the academic program. Field sites may include private or governmental health organizations functioning in a cross-cultural environment. Guidance to be provided by supervising faculty and agency personnel. Written paper per departmental guidelines.

**GLBH 700 MIP-Peace Corps Field Practicum (0)**

Designed for students who must maintain continuous registration in the School of Public Health as a condition of the twenty-seven month Peace Corps field practicum that is part of their master's degree program.

**GLBH 796 Internship (12)**

Individual, mentored study in organizational management and development under the direction of an international nongovernmental organization that has a contractual agreement with the department. Limited to graduate GLBH students who have been recommended by the department and accepted by the nongovernmental organization for this internship experience and whose project proposals have been approved by both entities.

**GLBH 797 MIP Residency in Global Health (12)**

Individual, guided study in operational field practice, under faculty supervision. Limited to graduate students in the INTH Master's Internationalist Program (M.P.H./MIP) whose projects have been approved by their committee.

**GLBH 798 Culminating Activity/Field Practicum (1-12)**

Written report, proposal, or evaluation of a program or project in which the student has been or will be involved. Student applies concepts and skills taught in course work, under the guidance of department faculty and agency supervisors. For students who lack relevant professional experience in an international or cross-cultural health/development program, a three-week (40 hours/week) assignment to an approved agency will be arranged. Students with appropriate experience register for 3 units and write a culminating activity paper under the direction of department faculty.

**GRADUATE DENTISTRY****GRDN 514 Introduction to Biomedical Research (4)**

Provides basic information necessary to develop a research proposal. Focuses on applied statistics, as well as proposal writing—which emphasizes critical evaluation of the literature, proposal design, and proposal methodology. Culminates in an approved research proposal suitable for submission to the departmental Research Guidance Committee (RGC). Lectures, seminars.

**GRDN 535 Clinical Oral Pathology (2)**

Emphasizes oral manifestations of disease. Diagnosis, prognosis, and treatment of various oral neoplasms.



**GRDN 601 Practice Management (2)**

Prepares student for specialty practice. Concepts of employment, records, incorporating, insurance, and practice planning.

**GRDN 609 Professional Ethics (2)**

Provides 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)**

Advanced, two-quarter course offered every other year (alternating with GRDN 623) during Autumn and Winter quarters. Course content includes applied oral bacteriology, immunology, topics in oral medicine, applied pharmacology, and orofacial pain. Students expected to have prior basic knowledge in the various topic areas.

**GRDN 623 Biomedical Science II (4, 5)**

Advanced, two-quarter course offered every other year (alternating with GRDN 622) during Autumn and Winter Quarters. Course content includes cell biology, applied oral pathology, biology of hard tissues, physiology, and biochemistry. Students expected to have basic knowledge in the various topic areas.

**GRDN 632 Basic Microsurgery Techniques (2)**

An integrated, forty-hour laboratory course tailored to the needs of the individual student. Principles and application of microscope operator and use, microinstrumentation, microdissection, micromanipulation, and microsuturing techniques. Performance of various microvascular and microneural repair procedures.

**GRADUATE STUDIES—CONJOINT****GSCJ 217 Integrated Language Skills (3)**

Gives students a firm foundation in reading and writing development, comprehension, vocabulary, oral communication, and cultural understanding. Prepares international students with language-skill deficits, students with a learning difference, or both, for the rigors of their course work in order to ground them in American academic and social-cultural practices.

**GSCJ 514 Editing, Style, and Grammar for Academic Writing and Publication (2)**

Focuses on mastery of the editing stage of academic manuscript preparation. Applicable to all academic works, including publishable research results, term papers, dissertations, theses, and proposals. Covers the self-editing option, editing techniques, grammar, punctuation, and style. Addresses APA and other styles.

**GSCJ 518 Interdisciplinary Professional Experience (1-4)**

Professional interdisciplinary experience. Experiences may occur in multiple settings, including field, clinic, outpatient and inpatient. May be repeated up to eight times.

**GYNECOLOGY AND OBSTETRICS****GYOB 599 Gynecology and Obstetrics Directed Study (1.5-18)****GYOB 701 Gynecology and Obstetrics Clerkship (1.5-9)**

A six-week rotation that introduces women's reproductive health. Provides the student with a broad exposure to women's health and gives a glimpse of what is involved in the specialty of obstetrics and gynecology.

**GYOB 891 Gynecology and Obstetrics Elective (1.5-18)****HEALTH ADMINISTRATION****HADM 504 Database Concepts (3)**

Introduces databases and database management. Increases students' understanding of the most common databases and their functions, as well as the process of planning and implementing these databases. Emphasizes the management aspect of databases and the qualities a manager should possess.

**HADM 506 Principles of Health Care Finance (3)**

An overview course covering the time value of money, valuation, risk and rates of return, financial analysis, financial forecasting, working capital management, capital budgeting, cost of capital, and long-term financing. Course can be waived by students who have taken an upper division finance course prior to enrolling at LLU from an accredited four-year university.

**HADM 507 Principles of Financial Accounting in Health Care (3)**

Overview of the accounting cycle, balance sheets, income statements, basic accounting principles, ethics, internal controls, accounting for assets, current liabilities, and stockholder's equity. Course can be waived by students who have taken an upper division accounting course prior to enrolling at this University from an accredited four-year university.

**HADM 509 Principles of Health Policy and Management (3)**

Introduces concepts of the health policy process of the current health delivery system, with a focus on administration of health care organizations.

**HADM 510 Health Policy Analysis and Synthesis (3)**

Integrates skills and concepts from previous courses taken in managerial problem-solving. May be repeated for additional credit.

**HADM 514 Health Care Economic Policy (3)**

Concepts of health care supply and demand, and resource allocation in view of political constraints imposed in market and planned economies. Health-service pricing and policy issues in quantity, quality, and cost of health care in domestic and international environments.

**HADM 515 Maintenance and Operation of Information Systems (3)**

Covers the process of maintenance and management of data communications systems, as well as network administration. Covers analysis and development of information security systems, system auditing, information system documentation, system maintenance plans, and development of maintenance and security plans.

**HADM 516 International Economic Policy (3)**

Focuses on how to effectively reduce dependence on foreign aid, improve access to capital, invest in the people, and bolster rates of currency exchange to improve regional and national economies. Provides overview of international economics, along with an assessment of the impact privatization of state companies, democratic initiatives, free-trade, and tax reform have on a country shifting toward a market economy.

**HADM 517 Business Communication (3)**

Exposes students to current and authoritative communication technology and business communication concepts, with emphasis on both process and product. Addresses subjects essential in managerial communication, including: the foundations of communications; the 3 x 3 writing process; business correspondence; reports, proposals, and presentations; and employment communications.

**HADM 519 Data Analysis and Management (3)**

Using Excel, emphasizes concepts and applications of the most common data-analysis methods. Emphasizes selection of appropriate method of analysis and of reporting results. Utilizes Access for health care data management. Proficiency promoted through a variety of tasks: importing, exporting, merging and linking files; creating, updating, and querying databases; basic programming, application development, and data entry.

**HADM 520 Long-Term Care Administration (3)**

Administration of long-term care facilities. Licensing requirements as presented in the California Code of Regulations Title 22 and the Code of Federal Regulations Title 42.

Cross-listing: HADM 420.

**HADM 525 Special Topics in Health Administration (1-4)**

Lecture and discussion on a current topic in health administration. May be repeated for a maximum of 4 units applicable to degree program.

**HADM 526 Data Communication Theory (3)**

Provides an overview of how information systems work. Covers the fundamentals of information systems hardware and software, including existing databases on local and national networks. Internet and Intranet projects required. Includes distributed data processing, client server systems, local area networks (LAN), wide area networks (WAN), and data communications, including voice and image.

**HADM 528 Organizational Behavior in Health Care (3)**

How human resources are utilized to accomplish organizational goals within health care settings. Development of basic contributions to administrative theory and practice. Focuses on human responses to varied organizational structures.

**HADM 529 Health Care Negotiations and Conflict Resolution (3)**

Diagnoses the complex, competing issues among different social, political, and economic initiatives promoted by both liberals and conservatives. Focuses on and emphasizes shared interests and fears of individuals and entities promoting competing policies, which leads to a more productive negotiation process and makes conflict resolution more attainable.

**HADM 530 Quantitative Decision Analysis (3)**

Explains quantitative methods used to analyze and improve the decision-making process in health care organizations. Decision analysis, break-even analysis, managerial accounting, financial management, linear programming, network modeling, game theory, simulation, and cutting-edge forecasting techniques included in the primary concepts examined.

**HADM 534 Healthcare Law (3)**

Examines the legal and judicial processes as they relate to health care. Considers criminal and civil law. Emphasizes principles of contract law.

**HADM 536 Health Policy Communications (3)**

Helps students communicate effectively with the mass media and current stakeholders in the current health system. Explores aspects of effective listening, response strategies, conflict management, negotiations, leadership styles, interpersonal agendas, and group dynamics. Focuses on oral and written communication, as well as critical-thinking messages.

**HADM 542 Managerial Accounting for Health Care Organizations (3)**

Financial data used in decision making. Cost behavior, activity-based costing, cost allocation, product costing and pricing, operational budgets, capital budgeting, and behavioral aspects of control.

Prerequisite: HADM 507; One course in financial accounting, or consent of instructor.

**HADM 545 Government Policy and Health Disparities (3)**

Examines the federal government's use of funding and regulation to influence health care delivery in the United States. Reviews the role of state and local governments in developing and implementing health policy. Explores the issue of health disparities in framing health-policy discussions.

**HADM 549 Health Care Investment and Portfolio Issues (3)**

Provides overview of financial markets, instruments, and institutions addressing financial concepts and tools that have been used successfully in progressively managed firms. Discusses financial markets that corporations, governmental agencies, and financial institutions use while conducting business. Theory of pricing of instruments, institutional structure, and determinants of growth of financial markets.

Cross-listing: HADM 449.

**HADM 555 Health Care Delivery Systems (3)**

Reviews current trends in health care financing; integrated delivery systems; managed care, as well as some focus on health care operations, including: billing, coding, pricing, utilization review, case management, and systems. Reviews and discusses current events and research relating to the health care system structure throughout the world and relative to U.S. health care policy.

**HADM 559 Health Care Marketing (3)**

Applies marketing concepts to health care delivery systems. Emphasizes a strategic market-management approach for developing or evaluating strategies and programs for a health care organization.

**HADM 560 Asset Protection Planning for Health Professionals (3)**

Introduces estate planning, asset-protection strategies, family limited partnerships (FLPs) and limited-liability companies (LLCs), life insurance, irrevocable life insurance trusts, durable powers of attorney, and revocable inter vivos trusts.

**HADM 564 Health Care Finance (3)**

Public and private health care financial issues, including third-party reimbursement, managed care, and health care-provision schemes. Financial planning for health care institutions, with consideration of capital markets and development of the tools of risk-return analysis, time valuation of money, and project selection.

Prerequisite: HADM 506; consent of instructor.

**HADM 574 Managing Human Resources in Health Care Organizations (3)**

Purposefully explores how the strategic management of human resources creates value and delivers results in health care. Addresses an emerging human-resource paradigm, in addition to focusing on the traditional perspectives of human resources that center around the personnel function.

**HADM 575 Management Information Systems in Health Care (3)**

Systems theory and application in the design and operation of integrated management information systems in a health care setting. Examines hardware, software, and human interfaces.

**HADM 580 Foundations of Leadership (3)**

Provides a broad general introduction to the literature of leadership studies, taking particular note of the competencies, skills, and expectations of leaders, as found in current theories and practices.

**HADM 581 Orientation for Leadership I: Vision and Understanding (4)**

The first in the series designed to provide an orientation for leadership. Student evaluates personal skills and understanding of leadership while creating a personal vision of his or her role in leadership for the future

**HADM 582 Orientation for Leadership II: Exploring the Nature of Leadership (4)**

The second in the series designed to provide an orientation for leadership. Focuses on the definition and scope of leadership, the qualities of leadership, and various leadership styles. Explores the nature of leadership within both the individual and organizational context. May be taken concurrently with HADM 581 or HADM 583.

**HADM 583 Orientation for Leadership III: Setting a New Direction (4)**

Builds on the work completed in HADM 581. Under the guidance of an assigned advisor, students create either an academic or personal development plan to be submitted as part of the admission requirement for the doctoral leadership degree.

Prerequisite: HADM 581.

**HADM 601 Health Systems-Operations Management (3)**

Uses quantitative methods to analyze and improve business processes within an organization. Regression analysis, simulation, decision analysis, capacity planning, inventory models, linear programming, scheduling, and cost-benefit analysis.

**HADM 604 Health Systems Strategic Planning (3)**

Decision-making and planned change through the strategic planning process. Performance review and evaluation of services and resource administration. Strategic plan and contingency plans, mission statement, objectives, courses of action, and resource allocation. Presentation and approval process.

**HADM 605 Health Care Quality Management (3)**

Focuses on quality systems that include developing clear mission or vision, setting measurable strategic quality goals, deploying goals for action by identifying specific activities to be done, and controlling results. Analysis of quality process in health care historically, with emphasis on key strategies for success.

**HADM 610 Synthesis Seminar in Health Administration (1)**

Integrates skills and concepts from previous courses taken in managerial problem-solving. May be repeated for additional credit.

**HADM 690 Health Care Management Capstone (4)**

A capstone course that completes the M.B.A. degree program. Integrates the core and cross-cutting health care management competencies, resulting in a learning experience that combines health care perspectives, theories, skills, and tools in an applied format. Final products—derived through case studies, guest lectures, and literature reviews—include a comprehensive strategic plan, which incorporates all the elements of a business plan designed specifically for a health care organization.

**HADM 695 Health Administration Field Practicum (3)**

Individual arrangements for selected students to participate in a guided, structured practical experience applying health administration skills and knowledge gained in the classroom in practice settings.

**HADM 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.

Prerequisite: Consent of instructor responsible for supervision and of program advisor.

**HADM 699 Applied Research (1-4)**

Assignment to private, government, international, or voluntary health agency or other approved organization where practical application of the materials studied on campus is made under the guidance of the department faculty and the organization involved. Research project that includes substantial analysis of data and discussion of results. Written report and oral presentation required.

Prerequisite: Consent of department advisor and of instructors responsible for supervision.

**HADM 724A Residency in Institutional Administration (3)**

Applies in a practical way, under the guidance of a preceptor in an institutional setting, the materials studied on campus. Must be taken during consecutive quarters until required hours have been completed.

**HADM 724B Residency in Institutional Administration (6)**

Applies in practical way, under the guidance of a preceptor in an institutional setting, the materials studied on campus. Must be taken during consecutive quarters until required hours have been completed.

**HADM 724C Residency in Institutional Administration (9)**

Applies in practical way, under the guidance of a preceptor in an institutional setting, the materials studied on campus. Must be taken during consecutive quarters until required hours have been completed.

**HADM 724D Residency in Institutional Administration (12)**

Applies in practical way, under the guidance of a preceptor in an institutional setting, the materials studied on campus. Must be taken during consecutive quarters until required hours have been completed.

**HADM 798A Health Administration Field Practicum (12)**

Supervised experience in a public health-service organization. Opportunity to integrate skills and concepts from courses taken toward the M.P.H. degree in health administration.

Prerequisite: M.P.H. degree core courses.

**HADM 798B Health Administration Field Practicum (6)**

Part-time, ten-week (20 hours/week) supervised experience in a public health-service organization. Opportunity to integrate skills and concepts from courses taken toward the M.P.H. degree in health administration.

Prerequisite: M.P.H. degree core courses.

**HADM 798D Health Administration Field Practicum (12)**

Full-time, ten-week (40 hours/week) supervised experience in a public health-service organization. Opportunity to integrate skills and concepts from courses taken toward the M.P.H. degree in health administration.

Prerequisite: M.P.H. degree core courses.

**HEALTH CARE ADMINISTRATION****HCAD 305 Health Care Communication (4)**

Basic communication applications of health care organizations. Communication theory, language, oral reporting, conducting meetings and conferences, interpersonal techniques of listening and interviewing, nonverbal communication, crises management, and public relations and multicultural as well as ethical considerations.

**HCAD 310 Health Care Communication (4)**

Basic communication applications of health care organizations. Communication theory, language, oral reporting, conducting meetings and conferences, interpersonal techniques of listening and interviewing, nonverbal communication, crises management, and public relations and multicultural as well as ethical considerations.

**HCAD 314 Health Care Macroeconomics (4)**

The nature and causes of economic growth, inflation, recession, and unemployment. Government monetary and fiscal policy. Keynesian and monetarist economic models, and introduction to the American financial system.

**HCAD 315 Health Care Microeconomics (4)**

Supply-and-demand analysis, competition, oligopoly, and monopoly. Economic choices, comparative economic systems, pricing and production, international trade.

**HCAD 316 Economics for Health Care Managers (4)**

The structure and functioning of the economy from the perspective of a health care manager. Surveys both macroeconomics and microeconomics. Concepts include gross domestic product, economic growth, inflation, recession, employment, monetary policy, fiscal policy, supply, demand, and prices. How the efficient allocation of scarce resources generates income and wealth.

**HCAD 328 Health Care Organizational Behavior (4)**

Applies behavioral-science concepts to understanding individual and group behavior in health care organizations. Topics include: attitude formation, perceptual processes, motivation, job design, reward systems, leadership, group processes, organizational structure and design.

**HCAD 334 Health Care Law I (4)**

Legal institutions and principles; constitutional considerations, business torts and crimes; contracts; real and personal property; bailments; wills, trusts and estates.

**HCAD 335 Health Care Law I (4)**

Uniform commercial code, sales, commercial paper, secured transactions; creditors; rights and bankruptcy; agency; business organizations, limited and general partnerships, corporations; and government regulations.

**HCAD 336 Legal Environment of Health Care (4)**

Laws regulating health care covering legal institutions, constitutional considerations, business torts and crimes, contracts, personal property, uniform commercial code, sales, commercial paper, secured transactions, creditors' rights and bankruptcy; agency; business organizations, limited and general partnerships, corporations; and government regulations.

**HCAD 359 Health Care Marketing (4)**

Surveys major marketing topics, including consumer behavior, product, pricing, placement, and promotions.

**HCAD 374 Health Care Human Resources (4)**

Purposefully explores how the strategic management of human resources creates value and delivers results in health care. Addresses an emerging human-resource paradigm in addition to focusing on the traditional perspectives of human resources that center around the personal function.

**HCAD 375 Health Care Information Systems (4)**

Conceptual basis of computer operations, logic, introduction to use of word processing, spreadsheet, and database software programs. Application to personal and business problems.

**HCAD 401 Health Care Operations Management (4)**

Explains quantitative methods used to analyze and improve organizational processes within a health care organization. Decision analysis, break-even analysis, materials management, linear programming, queuing theory, quality management, network modeling, and game theory.

**HCAD 405 Health Care Quality Management (4)**

Focuses on quality systems, including developing a clear mission or vision statement, setting measurable strategic quality goals, deploying goals for action by identifying specific activities to be done, and controlling results. Analyzes the quality processes in health care, as well as the key strategies contributing to success of an organization.

**HCAD 409 Principles of Public Health Administration (4)**

Introduction to the administration of organizations within the context of the economic, regulatory, and financial constraints of the health care-delivery system. Areas covered include: change is the name of the game in twenty-first century health care; concepts of organizational management; the management functions (planning, decision making, organizing, staffing, and directing and controlling); budgeting; committees and teams; adaptation, motivation, and conflict management; authority, leadership, and supervision; and human-resource management

**HCAD 420 Long-Term Care Administration (4)**

Administration of long-term care facilities. Licensing requirements as presented in the California Code of Regulations Title 22 and the Code of Federal Regulations, Title 42.

**HCAD 425 Topics in Health Administration (1-4)**

Lecture and discussion focuses on a current topic in health administration bearing on the theory or practice of one aspect of the discipline. Specific content varies from quarter to quarter. May be repeated for additional credit.

**HCAD 444 Financial Accounting for Health Care Organizations (4)**

Fundamentals of preparing and understanding financial statements. Emphasizes relationships between the balance sheet, income statement, and cash flow statement. Generally accepted accounting terminology.

**HCAD 445 Care Financial Accounting II (4)**

Continues the study of the fundamentals of preparing and understanding financial statements. Emphasizes relationships between the balance sheet, income statement, and cash flow statement. Generally accepted accounting terminology.

**HCAD 446 Accounting for Health Care Managers (4)**

An introductory course that covers accounting cycle, balance sheet, income statement, basic accounting principles, ethics, internal control, accounting for assets, current liabilities, and stockholder's equity.

**HCAD 449 Health Care Investment and Portfolio Issues (4)**

Broad picture of financial markets, instruments, and institutions covering the financial concepts and tools that have been used successfully by actual financial institutions and regulators in progressively managed firms. Combines a solid foundation of the theory of pricing of instruments used in financial markets and answers to basic questions regarding the determinants of the growth and nature of financial markets. Investment strategies such as diversification, dollar cost averaging, and asset allocation examined in relation to the trade-off relationship between risk and reward.

**HCAD 464 Health Care Finance (4)**

An introductory course that covers time value of money, valuation, risk and rates of return, financial analysis, financial forecasting, working capital management, capital budgeting, cost of capital, and long-term financing.

**HCAD 498 Health Care Policy and Strategy (4)**

Strategic planning process and tools needed to analyze external factors and internal capabilities as they relate to a particular organization. Development of a vision, mission, goals, objectives, and a control mechanism. Provides insight on how best to implement developed strategy as it relates to the human-resource management, marketing, and finance departments.

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

Student individually arranges to study under the guidance of a program faculty member. Project or paper to be submitted on a topic of current interest in an area related to health care management. Regular meetings provide the student with guidance and evaluation. Activities may also include readings, literature review, or other special or research projects. A maximum of 4 units is applicable to any degree program.

**CODING SPECIALIST****HLCS 236 Pharmacology (3)**

Introduces pharmacology, including a review of pharmaceuticals used in diagnosis, prevention, and treatment of disease as commonly encountered in medical records.

Prerequisite: HLCS 239; or equivalent.

**HLCS 238 Essentials of Human Diseases (3)**

Surveys human diseases, including the etiology, pathogenesis, and clinical manifestations of commonly encountered diseases.

Prerequisite: AHCJ 235\* (\*may be taken concurrently).

**HLCS 239 Introduction to Health Records Science (3)**

Introduces health care facilities and the information systems involving health records. In-depth study of health record content, confidentiality of health care information, and professional ethics.

**HLCS 241 Medical Terminology (2)**

Prefixes, suffixes, and root words used in the language of medicine. Terms pertaining to pathology and surgery. Terms studied by body system: gastroenterology, cardiology, neurology, musculoskeletal, dermatology, and respiratory.

Prerequisite: Written assessment of the English language.

**HLCS 242 Coding I (4)**

Principles and conventions of ICD-9-CM coding in diseases and procedures pertaining to infectious disease; diseases of blood, endocrine, respiratory, digestive, genitourinary, skin, and musculoskeletal systems; and mental disorders. Includes one-hour weekly laboratory to enhance coding proficiency.

Prerequisite: HLCS 236; or equivalent.

**HLCS 243 Coding II (4)**

Principles and conventions of ICD-9-CM coding in diseases and procedures pertaining to pregnancy, perinatal conditions, poisonings, injuries, complications of medical and surgical care, the circulatory system, and neoplasms. Includes one-hour weekly laboratory using actual patient record to enhance coding proficiency.

Prerequisite: HLCS 242.

**HLCS 245 Coding III (4)**

Principles of current procedural coding (CPC) at the intermediate level—including: surgical coding for all body systems; medical procedures; anesthesia coding; radiology, pathology, and laboratory coding. Modifier assignment. Also includes two-hour weekly laboratory practice on 3M software.

Prerequisite: HLCS 243.

**HLCS 254 Evaluation and Management Coding for Billing and Reimbursement (3)**

Principles of billing and third-party reimbursement as they relate to physician professional coding and APC assignment for health care institutions. Includes E & M coding conventions and modifiers. Coding for physician practice settings—including outpatient, inpatient, ER, observation, SNF, and other common settings. Principles of health service billing covered, including billing terminologies, the billing process, and the universal billing forms. Includes one-hour weekly laboratory practice using actual patient records and 3M encoding software to enhance student proficiency.

Prerequisite: HLCS 245.

**HLCS 257 Coding Special Topics (3)**

Coding-system usage by reimbursement agencies, laws governing these processes, and federally supervised coding auditing to assure that the laws of coding are followed. Health care delivery systems and internal billing and reimbursement in these settings. Requirements of state and federal coding regulatory agencies, ethics of coding, coding quality, and coding compliance. Content varies to accommodate the changing nature of health care reimbursement processes and laws.

Prerequisite: HLCS 245.

**HLCS 961 Coding Practicum I (2)**

Twelve-week (six hours per week) coding laboratory provides a capstone experience for students who have completed all academic course work in coding. Enables students to apply all state and national coding and reimbursement regulations to a variety of inpatient and outpatient records. Provides students the opportunity to improve speed and accuracy prior to entering the job force.

Prerequisite: HLCS 257.

**HLCS 962 Coding Practicum II (2)**

Continues HLCS 961. HLCS 962 includes an additional twelve-week (six hours per week) coding laboratory experience under direct supervision of an instructor.

Prerequisite: HLCS 961.

**HEALTH INFORMATION ADMINISTRATION****HLIN 215 Fundamentals of Medical Interpretation (4)**

Prepares the bilingual student for entry into medical interpretation for the health care setting. Provides a basic introduction to medical terminology, anatomy and physiology, pathology (disease process), pharmacology, surgical procedures, U.S. health care delivery systems, medical-legal issues, and professionalism.

Prerequisite: Language proficiency test.



**HLIN 301 Introduction to Health Records Management (4)**

History of health records, professional ethics, and the administration of health information management as a profession and as a health care facility service. Techniques for numbering and filing records. Principles of indexes and registers, and retention of records. Overview of nomenclatures and classification systems. Philosophy of accreditation, certification, and licensure standards for hospitals. Introduces health care reimbursement systems. In-depth study of patient records, including content and documentation formats. Compares hospital versus ambulatory care records.

**HLIN 303 Basic Coding Principles and Techniques I (3)**

Principles of disease and operation classification (coding) using ICD-9-CM. Basic coding techniques for diagnoses, surgical procedures, symptomatology, and other reasons for health care encounters. Coding techniques by topic: infectious disease, endocrine, nutritional, metabolic, hematologic, nervous system, sense organs, respiratory, genitourinary, skin, and musculoskeletal diseases.

Prerequisite: AHCJ 402\* (\*may be taken concurrently).

**HLIN 304 Basic Coding Principles and Techniques II (3)**

Continues review of disease and operation coding with ICD-9-CM. Emphasizes obstetrical and newborn coding, trauma, poisonings, complications of surgical and medical care, diseases and procedures of the circulatory system, and neoplasms. Includes history, principles, and purpose of other recognized systems of nomenclature and classification in health care, with associated use of disease and operation indexes.

Prerequisite: HLIN 303.

**HLIN 305 Health Care Statistical Applications (3)**

Problem-solving approach to health care statistical applications and data presentation. Introduces research statistics. Laboratory sessions include instruction in the use of Microsoft Excel for data presentation and analysis.

**HLIN 306 E & M Coding for Billing and Reimbursement (2)**

Principles of evaluation and management coding and E & M modifier assignment pertaining to physician professional billing and institutional APC assignment. Coding for physician practice settings includes outpatient, inpatient, ER, observation, SNF, and other common practice settings. Principles of health service billing covered—including billing terminologies, the billing process, universal billing forms; and reimbursement under commercial, managed care, and federally funded insurance plans.

Prerequisite: HLIN 303, HLIN 304.

**HLIN 325 Pharmacology for Health Information Administration (2)**

Provides understanding of pharmacology as required for medical record analysis, audits, and other related studies. Basic definitions, sources of information, classification of drugs, and principles and mechanisms of drug actions.

**HLIN 361 Health Information Administration Laboratory I (1)**

Supervised experience in health information departments and other areas of health care facilities. Includes applied laboratory assignments for HIM professional courses.

**HLIN 362 Health Information Administration Laboratory II (1)**

Supervised experience in health information departments and other areas of health care facilities. Includes applied laboratory assignments for HIM professional courses.

**HLIN 395 Professional Practice Experience I—Junior Affiliation (3)**

Three-week (40 hours per week) supervised clinical experience in a health facility or health-related organization at the end of the junior year. Written and oral reports of experience, with classroom discussion. Not required of registered health information technologists (RHITs).

Prerequisite: Completion of junior-year courses and laboratory assignments; or permission of the department chair.

**HLIN 401 Survey of Health Systems Management (4)**

The science of information and its applications to management and patient care in the health care industry. Information systems concepts, theories, technologies, and models; as well as an in-depth review of information system creation and adaptation. General systems concepts in health care: analysis, design, implementation, and maintenance. Strategies for the successful management of information systems in an integrated or interfaced environment, with emphasis on health information applications. Future trends in information system elements presented in conjunction with analysis of these trends in the health record profession. Major term project includes the development of database specifications, inputs, outputs, implementation schedules, and maintenance plans.

**HLIN 407 Financial Management for Health Information Management (2)**

Financial aspects of health care involving prospective reimbursement system, analysis of various health care reimbursement schemes, and financial disbursements. Budget variance analysis, analysis of cost components, operating statements, and productivity related to a department budget. Examines financial accounting systems, financial evaluation ratios, and reports. Strategies and techniques for successful revenue-cycle management.

**HLIN 421 Survey of Health Systems Management—Applied (4)**

Applies information systems theory to the development of effective health care facility systems in preparation for transition to paperless patient records—including utilization of standard nomenclatures, vocabularies, and classification systems. Data management strategies, including data integrity, security, quality, and standardization. System security in all environments. Analyzes implementation of health care standards. Examines state and national attempts toward a longitudinal electronic health record, including RHIOs, NHIN, HIE, etc. Major term project includes research, analysis, and presentation of a contemporary issue in information systems that impacts the practice of information management in health care. Laboratories include field trips to institutions for demonstrations of optical imaging and EHR applications.

Prerequisite: HLIN 401.

**HLIN 441 Legal Aspects of Health Information Administration (4)**

Basic principles of law related to the health care field. Law-making process. Analysis of legislation. Risk management aspects of medical documentation. Overview of the court system in the United States. Development of policies and procedures regarding confidentiality. Release of general, psychological, alcohol, drug, and HIV / AIDS documentation. Release of information in response to subpoenas, court orders, and search warrants. Analysis of consent forms. Assignment for The Federal Register. The concept of improper disclosure and negligence. Reporting requirements. Introduction to the contents of the Health Insurance Portability and Accountability Act (HIPAA), with emphasis on the privacy section, and its impact on health care. Field trip to a local legal library.

**HLIN 444 Corporate Compliance in Health Care (3)**

Practical application of the guiding principles of corporate compliance in health care organizations. Analyzes standards and policies established by the Center for Medicare and Medicaid Services. Studies in-depth Joint Commission on Accreditation of Health Care Organization, Health Insurance Portability and Accountability Act (HIPAA), qui tam laws, and fiscal intermediaries—emphasizing business ethics and integrity. Includes the process of institutional audits.

**HLIN 445 Coding Seminar (3)**

Advanced coding concepts and comprehensive review of all health care coding systems. Current procedural terminology (CPT) at the beginning and intermediate level. Management issues in reimbursement using DRGs, APC, and other prospective payment systems. Reviews the federally supervised coding auditing process, including state and federal coding and billing regulations, chargemaster maintenance, coding ethics, coding quality, and coding compliance. Various code sets and terminologies used in health care systems.

Prerequisite: HLIN 304; or equivalent.

**HLIN 451 Quality Improvement in Health Care (3)**

Quality improvement methodology. Data retrieval, display, and follow-up for various sectors of health care. Mechanisms for promoting facility-wide participation in achieving optimum patient care, as delineated in medical staff-information management, accreditation, and government standards. Risk management as an integral facet of quality improvement. Relationship to corporate compliance.

**HLIN 462 Health Information Administration Laboratory III (1)**

Supervised experience in health information departments and other areas of health care facilities, with emphasis on management. Includes applied laboratory assignments for HIM professional courses.

**HLIN 463 Health Information Administration Laboratory IV (1)**

Supervised experience in health information departments and other areas of health care facilities, with emphasis on management. Includes applied laboratory assignments for HIM professional courses.

**HLIN 475 Research Methods in Health Information Management (3)**

Introduces the scientific method in research. Focuses on the major steps of the research process as these steps relate to research report evaluation, proposal writing, literature review, development of conceptual framework, identification of variables, statement of hypotheses, research design, and analysis and presentation of data. Common research design and assessment of risk in epidemiologic studies.

Prerequisite: AHCJ 351.

**HLIN 483 Long-Term and Alternative Delivery Systems in Health Care (4)**

Focuses on aspects of health information management in delivery systems other than acute care, and their interrelationships. Health record content, format, regulatory and accreditation requirements, the role of the HIM professional, data collection/reporting, risk management, utilization management, and quality improvement areas. Long-term care, hospital-based ambulatory care, free-standing ambulatory care, hospice, home health care, dialysis treatment centers, veterinary medicine, consulting, correctional facilities, mental health care, substance abuse, dental care, and managed care organizations. Field trip to a skilled nursing facility.

**HLIN 484 Current Topics in Health Information Administration (3)**

Topics of current interest in the field of health information administration, including career planning, management skills, and professional development. Content varies.

Prerequisite: HLIN 493, HLIN 494.

**HLIN 493 Health Information Management I (4)**

Introduces basic management functions, philosophies, and tools of health care management. Emphasizes management theory, management tools, and application. Specific topics include: planning, organizing, controlling, management by objective, problem solving and decision making, productivity management, and group dynamics.

**HLIN 494 Health Information Management II (5)**

Advanced management study of topics relevant to the HIM profession. Topics include: ergonomics and workplace design; transcription management; individual and organizational productivity; project management; attracting, developing, and maintaining a workforce; innovation and change management; federal labor legislation; ethical and social responsibility in management; disaster preparedness and entrepreneurship. Six-to-eight hour administration-management laboratory addresses contemporary administrative management strategies, strategic planning, business planning, and employee relations at the administrative level. Organizational, interrelational, and managerial functions and concepts in the health care setting. Laboratory assignments include, but are not limited to, management case studies, Visio software training, and office layout development using Visio software.

Prerequisite: HLIN 493.

**HLIN 495 Professional Practice Experience Senior Affiliation (3)**

Directed experience (120 clock hours) at an approved health care or health-related facility. Applies skills and knowledge to management. Written and oral reports of experience, with classroom discussion. International experience may be available.

Prerequisite: Completion of the first two quarters of the senior year; or permission of the department chair.

**HLIN 499 Health Information Administration Independent Study (1-4)**

Student submits a project or paper on a topic of current interest in an area of health information administration. Regular meetings to provide the student with guidance and evaluation. Elected on the basis of need or interest. May be repeated.

## HEALTH PROMOTION AND EDUCATION

### HPRO 414 Personal Health and Fitness (4)

Applies health principles to the student's physical, mental, spiritual, and social health.

### HPRO 415 Consumer Health (3)

Studies fitness and health in terms of consumer welfare, marketing, and fraud. Discusses ethics as related to professional behavior.

### HPRO 416 Health through the Lifespan (4)

Examines changes in health status that may occur between birth and old age. Emphasizes tailoring wellness strategies and programs to the needs of various age groups.

### HPRO 417 Biomechanics (4)

Studies the laws of motion and kinetics of human movement. Discusses basic body movements and how to maximize efficiency. Includes the role of exercise in injury prevention.

Prerequisite: Anatomy and physiology.

### HPRO 418 Introduction to Human Disease (3)

Introduces acute and chronic disease processes by organ system: musculoskeletal, cardiovascular, nervous, digestive, urogenital, integumentary, respiratory, and endocrine.

### HPRO 421 Administration of Wellness Programs (4)

Surveys the contribution wellness programs make to corporate, commercial, and community programs. Basic structure, organization, and management of fitness facilities and programs—including budgeting, marketing, and sales. Introduces legal, management, and accounting principles related to program sustainability. Includes program evaluation, cost-benefit analysis, cash flow management, personnel development, and strategic planning.

### HPRO 424 Health Appraisal and Wellness Testing (4)

Instruction and guided practice in performing a wide variety of fitness tests. Interprets test data and applies results to individualized exercise prescriptions. Laboratory included.

### HPRO 425 Exercise Science (3)

The relationship of basic physiological responses to exercise and health, longevity, and athletic performance. Presents anatomy and physiology of exercise, including: cardiorespiratory fitness, muscular strength, muscular endurance, flexibility, and body composition.

Prerequisite: HPRO 424; and anatomy and physiology.

### HPRO 426 Fitness for Special Populations (4)

Exercise as an adjunct to the treatment of illness and as an aid to the prevention of chronic disease. How to set up safe and effective exercise programs for the disabled, elderly, and other populations of interest.

Prerequisite: HPRO 424.

### HPRO 431 Psychology and Sociology of Sport (3)

Role, effect, and importance of sport in society. Psychological principles that motivate individuals to initiate and continue sport activities.

### HPRO 432 Injury Prevention (2)

Use of facility and equipment management to prevent injuries. Emphasizes common injuries, risk factors, training techniques that prevent or minimize injuries, development of facility rules and regulations, and equipment maintenance.

### HPRO 433 Athletic Training (3)

Organization and management of athletic training programs. Includes instruction about the evaluation and treatment of heat exhaustion and heat stroke; and field injuries such as abrasions, cuts, and concussions. Leads to certification in basic CPR and first aid. Laboratory included.

Prerequisite: HPRO 432; and anatomy and physiology.

### HPRO 436 Programs in Health Promotion (4)

Provides overview of existing health promotion programs in corporate, commercial, and community settings. Gives special attention to the development of new programs designed to meet existing needs in a variety of venues.

**HPRO 495 Wellness Programs Laboratory (3)**

Agency-based guided practice designed to acquaint the student with existing and developing wellness programs. May be repeated for three quarters.

Prerequisite: HPRO 421.

**HPRO 498 Senior Project (1, 3)**

Agency-based project during which the student addresses problems associated with and recommends solutions to a management and/or evaluation issue using problem-solving strategies.

Prerequisite: HPRO 421.

**HPRO 499 Directed Study/Special Project (1-4)**

Individual arrangements for undergraduate, upper division students to study under the guidance of a program faculty member. May include readings, literature review, or other special projects. Minimum of thirty hours required for each unit of credit. A maximum of 4 units applicable to any undergraduate degree program.

**HPRO 501 Human Anatomy and Physiology I (4)**

Systematic investigation of the form and function of human biological systems. Laboratory included. Limited to doctoral degree students.

**HPRO 502 Human Anatomy and Physiology II (4)**

Continues HPRO 501. Systematically investigates the form and function of human biological systems. Laboratory included. Limited to doctoral degree students.

**HPRO 503 Human Anatomy and Physiology III (4)**

Continues HPRO 502. Systematically investigates the form and function of human biological systems. Laboratory included. Limited to doctoral degree students.

**HPRO 507 Spirituality and Health: The Wholeness Connection (3)**

Examines how spiritual/religious beliefs and practices might influence physical health through known physiological mechanisms of the neuroendocrine and immune systems. How devout spiritual/religious beliefs and practices might affect not only a sense of well-being and quality of life, but also longevity. Information about religious/spiritual study methodologies and research instruments. Explores principles of spiritual care as applied to practice, including perspectives on the theology of healing, the connection between body and spirit, and the roles of faith and meaning.

**HPRO 508 Aspects of Health Promotion (2)**

Dynamics of community and individual health. Factors in the promotion of a healthful lifestyle, including cardiovascular enhancement, stress reduction and coping mechanisms, nutritional awareness, weight management, and substance control. Available to non-major students.

**HPRO 509 Principles of Health Behavior (3)**

Introduces key health behavior-change theories and psychosocial determinants of health behaviors. Provides an overview of motivation, stress and coping, addiction, culture, and religion as related to health behavior. Laboratory emphasizes communication, leadership, and group process activities.

**HPRO 514 Values, Culture, and Health (3)**

Specific values related to primary public health problems in today's multicultural society. Studies beliefs, attitudes, and values that affect behavior change. Includes value development and educational strategies that address values. Major project included.

**HPRO 515 Mind-Body Interactions and Health Outcomes (3)**

Studies the effect of the neurological system on physical health, with a focus on psychoneuro-immunology.

Prerequisite: Anatomy and physiology, biochemistry.

**HPRO 519 Pharmacology (3)**

Basic and clinical pharmacology. Emphasizes drugs of concern to health promotion specialists. Principles of drug addiction, drug receptors and pharmacodynamics, pharmacokinetics, and practical uses for drugs.

Prerequisite: Anatomy and physiology, general chemistry, organic chemistry, biochemistry.

**HPRO 523 Maternal/Child Health: Policy and Programs (3)**

Examines national and global public health policy, initiatives, and programs targeting childbearing women, as well as infants and children. Explores selected issues—such as poverty, access to and utilization of health care, violence, and perinatal chemical exposure—within socioeconomic, political, and ethical frameworks. Emphasizes interdisciplinary delivery of services within a public health setting.

**HPRO 524 Adolescent Health (3)**

Studies developmental and health problems unique to the adolescent period of life. Focuses on special needs and public health programs designed to reach adolescents. Gives attention to special problems, such as social adaptation, juvenile delinquency, drug abuse, suicide, adolescent pregnancy.

**HPRO 525 Topics in Health Promotion (1-4)**

Lecture and discussion of a current topic in health promotion bearing on the theory or practice of one aspect of the discipline. Specific content varies from quarter to quarter. May be repeated for additional credit.

**HPRO 526 Lifestyle Diseases and Risk Reduction (3)**

Discusses current lifestyle diseases, including: cardiovascular, metabolic, communicable, and nutritional. Concepts regarding risk factors, screening approaches, and risk reduction, with impact on specific health parameters.

Prerequisite: Anatomy and physiology; or consent of instructor.

**HPRO 527 Obesity and Disordered Eating (3)**

Explores causes and development of obesity, principles of weight management, and relapse prevention. Includes discussion of the causes and treatment of anorexia nervosa and bulimia.

Prerequisite: Consent of instructor.

**HPRO 528 Controversial Health Practices (2, 3)**

Epidemiological analysis of quackery in North America. Studies traditional and/or controversial health beliefs and practices, including why people advocate and use them. Topics include: allopathy, aromatherapy, ayurvedic medicine, Chinese medicine, chiropractic, energy medicine, faith healing, food faddism, herbalism, holistic health, homeopathy, iridology, medical dowsing, naturopathy, New Age medicine, pseudopsychologies, radionics, reflexology, spiritism, therapeutic touch, and more. Laboratory included for third unit of credit.

**HPRO 529 Preventive and Therapeutic Interventions in Chronic Disease (4)**

Specific preventive care techniques dealing with lifestyle and chronic disease in the clinical environment. Multidisciplinary lifestyle interventions in the prevention and treatment of dyslipidemia, diabetes, hypertension, osteoporosis, sleep disorders, and other chronic conditions. Uses case studies and role playing to explore interventions in a variety of clinical scenarios. Limited to doctoral degree students.

Prerequisite: HPRO 526.

**HPRO 530 Fundamentals of Research in Health Behavior and Health Education (3)**

Introduces research in the behavioral health sciences and health education. Helps students apply appropriate research principles and techniques in health education. Provides an overview of the philosophy and methods of science—including causal inference, developing research questions and testing hypotheses, and identifying appropriate data collection techniques. Emphasizes development of a practical understanding of why, when, and how to use research methods; and how to become an informed reader of scientific research articles and reports. Addresses experimental methods, surveys, and quantitative research designs. Covers other topics, including assessments of reliability, validity, measurement, and research ethics.

**HPRO 531 Pathology of Human Systems I (3)**

Fundamental mechanisms of disease, including degenerative changes and physical and chemical injury. Reviews diseases by organ system: endocrine, biliary, hepatic, respiratory, digestive, urogenital, skeletal, and central nervous. Limited to doctoral degree students.

**HPRO 532 Pathology of Human Systems II (3)**

Introduces micropathological organisms. Surveys tissue changes in infectious diseases. Growth disorders, including: basic genetic problems and neoplasia; cardiovascular, circulatory, and inflammatory systems. Limited to doctoral degree students.

Prerequisite: HPRO 531.

**HPRO 535 Health Education Administration and Leadership (3)**

Analyzes the managerial and leadership roles of the health education specialist in both public and private health organizations. Emphasizes organizational structure and health communication; as well as managing, supervising, marketing, decision making, and other administrative roles.

**HPRO 536 Program Planning and Evaluation (2)**

Introductory course that utilizes the planning cycle to address public health problems. Analyzes trends in health care planning. Applies planning cycle to selected topics. Provides overview of evaluation design, methodology, and instrument development for health education programs. Laboratory included.

**HPRO 537A Community Programs Laboratory—A (1)**

The first of a three-quarter sequence for health promotion and education (HPRO) majors; a stand-alone laboratory for other majors. Students operationalize qualitative research methods in a laboratory environment by conducting observational assessments, windshield surveys, and personal interviews; participating in focus groups; and compiling secondary data for completing a community-needs assessment. HPRO students use their data to plan a health education intervention for their target/priority population during Winter Quarter; during Spring Quarter they implement and evaluate their programs.

**HPRO 537B Community Programs Laboratory—B (2)**

Student designs marketing and evaluation plans for community-based health education program. Implements and evaluates programs developed during HPRO 537A.

**HPRO 537C Community Programs Laboratory—C (1)**

Students continue their marketing plan while implementing and evaluating their programs in the community. Students write a plan for program sustainability with community organizations as stakeholders.

Prerequisite: HPRO 537A, HPRO 537B.

**HPRO 538 Health Education Program Development and Evaluation (3)**

Uses program-planning theories and models with diagnostic techniques to design, deliver, and evaluate health promotion and education programs in a variety of settings: community, occupational, educational, and health care. Presents steps in the health educational planning process, which involves: 1) conducting social, epidemiological, behavioral, environmental, ecological, educational, administrative, and policy assessments; 2) writing goals and objectives; 3) selecting appropriate intervention strategies; 4) integrating and applying behavioral and educational theories to interventions; 5) enhancing instructional delivery and design skills; and 6) evaluating the educational process and reporting results.

**HPRO 539 Policy and Issues in Health Education (3)**

Examines and discusses policy issues, trends, and strategies relating to health education—including but not limited to HIV / AIDS, women's health, injury prevention and control, tobacco and other drug issues, and health issues in ethnically diverse populations. Provides opportunities to develop and improve presentation skills. Project included.

**HPRO 542 Health and Dependency Counseling (3)**

Applies behavior change and addiction theory in a practical way to the counseling process. Gives attention to individuals with multiple, concurrent health issues such as stress, lifestyle problems, and addictions. Laboratory required.

Prerequisite: HPRO 509; HPRO 538 recommended.

**HPRO 543 Writing for Health Professionals (2, 3)**

Writing by health professionals for popular, lay, or professional publications. Student selects journal or magazine, writes query letter, and prepares abstract and manuscript in final form for submission. Includes preparation of camera-ready art. One publishable paper for 2 units; two papers for 3 units. Limited to graduate-degree students.

**HPRO 544 Health Education Evaluation and Measurement (3)**

Student selects and develops health education and psychosocial measurement instruments, determines validity and reliability of evaluation tools, provides overview of data collection methods and protocols, analyzes and interprets results, and communicates evaluation findings.

**HPRO 548 Community and Domestic Violence (3)**

Provides overview of issues of violence in American society. Explores domestic and community violence as they affect selected population groups. Psychological approaches to etiology and intervention. Explores societal violence, including violence observed in populations such as gangs and high-risk youth. Topics include spousal, elder, and child abuse. Special attention directed toward co-factors, such as alcohol and drug abuse, and their relationship to domestic violence. Laboratory included.

**HPRO 550 Women in Development (3)**

Global epidemiological profile of women in terms of educational patterns, economic productivity, social status, and mortality patterns. Risks to physical and psychosocial health. National and international legal and regulatory issues and programs to promote access to health care, economic productivity, and the health of women.

Cross-listing: GLBH 550.

**HPRO 553 Addiction Theory and Program Development (3)**

Applies addiction process theory in a practical way to program development. Emphasizes alcohol, tobacco, and other drug (ATOD) problems, using case studies and extensive reading as part of a problem-solving approach. The epidemiological, pathological, physiological, psychological, and spiritual bases for prevention and treatment of addictions. Laboratory included.

**HPRO 555 Early-Age Parenthood (3)**

Causes, consequences, and interventions in adolescent pregnancy. Issues of adolescent fertility, including social and economic roots, relationship to cultural change, and individual developmental etiology. Explores consequences of early fertility, focusing primarily on interventions and assessment.

**HPRO 556 High-Risk Infants and Children: Policy and Programs (3)**

Examines development of at-risk infants and children, and evaluates interventions that may modify cognitive and social outcomes. Takes into account medical risk factors, such as preterm birth, prenatal substance exposure, and respiratory distress; as well as social factors, such as gender and socioeconomic status. Critically analyzes the efficacy of early-intervention strategies, such as UNICEF's Baby Friendly Hospital Initiative, child survival strategies, and the Initiative for the Girl Child; as well as U.S.-based programs such as Head Start. Examines legal, regulatory, and ethical issues.

Prerequisite: Physiology or consent of instructor.

**HPRO 557 Issues and Programs in Family Planning (3)**

Examines options in contraceptive technology and accompanying social, cultural, political, and ethical considerations. Introduces policy issues and programmatic strategies related to development, organization, and management of family-planning programs—including logistics, education, politics, and social issues. Includes fertility issues, prevention and postponement of pregnancy, child spacing, and abortion. Explores information, education, and communication designs.

**HPRO 559 Lactation Management (3)**

Analyzes the managerial and leadership roles of the health education specialist in both public and private health organizations. Emphasizes organizational structure and health communication; as well as managing, supervising, marketing, decision making, and other administrative roles.

**HPRO 564 Mental Health and Society (3)**

Interdisciplinary study of mental health issues affecting society and its basic biologic unit, the family. Study and application of intervening strategies in life crises. Prevention of adjustment reactions evolving beyond the level of a life process crisis. Laboratory included.



**HPRO 565 Tobacco Use: Prevention and Interventions (3)**

The second part of a three-part, module-based course. Provides a comprehensive overview of the pathophysiology that underlies the health impact of tobacco use on individuals, families, and society; smoking behavior; pharmacodynamics of nicotine delivery; mechanisms of nicotine addiction, and most importantly, intervention methods (cessation and prevention). Includes individual, group, systems, and public intervention strategies; and provides the measures of efficacy for each. Incorporates terminology and concepts in epidemiology, anatomy, physiology, immunology, endocrinology, and biochemistry. Recommended that EPDM 561, 562 also be completed if HPRO 565 is taken as an elective.

**HPRO 567 Reproductive Health (3)**

Focuses on issues of reproductive health of women and men within the context of public health policy, community-based planning, and ethical decision making. Examines public health interventions at various points of the reproductive life cycle, including pubertal, preconceptual, and menopausal. Explores issues that affect health and fertility—including sexually transmitted diseases; reproductive tract infections; sexual violence, such as rape, incest, and genital mutilation; sexual trafficking; and nutritional and lifestyle issues impacting directly on reproductive health.

**HPRO 573 Exercise Physiology I (3)**

Basic preparation for development and leadership of exercise programs. Includes exercise physiology, training, acute and chronic effects of exercise, simple assessment of fitness, role of exercise in prevention of common health problems, and management of selected risk factors. Discusses endurance, strength, flexibility, and aerobic exercises. Laboratory included.

**HPRO 575 Immune System: Public Health Applications (3)**

Explores the biological and behavioral consequences from evidence-based scientific research of the relationships and communications between the brain, the peripheral nervous system, the endocrine system, and the immune system. Presents an introductory but comprehensive summary of various scientific disciplines that study brain, immune system, and health behavior interactions that provide the health care professional with an integrative understanding of lifestyle, whole-person care for optimal immune system function and wellness.

**HPRO 578 Exercise Physiology II (3)**

Physiologic basis of the normal body function during exercise. Emphasizes the training effects of aerobic exercise. Noninvasive laboratory methods of the study of the circulatory and respiratory systems. Laboratory included.

Prerequisite: HPRO 573; and basic physiology.

**HPRO 584 Aging and Health (3)**

Analyzes the physical, psychological, and social factors that influence the health of the aging population. Includes theories of aging, age-related changes, acute and chronic health problems of aging, medication use, and long-term care issues.

**HPRO 586 Introduction to Preventive Care (1)**

Provides overview of preventive care's role within public health. Orientation to doctoral program, with attention to professional portfolio preparation. Limited to doctoral degree students in preventive care.

**HPRO 587 Preventive Care Practice Management (2)**

Provides overview of issues and challenges in the operation of a preventive care practice. Emphasizes billing and reimbursement issues, and legal and ethical responsibilities of the preventive care specialist. Limited to doctoral degree students in preventive care.

**HPRO 588 Health Behavior Theory and Research (4)**

Analyzes in-depth factors contributing to decisions about health behavior. Theory and research relevant to individual, family, organization, and community behavior. Readings from original theorists and researchers on topics related to health behavior. Emphasizes development of critical-thinking skills, professional written work, and oral presentation. Application of theory to development of a basic research proposal.

Prerequisite: HPRO 509; or equivalent. Consent of instructors for nondoctoral degree students.

**HPRO 589 Qualitative Research Methods (3)**

Applies qualitative methods to instrument design, sampling, and data collection. Focuses on public health issues, ethics, and theory-building. Supervised needs assessment in a selected community.

**HPRO 606 Preventive Care Seminar (2)**

Current issues in the preventive care field, such as ethical limits, health care fraud, practice management, third-party reimbursement. Integrates course work with challenges expected in employment situations. Guest lecturers. Limited to preventive care students.

Prerequisite: Minimum of 90 units of course work toward Dr.P.H. (preventive care) degree.

**HPRO 608 Advanced Seminar in Health Education (2)**

Studies current issues in health promotion and education from the standpoint of historical setting. Explores emerging challenges to professional preparation in health promotion and education, and the place of professional health educators in the practice of public health. Must be taken for a total of 6 units.

Prerequisite: Consent of instructors for nondoctoral degree students.

**HPRO 614 Seminar in Maternal and Child Health Practice (2)**

Analyzes issues, trends, and current practices affecting maternal and child health. Discussion and student participation. Limited to Track I maternal-child health practitioners.

**HPRO 685 Preliminary Research Experience (2)**

Experience gained in various aspects of research under the guidance of a faculty member and by participation in an ongoing project. Must be completed prior to beginning dissertation/research project. Limited to doctoral degree students.

**HPRO 692 Health Education Research Consultation (1-4)**

Individual consultation on project design and data collection, analysis, and evaluation.

Prerequisite: Consent of instructor.

**HPRO 694 Research (1-14)**

Independent research on problems currently receiving study in the School of Public Health or in associated institutions; collaboration with researcher/faculty member. Research program arranged with faculty member(s) involved and approved by advisor. Research consultation toward dissertation available. Minimum of thirty hours required for each unit of credit. Written report required. Limited to qualified master's and doctoral degree students.

Prerequisite: Consent of instructor responsible for supervision and of program advisor.

**HPRO 695 Community Practicum (1-3)**

Individual arrangements for selected students to participate in a guided, structured, practical experience in ongoing clinical lifestyle-modifying situations. Minimum of thirty hours required for each unit of credit. A maximum of 4 units applicable to a degree program.

**HPRO 696 Directed Study/Special Project (1-4)**

Individual arrangements for advanced students to study under the guidance of a program faculty member. May include reading, literature review, 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.

Prerequisite: Consent of instructor and of program advisor.

**HPRO 698 Dissertation (1-14)**

Student prepares a manuscript presenting results of the doctoral research study. Limited to doctoral degree candidates.

**HPRO 700 MIP-Peace Corps Field Practicum (0)**

Designed for students who must maintain continuous registration in the School of Public Health as a condition of the twenty-seven-month Peace Corps field practicum that is part of their master's degree program.

**HPRO 703 Applied Research Experience (12)**

Training and supervised experience with other health professionals in applied settings. Opportunity to work with individuals, families, and groups in assessing health and building relationships conducive to health-promoting behavior changes. Limited to doctoral (preventive care) degree students.

**HPRO 704A Internship (3)**

Training and supervised experience (minimum of 100 clock hours) with other health professionals in applied settings. Opportunity to work with individuals, families, and groups in assessing health and building relationships conducive to health-promoting behavior changes. Limited to doctoral (preventive care) degree students. May be repeated for a total of up to 12 units.

**HPRO 704B Internship (6)**

Training and supervised experience (minimum of 200 clock hours) with other health professionals in applied settings. Opportunity to work with individuals, families, and groups in assessing health and building relationships conducive to health-promoting behavior changes. Limited to doctoral (preventive care) degree students. May be repeated for a total of up to 12 units.

**HPRO 704C Internship (9)**

Training and supervised experience (minimum of 300 clock hours) with other health professionals in applied settings. Opportunity to work with individuals, families, and groups in assessing health and building relationships conducive to health-promoting behavior changes. Limited to doctoral (preventive care) degree students.

**HPRO 704D Internship (12)**

Training and supervised experience with other health professionals in applied settings. Opportunity to work with individuals, families, and groups in assessing health and building relationships conducive to health-promoting behavior changes. Limited to doctoral (preventive care) degree students. A ten-week (40 hours/week) field internship.

**HPRO 797 MIP Residency in Health Education (12)**

Individual guided study in operational field practice under faculty supervision. Limited to graduate students in the HPRO Master's International Program (M.P.H./MIP) whose projects have been approved by their committees.

**HPRO 798A Field Practicum (3)**

Allows the student an opportunity to demonstrate mastery of basic competencies in health education, strengthens areas of weakness, integrates theoretical constructs with practical applications in the community, and documents an intervention from design through evaluation stages. Student expected to implement a project with supervision by an experienced health educator at the M.P.H. or doctoral degree level. Concurrent attendance in seminars on campus required.

Prerequisite: Course requirements, satisfactory completion of the culminating activity, and consent of instructor(s) responsible for supervision and of program advisor.

**HPRO 798B Field Practicum (6)**

Allows the student an opportunity to demonstrate mastery of basic competencies in health education, strengthens areas of weakness, integrates theoretical constructs with practical applications in the community, and documents an intervention from design through evaluation stages. Student expected to implement a project with supervision by an experienced health educator at the M.P.H. or doctoral degree level. Concurrent attendance in seminars on campus required.

Prerequisite: Course requirements, satisfactory completion of the culminating activity, and consent of instructor(s) responsible for supervision and of program advisor.

**HPRO 798D Field Practicum (12)**

Allows the student an opportunity to demonstrate mastery of basic competencies in health education, strengthens areas of weakness, integrates theoretical constructs with practical applications in the community, and documents an intervention from design through evaluation stages. Student expected to implement a project with supervision by an experienced health educator at the M.P.H. or doctoral degree level (40 hours per week for ten weeks). Concurrent attendance in seminars on campus required.

**HUMANITIES****HUMN 311 Sacred Music I (2)**

Regular participation in a church choir, with an approved history of sacred music component.

**HUMN 312 Sacred Music II (2)**

Regular participation in a church orchestra, with an approved history of sacred music component.

**HUMN 451 Humanities Integration I (1)**

Integration of core values and professional aspirations with specified learning events that are largely extraclassroom. Focuses on critical thinking and clear writing.

**HUMN 452 Humanities Integration II (1)**

Integration of core values and professional aspirations with specified learning events that are largely extraclassroom. Focuses on values clarification, writing style, and editing.

Prerequisite: HUMN 451.

**HUMN 475 History and Health Care (3)**

A survey of world history from ancient to modern times, with significant events in the evolution of health care placed into their larger context. Places a premium on analysis of historical events and how theories influence and are influenced by health care.

**HUMN 487 Philosophy of Health Care (3)**

Considers the development of medical theory, institutions, practice, and their interrelationships. Focuses on the nature of scientific thought, the status of medical knowledge, and the connection between theory and observation.

**INTEGRATED BIOMEDICAL GRADUATE STUDIES****IBGS 501 Biomedical Communication and Integrity (2)**

Improves students' scientific communication skills, as well as increases their awareness of proper ethical conduct in biomedical research. Teaches appropriate techniques for written and oral presentations; as well as ethics and standard practices for record keeping, data analysis, and authorship.

**IBGS 502 Biomedical Information and Statistics (2)**

Introduces students to the basics of statistical analysis in a relevant biomedical setting. Additionally, provides practical information on the use of database systems and software tools for data management and analysis.

**IBGS 503 Biomedical Grant Writing (2)**

Encompasses the process of writing a biomedical research grant from medical problem through final draft of an NIH-style research proposal. With guidance from the instructor, students design and write a research proposal that is ready for submission to the NIH. Familiarizes students with potential funding sources, the process of formulating a fundable research plan, and communicating that plan in an appropriate format.

**IBGS 511 Cellular Mechanisms and Integrated Systems I (8)**

The first quarter of a three-quarter sequence designed to give first-year graduate students a broad, integrated exposure to the molecular and cellular basis of modern human biology. Focuses on the structure and function of biological macromolecules such as proteins, RNA, and DNA.

Prerequisite: Admission to one of the basic science graduate programs, including Medical Scientist Training Program (MSTP).

**IBGS 512 Cellular Mechanisms and Integrated Systems II (8)**

The second quarter of a three-quarter sequence designed to give first-year graduate students a broad, integrated exposure to the molecular and cellular basis of modern human biology. Focuses primarily on cellular structure and function.

Prerequisite: IBGS 511.

**IBGS 513 Cellular Mechanisms and Integrated Systems III (8)**

The third quarter of a three-quarter sequence designed to give first-year graduate students a broad, integrated exposure to the molecular and cellular basis of modern human biology. Focuses on how cells and molecules work together to create functioning organs, ending with a treatment of genetic, lifestyle, and microbial contributions to human pathology.

Prerequisite: IBGS 511, IBGS 512.

**IBGS 521 Cellular Mechanisms and Integrated Systems I Journal Club (2)**

A component of IBGS, taught in a journal-club format. Students assigned to a literature topic present an oral critique of a recent paper—recommended and mediated by faculty—relevant to basic sciences covered by IBGS 511 lectures for the week. If not presenting, student reads and prepares a written critique of the assigned paper. Participation required. Designed to help students (1) critically evaluate the scientific literature; (2) develop both oral and written communication skills; (3) develop the habits of asking questions during oral presentations and of participating in scientific discussion; (4) broaden knowledge of current research; (5) gain insight into the approaches different researchers take toward scientific problems by promoting scientific interaction in an informal atmosphere; (6) better understand how basic science research contributes to the medical sciences; and (7) design and write a grant proposal-type question, rationally defining its importance and designing experimentation whereby the question/hypothesis can be answered/tested. Open to all interested students and researchers at Loma Linda University.

Prerequisite: Enrollment in any Loma Linda University School of Medicine graduate program.

**IBGS 522 Cellular Mechanisms and Integrated Systems II Journal Club (2)**

A component of IBGS, taught in a journal-club format. Students assigned to a literature topic present an oral critique of a recent paper—recommended and mediated by faculty—relevant to basic sciences covered by IBGS 512 lectures for the week. If not presenting, student reads and prepares a written critique of the assigned paper. Participation required. Designed to help students (1) critically evaluate the scientific literature; (2) develop both oral and written communication skills; (3) develop the habits of asking questions during oral presentations and of participating in scientific discussion; (4) broaden knowledge of current research; (5) gain insight into the approaches different researchers take toward scientific problems by promoting scientific interaction in an informal atmosphere; (6) better understand how basic science research contributes to the medical sciences; and (7) design and write a grant proposal-type question, rationally defining its importance and designing experimentation whereby the question/hypothesis can be answered/tested. Open to all interested students and researchers at Loma Linda University.

**IBGS 523 Cellular Mechanisms and Integrated Systems III Journal Club (2)**

A component of IBGS, taught in a journal-club format. Students assigned to a literature topic present an oral critique of a recent paper—recommended and mediated by faculty—relevant to basic sciences covered by IBGS 513 lectures for the week. If not presenting, student reads and prepares a written critique of the assigned paper. Participation required. Designed to help students (1) critically evaluate the scientific literature; (2) develop both oral and written communication skills; (3) develop the habits of asking questions during oral presentations and of participating in scientific discussion; (4) broaden knowledge of current research; (5) gain insight into the approach different researchers take toward scientific problems by promoting scientific interaction in an informal atmosphere; (6) better understand how basic science research contributes to the medical sciences; and (7) design and write a grant proposal-type question, rationally defining its importance and designing experimentation whereby the question/hypothesis can be answered/tested. Open to all interested students and researchers at Loma Linda University.

**IBGS 604 Introduction to Integrative Biology Presentation Seminar (1)**

Students attend a series of research descriptions presented by graduate students.

**IBGS 605 Integrative Biology Presentation Seminar (1)**

A seminar course that gives graduate students in the basic sciences an opportunity to practice oral presentations on current research or current literature covering the various aspects of regulatory and integrative biology as applied to molecules, cells, tissues, organs, systems, and microbes. Students and faculty participate in a discussion and critical evaluation of the presentation.

**IBGS 607 Integrated Biomedical Graduate Studies Seminar (1)**

Weekly seminars presented by invited speakers in the biomedical sciences disciplines. Students required to register for course every quarter throughout their training.

**IBGS 696 Research Rotations (1)**

Incorporates the research rotations to be completed before assignment to a dissertation or thesis laboratory.

**INTERNATIONAL DENTIST PROGRAM—  
CLINICS****IDPC 825 General Clinics (8)**

Includes urgent care, service learning, and screening blocks. Repeated registrations required to fulfill the total units.

**IDPC 835 General Clinics (8-12)**

The third and fourth quarters of IDP general clinics. Repeated registrations required to fulfill the total units.

**IDPC 845 General Clinics (8)**

The final two quarters of IDP general clinics. Repeated registrations required to fulfill the total units.

**INTERNATIONAL DENTIST PROGRAM—  
GENERAL****IDPG 700 Review of General Dentistry (8-12)**

Remedial course that reviews the basic skills in cavity preparation for alloys and aesthetic restorations, occlusion, and single-casting restorations.

**IDPG 845 Evidence-Based Dentistry (2, 4)**

Scientific methods in dental research. Includes critical evaluation of published articles, research design, statistical analysis, evaluation of results, design of research reports, extensive reviews of various topics. Repeated registrations required to fulfill the total units.

**INTERNATIONAL DENTIST PROGRAM—  
ORAL PATHOLOGY****IDPO 534 Oral Medicine-Orofacial Pain and TMD (2)**

Differential diagnosis of orofacial and temporomandibular joint pain, including basic guidelines for initial therapy.

**IDPO 535 Oral Pathology and Diagnosis (2)**

Graduate-level survey of pathology. Developmental, infectious, neoplastic, and metabolic disorders studied relative to their epidemiology, etiology, clinical and/or radiographic and microscopic features, and management. Emphasizes differential diagnosis of dental, oral mucosal and soft-tissue, jaw, salivary gland, skin, and neck diseases.

**IDPO 725 Patient Assessment and Data Management (2)**

Student techniques for information gathering. Physical evaluation, data collection, and the problem-oriented dental record.

**IDPO 726 Patient Diagnosis and Treatment Planning (2)**

Student develops and presents treatment plan to the patient. Case-based, small-group treatment-planning exercises. Introduces computer-based treatment-plan management.

**IDPO 826 Oral and Maxillofacial Surgery (2)**

Reviews oral and maxillofacial surgery—including preprosthetic surgery, dental alveolar surgery, implant surgery, oral trauma, maxillofacial trauma, and preoperative infections. Reviews medications in the treatment of dentally related diseases and their potential interaction with total patient care.

**INTERNATIONAL DENTIST PROGRAM—  
PERIODONTICS AND PEDIATRIC  
DENTISTRY****IDPP 754 Clinical Periodontics (2)**

Overview of clinical periodontics—including scaling, root planing, occlusal adjustment, antimicrobial therapy, phase-contrast microscopy, and a variety of surgical concepts and techniques. Includes anticipated results of therapy, including options of surgical versus nonsurgical approaches.

Prerequisite: IDPG 750.

**IDPP 755 Pediatric Dentistry Clinic—IDP (1)**

Dental care of children in their primary, fixed, and young permanent dentition. Etiology of disease, prevention of oral disease, growth-and-development analysis, treatment planning, restorative procedures, and arch length control.

**IDPP 756 Pediatric Dentistry (2)**

Dental disease prevention (oral hygiene, diet, fluoride, pit and fissure sealants). Behavior management of the child dental patient. Diagnosis, treatment planning, and operative dentistry for children. Pediatric pulp therapy, dental arch-length management, local anesthesia and sedation for children. Medical aspects of pediatric dentistry.

**IDPP 756L Pediatric Dentistry Laboratory (1)**

Technique course that accompanies IDPP 756. Student performs operative procedures for amalgam and composite resin on simulated primary and young permanent teeth. Student performs pulpotomies on primary molar teeth and prepares primary teeth for stainless steel, open-faced stainless steel, and resin crowns. Fabricates unilateral and bilateral space maintainers.

Corequisite: IDPP 756.

**IDPP 759 Special Topics in Periodontal Therapy (2)**

Variation in periodontal diseases related to differing host conditions, including: age, hormones, habits, drugs, genetics, nutrition, stress, systemic disease, iatrogenic factors, trauma from occlusion, and endodontic interrelationships. Overview of surgical periodontal procedures and their roles, limitations, and effects. Surgery outcomes compared with short- and long-range effects of conservative therapy (with and without maintenance care, including effect of adjunctive chemical plaque control). Role of dental health care providers in periodontal therapy. Special problems in periodontal care.

**INTERNATIONAL DENTIST PROGRAM—RESTORATIVE****IDPR 701 Operative Dentistry I (2)**

Reviews the basic principles and techniques used in cavity preparation and restoration of teeth with silver alloy. Lecture and laboratory course.

**IDPR 702 Operative Dentistry II (2)**

Reviews basic principles and techniques of cavity preparation and restoration of teeth with aesthetic restorative materials. Studies the source, use, and manipulation of dental materials and their physical properties relative to dentistry. Lecture and laboratory course.

**IDPR 704 Introduction to Occlusion (2)**

Studies the temporomandibular joint, muscles of mastication, and the teeth in static and dynamic positions.

**IDPR 761 Removable Prosthodontics I (2)**

Reviews the basic clinical and laboratory removable prosthodontic procedures involved in the fabrication of removable partial dentures, maxillary immediate complete dentures, and interim removable partial dentures.

**IDPR 762 Removable Prosthodontics II (2)**

Reviews the laboratory phases of diagnosing, planning treatment for, and treating an edentulous patient. Lecture and laboratory course.

**IDPR 763 Removable Prosthodontics III (2)**

Biomechanics of removable partial dentures and their design and fabrication. Diagnosis and treatment planning for removable partial dentures. Clinical and laboratory procedures and sequencing of treatment for removable partial and complete dentures. Lecture and laboratory course.

**IDPR 771 Fixed Prosthodontics I (2)**

Reviews basic tooth preparation for single-casting restorations, including porcelain fused to metal; tissue management, impression techniques, and temporary restorations. Lecture and laboratory course.

**IDPR 772 Fixed Prosthodontics II (2)**

Reviews the basic design and fabrication of porcelain-fused-to-metal restorations; tissue management, impression techniques, and temporary restorations—including single units and fixed partial dentures. Lecture and laboratory course.

**IDPR 801 Fixed Prosthodontics III (2)**

Introduces advanced techniques for fixed prosthodontics, treatment planning, and repair of prosthetic failures. Techniques in evaluating and treating occlusal schemes with reversible procedures. Lecture and laboratory course.

**IDPR 803 Operative Dentistry III (2)**

Indications, preparations, and placement of the direct and indirect veneer, atypical cast gold, posterior, partial-coverage porcelain restorations, and WREB-type restorations. Lecture and laboratory course.

**IDPR 854 Implant Dentistry for the IDP Student (3)**

Scientific and technical foundation for implant surgery and expansion of basic implant procedures. Postplacement care, long-term maintenance, and clinical complications associated with dental implants. Emphasizes restoration of single implants, multiple quadrant posterior implants, and over-denture implants. Lecture and laboratory course.

**IMPLANT DENTISTRY****IMPD 505 Patient Presentation Seminar (1)**

Presents implant patient treatment, discusses alternate methods of rehabilitation and related literature. Repeated registrations required to fulfill the total units.

**IMPD 533 Applied Radiology for Implant Dentistry (1.5)**

Gives the postdoctoral student fundamental aspects of radiology imaging as part of the diagnosis and treatment.

**IMPD 561 Dental Bioengineering (2)**

Studies the structures and properties of dental implant materials and implant prosthodontic superstructures.

**IMPD 585 Implant Prosthodontics (2)**

Gives the graduate student in implant dentistry in-depth didactic and clinical instruction in techniques and procedures related to the rehabilitation of patients with prosthodontic devices supported by dental implants. Advanced clinical and laboratory procedures, emphasizing implant restorations for completely and partially edentulous patients. Emphasizes attachments and superstructure design. Repeated registrations required to fulfill the total units.

**IMPD 601 Literature Review in Implant Dentistry (1-2)**

Reviews historical and/or fundamental implant dentistry literature. Repeated registrations required to fulfill the total units

**IMPD 604 Current Literature Review in Implant Dentistry (2)**

Gives the postdoctoral students in implant dentistry a deeper understanding of the research and literature currently available. Repeated registrations required to fulfill the total units.

**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 postdoctoral students with the 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 631 Oral Implant Surgery (1)**

Instruction in basic and advanced implant surgery principles. Repeated registrations required to fulfill the total units.

**IMPD 634 Diagnosis and Treatment Planning in Implant Dentistry (1)**

Didactic and clinical aspects of diagnosis and treatment planning for patients with complex dental problems. Repeated registrations required to fulfill the total units.

**IMPD 637 Peri-Implant Histopathology (1)**

Gives 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 (1-3)**

Teaching experience in implant prosthodontics and implant surgery.

**IMPD 696 Scholarly Activity in Implant Dentistry (1)**

Selected didactic, clinical, and/or laboratory activity developed by the program director or a designated program faculty member. Primarily designed for students to fulfill the certificate requirements for scholarly activity/research in implant dentistry. Multiple registrations may be needed to complete these activities.

**IMPD 697A Research (1)**

Student identifies a research project, prepares a proposal, and obtains approval for the protocol. Multiple registrations may be needed to complete these research activities. This is a required course for the Master of Science (M.S.) and Master of Science in Dentistry (M.S.D.) degree tracks.

**IMPD 697B Research (1, 2)**

Conducting the actual research project, including the data collection. Multiple registrations may be needed to complete these research activities.

**IMPD 698 Thesis (1-8)****IMPD 725 Clinical Practice in Implant Dentistry (4)**

Experience in the clinical diagnosis and treatment of patients who may benefit from implant dentistry therapy. Repeated registrations required to fulfill total clock hours. A minimum of 120 clock hours per quarter. Repeated registrations required to fulfill total units.



**IMPD 726 Clinical Practice in Periodontics in Implant Dentistry (2)**

Clinical experience in the diagnosis and treatment of periodontal diseases. Repeated registrations required to fulfill total units. A minimum of sixty clock hours per quarter. Repeated registrations required to fulfill total units.

**IMPD 727 Clinical Practice of Prosthodontics in Implant Dentistry (2)**

Advanced clinical practice in the treatment of individuals with fixed, removable, maxillofacial, and implant prostheses. Repeated registrations required to fulfill total units. A minimum of sixty clock hours per quarter. Repeated registrations required to fulfill total units.

**MEDICINE—CONJOINT****MDCJ 501 Introduction to Medicine (2)**

Taught by the Department of Medicine and the Faculty of Religion for students in the Early-Decision Program. Helps students develop the writing and reading skills essential to perform medical duties, and helps students develop the whole-person care focus necessary for success as physicians.

**MDCJ 502 Introduction to Medicine II (2)**

Taught by the Departments of Biochemistry, Medicine, Pathology (Division of Human Anatomy), and Surgery; and the Faculty of Religion for students in the Early-Decision Program. Helps students develop skills in problem-based learning and standardized patient assessment, as well as whole-person care, which are skills necessary for success as a physician.

**MDCJ 504 Cell Structure and Function (2)**

A fully integrated, comprehensive course that develops knowledge and skills relating normal microscopic and submicroscopic anatomy to cellular biology, cellular physiology, and immunology. General pathology, the common thread for the course, familiarizes students with morphologic and functional changes affecting cells exposed to a variety of normal and, to a lesser extent, abnormal environments.

**MDCJ 505 Cell Structure and Function (3)**

A fully integrated, comprehensive course that develops knowledge and skills relating normal microscopic and submicroscopic anatomy to cellular biology, cellular physiology, and immunology. General pathology, the common thread for the course, familiarizes students with morphologic and functional changes affecting cells exposed to a variety of normal and, to a lesser extent, abnormal environments.

**MDCJ 506 Cell Structure and Function (2)**

A fully integrated, comprehensive course that develops knowledge and skills relating normal microscopic and submicroscopic anatomy to cellular biology, cellular physiology, and immunology. General pathology, the common thread for the course, familiarizes students with morphologic and functional changes affecting cells exposed to a variety of normal and, to a lesser extent, abnormal environments.

**MDCJ 507 Cell Structure and Function (2)**

A fully integrated, comprehensive course that develops knowledge and skills relating normal microscopic and submicroscopic anatomy to cellular biology, cellular physiology, and immunology. General pathology, the common thread for the course, familiarizes students with morphologic and functional changes affecting cells exposed to a variety of normal and, to a lesser extent, abnormal environments.

**MDCJ 514 Immunology (2.5)**

Medical immunology, emphasizing the cellular, humoral, and molecular components of the immune system. Immune responses associated with host defense and disease processes. Immunologic techniques related to the practice of other basic and clinical sciences.

Cross-listing: MDCJ 543; MICR 520.

**MDCJ 515 Medical Biochemistry, Molecular Biology, and Genetics (1)**

Foundation courses [515, 516, 517, 518 sequence]—in conjunction with MDCJ 553, 556—for study of normal biology in the first-year curriculum. Comprehensive sequence in biochemistry and molecular biology establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells.

**MDCJ 516 Medical Biochemistry, Molecular Biology, and Genetics (2)**

Foundation courses [515, 516, 517 sequence]—in conjunction with MDCJ 553, 556—for study of normal biology in the first-year curriculum. Comprehensive sequence in biochemistry and molecular biology establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells.

**MDCJ 517 Medical Biochemistry, Molecular Biology, and Genetics (1)**

Foundation courses [515, 516, 517 sequence]—in conjunction with MDCJ 553, 556—for study of normal biology in the first-year curriculum. Comprehensive sequence in biochemistry and molecular biology establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells.

**MDCJ 518 Medical Biochemistry, Molecular Biology, and Genetics (2)**

Foundation courses [515, 516, 517 sequence]—in conjunction with MDCJ 553, 556—for study of normal biology in the first-year curriculum. Comprehensive sequence in biochemistry and molecular biology establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells.

**MDCJ 524 Pathophysiology and Applied Physical Diagnosis (1, 3)**

Two parallel components bridging the preclinical curriculum to the clinical curriculum: (1) pathophysiology lectures that build upon the courses in organ pathology and physiology, introduce students to the pathophysiologic principles underlying mechanisms of disease, and emphasize the application of pathophysiologic principles to a variety of new situations that require problem solving and synthesis in a clinical context; and (2) practical experience that develops and applies skills that build on the first-year sequence in physical diagnosis.

Prerequisite: MDCJ 561, MDCJ 562, MDCJ 563, MDCJ 564.

**MDCJ 525 Pathophysiology and Applied Physical Diagnosis (4)**

Two parallel components that bridge the preclinical curriculum to the clinical curriculum: (1) Pathophysiology lectures build upon the courses in organ pathology and physiology, introduce students to the pathophysiologic principles underlying mechanisms of disease, and emphasize the application of these principles to a variety of new situations that require problem solving and synthesis in a clinical context. (2) Practical experience develops and applies skills that build on the first-year sequence in physical diagnosis.

**MDCJ 526 Pathophysiology and Applied Physical Diagnosis (2)**

Two parallel components that bridge the preclinical curriculum to the clinical curriculum: (1) Pathophysiology lectures build upon the courses in organ pathology and physiology, introduce students to the pathophysiologic principles underlying mechanisms of disease, and emphasize the application of these principles to a variety of new situations that require problem solving and synthesis in a clinical context. (2) Practical experience develops and applies skills that build on the first-year sequence in physical diagnosis.

**MDCJ 535 Medical Biochemistry, Molecular Biology, and Genetics (1, 2)**

Comprehensive sequence in biochemistry and molecular biology that establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells. Sequence restricted to Biomedical Science Program (certificate). Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

**MDCJ 536 Medical Biochemistry, Molecular Biology, and Genetics (1)**

Comprehensive sequence in biochemistry and molecular biology that establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells. Sequence restricted to Biomedical Science Program (certificate).

**MDCJ 537 Medical Biochemistry, Molecular Biology, and Genetics (2)**

Comprehensive sequence in biochemistry and molecular biology that establishes the biochemical basis for cell structure, emphasizes an integrated approach to the understanding of cellular metabolism, provides a biochemical/genetic/molecular basis for understanding disease, and examines the mechanisms for genetic information flow in prokaryotic and eukaryotic cells. Sequence restricted to Biomedical Science Program (certificate).

**MDCJ 543 Medical Neuroscience (1)**

Fundamentals of neuroanatomy and neurophysiology integrated in a clinical context with principles of the human nervous system.

Cross-listing: ANAT 537.

**MDCJ 544 Medical Neuroscience (1, 3)**

Fundamentals of neuroanatomy and neurophysiology integrated in a clinical context with principles of the human nervous system.

Cross-listing: ANAT 538.

**MDCJ 553 Cell Structure and Function (2)**

Fully integrated, comprehensive course that develops knowledge and skills relating normal microscopic and submicroscopic anatomy to cellular biology, cellular physiology, and immunology. General pathology, the common thread for the course, familiarizes students with morphologic and functional changes affecting cells exposed to a variety of normal and, to a lesser extent, abnormal environments.

**MDCJ 554 Cell Structure and Function (3)**

Fully integrated, comprehensive course that develops knowledge and skills relating normal microscopic and submicroscopic anatomy to cellular biology, cellular physiology, and immunology. General pathology, the common thread for the course, familiarizes students with morphologic and functional changes affecting cells exposed to a variety of normal and, to a lesser extent, abnormal environments.

**MDCJ 555 Cell Structure and Function (2)**

Fully integrated, comprehensive course that develops knowledge and skills relating normal microscopic and submicroscopic anatomy to cellular biology, cellular physiology, and immunology. General pathology, the common thread for the course, familiarizes students with morphologic and functional changes affecting cells exposed to a variety of normal and, to a lesser extent, abnormal environments.

**MDCJ 556 Cell Structure and Function (2)**

Fully integrated, comprehensive course that develops knowledge and skills relating normal microscopic and submicroscopic anatomy to cellular biology, cellular physiology, and immunology. General pathology, the common thread for the course, familiarizes students with morphologic and functional changes affecting cells exposed to a variety of normal, and to a lesser extent, abnormal environments.

**MDCJ 561 Physical Diagnosis (1)**

Provides a core foundation of knowledge, skills, values, and attitudes necessary for effective physician-patient communication and physical examination.

**MDCJ 562 Physical Diagnosis (2)**

Provides a core foundation of knowledge, skills, values, and attitudes necessary for effective physician-patient communication and physical examination.

**MDCJ 563 Physical Diagnosis (3)**

Provides a core foundation of knowledge, skills, values, and attitudes necessary for effective physician-patient communication and physical examination.

**MDCJ 564 Physical Diagnosis (1)**

Provides a core foundation of knowledge, skills, values, and attitudes necessary for effective physician-patient communication and physical examination.

**MDCJ 566 Evidence-Based Medicine and Information Sciences (1)**

Introduces freshman medical students to basic concepts of evidence-based medicine and helps facilitate lifelong self-directed learning. Describes the challenges of the information needs of the twenty-first century physician. Teaches a process by which students can efficiently and effectively acquire the answers to their clinical questions and apply them to the care of the patients they see. Teaching methodologies include large-group didactic presentations, small-group discussions, and self-study online exercises. Sets the foundation for a lifelong learning process in which all physicians will engage.

**MDCJ 567 Evidence-Based Medicine and Information Sciences (2)**

Introduces first-year medical students to basic concepts of evidence-based medicine and helps facilitate lifelong self-directed learning. Describes the challenges of the information needs of the twenty-first century physician. Teaches a process by which students can efficiently and effectively acquire the answers to their clinical questions and apply them to the care of the patients they see. Teaching methodologies include large-group didactic presentations, small-group discussions, and self-study online exercises. Sets the foundation for a lifelong learning process in which all physicians will engage.

**MDCJ 568 Evidence-Based Medicine and Information Sciences (1)**

Designed for first-year medical students. Introduces basic concepts of evidence-based medicine to help facilitate lifelong self-directed learning. Describes the challenges of the information needs of the twenty-first century physician. Teaches a process by which students can efficiently and effectively acquire the answers to their clinical questions and apply them to the care of the patients they see. Includes large-group didactic presentations, small-group discussions, and self-study online exercises. Lays the foundation for an ongoing lifelong learning process in which all physicians will engage.

**MDCJ 569 Evidence-Based Medicine and Information Sciences (1)**

Designed for first year medical students. Introduces basic concepts of evidence-based medicine to help facilitate lifelong self-directed learning. Describes the challenges of the information needs of the twenty-first century physician. Teaches a process by which students can efficiently and effectively acquire the answers to their clinical questions and apply them to the care of the patients they see. Includes large-group didactic presentations, small-group discussions, and self-study online exercises. Lays the foundation for an ongoing lifelong learning process in which all physicians will engage.

**MDCJ 571 Diseases of Neuroscience (3)**

A multidisciplinary course that develops a foundation in neuropathology, neuropathophysiology, and neuropharmacology necessary for a successful transition into clinical neurology.

**MDCJ 572 Diseases of Neuroscience II (1)**

A multidisciplinary course that develops a foundation in neuropathology, neuropathophysiology, and neuropharmacology necessary for a successful transition into clinical neurology.

**MDCJ 599 Medicine Conjoint Directed Study (1-6)****MDCJ 821 Preventive and Community Medicine (1.5-6)**

Interdisciplinary, four-week rotation broadens exposure to community-based health care done mainly in primary care clinics. Clinical experience in areas not otherwise covered in the curriculum: dermatology and STDs, clinical preventive medicine, and integrative/whole-person care in ambulatory and managed care settings.

**MDCJ 891 Whole-Person Care (1.5-12)**

Student works with Loma Linda Family Practice faculty to provide both inpatient and outpatient care.

**MEDICINE****MEDN 599 Medicine Directed Study (1.5-18)****MEDN 701 Medicine Clerkship (1.5-18)**

The internal medicine junior rotation is a twelve-week rotation focused on developing the knowledge, skills and attitudes necessary to care for adult patients. Students have two four-week blocks of inpatient experience and four weeks of exposure in the outpatient setting. At midrotation, each student meets with the clerkships director to discuss the student's progress at that time, including a formative session with a standardized patient observed by a faculty member who will give feedback on clinical skills.

**MEDN 821 Medicine Subinternship (1.5-6)**

Medicine subinterns work under direct supervision of second- and third-year medicine residents. In cooperation with the first-year medicine resident, each subintern follows assigned patients from admission to discharge (seven-to-eight patients on wards; four or five patients on intensive care units). The attending physician is ultimately responsible for assuring appropriate patient care and will authenticate the subintern's work.

**MEDN 822 Medicine Intensive Care (1.5-3)**

MICU subinterns work under direct supervision of second- and third-year medicine residents on the service. Supervising resident assigns newly admitted patients to the subintern, who will be responsible for performing and recording a complete history and physical examination on the patient's chart in a timely manner. The attending physician is ultimately responsible for assuring appropriate patient care and will authenticate the subintern's work.

Prerequisite: MEDN 701.

**MEDN 891 Medicine Elective (1.5-18)****MARRIAGE AND FAMILY****MFAM 416 Theories of Personality (3)**

Covers genetic and environmental factors, such as personality detriments, theories of personality, personality development, structure and assessment of personality, personality dynamics, and the complex process in implementation.

**MFAM 417 Abnormal Behavior (3)**

Introduces the psychology of behavioral disorders, with emphasis on etiology and symptomatology. Provides an overview of treatment modalities.

Prerequisite: A course in personality theory; or consent of instructor.

**MFAM 501 Research Tools and Methodology: Quantitative (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: Qualitative (3)**

Qualitative methodology. Prepares students to undertake research projects using the intensive interview method of qualitative research. Explores practical and epistemological issues and problems in qualitative research in a workshop format.

**MFAM 515 Crisis Intervention Counseling (3)**

Experiential course that presents theory, techniques, and practices of crisis intervention, 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. Presents therapeutic tapes covering topics such as death and dying, incest, spousal abuse, and rape. Laboratory required.

**MFAM 516 Play Therapy (2)**

Experiential course that teaches practitioners and graduate students to apply play therapy techniques in dealing with childhood problems such as molestation, physical abuse, depression, trauma, and family conflict.

**MFAM 524 Psychopharmacology and Medical Issues (3)**

Introduces 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 (2)**

A process group that provides 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)**

Critically evaluates ten major models of group counseling, as well as overviews stages in the development of a group. Uses didactic and experiential methods 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 that studies group process in action and teaches ways to apply diverse techniques to an ongoing group.

**MFAM 535 Case Presentation and Professional Studies (4)**

Formally presents ongoing individual, marital, and family cases by clinical trainees. Taping, video playbacks, and verbatim reports with faculty and clinical peers. Explores the interface between MFTs and other professionals. Examines licensure procedures; applying to professional organizations (AAMFT, etc.). Develops professional attitude and identity. Limited to students in clinical training.

**MFAM 536 Case Presentation Seminar (2)**

Formally presents ongoing individual, marital, and family cases by clinical trainees. Taping, video playbacks, and verbatim reports with faculty and clinical peers. Examines and trains 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 537 Case Presentation Seminar (2)**

Formally presents ongoing individual, marital, and family cases by clinical trainees. Taping, video playbacks, and verbatim reports with faculty and clinical peers. Examines and trains in applied psychotherapeutic techniques, assessment, diagnosis, prognosis, and treatment of premarital, couple, family, and child relationships; examines dysfunctional and functional aspects, including health promotion and illness prevention. Limited to students in clinical training.

**MFAM 538 Theory and Practice of Conflict Resolution (2)**

Overviews the field of conflict management and resolution. Basic theories and methodologies in the field, with opportunity to develop basic clinical mediation skills.

**MFAM 539 Solution-Focused Family Therapy (2)**

Provides an in-depth understanding of solution-focused family therapy and practice. Focuses 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. Explores implications for the family therapist.

**MFAM 546 Brain and Behavior (3)**

Provides general background information in neuroanatomy, neurochemistry, neurophysiology, and psychopharmacology; and expands the student's understanding of basic physiological mechanisms and how they influence behavior. Studies physiological mechanisms, including: nerve cells and neural transmission, the central and peripheral nervous systems, the peripheral neuromuscular system, the sensory systems, and the endocrine system. Examines behaviors influenced by these systems including: addictions, emotional behavior, human communication, ingestive behavior, learning and memory, mental disorders, movement, perceptual processes, reproductive behavior, and sleep. Introduces special topics, including: neuropsychology and neuropsychological assessment, the effects of traumatic brain injury on cognition and behavior, and therapy with brain-injured clients. Gives student general information on methods and strategies of research in the field of brain and behavior.

**MFAM 547 Social Ecology of Individual and Family Development (3)**

Studies human individual development and its relationship to the family life cycle from birth through aging and death of family members. Discusses biological, psychological, social, and spiritual development 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)**

Integrates Christian concepts and family therapy in a conceptual and clinical context.

**MFAM 551 Family Therapy: Foundational Theories and Practice (3)**

Overviews the major theories in marriage and family therapy. Explores systems theory concepts in light of the major models of family therapy.

**MFAM 552 Couples Therapy: Theory and Practice (3)**

Overviews the marital therapy literature, with a focus on clinical theory and techniques.

**MFAM 553 Family Systems Theory (3)**

Reviews Bowen 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. Uses narratives and the role they play in a person's life through language and meaning systems. Examines issues of power, collaboration, culture, community, and re-authoring narratives, particularly in the works of Michael White and David Epston.

**MFAM 556 Psychopathology and Diagnostic Procedures (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.  
Cross-listing: COUN 556.

**MFAM 557 Object Relations Family Therapy (2)**

Seminar format that acquaints students in marriage and family therapy with the basics of object relations theory. Emphasizes the unique properties of object relations-systems theory in bridging intrapsychic and environmental forces.

**MFAM 558 Advanced Human Growth and Development (3)****MFAM 559 Cognitive-Behavioral Couples Therapy (2, 3)**

Experiential course that surveys major cognitive-behavioral family therapy therapists, and integrates treatment techniques into practice in laboratory.

**MFAM 564 Family Therapy: Advanced Foundational Theories and Practice (3)**

Comprehensively surveys 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. Class examines the theoretical strengths and limitations of these models in relation to culturally diverse populations.

**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: Personality (2)**

Focuses on the etiology of marital dysfunction, specifically from a dual function of individual and systems psychopathology.

Prerequisite: MFAM 556.

**MFAM 568 Groups: Process, and Practice (3)**

Surveys major theoretical approaches, including individual theories, marital groups, network, and family therapy groups. Group laboratory experience provided wherein students apply theory to practice and develop group leadership skills.

Cross-listing: COUN 568.

**MFAM 569 Advanced Group Therapy (2)**

Provides advanced knowledge and training in leading structured groups. Based on a therapeutic, psychoeducational, and/or educational model, students design a structured group treatment to be used in a community setting.

Prerequisite: MFAM 568.

**MFAM 574 Family Therapy: Theory and Practice (4)**

Covers the basic epistemological principles defining family systems practice; major family therapy models; and unique values, ethics, and professional issues associated with systems/relational practice. Course may be used by MFT majors for elective credit.

**MFAM 584 Advanced Child and Adolescent Problems (3)**

Psychodynamics involved in child and adolescent problems with respect to the family relationship. Demonstrates a variety of counseling approaches to the treatment of children and adolescents, with emphasis on diverse settings (e.g., education, hospital, and agency)

**MFAM 585 Internship in Family Mediation (1-4)**

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 that permits the spiritual and affective aspects of Gestalt therapy to be expressed and integrated with systems theory.

**MFAM 606 Emotionally Focused Couples Therapy (2)**

Students examine the theory of emotionally focused therapy and concentrate on the work and research of Susan Johnson

Prerequisite: Consent of instructor.

**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. Focuses on developing the student's skills as an active agent in therapy and research.

Prerequisite: MFAM 555.



**MFAM 616 Cognitive Assessment (4)**

Reviews major psychometric instruments in the area of intelligence; verbal and nonverbal skills; academic, motoric, and adaptive behavior skills. Supervised administration, scoring, and report preparation.

**MFAM 617 Personality and Behavior Testing (4)**

Introduces administration and interpretation of standard nonprojective instruments and personality/behavior inventories that function primarily in the assessment of children and adolescents. Offers some application to adults but focuses primarily on testing minors. In addition to scoring and evaluation of test protocols, facilitates the writing of an integrated clinical report based on instruments designed to measure personality or behavioral components of the person's functioning. Initial practice on all the instruments considered part of the laboratory component of the course. Students expected to have field activity where, at a clinical site, they complete a test protocol on identified subjects. Requires further supervision in the administration, scoring, and interpretation of these instruments for chartering as a psychologist in Alberta. Course meets the instructional requirements for personality and behavioral assessment of individuals.

**MFAM 624 Individual and Systems Assessment (3)**

Applies 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 635 Case Presentation Seminar (2)**

Clinical trainers formally present ongoing individual, marital, and family cases. Taping, video playbacks, and verbatim reports with faculty and clinical peers. Limited to students enrolled in clinical training.

**MFAM 636 Case Presentation Seminar (2)**

Clinical trainers formally present ongoing individual, marital, and family cases. Taping, video playbacks, and verbatim reports with faculty and clinical peers. Limited to students enrolled in clinical training.

**MFAM 637 Case Presentation Seminar (2)**

Clinical trainers formally present ongoing individual, marital, and family cases. 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 (2, 3)**

Current theories and treatment of chemical dependencies. Emphasizes 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 645 Advanced Substance Abuse-Treatment Strategies (3)**

Presents information about addictions treatment for adults, adolescents, families, groups, and those with multiple diagnoses.

Prerequisite: MFAM 638.

**MFAM 651 AAMFT-Approved Supervisor Training (3)**

Postgraduate: The didactic component requirement for AAMFT-approved supervisor designation.

**MFAM 658 Reality Theory and Family Therapy (2)**

A clinically oriented seminar where students learn the theory of reality therapy and how to integrate it into the practice of marriage and family therapy. Emphasizes practice and therapeutic skills in using reality therapy with clients.

**MFAM 659 Current Trends (2)**

Acquaints students with the field of health care management by analyzing the important areas about which the manager should be concerned. In addition to the basic functions of health care manager—planning, organizing, directing, and controlling—emphasizes 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)**

Examines various experiential family theories. Laboratory experience included.

**MFAM 665 Structural Family Therapy (2)**

Enhances observational, conceptual, planning, and intervention skills. Increases ability to understand verbal and nonverbal communication. Broadens understanding of structural family therapy.

**MFAM 670 Seminar in Sex Therapy (2)**

Discusses major male and female sexual dysfunctions. Therapeutic processes of treatment.

Prerequisite: MFAM 674.

**MFAM 674 Human Sexual Behavior (3)**

Sexuality in contemporary society from the sociopsychological 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.

Cross-listing: COUN 674.

**MFAM 675 Clinical Problems in Marriage and Family Therapy (1, 2)**

Sexuality in contemporary society from the sociopsychological viewpoint. Anatomy and physiology of human sexuality: reproduction, normal and abnormal sexual response, psychosexual development, human fertility, human sexual dysfunction. Integrates systems theory. A minimum of thirty contact hours.

**MFAM 679 Universal Psychiatric Care (1, 2)**

Provides opportunity to participate in an international institute featuring world leaders in psychiatric care. Topics include: world diagnostic guidelines, psychotropic medications and issues in treating ethnic populations, spirituality and psychiatry, transpersonal psychiatry in theory and practice, multidisciplinary teams in the practice of mental health services, and problems of mental health in immigrant populations. Students registering for 1 unit participate in ten hours of lecture, including a pre- and postsession. Those taking 2 units also develop a major paper on one of the institute topics.

**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 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)**

Provides training to candidates preparing to take the oral examination for MFT licensure.

**MFAM 734 Professional Clinical Training (1.5, 3)**

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 fifty clock hours.

**MFAM 734A Professional Clinical Training (1.5-6)**

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 300 clock hours.

**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.

**MARITAL AND FAMILY THERAPY****MFTH 501 Supervision in Marital and Family Therapy (2)**

Studies 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 Marital and Family Therapy (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 students in developing a personal epistemology.

**MFTH 505 Advanced Family Studies (4)**

Critically surveys 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 apply course material to the practice of marriage and family therapy.

**MFTH 506 Clinical 1—Cybernetics (MRI, Milan) (3)**

Studies 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)**

Studies 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)**

Studies 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)**

Studies personal spiritual development as the center for individual and family life and professional practice, with special attention to balancing healthy family relationships and professional obligations.

**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 Therapy (2)**

Examines research, models, and techniques of marital and couples therapy. Applies course material to clinical work. Emphasizes intimacy and sexual issues.

**MFTH 516 Divorce and Remarriage (2)**

A family systems approach to separation, divorce, remarriage and step-family formation. Reviews research and family intervention strategies.

**MFTH 517 Group Therapy (2)**

Examines 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 in Higher Education (2)**

Discusses theory, techniques, and processes in the teaching of MFT, including an examination of didactic and experiential techniques.

Cross-listing: FMST 519.

**MFTH 521 E-Learning: Construction and Design (2)**

Provides instruction in the design and construction of online and distance education curricula. Emphasizes the design of online courses utilizing Blackboard and Desire2Learn applications. Students create an online course for undergraduate or master's degree-level instruction in a family or counseling-related field of study.

Prerequisite: Prior teaching or teaching assistance experience. MFTH 519 recommended.

**MFTH 522 E-Learning: Delivery and Management (2)**

Prepares students to teach an online course designed in MFTH 521 via Blackboard or Desire2Learn. Emphasizes mastery of online course delivery and the creation of a virtual class community. Students responsible for all aspects of online course instruction, including maintenance of their course Web site, communicating with students, and assigning grades while under the mentorship of the instructor.

Prerequisite: MFTH 521.

**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)**

Critically evaluates the individual and systemic assessment tools utilized in MFT, and their application to clinical work.

**MFTH 526 Advanced Psychopharmacology (3)**

Overviews 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 Organizations: Structure, Process, and Behavior (3)**

Helps students understand how organizations operate and how different contingency factors can affect the choices managers make. Covers essential theories and concepts for managing in the twenty-first century. Treats behavioral processes with reference to organizational structure and design. Larger-systems theory and leadership skills.

**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 (3)**

Final course in the medical family-therapy concentration for MFT students. Provides students with models of systemic interventions in health care settings based from theory and research, and includes empirically based practices for integrated behavioral health. Reviews treatment paradigms to address common medical issues, such as patient noncompliance and the over- and underutilization of services. Develops an in-depth, family-centered care plan for patients and their families that incorporates significant others into the healing or coping process. Presents medical terminology and common consultation practices, and elucidates the medical model of care delivery. Research and clinical literature provides information related to the role of social support in morbidity and mortality rates, doctor/patient factors related to health outcomes, and culturally sensitive medical practice.

**MFTH 536 Family Theory (4)**

Examines and critiques 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 U.S. society and around the world.

**MFTH 538 Introduction to Relational Practice (2)**

Examines relational practice through observation and team involvement with ongoing cases. Emphasizes conceptualization and clinical skills and techniques using systems/relational approaches. Helps students distinguish and clarify what it means to practice from a systems/relational perspective.

**MFTH 544 Health and Illness in Families (3)**

Examines phenomenological aspects of health and illness in families from the patient's and family's perspectives. Explores in current research and theoretical literature the impact of illness on families and the impact of families upon illnesses. Expands the traditional mind-body integration to include mind, body, spirit, and relationships. Studies ethnographies and personal experiences to inform clinicians about the unique cultures created in the wake of serious illnesses. From these explorations, students research the culture of one group of medical patients that is bound together by a specific illness and prepare psycho-educational materials to be used in clinical work for that group.

**MFTH 555 Organizational Development and Change (3)**

Helps students understand the application of behavioral and family science knowledge to improve organization performance and organization functioning. Discusses the process of planned change and the change process. Includes interpersonal and group processes such as T-groups, process consultations, and team building. Addresses conflict resolutions, organizational lifespan, leadership skills, and critical-incident stress debriefing.

**MFTH 556 Management Consulting and Professional Relations (3)**

Prepares the student to consult with organizations and management. Covers subjects such as: developing proformas; budgets and proposals; the goals of consulting; methods, strategies, and conclusions; organizational life style; and organizational culture. Includes the following additional areas: coordinating consulting with employee assistance and human resources professionals, developing training programs and identifying target audiences and appropriate interaction methodologies, understanding the role of technology and information systems.

**MFTH 557 Organizational Assessment (3)**

How to make an assessment of an organizational system. Addresses data collection and analysis, outcome evaluation, and how to present assessment in a systemic manner.

**MFTH 564 Social Context of Health (3)**

Introductory course that provides a sociological overview of the mental and physical health care system in the United States. Examines the social, contextual, and structural factors that give rise to access and treatment within the health care system. Topics include the history of family therapy and medical institutions in the U.S.; theoretical perspectives on health and illness; examination of the health care industry; social inequality in health and illness; culture and health; mental health consequences of mental illness to individuals, families, and society; mental health over the life course.

**MFTH 601 Statistics I (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 of ANOVA, and analysis of covariance. Evaluation and assumptions of nonparametric alternatives.

Cross-listing: FMST 601.

**MFTH 602 Statistics II (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. Evaluates alternatives to maximum likelihood estimation.

Prerequisite: FMST 601 or MFTH 601. Cross-listing: FMST 602.

**MFTH 603 Statistics III (4)**

Advanced course in multivariate statistics that includes topics such as multidimensional scaling, cluster analysis, factor analysis, path analysis, structural equations modeling, log-linear modeling, time series analysis, and hierarchical linear models. Focuses on understanding these advanced techniques and their application to data analysis.

Prerequisite: FMST 602 or MFTH 602. Cross-listing: FMST 603.

**MFTH 604 Advanced Qualitative Methods (4)**

Overviews qualitative methods and their application to research in marriage and family therapy. Includes examination of ethnographies, naturalistic inquiry, phenomenological research, the grounded theory approach, and narrative inquiry.

Cross-listing: FMST 604.

**MFTH 605 Advanced Quantitative Methods (4)**

Provides advanced overview of quantitative research methods in marriage and family therapy, including experiments and quasi-experiments, survey methodology, and outcome studies.

Cross-listing: FMST 605.

**MFTH 606 Overview and Critique of Research in Families and Therapy (4)**

Critically examines existing research on marriage and family therapy. Draws on prior courses in qualitative and quantitative research methods, which enables 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 Analysis and Presentation Issues in 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. Emphasizes problems of coherently and succinctly presenting research results in proposals, posters, brief reports, and articles.

Prerequisite: MFTH 604, MFTH 605. Cross-listing: FMST 608.

**MFTH 624 Program Development for Families and Communities (3)**

Examines core components of systemic/relational programs designed to address problems in families and larger systems. Explicates the elements of systemic programming that address clinical treatment problems/populations; as well as prevention and intervention issues affecting schools, neighborhoods and other communities. Using the systemic/relational paradigm of the field, students design programs reflecting their areas of interest.

**MFTH 625 Grant Writing (3)**

Study and practice in finding, developing, and responding to great opportunities in areas of interest of marriage and family therapists. Participants develop their own systemic/relational program, training, research, or dissertation grant idea; locate potential funding sources; tailor applications and proposals to each funding source; and critique and refine proposals to meet professional standards.

**MFTH 626 Program Evaluation and Monitoring (3)**

Examines quantitative and qualitative methods of evaluating system/relational programs and treatment approaches. Participants learn to design formative and summative internal monitoring procedures in areas of organizational functionality, program-process performance, service delivery, and program/clinical outcomes. Examines methods of evaluating MFT program/treatment efficacy.

**MFTH 627 Advanced Program Development and Evaluation (2)**

Participants develop D.M.F.T. degree project proposals through intensive literature review, consultation with organization and community stakeholders, discussion with faculty and peers, and refinement resulting from feedback following formal presentations. The D.M.F.T. degree proposal is the expected outcome from this two-quarter class. For D.M.F.T. degree students only.

Prerequisite: MFTH 624, MFTH 625, MFTH 626.

**MFTH 634 Practicum (2)**

Supervised clinical practice with individuals, couples, and families in Loma Linda University's MFAM clinic or another approved clinical setting. Three quarters, 2 units per quarter.

Prerequisite: At least 200 clinical hours.

**MFTH 635 Research in Family Systems Health Care (4)**

Applies qualitative and quantitative research methods to the clinical study of family systems health care.

**MFTH 636 Family Research (4)**

Examines and critiques research pertaining to marriage and family relationships.

**MFTH 637 Special Projects in Health and Illness in Families (1, 3)**

Independent study in which students who have taken MFTH 544 participate in research, program development or evaluation, or clinical activities related to the integration of relational health and wellness.

Prerequisite: MFTH 544\* (\*may be taken concurrently); either before or concurrently.

**MFTH 668 Qualitative Research Practicum (2)**

Students gain practical experience in conducting and evaluating qualitative research. Emphasizes methods of analysis and presentation of the research. Students develop a manuscript that is ready for submission to an academic journal and critically review the work of others.

Prerequisite: MFTH 604. Cross-listing: FMST 668.

**MFTH 694 Doctoral Seminar (.5)**

Ph.D. degree students develop and refine their dissertation proposals in a workshop format through presentation and discussion with faculty and other students. Three consecutive quarters of course enrollment and participation (Autumn through Spring) required for .5 unit of credit.

Cross-listing: FMST 684.

**MFTH 695 Project Research (1-12)**

Required research associated with the capstone project for the D.M.F.T. degree.

**MFTH 697 Research (1-6)**

Independent research relating to marital and family therapy or family studies under the direction of a faculty advisor.

Cross-listing: FMST 697.

**MFTH 698 Dissertation Research (1-10)**

Completes independent research contributing to the field of marital and family therapy.

**MFTH 785 Professional Clinical Training in MFT (1.5-3)**

Supervised experience in the practice of marital and family therapy. Hours represent face-to-face direct client contact. May be repeated.

**MFTH 786 Professional Development Proposal (0)**

Must be registered for at least one quarter prior to eligibility for 786A. The student's professional development plan must be formulated and approved by the faculty during this course.

**MFTH 786A Professional Development in Marital and Family Therapy (1.5-12)**

Doctoral-level experience in marital and family therapy under the supervision of a senior-level family therapist/mentor. Must be arranged in advance in the department. A total of 36 units required for graduation.

Prerequisite: MFTH 786.

**MFTH 786B Professional Internship in Marital and Family Therapy—Clinical (1.5-7.5)**

Supervised client contact (face-to-face hours only) in the practice of marital and family therapy, completed while enrolled in MFTH 786A.

Prerequisite: MFTH 786. Corequisite: MFTH 786A.

**MICROBIOLOGY****MICR 511 Medical Microbiology (1)**

Systematically studies microorganisms of medical importance, pathogenic mechanisms, host-parasite relationships, and methods of identification.

**MICR 512 Medical Microbiology (2)**

Systematically studies microorganisms of medical importance, pathogenic mechanisms, host-parasite relationships, and methods of identification. Continues MICR 511.

**MICR 513 Medical Microbiology (3)**

Systematically studies microorganisms of medical importance, pathogenic mechanisms, host-parasite relationships, and methods of identification. Continues MICR 511 and 512.

**MICR 514 Medical Microbiology (1)**

Systematically studies microorganisms of medical importance, pathogenic mechanisms, host-parasite relationships, and methods of identification.

**MICR 515 Introduction to Bioinformatics and Genomics (2)**

Introduces computer-aided analysis of macromolecules and the study of genes and their products on the level of whole genomes.

**MICR 521 Medical Microbiology (8)**

Systematically studies 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 Immunology (3)**

Introduces selected topics of modern immunology to graduate students, emphasizing understanding key paradigms.

**MICR 533 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. Evaluates and discusses experimental results in group sessions. Suitable for students, faculty, and postdoctoral fellows who wish to learn modern molecular biology techniques. Limited to fifteen participants.

**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. May be repeated for additional credit.

Prerequisite: MICR 539, CMBL 502.

**MICR 539 Molecular Biology of Prokaryotes and Eukaryotes (8)**

Surveys 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.

Prerequisite: CMBL 501. Cross-listing: CMBL 502 or equivalent.

**MICR 540 Physiology and Molecular Genetics of Microbes (3)**

Advanced graduate course covering various hot topics in both microbial physiology and molecular genetics—such as diversity of microbes on earth, engineering new metabolic pathways, mechanisms of gene regulation and gene transfer, and comparative genomics.

Prerequisite: Consent of instructor.



**MICR 545 Molecular Biology Techniques Laboratory (4)**

Laboratory course in modern molecular biology techniques for gene manipulation and analysis in prokaryotes and eukaryotes. Evaluates and discusses experimental results in group sessions.

Corequisite: CMBL 539.

**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 or 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 570 Mechanisms of Microbial Pathogenesis (3)**

In-depth exploration of molecular mechanisms of pathogenesis and host response for selected bacteria, viruses, and parasites. Topics include endotoxins, exotoxins, tools to identify genes crucial to virulence, and a discussion of selected paradigms of microbe-host interaction. Vaccine development serves as a unifying theme linking the host-pathogen interactions. Focuses on evidence for current concepts, using primary journal articles.

Prerequisite: Consent of instructor.

**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 required to attend the colloquium. Students registered for colloquium are required to give a presentation.)

**MICR 606 Graduate Seminar (1)**

Student presentation in the form of a seminar. (Course requirement normally 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)**

Explores in depth a specific topic, selected in consultation with the mentor, such as the antecedents for theses or dissertation research. (Formal proposal for the scope and evaluation of the independent study must be approved by the faculty prior to enrollment in this course. 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 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 (1-7)****MICR 698 Thesis (1-3)****MICR 699 Dissertation (2-5)****MICR 891 Microbiology Elective (1.5-12)**

**MEDICAL EDUCATION SERVICES****MNES 501 Orientation to Medicine (2)**

Provides an interactive, patient-centered contextual learning experience for the purpose of fostering professionalism. A six-week course divided between Summer (2 weeks) and Spring (4 weeks) quarters in the freshman year. Students observe and participate in patient care, work collaboratively with peers and faculty in small groups, and discuss assigned readings as they relate to integrated, whole-person care.

**MNES 502 Orientation to Medicine (4)**

Provides an interactive, patient-centered contextual learning experience for the purpose of fostering professionalism. A six-week course divided between Summer (2 weeks) and Spring (4 weeks) quarters in the freshman year. Students observe and participate in patient care, work collaboratively with peers and faculty in small groups, and discuss assigned readings as they relate to integrated, whole-person care.

**MNES 701 Orientation to Clinical Medicine (4)**

Builds on the second-year course MDCJ 524 Pathophysiology and Applied Physical Diagnosis. Diagnosis to provide the knowledge, skills, and values necessary to facilitate a smooth transition from the preclinical to the clinical curriculum.

**MNES 791 Third-year Elective (3)**

Gives students an opportunity to spend time (two weeks) in a specialty that holds particular interest to them, allowing them to develop their skills to a level that will be beneficial in their fourth-year electives.

**MUSIC HISTORY AND LITERATURE****MUHL 205 Introduction to Music (4)**

Basic music literature, with some attention to other arts.

**NEUROLOGY****NEUR 599 Directed Elective Study (1.5-12)****NEUR 701 Neurology Clerkship (1.5-18)**

Basic neurology lectures, weekly neuroradiology conferences, neurology grand rounds, clinical neurology conference, and biweekly neuropathology conference. Student attendance required. Student participation in the outpatient neurology clinics during neurology rotation.

**NEUR 891 Neurology Elective (1.5-18)****NEUROSURGERY****NEUS 891 Neurosurgery Elective (1.5-18)****NURSING BRIDGE****NRSB 101 Critical Thinking and Learning Strategies for Nursing (2)**

Focuses on the development of critical-thinking methods as well as learning strategies and study skills important to success in nursing. Emphasizes application of critical thinking, nursing process, study skills, and wholeness to student life and to nursing content.

**NRSB 102 Science Principles Applied to Nursing (2)**

Focuses on basic science concepts as applied to nursing. Includes a review of anatomy; and applies principles of physiology, microbiology, chemistry, and physics to critical thinking in nursing.

**NRSB 103 Introduction to Mathematics for Nursing (1)**

Includes a review of basic mathematics, equivalent values, ratios, and proportions. Applies concepts to nursing situations in which medication dosage calculations are used. Computer-assisted instruction modules and a ninety-minute laboratory each week, utilized to assist students in developing the necessary skills in a supportive environment.

**NRSB 104 Medical Terminology for Nursing (2)**

Introduces basic medical terminology by the study of prefixes, combining forms, and suffixes. Emphasizes understanding, interpreting, and spelling of singular and plural forms; pronunciation; and correct usage of terms in a variety of situations.

**NRSB 105 Writing for Nursing (3)**

Focuses on developing the writing skills necessary for nursing. Includes a review of principles of grammar and application of writing skills to a research paper related to a nursing topic. Includes a computer component that enables the student to search nursing data bases and apply word-processing skills.

**NRSB 106 Reading in Nursing (2)**

Focuses on improving vocabulary, reading comprehension, and reading speed using nursing and health-related literature. Students expected to use specific prereading and reading strategies to monitor comprehension and summarize reading.

**NURSING****NRSB 214 Fundamentals of Professional Nursing (8)**

Introduces the profession of nursing. Emphasizes the basic health needs of the adult-client system, with the goal of optimal wellness/wholeness. Identifies stressors to the client system's lines of defense. Develops beginning-nursing decision-making skills. Supervised experience in application of nursing knowledge to adult-client systems in acute-care settings. Socializes into the role of professional nursing, including exploration of historical, ethical, cultural, and legal aspects. Current issues in professional nursing/health care.

**NRSB 216 Basic Nursing Skills and Health Assessment (4)**

Introduces the basic skills required to assess, maintain, and strengthen client lines of resistance and defense. Supervised practice in therapeutic communication skills and nursing measures to achieve optimal client wellness. Foundation for clinical decision-making and client education. General concepts and techniques for performing a head-to-toe examination and for properly documenting assessment findings.

**NRSB 217 Psychiatric Mental Health Nursing (6)**

Introduces the care of client systems exhibiting psychiatric mental health symptoms related to impaired lines of defense or resistance. Emphasizes primary, secondary, and tertiary interventions to strengthen lines of defense/resistance for the client.

Prerequisite: NRSB 214, NRSB 216.

**NRSB 224 Nursing Pathophysiology (4)**

Overview of the physiological function of a client system under stress, the common stressors that threaten system stability/integrity, and the consequences that result to the individual whose lines of resistance and defense are breached. Foundation for understanding the rationale behind assessment findings and nursing intervention.

**NRSB 225 LVN Bridge Course (4)**

Designed for the LVN transfer student. Content includes introduction to baccalaureate nursing, physical assessment, and gerontology.

**NRSB 244 Skills for Academic Success (1)**

Assessment of student's learning needs, with individualized approaches to learning strategies essential for success in nursing education and practice.

**NRSB 299 Directed Study (1-8)**

Opportunity for clinical learning in a selected area of nursing.

Prerequisite: Consent of instructor and the associate dean.

**NRSB 305 Nursing Pharmacology (3)**

Overview of the major drug classifications. Introduces the therapeutic use of drugs in the maintenance and strengthening of the client system lines of resistance and defense.

**NRSB 308 Nursing of the Adult and Aging Client (8)**

Emphasizes the wholistic nature of the adult/aging client system in response to acute, short-term stressors. Uses the nursing process to assist the client system in achieving optimal wellness through strengthening lines of resistance and defense. Supervised practice in caring for the adult-client system in acute-care settings.

Prerequisite: NRSB 214, NRSB 216, NRSB 224.

**NRSB 309 Nursing of the Older Adult (4)**

Focuses on older client systems experiencing normal aging. Examines age-related stressors to client variables—physiological, psychological, sociocultural, developmental, and spiritual. Guided learning experiences in nursing care of the older client in long-term care and community settings.

Prerequisite: NRSB 214, NRSB 216.

**NRSB 314 Nursing of the Childbearing Family (6)**

Emphasizes primary prevention strategies that promote optimal wellness for the mother and neonate, and identification of stressors that influence the family's normal lines of defense. Applies the nursing process, using a wholeness approach when caring for the maternal-fetal and maternal-infant dyads.

**NRSNG 315 Child Health Nursing (6)**

Focuses on the client from infancy through adolescence within the family system. Wholistic nursing care emphasizing optimal wellness in relation to potential or actual stressors, including primary, secondary, and tertiary interventions. Individualization of the nursing process guided by physiological, psychological, sociocultural, developmental, and spiritual variables of the client system.

Prerequisite: NRSNG 317.

**NRSNG 316 Health Promotion across the Lifespan (4)**

Prepares the student to promote optimal wellness throughout the lifespan. Examines the impact of common lifespan stressors on students, clients, and family systems. Primary preventions—including theories of behavior change, motivation, and health education—applied to strengthen lines of defense.

**NRSNG 317 Nursing of the Adult and Aging Family I (8)**

Continues NRSNG 308. Explores relationships among client-system variables in the development of primary, secondary, and tertiary interventions for chronic stressors that require comprehensive nursing care. Guided practice in caring for the adult client system in a variety of community settings.

Prerequisite: NRSNG 308, NRSNG 217\* (\*may be taken concurrently).

**NRSNG 337 Strategies for Professional Transition (4)**

Focuses on growth and enhancement of the professional nurse. Based on learning objectives for career growth, students assess and strengthen the application of skills in communication, research, professional responsibility, teaching and learning process, management, nursing process, and individual empowerment—for themselves and for clients. Assessment and development of learning objectives. Student designs personal strategies to attain goals. Includes critical thinking, reflective journaling, and development of professional portfolio. Limited to RNs returning for B.S. or M.S. degree.

**NRSNG 399 Nursing Externship (1)**

An elective work-study course that provides opportunity for experiential understanding of the nature of nursing in the work place. Focuses on application of the Neuman framework. The student, under the supervision of an RN preceptor, applies previously learned skill in providing direct patient care.

Prerequisite: NRSNG 317.

**NRSNG 407 Integration of Essential Concepts (6)**

Broadens current nursing knowledge through application of Neuman's framework in client care, developing and evaluating health care plans as well as employing the nursing interventions of advanced pathophysiology.

Prerequisite: NRSNG 337.

**NRSNG 408 Nursing of the Adult and Aging Family II (6)**

Students study and participate in complex clinical nursing practice (critical care). Students utilize the nursing process in primary, secondary, and tertiary prevention with critically ill clients and their families. Emphasizes the scientific basis of the effects of stressors on the lines of defense and resistance. Promotes collaborative efforts of the members of the health care team in the care of the critically ill client.

Prerequisite: NRSNG 314, NRSNG 315, NRSNG 316, NRSNG 317.

**NRSNG 409 Home Health (3)**

Wholistic care of the client system across the lifespan within the home. Clinical experience focuses on acute and chronic stressors. Introduces community resources to facilitate continuity of care and to promote optimal wellness.

Prerequisite: NRSNG 314, NRSNG 315, NRSNG 316, NRSNG 317.

**NRSNG 410 Professional Nursing Issues (2)**

Issues relating to licensure and entry into nursing practice of the registered nurse—including delegation, quality improvement, and managed care. Socialization and beginning management concepts.

Prerequisite: Completion of all 200- and 300-level NRSNG courses.

**NRSG 414 Nursing Management (6)**

The health care agency or nursing unit viewed as the core system, with lines of defense and lines of resistance. The management process as the set of interventions aimed at maintaining or restoring a state of equilibrium and order within the organization. The role of the first-line manager observed and some aspects experienced.

Prerequisite: Completion of 200- and 300-level NRSG courses.

**NRSG 415 Community Mental Health Nursing (4)**

Student delivers psychiatric nursing care in a variety of clinical settings within the community. Guidance given in assessing stressors and developing primary, secondary, and tertiary interventions within populations at risk for psychosocial stress. Student practices case management strategies and psychoeducational interventions. Clinical experience directed toward optimizing lines of defense and resistance for families, groups, and communities.

Prerequisite: Completion of 200- and 300-level NRSG courses.

**NRSG 416 Public Health Nursing (8)**

Focuses on the optimal wellness of the community as client. Intervention strategies emphasizing primary, secondary, and tertiary prevention with micro- / macroclient systems. Develops skills in assessment; diagnosis; planning based on outcomes; and implementation within inter-, extra-, and intrasystem of both aggregate and geopolitical clients.

Prerequisite: Completion of 200- and 300-level NRSG courses.

**NRSG 417 Professional Nursing-Practice Elective (7)**

Enhances the process of professional socialization from the academic to the practice setting by providing an opportunity for synthesis and application of theoretical knowledge and skills to a preceptored clinical experience selected by the student. Focuses on using the nursing process to protect and promote intact lines of resistance and defense of individuals, families, and groups in diverse circumstances. Students develop personal learning objectives under guidance of the instructor.

Prerequisite: NRSG 408, NRSG 409, NRSG 410.

**NRSG 429 Clinical Nursing Research (4)**

Prepares knowledgeable consumers of nursing research who can apply the scientific research process utilizing quantitative and qualitative methods, and who can critique research for use in the practice setting. Focuses on using research to discover ways the professional nurse can facilitate optimal wellness through retention, attainment, and maintenance of client system stability.

**NRSG 497 Advanced Clinical Experience (100 to 400 hours)**

An elective course open to students seeking clinical experience in nursing.

**NRSG 499 Directed Study (1-8)**

Opportunity for clinical experience in a selected area of nursing.

Prerequisite: Consent of instructor and the associate dean.

**NRSG 509 Guided Study (1-6)**

Opportunity for study in a particular area of nursing, under faculty direction.

**NRSG 515 Health Policy: Issues and Process (2)**

Examines the impact of the sociopolitical system. Current trends and issues affecting health and 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 Role Development (2)**

Examines transition into the advanced practice nursing role through consideration of the history, theoretical bases, role competencies, selected professional strategies, and legal requirements necessary for role enactment.

**NRSG 517 Theoretical Foundations for Advanced Practice (4)**

Focuses on the theoretical foundations of nursing as an applied science. Nursing knowledge examined in the context of theories and concepts that guide advanced nursing practice. Discusses theoretical applications for NP, CNS, administration, and nurse educator practice. Critiques and applies theory to selected issues—with emphasis on individual, family, and population interventions and outcomes.

**NRSG 541 Nursing Administration Practicum I (3)**

Observation and practice in selected levels of nursing administration.

Prerequisite: NRSG 547, HADM 528.

**NRSG 544 Teaching and Learning Theory (3)**

Explores the components of the teaching-learning process. Opportunity provided for students to practice specific teaching strategies.

**NRSG 545 Teaching Practicum (3, 4)**

Assists the student in developing the ability to teach nursing in the clinical area of choice. Emphasizes the nurse-teacher as facilitator of learning. Integrates knowledge and skills related to educational methodology and clinical nursing. Practice in teaching students in clinical and classroom settings. Per week: theory 0 hours, practicum 9-12 hours.

Prerequisite: NRSG 544; 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)**

Analyzes 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 548 Nursing Administration Practicum (1-8)**

Provides opportunities for the ongoing development and refinement of leadership capability in selected areas of nursing administration. Students showcase competencies in the synthesis and application of nursing, management, economic, and human resources theories to solve real-world issues of importance to the profession and the workplace. Per week: lecture 0 hours, practicum 3-24 hours.

Prerequisite: NRSG 547, HADM 528.

**NRSG 551 Pediatric Primary Health Care I (4)**

Focuses on the PNP primary care role in health promotion, wholistic assessment, and management of minor common illnesses for children from newborn through adolescence Per week: theory 3 hours, practicum 3 hours.

Prerequisite: NRSG 651; Concurrent: Clinical experience.

**NRSG 552 Pediatric Primary Health Care II (6)**

Continues development of the PNP primary care role for children from newborn through adolescence, related to assessment and management of common or acute illnesses while incorporating health maintenance and prevention. Per week: theory 3 hours, practicum 9 hours.

Prerequisite: NRSG 551.

**NRSG 553 Pediatric Primary Health Care III (7)**

Continues the development of the PNP primary-care role for children from newborn through adolescence in assessment and management of chronic or complex illnesses. Per week: theory 3 hours, practicum 12 hours.

Prerequisite: NRSG 552. Corequisite: Clinical experience.

**NRSG 554 Pediatric Primary Health Care IV (7)**

Continues development of the PNP primary care role for children from newborn through adolescence in assessment and management of chronic or complex illnesses. Per week: theory 2 hours, practicum 15 hours.

Prerequisite: NRSG 553. Corequisite: Clinical experience.

**NRSG 555 Pharmacology in Advanced Practice I (3)**

Principles of pharmacodynamics, pharmacotherapeutics, and pharmacokinetics. Overview of specific major drug classifications, and discussion of the therapeutic use of drugs in maintaining and strengthening client system lines of resistance and defense.

**NRS 556 Pharmacology in Advanced Practice II (2)**

Builds on principles discussed in NRS 555, with a focus on additional specific major drug classifications and discussion of the therapeutic use of these drugs in maintaining and strengthening client system lines of resistance and defense. Addresses specific legal and ethical issues for advanced nursing practice.

Prerequisite: NRS 555.

**NRS 557 Pediatric Primary Health Care V (5)**

Focuses on integration and synthesis of knowledge and skills, under the guidance of an expert preceptor, with the goal of working independently and collaboratively within a health care team. Per week: theory 0 hours, practicum 15 hours.

Prerequisite: NRS 554.

**NRS 560 Neonatal Pharmacology (2)**

Builds on the principles of NRS 555—focusing application to the neonate—with additional overview of specific drug classifications and the therapeutic use of drugs for this population.

Prerequisite: NRS 555.

**NRS 561 Adult Primary Health Care I (4)**

Introduces the role, professional responsibilities, and clinical practice of the adult nurse practitioner (ANP). Focuses on primary health care concepts related to health maintenance and promotion of optimal wellness of the adult. Per week: lecture 2 hours, practicum 6 hours.

Prerequisite: NRS 651. Corequisite: Clinical experience.

**NRS 562 Adult Primary Health Care II (6)**

Continues development of the ANP primary care role for adults through wholistic assessment and management of common chronic and acute illness, using a systems approach. Incorporates health maintenance and prevention. Per week: lecture 3 hours, practicum 9 hours.

Prerequisite: NRS 561. Corequisite: Clinical experience in a variety of primary care settings with diverse adult populations.

**NRS 563 Adult Primary Health Care III (6)**

Continues 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. Per week: lecture 3 hours, practicum 9 hours.

Prerequisite: NRS 562.

**NRS 564 Adult Primary Health Care IV (7)**

Continues development of the ANP primary care role for adults through assessment and management of chronic and complex illnesses. Per week: lecture 3 hours, practicum 12 hours.

Prerequisite: NRS 563. Corequisite: Clinical experience.

**NRS 565 Adult Primary Health Care V (6)**

Focuses on integration and synthesis of knowledge and skills, under the guidance of an expert preceptor, with the goal of working independently and collaboratively with the health care team. Per week: lecture 0 hours, practicum 18 hours.

Prerequisite: NRS 564.

**NRS 574 Philosophical Foundations of Nursing Science (2)**

Companion course to PHIL 616. Explores the development of knowledge within the discipline of nursing. Examines sources of knowledge and the assumptions underlying major approaches to scientific inquiry. Critiques these approaches in relation to the expansion of nursing science.

Prerequisite: PHIL 616.

**NRS 575 Strategies for Theory Development in Nursing (2)**

Engages the student in examining and applying the process of concept and theory development. Students analyze phenomena of interest, use selected strategies to construct conceptual relationships, and evaluate theoretical frameworks for development of nursing science.

**NRSG 617 Clinical Practicum: Growing Family (2-12)**

Prepares the student for the clinical nurse specialist role in the area of growing family through clinical experience focused on the competencies and roles of the CNS under the guidance of an expert preceptor. Per week: theory 0 hours, practicum 6-36 hours.

Prerequisite: NRSG 646\* (\*may be taken concurrently); or concurrent.

**NRSG 619 Neonatal Critical Care I: Neonatal Advanced Physical Assessment (3)**

Focuses on neonatal assessment—including maternal and environmental factors, gestational age, behavioral and developmental assessment, comprehensive history and neonatal physical examination, diagnostic testing, and family assessment. Per week: theory 3 hours, practicum 0 hours.

**NRSG 620 Neonatal Nurse Practitioner II (5)**

Focuses on concepts and principles of genetics, embryology, growth and development, physiology/pathophysiology, and pharmacology/toxicology as relevant to the assessment and management of the health promotion and maintenance needs of the newborn. Per week: theory 4 hours, practicum 3 hours.

Prerequisite: NRSG 619. Corequisite: Clinical practicum that focuses on development of assessment and history skills and the delivery room.

**NRSG 621 Neonatal Nurse Practitioner III (8)**

Focuses on concepts and principles of pathophysiology, neonatal disease entities, and disorders in relation to the clinical management of the sick neonate. Per week: theory 5 hours, practicum 9 hours.

Prerequisite: NRSG 620. Corequisite: Clinical practicum that focuses on sick/critically ill ventilated and non-ventilated neonates.

**NRSG 622 Neonatal Nurse Practitioner IV: Practicum (9)**

Focuses on concepts and principles of pathophysiology and neonatal disease entities and disorders in the management of the sick/critically ill neonate. Per week: theory 6 hours, practicum 9 hours.

Prerequisite: NRSG 621. Corequisite: Clinical practicum that focuses on sick/critically ill ventilated and non-ventilated neonates.

**NRSG 623 Neonatal Nurse Practitioner V: Practicum (13)**

Synthesizes concepts, principles, theories, knowledge, and skills from the preceding advanced neonatal critical-care nursing courses to practice. Per week: theory 0 hours, practicum 39 hours.

Prerequisite: NRSG 622.

**NRSG 624 The Adult and Aging Family I (2-4)**

Focuses on concepts and theories relevant to the practice of the advanced practice nurse caring for adult and aging clients. Applies theory to clinical practice in a selected segment of the population. Per week: theory 2 hours, practicum 0-6 hours.

**NRSG 626 The Adult and Aging Family II (2, 3)**

Focuses on concepts and theories relevant to the practice of the advanced practice nurse caring for clients within the adult and aging family population, with application to a selected segment of the population. Examines the role, competencies, and outcomes relevant to the practice of the clinical nurse specialist. Per week: theory 2 hours, practicum 0-3 hours. (required for selected concentration areas.)

Prerequisite: NRSG 624.

**NRSG 628 Clinical Practicum: Adult and Aging Family (2-12)**

Prepares the student for the clinical nurse specialist role in the area of adult and aging family through clinical experience focused on the competencies and roles of the CNS under the guidance of an expert preceptor. Per week: theory 0 hours, practicum 6-36 hours.

**NRSG 636 Methods of Disciplined Inquiry (2)**

Provides an overview of formal methods of inquiry and explores the responsibility of doctorally prepared nurses for the future of nursing knowledge. Helps students build a foundation for a program of formal scholarly inquiry in an identified area of interest.

Prerequisite: Acceptance into Ph.D. degree program in the School of Nursing; or consent of instructor.



**NRSG 637 LLU Scholars Seminar (1)**

Online seminar that provides students with a forum for systematic scholarly discussion of their developing role as Ph.D.-prepared stewards of the nursing profession. Helps students integrate and apply core content to their role, philosophy, and research emphasis while exchanging and critiquing ideas in a professional and collegial setting. Progresses from role transition through dissertation support over the course of four years.

Prerequisite: Admission to Ph.D. degree program; or consent of instructor.

**NRSG 645 Growing Family I (2-4)**

Focuses on concepts and theories relevant to the advanced practice nurse caring for clients within the growing family lifespan (perinatal through pediatrics). Applies clinical practice in a selected population. Per week: theory 2 hours, practicum 0-6 hours.

**NRSG 646 Growing Family II (2-3)**

Focuses on concepts and theories relevant to the advanced practice nurse caring for clients within the growing family lifespan (perinatal through pediatrics), with application to a selected population. Examines the role, competencies, and outcomes for clinical nurse specialist practice. Per week: theory 2 hours, practicum 0-3 hours.

Prerequisite: NRSG 645.

**NRSG 651 Advanced Physical Assessment (3)**

Reviews physical assessment skills and knowledge in depth 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. Per week: theory 2 hours, practicum 3 hours.

**NRSG 652 Family Primary Health Care I (4)**

Introduces the role, professional responsibilities, and clinical practice of the family nurse practitioner (FNP). Focuses on primary health care concepts related to health maintenance and promotion of optimal wellness of the adult, with emphasis on women's health. Per week: theory 2 hours, practicum 6 hours.

Corequisite: Clinical experience.

**NRSG 653 Family Primary Health Care II (7)**

Develops the FNP primary-care role of families through wholistic assessment and management of normal growth and development, along with common chronic and acute illness (infant through adult), using a systems approach. Incorporates health maintenance and prevention. Per week: theory 4 hours, practicum 9 hours.

Prerequisite: NRSG 652. Corequisite: Clinical experience in a variety of primary care settings with diverse family populations.

**NRSG 654 Family Primary Health Care III (7)**

Third quarter continues the development of the FNP primary care role of families through wholistic assessment and management of common or acute illness using a systems approach. Incorporates health maintenance and prevention. Per week: theory 3 hours, practicum 12 hours.

Prerequisite: NRSG 653.

**NRSG 655 Family Primary Health Care IV (7)**

Develops the FNP primary care role for adults through assessment and management of chronic and complex illnesses Per week: theory 3 hours, practicum 12 hours.

Prerequisite: NRSG 654. Corequisite: Clinical experience.

**NRSG 656 Family Primary Health Care V (7)**

Focuses on integration and synthesis of knowledge and skills under the guidance of an expert preceptor, with the goal of working independently and collaboratively with the health care team. Per week: theory 0 hours, practicum 21 hours.

Prerequisite: NRSG 655.

**NRSG 660 Qualitative Research Methods I (4)**

Advanced quantitative research methods. Emphasizes experimental and quasi-experimental designs, and examines specific methodologies used in conducting research in the area of social policy and social research. Topics include measurement issues, research design, sampling, and statistical interpretation. Addresses survey research, time-series designs, and more advanced techniques.

Cross-listing: SPOL 654.

**NRSG 664 Nursing Science Seminar (1)**

Nursing phenomena. Focus varies according to national emphases in nursing research and focus areas of participants. Emphasizes critical examination of conceptual, theoretical, and methodological issues relative to the selective topic.

Prerequisite: Doctoral standing or consent of instructor.

**NRSG 680 Intermediate Statistics (3)**

Applies selection and application of statistical procedures to nursing science and practice. Selects topics in ANOVA, multiple regression, and other multivariate statistical procedures. Interprets computer output.

**NRSG 684 Research Methods (2)**

Guides the student in understanding scientific thinking and research methods beyond the introductory level. Uses the research literature in nursing and related fields to illustrate the application of these principles. Student begins developing an area of research interest, identifies a research problem, reviews empirical literature, provides evidence for theoretical connections among identified research variables and scientific support for a clinical nursing intervention, and develops a scientific research proposal.

Prerequisite: NRSG 680.

**NRSG 686 Advanced Quantitative Research Methods (4)**

Examines advanced quantitative research methods applicable to advancing and developing nursing science. Topics range from the formulation of research problems and questions to discussing and identifying complex designs and methods. Guides the student in development of a quantitative research proposal that focuses on an area of study that may serve as the initial step in conducting independent dissertation research.

Prerequisite: PSYC 501, PSYC 502.

**NRSG 693 Experience Portfolio (1-16)**

Portfolio preparation documents 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 696 Directed Research (2)**

Student participates in the research process or engages in research activities guided by mentors. Experience contributes to the ongoing development of the student's knowledge in research planning, design conduct, analysis, or dissemination. Monthly seminars.

Prerequisite: Acceptance into the Ph.D. degree program in nursing.

**NRSG 697 Research (1-4)****NRSG 698 Thesis (2)****NRSG 699 Doctoral Dissertation (1-4)**

Collecting and analyzing data. Writing and preparing final draft of dissertation.

Prerequisite: Advancement to doctoral candidacy.

**NATURAL SCIENCES****NSCI 124 Rocky Mountain Field Geology (2, 3)**

Introduces basic principles of geology, with specific studies of field sites in the Rocky Mountains. Two units for the field course, with a third, optional unit of credit for additional academic work to be assigned. Upper-division college students or teachers should register for GEOL 325. Summer only.

**NSCI 125 Biology of Birds (3)**

Introduces the natural history of birds, along with their field identification and ecology. Emphasizes local species in lectures and in the field. Focuses on identifying species and on learning techniques of study. Three Sunday field trips.

**NSCI 126 Biology of Reptiles (3)**

Introduces the natural history of reptiles: their identification, morphology, physiology, behavior, and ecology. Describes all recognized orders and emphasizes local species in lecture and in the field. Focuses on identifying species and on learning techniques of study in both the field and laboratory. Three Sunday field trips.

**NSCI 127 Rocks and Minerals (3)**

Introductory course on the identification, composition, structure, and origin of rocks and minerals. All of the mineral classes and major rock types covered in a lecture and laboratory setting, with field trips to local collecting sites.

**NSCI 205 Introduction to Field Tropical Marine Biology (3)**

Introduces nonscience majors to the organisms and ecology of tropical marine systems, with special emphasis on the organisms that live in and among coral reefs. Surveys tropical marine taxa—from algae to pelagic and benthic marine invertebrates. Provides a brief overview of coral reef ecology that introduces students to basic food webs and trophic relationships. Weekly classroom lectures. Students synthesize information gained from the literature in two written reports, one focused on an organism of choice and the other on a marine process.

**NSCI 234 Science and the Study of Origins (3, 4)**

Studies biological and geological issues related to origins. Analyzes data and its implications for various models of earth history. Discusses nature and limits of the scientific process in the study of origins. Three-to-four class hours per week.

**NSCI 235 Dinosaur Biology and Fossil Record (3, 4)**

Overview of the dinosaur fossil record and analysis of dinosaur behavior, physiology, and ecology by comparison of dinosaur fossil evidence and living animals. Reviews current theories on dinosaur extinction.

**NSCI 236 Faith, Family, and Nature (3)**

Studies natural history, with emphasis on behavior and ecology of southern California flora and fauna. Special feature: developing skills of field observation in the setting of family and intergenerational communication. Lectures emphasize themes of design in nature. Three Sunday field trips.

**NSCI 239 Introduction to Marine Life (3)**

Introduces marine life and intertidal ecology of the Pacific coast for the nonscientist. Discusses oceanography, waves and tides, the deep sea, intertidal ecology, and the types of plants and animals found in the local intertidal and near-shore environment. Three Sunday field trips.

**NSCI 241 The Natural History of Fossils (3, 4)**

Introduces fossils: their preservation, ecology, and occurrence in the geologic record. Invertebrate, vertebrate, and plant fossils from a variety of localities worldwide.

**NSCI 286 Topics in Biology (1-4)**

Reviews current knowledge in specified areas of the biological sciences. Registration should indicate the specific topic to be studied. May be repeated for additional credit. Offered on demand.

Prerequisite: Consent of instructor.

**NSCI 287 Topics in Ecology (2-4)**

A customized course for students to study various aspects of ecology, such as the ecology of a specific region or a specialized taxonomic group. Significant field experience normally required. Registration should indicate the specific topic to be studied. May be repeated for additional credit. Offered on demand.

Prerequisite: Consent of instructor.

**NSCI 288 Topics in Geology (1-4)**

Reviews 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 instructor.

**NSCI 289 Field Tropical Marine Biology Laboratory (4)**

Provides opportunities for students to directly experience various tropical marine habitats. Encourages students to spend as much time in the water as possible, both during the day and at night. When not in the water, students required to be engaged in independent study to accumulate and synthesize current knowledge for developing species lists or testing basic hypotheses regarding marine organisms. Formal and informal tutorial, as well as lecture sessions. Taught in conjunction with both NSCI 205 and NSCI 286. Final written assignment due at an appropriate time subsequent to the laboratory experience.

**NSCI 370 Geology and Health (3)**

Emphasizes newly appreciated relations between geologic processes and health. Categorizes geologic processes affecting health by their effects over long (e.g., climate), medium (e.g., toxins in soils), and short (e.g., geohazards) time scales; and also by their actions in both physical and chemical domains. Provides an overview of particular aspects of geology.

**NSCI 386 Biology of Marine Life (4)**

Examines marine organisms in depth, with emphasis on higher invertebrates and vertebrates around the world. Study of marine environments provides opportunities to understand some of the theoretical principles of general ecology. Presentations and specific readings combined with a final field trip and written reports. Requires an understanding of basic oceanography as taught in NSCI 239.

**NUTRITION****NUTR 474 Nutrition and Fitness (3)**

Basic principles of nutrition and healthful eating for fitness and exercise. Role of nutrition and exercise in optimizing health from a scientific standpoint. Myths prevalent among consumers in the area of nutrition and fitness.

**NUTR 490 Topics in Foods and Food Preparation (1)**

On-line course provides an introduction to foods and food preparation. Includes relationship of food composition to food preparation, cultural and ethnic food patterns, sensory evaluation of food, and culinary techniques.

**NUTR 504 Nutritional Metabolism (5)**

Studies the static and dynamic aspects of the metabolism of carbohydrates, lipids, amino acids, proteins, nucleic acids, enzymes, hormones, vitamins, and minerals in the normal healthy human.

**NUTR 505 Public Health Biology (2)**

Integrates molecular and biological approaches to public health problems. Explores the interactions between genetic expressions; the environmental factors, particularly those related to lifestyle; and the development and aging process as it applies to the biology of public health. Special lecture modules address: role of immune systems in population health, including infectious diseases and vaccines; role of biology in the ecological model of population-based health; how genomics, proteomics, and metabolomics affect disease processes; the biological and molecular characteristics of chronic diseases; and the origin and dissemination of drug resistance. Includes specific examples from across the different disciplines of public health to explain these concepts in public health biology.

**NUTR 509 Public Health Nutrition and Biology (3)**

Introduces the concepts of nutrition and biology as related to public health. Includes life-cycle issues and discussion of major nutrition-related diseases and their prevention. Integrates molecular and biological approaches to public health problems; and addresses the role of nutritional assessment, intervention, and policy to solve public health issues.

**NUTR 510 Advanced Public Health Nutrition (3)**

Studies applied and preventive aspects of nutrition as related to public health.

Prerequisite: NUTR 504 or equivalent.

**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.

**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.

**NUTR 519 Phytochemicals (2)**

Discusses the role of phytochemicals in disease prevention and treatment. Reviews current research in this area.

**NUTR 525 Nutrition Policy, Programs, and Services (3)**

Develops professional skills in management of nutrition programs. Includes legislative advocacy and analysis of current nutrition programs at local, state, and federal levels. Laboratory.

**NUTR 526 Nutrition Counseling and Education (2)**

Counseling skills, specifically counseling one-on-one and groups, in order to facilitate changes in nutrition status. Teaching/learning styles, development of therapeutic relationships with patients/clients, and development of listening skills. Case-study evaluation, nutrition-counseling guides, and development of group-education lesson plans.

**NUTR 527 Assessment of Nutritional Status (3)**

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.

**NUTR 528 Symposium: Adventist Philosophy of Nutrition (1)**

The science of nutrition as related to the Seventh-day Adventist philosophy of health.

**NUTR 529 Health Aspects of Vegetarian Eating (2, 3)**

Introduces concepts of vegetarian nutrition as related to health and longevity. Addresses nutritional adequacy, as well as the benefits of vegetarian eating related to the prevention of major chronic diseases, such as heart disease, cancer, obesity, diabetes, and osteoporosis. Covers the interplay between the risks and benefits of vegetarian eating. Students taking course for 3 units either prepare a term paper or develop a vegetarian nutrition program.

**NUTR 534 Maternal and Child Nutrition (3)**

Advanced study of the role of nutrition in human growth and development during the prenatal period, lactation, infancy, and childhood.

**NUTR 535 Research Applications in Nutrition (3)**

Overview of research methods in nutrition. Provides an understanding of foundational issues of research design from both the quantitative and qualitative perspectives, as well as understanding of the sequence of procedures in proposal development. Laboratory included.

**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 537A Community Nutrition Education Projects (1)**

Provides training and practice in community nutrition-education skills, especially community assessment, teaching, social marketing, program evaluation, and the use of media. Includes at least forty hours of dietetic practice.

**NUTR 537B Nutrition Education Practicum (1)**

Experiential course that applies medical nutrition therapy in the assessment and counseling of individuals and groups across the life cycle in an outpatient setting. Includes training in counseling, educational materials development, and cultural sensitivity. Includes at least forty hours of dietetic practice. May be repeated for additional credit.

**NUTR 538 Principles of Effective Nutrition Education (3)**

Teaching methods appropriate to the nutrition educator. Definition of an effective teacher. Learning environment, lesson design, and use of teaching models. Strategies to improve student motivation and the retention of information. Evaluation of learning outcomes. Laboratory included. Includes thirty hours of dietetic practice.

**NUTR 539 Research Methods in Nutrition (2)**

Discusses the steps in the research process as they relate to clinical nutrition investigation. Validity of biological parameters and dietary intake measurements, study design, subject selection, and ethical issues

Prerequisite: STAT 509 or STAT 521; or equivalent.

**NUTR 543 Concepts in Nutritional Epidemiology (3)**

Prepares students to conduct research relating diet to health/disease outcomes. Reviews 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: Consent of instructor.

**NUTR 545 Clinical Nutrition I (3)**

Medical nutrition therapy and care for a variety of clinical disorders with nutritional implications. Laboratory included.

Prerequisite: NUTR 527; or equivalent.

**NUTR 546 Clinical Nutrition II (3)**

Continues medical nutrition therapy for a variety of clinical disorders with nutritional implications: renal disease, chronic obstructive pulmonary disease, inborn errors of metabolism, AIDS, pancreatitis, care of the critically ill and/or obese patient. Includes forty-five practicum hours.

Prerequisite: NUTR 545.

**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. Laboratory included.

Prerequisite: RD, RD eligible with appropriate experience, M.D.; or consent of instructor.

**NUTR 555 Critical Care Nutrition II (3)**

Current issues related to the nutritional needs of preterm neonate, transplant, oncology, AIDS, and COPD patients. Enteral/parenteral feeding products and their administration. Counseling strategies for the client and/or caregiver in each instance. Laboratory included.

Prerequisite: RD, RD eligible with appropriate experience, M.D.; or consent of instructor.

**NUTR 556 Nutritional Applications in Lifestyle Intervention (1)**

Provides students with practical experience and training in applying nutritional assessment and counseling skills to address lifestyle interventions. Reviews current dietary practice guidelines and pertinent food components relative to their health effects. Includes hands-on training in skills, tools, and strategies for effective nutrition counseling.

**NUTR 564 Contemporary Issues of Vegetarian Diets (2, 3)**

Introduces contemporary issues and controversies related to vegetarian diets. Presents background information on the history and rationale of vegetarian diets, ecologic and environmental issues, health benefits and risks of the vegetarian lifestyle. A major paper on one of the vegetarian topics required for 3 units.

**NUTR 565 Ethnic Food Practices (2)**

Introduces major ethnic and religious food practices in the United States. Cultural background and other data for the purpose of preparing health professionals to serve their clients in a culturally sensitive manner.

**NUTR 577 Nutrition Care Management (3)**

Translates institutional mission into goals, objectives, and standards of care. Applies 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. Develops 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)**

Nutritional needs of professional and recreational athletes. The role of macro- and micronutrients as ergogenic aids. Presents overview of current research in the areas of exercise nutrition.

**NUTR 585 Topics in Global Nutrition (3)**

Discussion of current issues of importance in international nutrition.

**NUTR 586 Mediterranean Diet: Nutrition, Cuisine, and Culture (3, 4)**

An off-campus, experiential course that provides theoretical and practical training in the cuisine, nutrition, and health aspects of Mediterranean-style vegetarian diets. Students explore the impact of vegetarian diets on nutritional status, chronic disease, and longevity. Includes visits to agricultural and culinary food production and food consumption sites. Formal lectures held at a major European university. Includes formal lectures, practicum, and field work. Additional project required for fourth unit.

**NUTR 595 Special Topics in Nutrition (1-4)**

Current topics in nutrition. May be repeated for additional credit.

**NUTR 597 Special Topics in Clinical Nutrition (1-3)**

Current topics in clinical nutrition. May be repeated for additional credit.

**NUTR 605 Seminar in Nutrition (1)**

Explores 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 608 Doctoral Seminar in Public Health Nutrition (1-2)**

Enhances skills relative to scientific literature review, critical thinking, scientific discussion with peers, presentation using advanced audiovisual aids, writing review paper and abstract as per peer-reviewed journal requirements. Maximal interaction with faculty, peers, and visiting nutritional professionals. Limited to doctoral degree students in nutrition. May be repeated for additional credit.

**NUTR 678 Advanced Exercise Nutrition (3)**

Discusses current research in the field of exercise nutrition; nutritional needs of professional and recreational athletes; and the role of macro- and micronutrients as ergogenic aids. Requires a presentation and a term paper on a current research topic in exercise nutrition. Limited to doctoral students. Instructor approval required for master's degree students.

**NUTR 685 Preliminary Research Experience (2)**

Experience in various aspects of research under the guidance of a faculty member and by participation in an ongoing project. Must be completed prior to beginning dissertation/research project. Limited to doctoral degree students.

**NUTR 692 Research Consultation (1-4)**

Individual advice on project design and on data collection, analysis, and evaluation. Restricted to School of Public Health students and staff.

**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 100 hours required for each unit of credit. Written report required.

Prerequisite: Consent of instructor responsible for supervision and the program advisor.

**NUTR 695 Thesis (2)**

Student prepares report of 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.

**NUTR 698 Dissertation (1-14)**

Student prepares manuscript presenting results of doctoral research study. Limited to doctoral degree students

**NUTR 699 Applied Research (2)**

Assignment to private, government, or international voluntary health agency, hospital, or other school-approved organization where practical application of the materials studied on campus is made, under the guidance of the department faculty and of the organization involved. Research project that includes substantial analysis of data and discussion of results. Written report and oral presentation required.

Prerequisite: Consent of department advisor and of instructors responsible for supervision.

**NUTR 798B Field Practicum (6)**

Assignment to private, government, or international voluntary health agency, hospital, or other school-approved organization where practical application of the materials studied on campus is made, under the guidance of the department faculty and of the organization involved. May consist of a research project. Meets the dietetic practice hours of the Graduate Coordinated Program in Public Health Nutrition and Dietetics. May be repeated for additional credit.

Prerequisite: Approval of academic variance needed if practicum begins before completion of comprehensive examinations.

**NUTR 798D Field Practicum (12)**

Assignment to hospital or other School of Public Health-approved organization where practical application of the materials studied regarding food service and medical nutrition therapy is made under the guidance of department faculty and the organization involved. Intended to meet the dietetic practice hours of the Graduate Coordinated Program in Public Health Nutrition and Dietetics. May be repeated for additional credit.

**NUTR 799B Dietetic Practicum (6)**

Assignment to hospital or other school-approved organization where practical application of the materials studied regarding food service and medical nutrition therapy is made under the guidance of department faculty and the organization involved. Intended to meet the dietetic practice hours of the Graduate Coordinated Program in Public Health Nutrition and Dietetics.

**NUTR 799D Dietetic Practicum (12)**

Assignment to hospital or other school-approved organization where practical application of the materials studied regarding food service and medical nutrition therapy is made under the guidance of department faculty and the organization involved. Intended to meet the dietetic practice hours of the Graduate Coordinated Program in Public Health Nutrition and Dietetics.

**OCCUPATIONAL THERAPY ASSISTANT****OCTA 201 Introduction to Occupational Therapy (1)**

Introduces occupational therapy as a profession, and its role in the health care delivery system. Nature of occupation and occupational performance. Foundational learning through addressing the occupational needs of populations within the context of their physical, social, and cultural environments. Student identifies, develops, and integrates OT foundation, practice, and knowledge; as well as articulates the uniqueness of occupational therapy within the scope of practice.

**OCTA 214 Applied Anatomy (2)**

Foundational course reviews basic muscle-skeletal anatomy and its importance to the occupational therapy practitioner. Practical, hands-on approach to anatomy, with laboratory sessions emphasizing assessments and functional significance of client intervention. Per week: lecture 1 hour, laboratory 2 hours.

**OCTA 215 Introduction to Functional Neuroanatomy (2)**

Introduces basic anatomy and function of the central and peripheral nervous systems, common clinical manifestations of neurologic dysfunction, and occupational performance impact on the individual with neurologic dysfunction.

**OCTA 217 Occupational Therapy Assistant Practicum I (2)**

Introduces functional groups, observation, and supervision in varied health care settings and community-based programs. Per week: practicum 8 hours.

Prerequisite: Must be completed in sequence with OCTA 218.

**OCTA 218 Occupational Therapy Assistant Practicum II (2)**

Continuation of introduction to functional groups, observation, and supervision in varied health care settings and community-based programs. Per week: practicum 8 hours.

Prerequisite: Must be completed in sequence with OCTA 217.

**OCTA 224 Therapeutic Activities I (2)**

Enhances understanding of the meaning of occupation and purposeful activities, and introduces purposeful activities within the context of occupational therapy. Identifies, develops, and integrates client goals with occupational roles and purposeful activities. Per week: lecture 1 hour, laboratory 2 hours.

**OCTA 225 Therapeutic Activities II (2)**

Introduces assistive technology and focuses on how it enables individuals with disabilities to reach various levels of function independence. Incorporates basic splinting activities used by the occupational therapy assistant in therapeutic settings. Problem-solving approach to splinting used. Emphasizes clinic maintenance and safety. Per week: lecture 1 hour, laboratory 2 hours.

**OCTA 226 Occupational Therapy Assistant Seminar (2)**

Student integrates foundational, practice, and professional knowledge identified within occupational therapy function. Through practice learning, student builds on previously acquired skills and applies this information to various practice settings and clients. Per week: lecture 2 hours.



**OCTA 228 Intervention Techniques (2)**

Introduces intervention strategies as they relate to performance areas within temporal and environmental contexts. Emphasizes safety issues and hands-on performance of techniques related to problem solving for specific classifications of dysfunctions. Major topics include: functional mobility and transfers, self-care skills, assistive technology, joint protection and energy conservation, body mechanics, universal precautions, home management and leisure activities, and client's rights. Per week: lecture 1 hour, laboratory 2 hours.

**OCTA 233 Occupational Therapy Practice I (5)**

Normal and abnormal growth development. Diagnosis and treatment of disorders associated with early childhood and adolescent development. Per week: lecture 4 hours, laboratory 2 hours.

**OCTA 234 Occupational Therapy Practice II (5)**

Course continues integrating and synthesizing the basic knowledge of occupational therapy treatment approaches for commonly encountered physical dysfunction diagnoses. Continues building upon previously acquired foundational learning and working toward analyzing and applying this knowledge throughout the course. Per week: lecture 4 hours, laboratory 2 hours.

Prerequisite: OCTA 233.

**OCTA 235 Occupational Therapy Practice III (5)**

Introduces psychosocial intervention in occupational therapy as it applies across the human lifespan. Emphasizes therapeutic use of self, activity selection and implementation, and therapeutic interventions based on evidence of pathology or resulting impact on occupation. Per week: lecture 4 hours, laboratory 2 hours.

**OCTA 241 Principles of Occupational Therapy Practice (2)**

Introduces general rehabilitation principles and clinical reasoning. Course work emphasizes OT process, documentation, professional self-development, cultural awareness, and basic clinical reasoning skills. Per week: lecture 1 hour.

**OCTA 251 Human Pathology I (2)**

Basic function of the human body, intended to acquaint students with the variety of disease processes that can and do affect treatment outcomes. Reviews specific systems. Problem solving to find simple methods of modifying treatment to meet patients' needs.

**OCTA 252 Human Pathology II (2)**

Introduces psychiatric diagnosis, personality disorders, and pervasive developmental disorders across the lifespan. Considers areas of impact on occupation. Adapts information from the Diagnostic Statistical Manual-IV TR. Per week: lecture 2 hours.

Prerequisite: OCTA 251.

**OCTA 253 Human Pathology III (2)**

Studies basic function of the human body to acquaint students with a variety of disease processes that can affect treatment outcomes. Reviews specific systems. Problem solving to find simple methods of modifying treatment to meet patient needs. Per week: lecture 2 hours.

**OCTA 256 Professional Self-Management (2)**

Assists in transition from student to professional occupational therapy practitioner. Emphasizes professional self-development—from engaging in strategic career planning to analysis of current state and national issues that affect all occupational therapy practitioners. Facilitates professional engagement in occupational therapy as a career, not simply as a job. Critically examines the concept of "professional" in terms of definition, privilege, and responsibilities. Per week: lecture 2 hours.

**OCTA 261 Aging (2)**

Provides students with an understanding of the core concepts of occupation in elderly and aging populations, including developmental stages, practice settings, public policy, ethics, and special needs. Integrates components found in occupational therapy and occupation with the needs of "the well elderly" population. Per week: lecture 2 hours.

**OCTA 271 Group Dynamics (2)**

Introduces functional groups, theories, models, and dynamics; and their process and development. Opportunity for understanding and developing group membership and leadership through participation in the group experience. Applies knowledge and techniques of group processes and interaction to achieve identified therapeutic goals. Per week: lecture 1 hour, laboratory 2 hours.

**OCTA 291 Occupational Therapy Assistant Affiliation I (12)**

Supervised clinical experience in hospitals or community health care programs, with emphasis on treatment of patients with psychosocial dysfunction. Successful completion necessary before student is eligible to take the certification examination. Summer, ten weeks (400 clock hours).

**OCTA 292 Occupational Therapy Assistant Affiliation II (12)**

Supervised clinical experience in hospitals, rehabilitation centers, or community health care programs, with emphasis on treatment of patients with neurophysiological and sensorimotor dysfunction. Successful completion necessary before student is eligible to take the certification examination. Summer, ten weeks (400 clock hours).

**OCTA 299 Directed Study (1-2)**

Under direction of faculty advisor, student is assigned a special project or clinical assignment related to occupational therapy. Regular discussion with the faculty regarding progress and status of assignment.

**OCCUPATIONAL THERAPY****OCTH 301 Introduction to Occupational Therapy (2)**

Defines occupational therapy from basic philosophical and historical perspectives. Describes uniqueness of the profession and various practice areas of occupational therapy. Explores the roles of the occupational therapist and describes professional organizations of occupational therapy. Examines the uniqueness of self in relation to professional development. Five weeks. Per week: lecture 4 hours, laboratory 2 hours.

**OCTH 305 Terminology for Occupational Therapy Practice (2)**

Language of medicine, including word construction, word analysis, definitions, and the use of terms related to occupational therapy. Introduces components of medical charts and language of documentation for therapy services.

**OCTH 306 Group Dynamics and Intervention (2)**

Introduces functional groups, theories, models, and dynamics; and group process and development. Provides opportunity for understanding and development of group membership and leadership through participation in the group experience. Applies knowledge and techniques of group process and interaction to achieve identified therapeutic goals. Per week: lecture 1 hour, group process 2 hours.

**OCTH 309 Human Occupation across the Lifespan (5)**

Considers how occupation embedded in a diverse social-cultural context is shaped and changed through the human lifespan. Defines occupation in occupational therapy and occupational science, and examines it in historical relationship to human adaptation and health. Introduces and explores delineations among academic studies, theories, models, and frames of reference related to occupation as potential foundations influencing occupational therapy.

**OCTH 314 Task Analysis (2)**

Emphasizes analysis of occupational performance. Identifies occupational profiles and patterns of occupation. Interactive acquisition and analysis of areas of occupation, performance skills, performance patterns, context, activities demands, and client factors. Per week: lecture 2 hours.

**OCTH 315 Therapeutic Media (2)**

Analyzes and applies occupation-based media as they relate to client-centered interventions. Practice in the development of resources, teaching skills, observation techniques, and the therapeutic use of self. Continues application of activity-analysis techniques to identify the possible influences of activity demands in social, cultural, personal, and temporal contexts.

**OCTH 316 Design and Technology (2)**

Supports development of basic competencies for assistive technology by examining and assessing theoretical and societal issues, population and policy trends, scientific advances, environmental constraints, funding opportunities, advocacy, and effective outcome evaluation. Case studies allow assistive technology evaluation, basic design, and resource coordination. Per week: 3 hours.

**OCTH 317 Occupational Therapy Practicum I (2)**

Observation and supervised experience in clinical and/or community-based programs. Per quarter: 80 hours.

**OCTH 318 Occupational Therapy Practicum II (2)**

Observation and supervised experience in clinical and/or community-based programs. Per quarter: 80 hours.

**OCTH 321 Intervention Techniques and Strategies I (2)**

Introduces treatment of performance areas within the temporal and environmental contexts. Emphasizes safety issues and hands-on performance of techniques as they relate to solving problems for specific classifications of dysfunctions. Major topics include functional mobility and transfers, self-care skills, assistive technology, joint protection and energy conservation, body mechanics, universal precautions, home management, and leisure activities. Per week: lecture 1 hour, laboratory 2 hours.

**OCTH 331 Functional Kinesiology (3)**

Applies anatomical and mechanical fundamentals of human motion to the analysis of motor skills, including muscle testing and goniometry. Emphasizes the upper extremities. Per week: lecture 2 hours, laboratory 2 hours.

Prerequisite: AHCJ 412.

**OCTH 341 Functional Neuroscience (3)**

Fundamentals of neuroscience, as related to occupational therapy practice—including basic anatomy and function of the central and peripheral nervous system, common clinical manifestations of neurologic dysfunction, and occupational performance impact on the individual with neurologic dysfunction.

Prerequisite: AHCJ 412.

**OCTH 411 Introduction to Occupational Therapy Research (2)**

Critically analyzes evidence-based research and qualitative studies. Introduces various approaches to questioning professional practice outcomes.

**OCTH 417 Occupational Therapy Practicum III (2)**

Observation and supervised experience in clinical and/or community-based programs. Per quarter: 80 hours.

Prerequisite: OCTH 317, OCTH 318.

**OCTH 418 Occupational Therapy Practicum IV (1, 2)**

Observation and supervised experience in clinical and/or community-based programs. Per quarter: 80 hours.

Prerequisite: OCTH 317, OCTH 318, OCTH 417.

**OCTH 431 Intervention Techniques and Strategies II (3)**

Introduces the intervention process, using specific occupational therapy theory and frames of reference applied to various populations. Emphasizes sensorimotor integration and neurodevelopmental approaches using case studies. Per week: lecture 2 hours, laboratory 3 hours.

**OCTH 435 Upper-Extremity Rehabilitation and Splinting (3)**

Introduces hand rehabilitation and uniqueness of the occupational therapy approach—including anatomical review of the upper extremity, etiology of common hand diseases and traumatic tissue healing, evaluation of the hand, intervention planning, outcome measures, advanced certification, and relevant California laws. Laboratory includes current concepts in the design and fabrication of upper-extremity orthotics and custom-made assistive devices for the hand. Emphasizes use of low-temperature thermoplastics and alternative splinting materials. Per week: lecture 2 hours, laboratory 2 hours.

Prerequisite: OCTH 451, OCTH 452, OCTH 453.

**OCTH 441 Fundamentals of Case Management (4)**

Introduces application of critical-reasoning process, effective communication, documentation, and overall professional skill building. Applies case management skills, evaluation, assessment, intervention planning, implementation, re-evaluation, and termination, when appropriate.

**OCTH 442 Case Analysis, Reasoning, and Management I (2)**

Introduces application of critical-reasoning process; effective communication skills with clients, patients, families, and team members. Documentation and overall professional skill building.

Prerequisite: OCTH 451.

**OCTH 443 Case Analysis, Reasoning, and Management II (2)**

Continues case management process as a means of addressing questions of importance to occupational therapy practice through theoretical perspectives. Applies case management skills, evaluation, intervention planning, implementation, re-evaluation, and termination, when appropriate. Emphasizes critical reasoning through clinically based case presentations. Per week: seminar/discussion 2 hours.

Prerequisite: OCTH 442, OCTH 451, OCTH 452.

**OCTH 451 Disorders of Human Performance I (5)**

Presents overview of the etiology, clinical course, evaluation, management, and prognosis of congenital, developmental, acute, and chronic disease processes; and of traumatic injuries. Includes problems associated with individuals and families having difficulty with social-cultural expectations. Emphasizes the effect of such conditions on human occupational performance across the lifespan.

Prerequisite: OCTH 309, OCTH 341.

**OCTH 452 Disorders of Human Performance II (5)**

Continues overview of etiology, clinical course, evaluation, management, and prognosis of congenital, developmental, acute, and chronic disease processes; and of traumatic injuries. Includes problems associated with individuals and families having difficulty with social-cultural expectations. Effect of such conditions on human occupational performance across the lifespan.

Prerequisite: OCTH 331, OCTH 451.

**OCTH 453 Disorders of Human Performance III (4)**

Continues overview of etiology, clinical course, evaluation, management, and prognosis of congenital, developmental, acute, and chronic-disease processes; and of traumatic injuries. Includes problems associated with individuals and families having difficulty with social-cultural expectations. Effect of such conditions on human occupational performance across the lifespan.

Prerequisite: OCTH 452.

**OCTH 455 Case Analysis, Reasoning, and Management III (3)**

Continuation of case management process as a means of addressing questions of importance to occupational therapy practice through theoretical perspectives. Application of case management skills, evaluation, intervention planning, implementation, re-evaluation, and termination when appropriate. Emphasizes critical reasoning through community-based case practice.

Prerequisite: OCTH 442, OCTH 443, OCTH 451.

**OCTH 456 Community Practice (2)**

Develops critical-reasoning skills. Evaluation of program effectiveness in providing tools to assess, plan, and implement treatment; make referrals; and discontinue occupational therapy services. Emphasizes professional portfolio and transition to entry-level occupational therapy practitioner.

**OCTH 491 Fieldwork Experience I (12)**

Supervised fieldwork experience in clinical and/or community-based programs. Emphasizes assessment, planning, treatment, problem solving, administration, and professionalism. Successful completion necessary before student is eligible to take the certification examination (480 clock hours each).

**OCTH 499 Occupational Therapy Independent Study (1-4)**

Student submits a project or paper on a topic of current interest in an area related to occupational therapy. Regular meetings to provide the student with guidance and evaluation. Elected on the basis of need or interest.

**OCTH 526 Business Topics in Health Care (2, 3)**

Introduces business for occupational therapy practitioners—including financial statements and budgetary processes, marketing, management, and consultation. Emphasizes use of strategic planning for decision-making processes of program development, productivity, and accountability. Major paper and presentation required for the additional unit.

**OCTH 533 Advanced Fieldwork Experience (40 to 480 hours)**

Advanced fieldwork experience in selected areas of professional practice. Completion of the agreed-upon clock hours required to receive a grade.

**OCTH 541 Current Trends in Occupational Therapy Practice I (3)**

Analyzes current trends in the field of occupational therapy. Includes health care economics, health care administration, legal and regulatory issues, professional responsibilities, political and professional trends, and advocacy.

Prerequisite: Senior standing.

**OCTH 542 Current Trends in Occupational Therapy Practice II (3)**

Explores new and future developments in occupational therapy and health care. Addresses issues of social-political involvement, advocacy, alternate employment possibilities, and management; health care systems, including international occupational therapy perspectives.

**OCTH 544 Advanced Occupational Therapy History (3)**

Provides the student with an extensive understanding of the history of occupational therapy by critically reviewing historical incidents, the history of occupational therapy and societal theories and practices, political conditions, and historical incidents. Facilitates the student's ability to enact advocacy and to better understand future projections in the field.

**OCTH 551 Theoretical Perspectives on Occupation (3)**

Provides the student with an expansive view of diverse influences on occupation and occupational therapy practice by critically investigating occupational theories and academic disciplines, such as anthropology, sociology, psychology, and philosophy.

**OCTH 552 Graduate Seminar (3)**

Provides the student with an opportunity to explore a variety of relevant topics for transitioning into occupational therapy professional practice. Topic areas include disability awareness and advocacy, marketing, management, professional development, and certification preparation.

**OCTH 561 Program Development/Design I (3)**

Focuses on selection, research, and design of programs pertinent to occupational therapy practice.

**OCTH 562 Program Development/Design II (3)**

Implements program planning, culminating with program evaluation and outcome assessment.

Prerequisite: OCTH 561.

**OCTH 563 Professional Competency Development I (1)**

Student pursues an area of special interest under the direction of the faculty advisor. Topic must be approved by the occupational therapy department.

**OCTH 564 Professional Competency Development II (1)**

Student continues development of the special interest topic, identifying resources and observation sources. Progress report and regular meetings with faculty advisor required.

Prerequisite: OCTH 563.

**OCTH 565 Professional Competency Development III (1)**

Student completes the special interest topic and prepares to make an oral presentation.

Prerequisite: OCTH 563, OCTH 564.

**OCTH 571 Research I (3)**

Student develops and implements a scholarly research proposal by systematically identifying and investigating a problem, issue, or question of relevance to occupational therapy practice. Emphasizes writing skills in preparation of literature review, purpose, conceptual framework, proposed methodology, and data analysis.

Prerequisite: AHCJ 471, AHCJ 472.

**OCTH 572 Research II (2)**

Student develops and implements a scholarly research project. Focuses on seeking Institutional Review Board approval and initiating data-gathering and preliminary analysis of findings.

**OCTH 573 Research III (2)**

Student develops and implements a scholarly research project. Emphasizes analysis of data and presentation of findings in a research colloquium.

Prerequisite: OCTH 572.

**OCTH 591 Fieldwork Experience II (12)**

A twelve-week (40 hours/week) supervised fieldwork experience in clinical and/or community-based programs. Emphasizes assessment, planning, treatment, problem solving, administration, and professionalism. Successful completion necessary before student is eligible to take the certification examination.

**OCTH 598 Occupational Therapy Advanced Specialty Tracks (1-3)**

Presents in-depth practice application in an area of occupational therapy. Opportunity to pursue various topics related to current trends. Develops advanced clinical skills, where appropriate.

**OCTH 600 Occupational Science (3)**

Explores occupational science as an academic discipline. Uses foundational traditions and theoretical perspectives to analyze and understand the experience and action of occupation. Applies concepts of occupational science to current practice issues.

**OCTH 601 Spirit of Diverse Abilities I (3)**

Examines perspectives in order to view and understand the disability experience and the role of spirituality and occupational justice in practice. Emphasizes theoretical approaches. Discusses role of occupational therapy in social justice.

**OCTH 602 Spirit of Diverse Abilities II (3)**

Explores and discusses the experience of disability and occupational injustice. Explores and applies these concepts in relation to the profession of occupational therapy and the greater society. Students explore issues such as homelessness, diversity, disparity, and ethics.

Prerequisite: OCTH 601.

**OCTH 604 Health, Society, and Participation (3)**

Incorporates health and participation to integrate the individual, community, and greater society. Students engage in grant searching and grant writing. Discusses logic models and program. Emphasizes participatory research; program development; needs assessment; healing environments; social justice issues; global issues; World Health Organization; International Classification of Functioning, Disability and Health; AIDS; culture; and mission work in relation to the profession of occupational therapy.

**OCTH 605 Education in Occupational Therapy (3)**

Explores the philosophical foundations of knowledge and learning theory. Prepares occupational therapists for the roles and expectations of occupational therapy education in academic and practice settings. Discusses instructional design, media, student assessment, teaching skills, course development, mentoring, and curriculum design.

**OCTH 606 Leadership in Occupational Therapy (3)**

Explores leadership theory, administrative characteristics and strategies, professionalism, team facilitation, clinical reasoning, ethics, and advocacy. Students participate in legislative process and analyze international issues and social justice in relation to occupational therapy practice and the future of the profession.

**OCTH 611 Research I: Proposal Writing (4)**

Online interactive course work precedes and follows on-site intensive. Student develops individual research proposal, completes Institutional Review Board (IRB) training, successfully submits proposal to the IRB. Emphasizes reflective discussions of research interests and experiences, planning, conceptual framework, proposed methodology, and data analysis. Students engage in peer reviews throughout course.

**OCTH 612 Research II (3)**

Data collection for proposed research project. Participation in weekly online discussion modules facilitating reflection, sharing, and growth. Review of statistical principles. Identification of journals to consider for possible submission of final manuscript.

Prerequisite: OCTH 611.

**OCTH 613 Research III (3)**

Data analysis, preparation, and completion of manuscript for submission. Peer discussion and review via an online interactive environment to guide and facilitate research process.

Prerequisite: OCTH 612.

**OCTH 614 Research and Professional Rotation II (5)**

Continues the research project and professional rotation. Students complete a needs assessment and program development. Data collection, data management techniques, and introduction to various data analysis strategies.

Prerequisite: OCTH 611.

**OCTH 621 Professional Rotation Planning (2)**

Students design their professional rotation with guidance from the primary course instructor. Emphasize identification of a focus area, objectives, goals, outcomes, on-site mentor, faculty mentor, and timeframe.

**OCTH 622 Professional Rotation Proposal (1)**

Development of a proposal submitted to the doctoral committee for final approval.

Prerequisite: OCTH 621.

**OCTH 623 Professional Rotation I (4)**

Implements professional rotation approved in OCTH 622. Critical discussion of experiences and problem solving with classmates.

Prerequisite: OCTH 622.

**OCTH 624 Professional Rotation II (4)**

Continues professional rotation. Requires achievement of 50 percent of the objectives, or as designated in approved proposal. Continues discussion and problem solving with classmates. Personal reflection on progress of rotation.

Prerequisite: OCTH 623.

**OCTH 625 Professional Rotation III (4)**

Completes clinical aspects of professional rotation. Initiates preparation of a manuscript and participation in online critical discussions with classmates.

Prerequisite: OCTH 624.

**OCTH 626 Professional Rotation IV (4)**

Online critical discussions among students, emphasizing application and implications of rotation experience to the profession and society. Students also submit a manuscript. Includes personal reflection on experience of professional rotation, with emphasis on relationship to mission and objectives of the Doctor of Occupational Therapy Program.

**OCTH 627 Professional Publication and Dissemination (5)**

A culmination course in which students reflect on their rotation experiences and finalize their program development. Students complete data analysis and prepare and complete their manuscript. Critical discussion with peers regarding knowledge transference to impact individuals, society, the profession, and clinical practice.

Prerequisite: OCTH 611.

**OCTH 699 Directed Study (2, 3)**

Student pursues an area of special interest under the direction of the faculty advisor. Topic must be approved by the occupational therapy department.

**ORAL DIAGNOSIS, RADIOLOGY AND PATHOLOGY****ODRP 311 General and Oral Pathology DH (5)**

Basic disease processes and selected organ system diseases. Classification, etiology, and recognition of common oral diseases.

**ODRP 501 Principles of Microbiology DN (4)**

Covers fundamental concepts of microbiology and principles of infection and infection control. Systematically studies microorganisms pathogenic for humans, including bacteria, viruses, spirochetes, and parasitic agents. Emphasizes the dental aspects, including infection control in the dental setting, sterilization and disinfection, and significance of endogenous microbial flora in dental disease.

**ODRP 701 Radiology I: Clinical Procedures (1.5)**

Techniques for producing intraoral and extraoral radiographs and digital images, including film and digital image processing, radiation protection and safety, and infection control. Covers viewing of radiographic and digital images; and technique, handling, and darkroom errors.

**ODRP 725 Patient Assessment and Data Management (3)**

Introduces medical history evaluation, physical evaluation, data collection, and the problem-oriented dental record. Teaches students to work up each dental problem and incorporate everything into an integrated treatment plan. Supervised clinical experience with fellow students as "patients." Student develops treatment plan and presents it to the patients. Introduces computer-based treatment plan management.

Prerequisite: ODRP 751.

**ODRP 726 Patient Diagnosis and Treatment Planning (1.5)**

Students work on virtual patients in both chart- and computer-based formats. Case-based, small-group, treatment-planning exercises. Introduces consent forms, a step-by-step comprehensive examination process, and treatment plan presentation to the patient.

**ODRP 735 Dental Emergency Diagnosis and Treatment (1)**

Diagnosis and management of dental emergencies, including caries control, endodontic and prosthodontic emergencies, myofascial pain, hard- and soft-tissue trauma, and forensic issues.

**ODRP 751 General and Systemic Pathology I (4)**

Studies basic disease mechanisms and disease processes, including host responses to pathogens and injury. Studies disease processes of some organs and systems, emphasizing etiology and pathogenesis, epidemiology, disease manifestations, and major treatment modalities.

**ODRP 752 General and Systemic Pathology II (4)**

Continues study of disease processes of the various organs and systems. Emphasizes etiology and pathogenesis, epidemiology, disease manifestations, and major treatment modalities.

Prerequisite: ODRP 751.

**ODRP 755 Radiology II: Theory and Interpretation (2)**

Radiation physics and biology. Interpretation of intraoral and extraoral images—including appearance of hard- and soft-tissue anatomy, restorative materials and abnormalities of teeth, dental caries, periodontal disease, periapical disease, and other jaw pathology. Covers patient selection criteria, legal considerations, and quality assurance.

**ODRP 761 Oral Pathology and Diagnosis (6)**

Studies oral mucosal and soft-tissue lesions, developmental and genetic disorders, jaw lesions, salivary gland disorders, oral manifestations of systemic diseases, and some diseases of the skin and head and neck. Includes epidemiology, etiology, clinical and/or radiographic features, microscopic features, and management of disease, emphasizing differential diagnosis.

**ODRP 807 Oral Medicine I: TMJ/Orofacial Pain I (1)**

Introduces diagnosis and treatment of temporomandibular joint disorders (TMD). Teaches anatomy, pathology, and diagnostic imaging of the temporomandibular joint. Presents clinical features and mechanisms of masticatory muscle pain, disc disorders, occlusal disorders, and arthritis of the TMJ. Includes patient cases focusing on these disorders. Student learns how to perform an orofacial pain examination and initial treatment for patients with temporomandibular joint disorders.

**ODRP 808 Oral Medicine II: Medically Compromised Patient (2)**

Signs, symptoms, laboratory tests, medical management, and suggested dental modifications for patients with medical problems of the respiratory, cardiovascular, neurologic, genitourinary, hematopoietic, and endocrine systems.

**ODRP 811 Oral Medicine III: TMJ/Orofacial Pain II (1)**

Advanced topics on temporomandibular joint disorders and orofacial pain. Introduces diagnosis and management of acute and chronic orofacial pain conditions, including neuropathic pain, headaches, and comorbid psychiatric disorders. Student learns to recognize, screen, and make appropriate referrals for chronic orofacial pain. Case presentations focus on nonodontogenic pain that presents as tooth pain.

**ODRP 821 Special Care Dentistry (1)**

Considers the dental treatment of special populations—including handicapped, medically compromised, or elderly patients.

**ODRP 825 Oral Diagnosis, Radiology, and Pathology Clinic (.5-3)**

Clinical practice in evaluation, diagnosis, and treatment planning of early-to-intermediate dental and oral disease. Practice in dental emergency diagnosis and management. Repeated registrations required to fulfill the total requirement of 3 units.



**ODRP 826 Oral Medicine IV: Clinical Oral Pathology and Oncology (2)**

Differential diagnosis, laboratory studies, and initial management of oral disease, utilizing clinical case studies. Epidemiology, methods of detection, diagnosis, and management of oral and maxillofacial cancer. Principles of cancer therapy by surgical, radiation, and medical modalities. Includes discussion of cancer prevention and post-therapy reconstruction. Emphasizes tobacco cessation protocols.

**ODRP 875 Oral Diagnosis, Radiology, and Pathology Clinic (1-4)**

Clinical practice in evaluation, diagnosis, and treatment planning for patients with intermediate-to-advanced dental and oral disease. Dental emergency diagnosis and management.

**ORAL AND MAXILLOFACIAL SURGERY  
OMFS 604 Selected Topics in Oral and Maxillofacial Surgery (1)**

A rotating, two-year schedule of weekly seminars covering selected topics in oral and maxillofacial surgery. Following a lecture on these topics, recent representational clinical cases presented and used as the basis for review and discussion—enhancing the knowledge base and critical thinking. Monthly grand rounds, given by respected guest speakers considered to be experts in their respective fields, cover current topics in oral and maxillofacial surgery and in practice management. Repeated registrations required to fulfill the total units.

**OMFS 605 Integrated Orthodontic and Surgical Correction of Dentofacial Deformities (1)**

A monthly multidisciplinary seminar course emphasizing preoperative diagnosis, planning, intraoperative procedures, and postoperative care of orthognathic patients. Includes description of congenital and developmental deformities, emphasizing all aspects of surgical-orthodontics patient management leading to critical thinking and decision making. Patients selected include a wide range of dentofacial deformities. Preoperative skeletal, dental, and soft-tissue analyses performed. Emphasizes the importance of accurate cephalometric analysis in treatment planning, including accurate prediction tracings. Repeated registrations required to fulfill the total units.

**OMFS 606 Applied Surgical Anatomy (1)**

Enables the resident to master the anatomic principles involved in clinical diagnosis and in assessing clinical problem areas encountered in various health care delivery situations. Discusses in detail the applied anatomic consequences of various surgical and treatment procedures and the anatomic aspects of emergencies occurring in practice, including cadaveric dissection. Emphasizes knowledge of the vascular supply and neuroinnervation of the structures of the oral cavity and adjacent areas of the head and neck. Applies material discussed in terms of actual clinical case presentations.

**OMFS 607 Principles of Medical History, Physical Examination, and Clinical Medicine (2)**

Focuses on developing accurate history-taking and physical examination skills. Specific topics include review of organ systems and associated pathology (physical and laboratory), hospital protocol, and charting. Residents perform history and physical (H&P) on medical and surgical patients. Emphasizes proficiency in developing differential diagnoses of common medical and surgical problems.

**OMFS 608 Surgical Oral and Maxillofacial Pathology Conference (.5)**

Uses recent pathology cases as the basis for review and discussion of common and ominous lesions encountered. Emphasizes differential diagnosis and patient management. Guest lecturers cover selected topics in oral and maxillofacial pathology. Repeated registrations required to fulfill the total units.

**OMFS 609 Literature Review in Oral and Maxillofacial Surgery (.5)**

A monthly discussion of recent literature from selected journals. Reviews classic landmark articles and their impact on the specialty. Repeated registrations required to fulfill total units.

**OMFS 614 Clinical Experience in Oral and Maxillofacial Surgery Practice (7)**

Training in various aspects of oral and maxillofacial surgery. Training in dentoalveolar surgery, 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 surgery, and osseous grafting of postresection and posttraumatic maxillofacial defects. Study continues in the application of general anesthesia to ambulatory outpatient surgery patients. Residents trained to assume full responsibility for all aspects of the oral and maxillofacial surgery practice. Advanced clinical training in the subspecialty areas of oral and maxillofacial surgery, as well as training through off-service rotations with internal medicine, plastic and reconstructive surgery, head and neck surgery, general surgery, and other specialties. Repeated registrations required to fulfill the total units.

**OMFS 615 Current Trends in Medicine and Surgery (2)**

Off-service specialty seminars on a wide range of topics, including anesthesia, internal medicine, ICU care, general surgery, and various specialty topics. Repeated registrations required to fulfill the total units.

**OMFS 616 Application of Surgical Principles to Orthognathic Surgery (1)**

Introductory multidisciplinary lecture-seminar emphasizing preoperative diagnosis, treatment planning, intraoperative procedures, and postoperative care of orthognathic patients; description of congenital and developmental deformities, emphasizing all aspects of surgical orthodontic patient management.

**OMFS 617 Critical Decision Making in Oral and Maxillofacial Surgery (1)**

A weekly seminar designed to expand the participants' skill in critical decision making as it pertains to patient care in the field of oral and maxillofacial surgery. Students present cases weekly of proposed surgical experiences—reviewing data gathering, treatment alternatives, and treatment of complications. Additionally, selected posttreatment cases presented to review the proposed treatment versus the actual outcome as an opportunity for the participant to be involved with an outcome assessment analysis. Repeated registrations required to fulfill the total units.

**OMFS 618 Introduction to General Anesthesia (1)**

Introduces the theory and practice of general anesthesia.

**OMFS 696 Scholarly Activity in Oral and Maxillofacial Surgery (1)**

Selected didactic, clinical, and/or laboratory activity developed by the program director or a designated program faculty member. Primarily designed for residents to fulfill the certificate requirements for scholarly activity/research in oral and maxillofacial surgery. Multiple registrations may be needed to complete these activities.

**OMFS 697A Research (1)**

Student identifies a research project, prepares a protocol, and obtains approval for the protocol. Multiple registrations may be needed to complete these research activities.

**OMFS 697B Research (1, 2)**

Conducting the actual research project, including the data collection. Multiple registrations may be needed to complete these research activities.

**OMFS 698 Thesis (1)****OMFS 805 Oral and Maxillofacial Surgery I (1)**

Theory of oral surgery. Etiology, diagnosis, and surgical treatment of oral conditions and diseases commonly encountered in general practice. Familiarizes student with fundamental surgical techniques, principles involved in extraction of teeth, and selection and use of equipment.

**OMFS 811 Oral and Maxillofacial Surgery II (1, 2)**

Continues preparatory topics for general practice. Surgical complications, management of impacted teeth, odontogenic infections, preprosthetic surgery; introduces maxillofacial trauma, surgical treatment of cysts and tumors, orthognathic surgery. Final grade for this two-quarter, variable unit course given at the end of the second quarter. Requires repeated registrations to fulfill the total units.

Prerequisite: OMFS 805.

**OMFS 819 Intravenous Sedation (1.5)**

Theory and practice of intravenous sedation as an adjunct to dental treatment. Physical diagnosis, venipuncture, intravenous fluid administration, monitors, medications, sedation techniques, emergencies. Only students accepted to the OMSF Honors Program may register for this course.

**OMFS 825 Oral and Maxillofacial Surgery Clinic I (1)**

Clinical application of the principles of oral maxillofacial surgery. Opportunities to gain experience in cases of the type treated by the general dentist.

**OMFS 875 Oral and Maxillofacial Surgery Clinic II (1)**

Clinical application of the principles of oral maxillofacial surgery. Opportunities to gain experience in cases of the type treated by the general dentist.

**OPHTHALMOLOGY****OPHM 891 Ophthalmology Elective (1.5-18)****ORTHODONTICS****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 the didactic portion of the course.

**ORDN 525 Materials Science and Mechanics (2)**

Structure and properties of materials used in orthodontics. Analyzes the effects of mechanical and heat treatment. Surveys 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 intraoral and extraoral photography. Discusses and uses photographic equipment and techniques on orthodontic patients. Camera, lens, and flash required.

**ORDN 535 Advanced Cephalometrics (2)**

Studies cephalometrics from a historical 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. Emphasizes myogenesis and osteogenesis. Prenatal and postnatal development of the face and jaws, including the classic concepts of facial growth. Considers 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)**

The development of the human face and dentition. A concept of dynamic functioning occlusion.

**ORDN 571 Diagnosis and Treatment Planning I (2)**

Student diagnoses and treats assigned patients.

**ORDN 574 Diagnosis and Treatment Planning II (2)**

Continues ORDN 571, with follow-up of clinical cases with progress records.

**ORDN 584 Current Orthodontics Literature I (2)**

Presents current papers in various subspecialties of orthodontics.

**ORDN 591 Current Orthodontics Literature II (2)**

Presents current papers in various subspecialties of orthodontics.

**ORDN 597 Orthognathic Surgery Theory and Literature Review (2)**

Presents current papers in various subspecialties of orthodontics, with primary emphasis on surgical orthodontics. Presents cases with various problems requiring surgery.

**ORDN 604 Seminar in Orthodontics (1)**

Critically reviews suggested etiological factors of malocclusion. Problems of diagnosis and the rationale of various treatment philosophies. Liberally uses current literature. Discussion by guest lecturers with demonstrated competence in the field.

**ORDN 605 Advanced Seminar in Orthodontics (1)**

Second-year seminar. Design of clinical diagnosis and practice management. Repeated registrations to fulfill the total units required.

**ORDN 606 Craniofacial Genetics (2)**

Basic genetics. Introduces craniofacial clinic.

**ORDN 608 Physiology and Pathology of Speech (1)**

Studies specific areas of oral myofunctional disorders that influence the occlusion.

**ORDN 634 Orthodontics Clinical Conference (2)**

Students prepare and present diagnosis, case analysis, and treatment plan—with primary emphasis on difficult and unusual cases.

**ORDN 635 Finishing Mechanics I (2)**

Orthodontic treatment modalities, emphasizing finishing mechanics for the patient.

**ORDN 636 Finishing Mechanics II (1)**

A seminar course created for first-year graduate orthodontic students, exposing 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 (1-4)**

Students gain experience in teaching clinical orthodontics to predoctoral dental students. Repeated registrations to fulfill the total units required.

**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, emphasizing the integration of orthodontics and temporomandibular joint treatment.

**ORDN 657 Orthodontic Board Preparation (1-6)**

Student presents finished orthodontic cases to faculty and residents. Prepares for the American Board of Orthodontics. Repeated registrations required to fulfill the total units required.

**ORDN 697A Research (1)**

Student identifies a research project, prepares a proposal, and obtains approval for the protocol.

**ORDN 697B Research (1-4)**

Conducting the actual research project, including the data collection. Multiple registrations may be needed to complete these research activities.

**ORDN 698 Thesis (3)****ORDN 725 Clinical Practice in Orthodontics (7)**

Diagnosis and treatment of assigned patients, including adults. Repeated registrations to fulfill the total units/clock hours required.

**ORDN 751 Principles of Orthodontics I (1)**

Objectives and science of orthodontics. Incidence, etiology, and recognition of malocclusion. Craniofacial growth and development. Diagnostic procedures, aids, and interpretation.

**ORDN 801 Minor Tooth Movement (2)**

Lecture, laboratory demonstration, and clinical exercise prepares students to diagnose and treat limited clinical problems. Applies theory. Minor tooth movement.

**ORDN 811 Principles of Orthodontics II (1)**

Biophysical principles. Removable and fixed orthodontic appliances, adult orthodontics, surgical orthodontics. Treatment planning. Interaction with other disciplines. National Board Examination preparation. Selected topics in orthodontics.

**ORDN 875 Orthodontics Clinic (1)**

Clinical application of skills that have been learned in the laboratory to manage minor tooth movement and early treatment cases.

**ORAL PATHOLOGY****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.

**ORTHOTICS AND PROSTHETICS****ORPR 504 Materials Science in Orthotics and Prosthetics (3)**

Advances the student's competencies in materials commonly used in orthotic and prosthetic devices. Incorporates in-depth analysis of metals, polymers, and carbon fibers materials. Provides knowledge of chemical compositions, stress-strain curves, fatigability, and other essential characteristics to be considered in orthotic and prosthetic design.

**ORPR 505 Current Issues in Orthotics and Prosthetics (3)**

Reviews and discusses concerns and current advances relating to orthotics and prosthetics, e.g., legislation, regulations, education, professional organization, interdisciplinary patient care, and reimbursement issues.

**ORPR 506 Advanced Specialty Tracks in Orthotics and Prosthetics (3)**

Presents the newest clinical treatment applications over the spectrum of the patient population in the field of orthotics and prosthetics.

**ORPR 515 Topics in Orthotics and Prosthetics (1-6)**

Lecture and discussion related to the practice of orthotics and prosthetics. Content varies from quarter to quarter. (May be repeated for additional credit for a maximum 6 quarter units.)

**ORTHOPAEDIC SURGERY****ORTH 891 Orthopaedic Surgery Elective (1.5-18)****OTOLARYNGOLOGY****OTOL 891 Otolaryngology Elective (1.5-18)****PHYSICIANS ASSISTANT****PAST 401 Anatomy and Physiology I (3)**

Gross and microscopic anatomy of the human body. Lecture, laboratory with cadaver dissection, demonstration, and slides. Orientation to structure of various systems of the body.

Prerequisite: Series to be taken in sequence.

**PAST 402 Anatomy and Physiology II (3)**

Gross and microscopic anatomy of the human body. Lecture, laboratory with cadaver dissection, demonstration, and slides. Orientation to structure of various systems of the body.

Prerequisite: PAST 401; series to be taken in sequence.

**PAST 403 Anatomy and Physiology III (3)**

Gross and microscopic anatomy of the human body. Lecture, laboratory with cadaver dissection, demonstration, and slides. Orientation to structure of various systems of the body.

Prerequisite: PAST 402; series to be taken in sequence.

**PAST 404 Biochemistry for Physician Assistants (3)**

Chemistry and metabolism of carbohydrates, lipids, nucleic acids, and proteins. Chemical basis of life processes. Lecture and laboratory demonstrations to support student competency.

**PAST 406 Clinical Laboratory (2)**

Provides the physician assistant student with an overview of clinical laboratory procedures and operations. Emphasizes interpretation and clinical significance of commonly ordered laboratory tests. Observation and performance of laboratory testing routinely performed in primary care offices and hospital laboratories. Lecture and laboratory. Laboratory exposure provided in a clinical laboratory setting.

**PAST 411 Pathology for Physician Assistants I (3)**

Fundamental mechanisms of disease, including: cell injury, inflammation, repair, regeneration, and fibrosis; vascular, cardiac, respiratory, gastrointestinal, hepatobiliary, urinary, reproductive, endocrine, and integumentary pathologies. One hour per week participation in differential diagnosis seminar required.

**PAST 412 Pathology for Physician Assistants II (3)**

Fundamental mechanisms of disease, including: the central and peripheral nervous systems; bones and joints; skeletal muscle; developmental, genetic, infectious, and parasitic pathologies; and neoplasia. Two autopsy observations with written report, and one hour per week participation in differential diagnosis seminar required.

**PAST 421 Pharmacology for Physician Assistants I (3)**

Part I of a two-part course that covers basic concepts of pharmaceuticals used in diagnosis, prevention, and treatment of disease. Systematic presentation of the pharmacology and therapeutic value of drugs used in medicine. Related topics—with special consideration of pediatric and geriatric pharmacology—include drug legislation, PDR, routes of administration, pharmacokinetics, pharmacodynamics, adverse effects, drug interactions, and drug toxicity. Overview of physician assistant's responsibilities in prescribing and/or dispensing pharmaceuticals.

**PAST 422 Pharmacology for Physician Assistants II (3)**

Part II of a two-part course that covers basic concepts of pharmaceuticals used in diagnosis, prevention, and treatment of disease. Systematic presentation of the pharmacology and therapeutic value of drugs used in medicine. Related topics—with special consideration of pediatric and geriatric pharmacology—include drug legislation, PDR, routes of administration, pharmacokinetics, pharmacodynamics, adverse effects, drug interactions, drug toxicity. Overview of physician assistant's responsibilities when prescribing and/or dispensing pharmaceuticals.

**PAST 504 Primary Care Pediatrics (2)**

Introduces common medical and surgical disorders encountered in pediatric medicine. Emphasizes primary care concepts in the care of children. Introduces rare disorders that the physician assistant may encounter in primary care. Presentation of disease processes mirrors adult medicine by discussing etiology, pathophysiology, clinical presentation, diagnostic work-up, and management.

**PAST 505 Women's Health Care (2)**

Common problems encountered in caring for women; management of these problems. Etiology, pathophysiology, clinical presentation, and diagnostic work-up.

**PAST 506 Clinical Skills for Physician Assistants (4)**

Introduces the basic skills and knowledge needed to evaluate and treat common illnesses and injuries. Safety, aseptic technique, BLS, ACLS, wound care, local anesthesia, suturing, casting, splinting, use of various tubes and drains, and emergency medicine; and surgery for physician assistants.

**PAST 507 Seminar in Preventive Medicine (2)**

Selected topics dealing with aspects of disease prevention. Relevance of statistics, epidemiology, research designs, and clinical trials; as well as selected disease trends, lifestyle modification, the role of physical activity, nutrition and immunization, public health approaches to communicable diseases, and genomics.

**PAST 509 Behavioral Science for Physician Assistants (3)**

Behavioral science counseling skills necessary to assist patients in dealing with illness and injury, in following prescribed treatment regimens, and in adopting attitudes and behaviors leading to improved health behaviors (including thinking, feeling, and acting).

**PAST 514 Physical Diagnosis I (3)**

Part I of a two-part sequence of lecture, demonstration, and practice in the art and science of obtaining the medical history and performing the physical examination.

**PAST 515 Physical Diagnosis II (3)**

Part II of a two-part sequence of lecture, demonstration, and practice in the art and science of obtaining the medical history and performing the physical examination.

Prerequisite: PAST 514.

**PAST 516 Physician Assistant Professional Issues (2)**

A historical perspective of the physician assistant (PA) profession, as well as current trends and issues; the PA's role in health care delivery; political and legal factors that affect PA practice; intraprofessional factors and the PA's role in relation to physicians and other providers. Importance of professional responsibility and of biomedical ethics in relation to the PA's role as health care provider. Content relating to PA professional organizations, program accreditation, and graduate certification and recertification; employment considerations; and professional liability.

**PAST 521 Research I (3)**

Introduces the scientific method in health science research. Focuses on the major steps of the research process: Problem identification, literature review, conceptual framework, identification of variables, statement of hypotheses, experimental design and analysis, and presentation of data. Includes critical evaluation of research literature.

**PAST 522 Research II (2)**

Student applies the research process to problems in related specific allied health fields and develops a research proposal. Pilot testing of procedures and data collection forms.

Prerequisite: PAST 521.

**PAST 523 Research III (2)**

Student implements a research proposal in a practice setting. Computer data analysis and preparation of a research report both in written and oral formats. Student develops and creates a PowerPoint presentation, poster, and abstract for submission to a professional meeting.

Prerequisite: PAST 521, PAST 522.

**PAST 524 Family Medicine I (4)**

A four-week rotation in a primary care clinic. Provides clinical experience with common medical problems and health care needs of all age groups. Forty hours per week.

**PAST 525 Family Medicine II (4)**

A four-week rotation in a primary care clinic that includes urgent care. Clinical experience with common medical problems and health care needs of all age groups. May require late evening and weekend hours. Forty hours per week.

**PAST 526 Internal Medicine I (Inpatient Medicine) (4)**

A four-week rotation as part of an internal medicine admitting team. Clinical experience with common medical problems, admissions, daily rounds, and patient management and discharge processes. On-call required (overnight). Sixty hours per week.

**PAST 527 Internal Medicine II (Outpatient Medicine) (4)**

A four-week rotation in outpatient medical clinics. Clinical experience with common adult medical problems, including management of chronic diseases. Forty hours per week.

**PAST 528 Pediatrics I (Inpatient Pediatrics) (4)**

A four-week rotation as part of a pediatrics admitting team. May include overnight in-hospital call, emergency room call, ward rounds, and outpatient clinic duties. Clinical experience with common childhood illnesses, admissions, discharge, daily progress notes, and patient management processes. Sixty hours per week.

**PAST 529 Pediatrics II (Outpatient Pediatrics) (4)**

A four-week rotation in a pediatrics clinic. Clinical experience with common medical problems and health care needs of people from birth to 18 years. May require evening or weekend hours. Forty hours per week.

**PAST 531 Obstetrics and Gynecology (4)**

A four-week rotation through various aspects of an obstetrics and gynecology service. Clinical experience in women's health care—emphasizing primary care, including normal pregnancy and childbirth. May require in-hospital on-call (overnight) or late hours. Sixty hours per week.

**PAST 532 General Surgery (4)**

A four-week rotation on general surgery service. Clinical experience with common medical problems requiring surgical intervention, primarily in adults. Includes assignment to an admitting team, in-hospital call (overnight), or late hours. Includes assisting in the operating room and surgical clinic. Sixty hours per week.

**PAST 533 Emergency Medicine (4)**

A four-week rotation through a hospital emergency department, primarily in urgent care or assigned to minor trauma and illnesses. Clinical experience with common illnesses and injuries, suturing, and splinting. Requires late night and weekend duties. Sixty hours per week.

**PAST 534 Psychiatry/Behavioral Medicine (4)**

A four-week rotation through an inpatient and outpatient behavioral medicine service. Clinical experience with common mental health problems, including acute and chronic psychoses, substance abuse, and affective disorders. May require late night or on-call duties. Sixty hours.

**PAST 536 Elective I (4)**

A four-week elective rotation through a medical or surgical service of choice (as available). Hours/call may vary.

**PAST 537 Elective II (4)**

A four-week elective rotation through a medical or surgical service of choice (as available). Hours/call may vary.

**PAST 541 Clinical Medicine for Physician Assistants I (5)**

Study of common medical and/or surgical disorders encountered in general adult medicine. Typical clinical presentation, etiology, pathophysiology, diagnostic work-up, EKG interpretation, and management of disorders.

**PAST 542 Clinical Medicine for Physician Assistants II (5)**

Part II of the three-quarter sequence introducing the student to a study of common medical and/or surgical disorders encountered in general adult medicine. Includes typical clinical presentation, etiology, pathophysiology, diagnostic work-up, EKG interpretation, and management of disorders.

Prerequisite: PAST 541.

**PAST 543 Clinical Medicine for PAs, III (3)**

Part III of the three-quarter sequence introducing the student to the study of common medical and/or surgical disorders encountered in general adult and pediatric medicine. Includes typical clinical presentation, etiology, pathophysiology, diagnostic work-up, and management of disorders.

Prerequisite: PAST 541, PAST 542.

**PATHOLOGY****PATH 514 Human Systemic Pathology (2)**

Systematically reviews diseases affecting each organ system. Covers etiology, pathogenesis, morphology, pathophysiology, and biologic behavior; as well as relevant laboratory medicine techniques. Correlates with concurrent courses in physiology, microbiology, and physical diagnosis.

Prerequisite: MDCJ 553, MDCJ 554, MDCJ 555, MDCJ 556; Recommended: Concurrent or previous medical microbiology.

**PATH 515 Human Systemic Pathology (6)**

Systematically reviews diseases affecting each organ system. Covers etiology, pathogenesis, morphology, pathophysiology, and biologic behavior; as well as relevant laboratory medicine techniques. Correlates with concurrent courses in physiology, microbiology, and physical diagnosis.

Prerequisite: MDCJ 514; Recommended: Concurrent or previous medical microbiology.

**PATH 516 Human Systemic Pathology (4)**

Systematically reviews diseases affecting each organ system. Covers etiology, pathogenesis, morphology, pathophysiology, and biologic behavior; as well as relevant laboratory medicine techniques. Correlates with concurrent courses in physiology, microbiology, and physical diagnosis.

Prerequisite: MDCJ 515; Recommended: Concurrent or previous medical microbiology.

**PATH 599 Directed Study (1.5-18)****PATH 891 Pathology Elective (1.5-18)****PHYSICAL EDUCATION ACTIVITY****PEAC 110 Independent Activities (.5, 1)**

Develops an appropriate activity program in conjunction with the staff at the activities center. Develops motor skills and physical stamina in a manner that will promote lifelong involvement in physical activity.

**PEDIATRIC DENTISTRY****PEDN 503 Pediatric Dental Seminar (2)**

Selected clinical topics in pediatric dentistry. Requires repeated registrations to fulfill total units.

**PEDN 508 Pediatric Hospital Dentistry Seminar (2-4)**

Hospital protocol and the care of patients in a hospital environment.

**PEDN 512 Oral Sedation Seminar (2)**

Pharmacology, medical considerations, clinical applications, and protocols for oral sedation.

**PEDN 521 Principles of Medicine and Physical Diagnosis (2)**

Medical and physical diagnosis for the pediatric dental patient.

**PEDN 524 Introduction to Orthodontics (2)**

Diagnosis and treatment planning for clinical orthodontics.

**PEDN 524L Introduction to Orthodontics Laboratory (1, 2)**

Fabrication of various orthodontic appliances.



**PEDN 604 Pediatric Dental Literature (2-12)**

Pediatric dental literature study, including literature found on the reading list of the American Board of Pediatric Dentistry. Repeated registrations required to fulfill the total units.

**PEDN 654 Practice Teaching for Pediatric Dentistry (1-5)**

Student gains experience teaching pediatric dentistry in clinical and laboratory settings. Repeated registrations required to fulfill the total units.

**PEDN 680 Elective Study for Advanced Education Students of Pediatric Dentistry (1-10)**

Topics selected by students in the advanced education program in pediatric dentistry and by department faculty. Repeated registrations required to fulfill the total units.

**PEDN 696 Scholarly Activity in Pediatric Dentistry (1)**

Selected didactic, clinical, and/or laboratory activity developed by the program director or a designated program faculty member. Primarily designed for residents to fulfill the certificate requirements for scholarly activity/research in pediatric dentistry. Multiple registrations may be needed to complete these activities.

**PEDN 697A Research (1)**

Student identifies a research project, prepares a protocol, and obtains approval for the protocol. Multiple registrations may be needed to complete these research activities.

**PEDN 697B Research (1, 2)**

Conducting the actual research project, including the data collection. Multiple registrations may be needed to complete these research activities.

**PEDN 698 Thesis (1-3)**

Required for M.S.-degree track.

**PEDN 725 Pediatric Dental Clinic (8)**

Clinical pediatric dental experience in both the outpatient and inpatient settings for patients with a variety of clinical needs and problems. Repeated registrations required to fulfill total units.

**PEDN 753 Pediatric Dentistry I Lecture (2)**

Prevention of dental disease (oral hygiene, diet, fluoride, pit and fissure sealants). Behavior management of the child dental patient. Diagnosis, treatment planning, and operative dentistry for children. Pediatric pulp therapy, dental arch-length management, local anesthesia and sedation for children. Medical aspects of pediatric dentistry.

Corequisite: PEDN 753L.

**PEDN 753L Pediatric Dentistry I Laboratory (1)**

Technique course to accompany PEDN 753. Students perform operative procedures for amalgam and composite resin on simulated primary and young permanent teeth. In addition, students perform pulpotomies on primary molar teeth and prepare primary teeth for stainless steel, open-faced stainless steel, and resin crowns. Unilateral and bilateral space maintainers are fabricated.

Corequisite: PEDN 753.

**PEDN 821 Pediatric Dentistry II (1)**

Traumatic injuries to the primary and young permanent teeth and oral soft tissues. Developmental and eruption patterns of primary and permanent teeth. Sports dentistry. Pediatric sedation techniques and monitoring. Oral habits of children. Child abuse.

**PEDN 825 Pediatric Dentistry Clinic (.5-3.5)**

Dental care of children in their primary, mixed, and young permanent dentition. Etiology of disease, prevention of oral disease, growth and development analysis, treatment planning, restorative procedures, and arch length control.

**PEDN 875 Pediatric Dentistry Clinic (.5-3)**

**PEDIATRICS****PEDS 599 Pediatrics Directed Study (1.5-18)****PEDS 701 Pediatrics Clerkship (1.5-12)**

An eight-week clerkship that addresses issues unique to childhood and adolescence by focusing on human development; and by emphasizing the impact of family, community, and society on child health and well-being. Additionally focuses on the impact of disease and its treatment on the developing human; and emphasizes growth, development, principles of health supervision, and recognition of common health problems. Stresses the role of the pediatrician in prevention of disease and injury and importance of collaboration between the pediatrician, other health professionals, and the family.

**PEDS 821 Pediatrics Subinternship (1.5-6)****PEDS 822 Pediatrics Intensive Care (1.5-3)**

Builds upon and expands the base of core knowledge established during the third-year clerkship. Refines problem-solving skills, emphasizing the development of a rational treatment program for each patient. Teaches students to integrate into clinical medicine the principles of pathophysiology. Teaches students to relate to other members of the health care team in a cooperative and respectful manner. Develops students' ability to use the scientific literature in the clinical setting, with emphasis on individual learning.

Prerequisite: PEDS 701.

**PEDS 891 Pediatrics Elective (1.5-18)****PERIODONTICS****PERI 524 The Periodontium (2)**

Reviews literature concerning the anatomy (macro-, micro-, and ultrastructural) and the physiology of the periodontium.

**PERI 531 Periodontal Pathology (2)**

Reviews literature that forms the basis for current concepts of the etiology and pathogenesis of periodontal diseases. Repeated registrations required to fulfill the total units.

**PERI 601 Periodontal Therapy (2)**

Reviews literature that forms the basis for current concepts of the treatment of periodontal diseases. Repeated registrations required to fulfill the total units.

**PERI 604 Current Periodontal and Implant Literature (2)**

Reviews most recent issues of periodontal and implant scientific journals. Repeated registrations required to fulfill the total units.

**PERI 605 Implant Literature Review (2)**

Reviews literature providing the basis for implant surgery, as well as concepts for implant restoration. Repeated registrations required to fulfill the total units.

**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 (2)**

Limited to residents enrolled in two disciplines (i.e., advanced education in periodontics and implant surgery, and advanced prosthodontics). Residents required to present cases that involve mutual interests. Repeated registrations required to fulfill the total units.

**PERI 624 Moderate Sedation in Periodontics (4)**

Prepares postdoctoral periodontics graduate students to meet or exceed the requirements for certification by the California Board of Dentistry in the administration of moderate (intravenous) sedation and to satisfy the requirements of the Commission on Dental Accreditation of the American Dental Association for the teaching of moderate sedation. Includes lectures, laboratory exercises, and literature review seminars intended to enhance the students' proficiency in the theory and practice of moderate sedation in the dental office. Open to graduate students/residents in other advanced education programs.

**PERI 634 Clinical Conference (1, 2)**

Case management conference to assist the student in diagnosis, treatment planning, and the management of periodontal diseases and implant surgery. Repeated registrations required to fulfill the total units.

**PERI 654 Practice Teaching in Periodontics (1)**

Experience in teaching the predoctoral dentistry student. Repeated registrations required to fulfill the total units.

**PERI 696 Scholarly Activity in Periodontics (1)**

Selected didactic, clinical, and/or laboratory activity developed by the program director or a designated program faculty member. Primarily designed for students to fulfill the certificate requirements for scholarly activity/research in periodontics. Multiple registrations may be needed to complete these activities.

**PERI 697A Research (1)**

Student identifies a research project, prepares a protocol, and obtains approval for the protocol. Multiple registrations may be needed to complete these research activities.

**PERI 697B Research (1, 2)**

Conducting the actual research project, including the data collection. Multiple registrations may be needed to complete these research activities.

**PERI 698 Thesis (1)****PERI 705 Introduction to Periodontics (2)**

Reviews gross and microscopic anatomy of the periodontium in health and disease. Primary etiology of periodontal disease. Examines patient's clinical periodontal status and introduces the diagnostic and treatment-planning process.

**PERI 725 Clinical Practice in Periodontics (1-6)**

Clinical experience in the diagnosis and treatment of periodontal diseases. Repeated registrations to fulfill the total units/clock hours required.

**PERI 726 Clinical Practice in Implant Surgery (2)**

Clinical experience in the diagnosis and treatment regarding implant surgery. A minimum of 60 clock hours per quarter (twelve quarters) required to fulfill total units.

**PERI 741 Essential Periodontal Therapy (2)**

Develops philosophy and skills in personal and patient plaque control. Develops skill and biological basis for periodontal instrumentation. Impact of these procedures on the bacterial microflora and periodontal tissues. Comprehensive treatment planning, prognostication, limitation, and evaluation in short- and long-range periodontal treatment. Laboratory exercises and clinical training required.

Corequisite: PERI 742.

**PERI 742 Essential Periodontal Therapy Laboratory (2)**

Laboratory exercises in the proper implementation of basic periodontal therapy, such as oral hygiene instruction, periodontal charting and examination, periodontal instrumentation using curettes, scalers (both hand and ultrasonic), the sharpening of instruments; culminates in a "partner-prophylaxis." Course extends over two quarters.

Prerequisite: PERI 705.

**PERI 765 Special Topics in Periodontal Therapy (2)**

Advanced cases; special problems related to periodontal therapy in interdisciplinary cases.

**PERI 805 Periodontal Surgical Therapy (1)**

Long-term comparison of various currently accepted periodontal surgical procedures, including rationales, techniques, postoperative care, and healing processes and outcomes. Laboratory exercises in application of surgical principles for access procedures. Modification of tissue morphology.

**PERI 875 Periodontics Clinic (1-7.5)**

Clinical practice in evaluation, diagnosis, and treatment planning of early-to- advanced periodontal disease. Practice in dental emergency diagnosis and management. This four-quarter sequence course must be successfully completed to earn credit.

**PUBLIC HEALTH—CONJOINT****PHCJ 250 Fundamentals of Human Anatomy and Physiology (4)**

Integrated, fundamental study of anatomy and physiology of the human body from a systems perspective. Includes laboratory.

**PHCJ 401 Essentials of Public Health (4)**

Essential issues in public health, including history from ancient times to HMOs; definitions; organization and infrastructure; functions, practices, programs, and services. Contributions of important public health practitioners. Political, social, and economic considerations of public health problems.

**PHCJ 501 Introduction to On-line Learning (1)**

Orientation to on-line instruction programs. Includes introduction to Loma Linda University; the School of Public Health faculties, facilities, and resources; use of library on-line services; Web-based instruction; Blackboard; course formatting; and fellow students.

**PHCJ 510 Native American Health Care and Wellness (3)**

Culture, history, and political and social dynamics affecting the health of Native Americans. Topics include: history of Native Americans, the Native American universe, history of Native American disease, current state of Native American health, merging traditional healing and Western medicine, improving Native American wellness, effects of federal Indian law, Indian Health Service and its predecessors.

**PHCJ 534 Research Methods (2)**

Philosophy of scientific research, sources of research invalidity, quantitative and qualitative literature review techniques, setting research goals and objectives, quasi-experimental and experimental design, research ethics. Requires presentation and critique of published research and literature review. Taken over the course of two quarters for a total of 4 units (2 units Winter Quarter and 2 units Spring Quarter).

Prerequisite: STAT 509.

**PHCJ 604 Research Seminar (2)**

Student develops and critiques research and dissertation proposals, with peer review of research protocols. Limited to doctoral degree students.

Prerequisite: PHCJ 534, STAT 514; or consent of instructor.

**PHCJ 605 Overview of Public Health (1)**

Selected topics addressing issues, concepts, and recent developments in public health.

**PHCJ 675 Integrated Public Health Capstone (2)**

Serves as the capstone educational experience for students earning a degree in public health. Integrates the core and cross-cutting competencies, along with the student's specific area of study, to facilitate the transition from the academic setting into the professional world of public health. Students apply and integrate their knowledge and expertise through case studies taken from current public health issues in local, national, and global environments.

Prerequisite: Public health core courses.

**PHCJ 695 Community Practicum (1-3)**

Individual arrangements for students with health professional backgrounds to participate in a guided, structured, practical experience in ongoing clinical lifestyle-modifying situations. Minimum of thirty hours required for each unit of credit. A maximum of 4 units applicable to a degree program.

**PHILOSOPHY****PHIL 616 Seminar in the Philosophy of Science (2-4)**

Explores 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 projects required for third and fourth units.

**PHARMACOLOGY****PHRM 501 Pharmacology and Therapeutics SD (4)**

Principles of drug action: drug receptors, absorption and fate of drugs, drug toxicity, and drug development. Systematically considers the pharmacology and clinical applications of the major drugs used by dental patients. Demonstrations illustrating the effects of drugs in animals and man.

**PHRM 503 Clinical Pharmacology in Dentistry (2)**

Review of medications used for the treatment of common medical disorders, and their effect on the management of the dental patient—including the use of local anesthetics, antibiotics, and analgesics.

**PHRM 511 Medical Pharmacology (1)**

Principles of drug action: drug receptors, absorption and fate of drugs, drug toxicity, and drug development. Systematically considers the pharmacology and therapeutic value of drugs used in medicine. Demonstration and laboratory exercises illustrating the effects of drugs in man or animals.

**PHRM 512 Medical Pharmacology (3)**

Principles of drug action: drug receptors, absorption and fate of drugs, drug toxicity, and drug development. Systematically considers the pharmacology and therapeutic value of drugs used in medicine. Demonstration and laboratory exercises illustrating the effects of drugs in man or animals.

**PHRM 513 Medical Pharmacology (2)**

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 drugs used in medicine. Demonstration and laboratory exercises illustrating the effects of drugs in man and animals. Continues PHRM 511 and 512.

**PHRM 514 Medical Pharmacology (1)**

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 drugs used in medicine. Demonstration and laboratory exercises illustrating the effects of drugs in man or animals. Continues PHRM 511, 512, and 513.

**PHRM 534 Topics in Pharmacology for Dentistry (2)**

Lectures and discussions dealing with pharmacologic agents used in dentistry. Emphasizes current agents used in dental anesthesia, both local and general. Offered on demand.

**PHRM 535 Clinical Pharmacology (3)****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)**

Systematically discusses 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)**

Systematically discusses drugs that affect primarily the cardiovascular and renal systems, emphasizing 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 (4)**

Discusses in detail 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)**

Discusses 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)****PHRM 891 Pharmacology Elective (1.5-12)****PHYSIOLOGY****PHSL 501 Neurophysiology DN (3)**

Presents basic principles in neurophysiology to enhance understanding of normal and pathophysiological function.

**PHSL 502 Basic Neurophysiology (3)**

Intensive four-week course that includes rudimentary neuroanatomy, electrophysiology of neurons, skeletal muscle, synaptic transmission, sensory systems, and motor control. Discusses higher functions, such as sleep and brain electrical activity.

**PHSL 503 Biochemical Foundations of Physiology (5)**

Engenders an appreciation of the molecular processes as a foundation for adequate understanding of physiology. Review of biomolecules, enzymology, and metabolism. Introduces regulatory motifs, genetic principles, and expression of genetic information by employing examples relevant to dentistry.

**PHSL 504 Physiological Systems of the Human Body (5)**

Physiological bases of normal function. Lectures and laboratory demonstrations illustrating the physiological principles and systems in man.

**PHSL 505 Homeostatic Mechanisms of the Human Body (5)**

Physiological basis of homeostatic control mechanisms. Lectures and laboratory demonstrations illustrating how the various systems of the body are controlled.

**PHSL 511 Medical Physiology I (1, 2)**

Presents normal functions of the various systems of the human body—providing a proper understanding of mechanisms of disease, with their concomitant pathophysiology. Lecture, audiovisual demonstrations, computer models, and limited animal studies provide knowledge of the physiological principles.

**PHSL 512 Medical Physiology II (4)**

Presents normal functions of the various systems of the human body—providing a proper understanding of mechanisms of disease, with their concomitant pathophysiology. Lecture, audiovisual demonstrations, computer models, and limited animal studies provide knowledge of the physiological principles.

**PHSL 513 Medical Physiology (2)**

Presents normal functions of the various systems of the human body—providing a proper understanding of mechanisms of disease, with their concomitant pathophysiology. Lecture, audiovisual demonstrations, computer models, and limited animal studies provide knowledge of the physiological principles.

**PHSL 515 Medical Physiology (1)**

Presents normal functions of the various systems of the human body—providing a proper understanding of mechanisms of disease, with their concomitant pathophysiology. Lecture, audiovisual demonstrations, computer models, and limited animal studies provide knowledge of the physiological principles.

**PHSL 516 Medical Physiology (1)**

Presents normal functions of the various systems of the human body—providing a proper understanding of mechanisms of disease, with their concomitant pathophysiology. Lecture, audiovisual demonstrations, computer models, and limited animal studies provide knowledge of the physiological principles.

**PHSL 517 Medical Physiology (5)**

Presents normal functions of the various systems of the human body—providing a proper understanding of mechanisms of disease, with their concomitant pathophysiology. Lecture, audiovisual demonstrations, computer models, and limited animal studies provide knowledge of the physiological principles.

**PHSL 518 Medical Physiology (1)**

Presents normal functions of the various systems of the human body—providing a proper understanding of mechanisms of disease, with their concomitant pathophysiology. Lecture, audiovisual demonstrations, computer models, and limited animal studies provide knowledge of the physiological principles.

**PHSL 521 Medical Physiology GS I (.5-6)**

Physiological basis of normal and selected pathological conditions, modern concepts of homeostasis, and negative feedback-control systems. Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

Prerequisite: PHSL 537.

**PHSL 522 Medical Physiology GS II (.5-6)**

Physiological basis of normal and selected pathological conditions, modern concepts of homeostasis, and negative feedback-control systems. Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

Prerequisite: PHSL 521.

**PHSL 523 Medical Physiology GS III (.5-6)**

Physiological basis of normal and selected pathological conditions, modern concepts of homeostasis, and negative feedback-control systems. Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

Prerequisite: PHSL 522.

**PHSL 524 Medical Physiology GS IV (.5-6)**

Physiological basis of normal and selected pathological conditions, modern concepts of homeostasis, and negative feedback-control systems. Units taught per quarter depend on number of lectures taught in School of Medicine curriculum for that term.

**PHSL 525 Current Concepts of Cellular and Molecular Neural-Endocrine Interactions (3)**

Studies the nervous and endocrine systems as they work together to maintain homeostasis under normal and pathological conditions. Introduces the nature of this interaction, emphasizing understanding of basic cellular and molecular events. Taught alternate years. Consent of instructors required.

Prerequisite: PHSL 521, PHSL 522, PHSL 523.

**PHSL 533 Advanced Physiology and Pathophysiology (4)**

Studies human physiology and pathophysiology at the cellular and systemic levels. Uses videos and laboratory demonstrations. Designed for graduate students in all applied and basic sciences.

**PHSL 534 Advanced Physiology and Pathophysiology II (3)**

Studies basic human physiology and pathophysiology at the cellular and systemic levels. Uses videos and laboratory demonstrations. Designed for students in all applied and basic sciences.

**PHSL 537 Neuroscience (4)**

Integrated approach to the fundamentals of neuroanatomy and neurophysiology, with applications to clinical neurology.

**PHSL 538 Neuroscience (4)**

Integrated approach to the fundamentals of neuroanatomy and neurophysiology, with applications to clinical neurology.

Prerequisite: PHSL 537\* (\*may be taken concurrently).

**PHSL 541 Cell and Molecular Biology (4)**

Life processes fundamental to animal, plant, and microorganisms; 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 (3)**

Part of PHSL 503. Comprehensively describes signal transduction pathways and other cellular regulatory mechanisms that form the basis of receptor-response phenomena.

Prerequisite: CMBL 501.

**PHSL 543 Cell-Cell Interaction (3)**

Discusses the role of cell-cell interactions and the mechanism for cellular specialization, emphasizing the immune system.

**PHSL 544 Cell and Molecular Neurobiology (3)**

Part of PHSL 503. A comprehensive, introductory, lecture-based course that introduces 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)**

Critically analyzes current neurophysiological data, attempting to characterize the vertebrate nervous system. Emphasizes selected topics covering neuronal topology, intracellular recordings, ultrastructure, evoked potentials, and neurotransmitter chemistry. Offered alternate years.

Prerequisite: PHSL 511\*, PHSL 512\* (\*may be taken concurrently); consent of instructor.

**PHSL 553 Introduction to Electronics and Computing as Applied to Biomedical Research (4)**

Introduces 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. Constructs and uses mathematical/computer models of biomedical systems and fitting of models to data. Laboratory activities in electronics and computer simulation.

Prerequisite: PHSL 511\*, PHSL 512\* (\*may be taken concurrently); college-level physics; calculus is helpful.

**PHSL 554 Computer Simulation of Biomedical Systems (3)**

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. Emphasizes model quality and compares model behavior with laboratory data. Laboratory activities with simulation software.

Prerequisite: Mathematics through at least algebra; calculus helpful; experience in computer programming 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)**

Introduces techniques essential to research investigations in cancer. Offered alternate years.

Prerequisite: PHSL 511\*, PHSL 512\* (\*may be taken concurrently).

**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. Emphasizes the cellular and molecular levels. Studies not only immediate changes in the body necessary to meet the demands of exercise but also long-term adaptive changes. Offered alternate years.

**PHSL 560 Bone Physiology (3)**

Studies 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. Reviews current literature.

**PHSL 576 Vascular Smooth Muscle (3)**

Studies the structure and function of vascular smooth muscle and the mechanism(s) controlling its function.

**PHSL 577 Cardiac Physiology (3)**

Didactic course that deals 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: PHSL 511\*, PHSL 512\* (\*may be taken concurrently); an advanced physiology course or consent of instructor.



**PHSL 578 Vascular Physiology (3)**

Studies the physical principles that govern flow of fluids (rheology), functional anatomy, and reflexes of the peripheral circulation. Also considers 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: PHSL 511\*, PHSL 512\* (\*may be taken concurrently); an advanced physiology course or consent of instructor.

**PHSL 584 Readings in Neurophysiology (2)**

Seminar tracing the development of twentieth century ideas about the nervous system. Emphasizes the writings of three early neurobiologists (Sherrington, Pavlov, Herrick) in context with classical and current understanding of the nervous system.

Prerequisite: PHSL 537; consent of the instructor.

**PHSL 587 Physiology of Reproduction (2)**

Studies the development of the male and female reproductive systems, neural and hormonal control of reproductive function, fetal development, and parturition. Offered alternate years.

Prerequisite: (PHSL 511\*, PHSL 512\*) or (PHSL 521\*, PHSL 522\*) (\*may be taken concurrently).

**PHSL 588 Pathophysiology (4)**

Provides graduate students with an integrated understanding of normal human physiology and the most common pathological changes that occur throughout the lifespan. Focuses on using pathophysiological concepts to explain clinical observations and management.

**PHSL 595 Readings in Physiology (1-4)**

Assigned reading and conferences on special problems in physiology.

**PHSL 604 Current Topics in Perinatal Physiology (1)**

A weekly, one-hour seminar presented by outstanding visiting scientists and intramural faculty in various fields of physiology. Offers graduate students a varied series of lecture topics and a perspective on cutting-edge research ideas in an informal setting. Attendance and a report required. This written report, based on a topic presented during the course period and arranged with the course instructor, provides an opportunity for in-depth study in an area of interest for the student. A maximum limit of 2 units/year, and a total of 4 units for the period of the graduate program.

**PHSL 605 Integrative Biology 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 participate in a discussion and critical evaluation of the presentation.

**PHSL 694 Special Problems in Physiology (2-4)****PHSL 697 Research (1-8)****PHSL 698 Thesis (1)****PHSL 699 Dissertation (2-4)****PHSL 741 Physiology of Bone (1)**

Nature of bone mineral and matrix; bone biomechanics and mineralization, bone growth, healing and remodeling, pathological bone resorption; bone calcium homeostasis; dynamics of bone adaptation.

**PHSL 891 Physiology Elective (1.5-12)****PHYSICAL THERAPY****PHTH 401 Neurorehabilitation I (2)**

Systematic review of clinical disorders of the central and peripheral nervous systems, emphasizing sensorimotor sequelae of injury and disease.

**PHTH 413 Clinical Neurology (2)**

Systematic review of clinical disorders of the central and peripheral nervous systems, emphasizing sensorimotor sequelae of injury and disease.

**PHTH 422 Orthopaedics II (3)**

Introduces lower-extremity joints and their dysfunctions. Joint evaluation and treatment, including mobilization techniques.

**PHTH 423 Orthopaedics III (3)**

Introduces spinal joints and their dysfunctions. Joint evaluation and treatment, including mobilization techniques.

**PHTH 431 Soft-Tissue Techniques (2)**

Evaluation and intervention procedures for myofascial or muscle flexibility deficits.

**PHTH 434 PT Communication and Documentation (2)**

Introduces principles and dynamics of professional communication. Emphasizes basic skills needed in a clinical setting, including but not limited to the following: evaluations, progress notes, discharge summary, workers compensation, prescriptions, patient interviews, letters of justification, electric formats, and legal considerations related to all aspects of the above.

**PHTH 435 Physical Therapy Modalities (3)**

Introduces fundamental principles, physiological effects, and application techniques in the use of nonelectrical physical therapy modalities—specifically physical agents and manual modalities. Physical agents include but are not limited to hydrotherapy and hot-and-cold application. Manual modalities include but are not limited to basic massage techniques, myofascial and trigger point release, and lymphedema management. Lecture and laboratory.

**PHTH 436 Kinesiology (3)**

Functional anatomy of the musculoskeletal system. Analyzes and applies the biomechanics of normal and pathological movement of the human body. Lecture and laboratory.

Prerequisite: AHCJ 412.

**PHTH 437 Therapeutic Procedures (3)**

Blood pressure determination and aseptic techniques. Principles and utilization of posture and body mechanics. Selection and use of wheelchairs, ambulation aids, and other equipment. Progressive planning toward complete activities of daily living.

**PHTH 438 Manual Muscle Testing (3)**

Methods of evaluating muscle strength and function by use of specific and gross manual muscle tests. Lecture, demonstration, and laboratory.

**PHTH 439 Human Life Sequence (3)**

Sequential human development from neonate through adolescence, as applied to normal and abnormal neurological development. Includes concepts of prenatal and postnatal care, delivery, and neonatal assessment. Incorporates the interrelationship of the physical, perceptual, and motor components in treatment of the neurologically disabled patient. Development of the human organism from young adult to death. Emphasizes the problem of aging.

**PHTH 441 Biostatistics I (2)**

Fundamental procedures of analyzing and interpreting data. Sampling, probability, descriptive statistics, normal distribution, sampling distributions and standard error, confidence intervals and hypothesis testing, power, effect size. Introduction to epidemiological measures to estimate risk and select measures of clinical improvement.

**PHTH 442 Biostatistics II (2)**

Fundamental procedures for analyzing and interpreting data using common selected statistical tests: t-tests, chi-square, correlation, and regression. Introduces one- and two-way ANOVA, Mann-Whitney test, Wilcoxon signed-ranks test. Evaluates the importance of statistical findings from selected research studies.

**PHTH 451 Scientific Inquiry I (2)**

Introduces physical therapy students to research methodology that focuses on the steps of the research process, including: problem identification, literature review, statement of hypotheses, conceptual framework, research designs, sampling, and randomization. Addresses ethical considerations, identification of research variables, measurement, reliability and validity of tools for data collection.

**PHTH 452 Scientific Inquiry II (2)**

Introduces physical therapy students to the fundamental knowledge and skills needed for evidenced-based practice, including: knowledge of relevant databases, effective search strategies, and structured appraisals of research studies. Appraisals include population inclusion/exclusion criteria, sampling and randomization techniques, sample size, appropriateness and strength of the research design, reliability and validity of measurement tools, structure and content of tables and graphs, interpretation of statistical results, and application to practice.

**PHTH 465 Exercise Physiology (3)**

Principles and application of human response to exercise, including body composition. Tests and measurements. Techniques of physical fitness. Cardiorespiratory considerations. Exercise prescriptions.

**PHTH 466 Fundamentals of Physical Therapy and Research (6)**

Introduces the theory and management of orthopaedic and neurological disorders—including joint and nerve mobilization, constraint-induced movement therapy, and balance and vestibular rehabilitation. Applies the research process to a question related to these areas of study—including discussion of sampling, variables, research rationale, research design, proposal and informed consent, data collection and analysis, and written and oral research presentation. Includes critical evaluation of research literature.

**PHTH 467 Advanced Studies in Selected Physical Therapy Topics (3-6)**

Provides students in-depth opportunities to pursue various areas of physical therapy, including orthopaedics, neurology, sports medicine, and general medicine. Incorporates literature review and related research activities.

**PHTH 471 Physical Therapy Practicum I (1)**

A two-week, full-time (40 hours/week) clinical education assignment done in an affiliated clinic, with an emphasis in any of a variety of settings: acute care, outpatient care, neurorehabilitation, orthopaedics, geriatrics, pediatrics, sports medicine, and preventive care/wellness, etc. Full-time supervision by a licensed physical therapist required. Activities include direct patient care, team conferences, demonstrations, special assignments, and observation. The first of three practicums. Scheduled at the end of the first academic year.

**PHTH 477 Locomotion Studies (3)**

Develops competencies in the identification and evaluation of normal and abnormal gait patterns, progressing to development of treatment programs. Includes current prosthetic and orthotic devices and their assistance with gait.

**PHTH 484 Therapeutic Exercise (3)**

Applies physical, mechanical, and soft-tissue biomechanical considerations in the formulation of exercise prescriptions. Considers the neurophysiological basis of motor control and motor-learning acquisition. Selects exercise modes for treatment of musculoskeletal and neurological disorders of the nonpathological individual.

**PHTH 495 Research I (3)**

Introduces the scientific methods in health-science research. Focuses on the major steps of the research process: problem identification, literature review, conceptual framework, identification of variables, statement of hypothesis, experimental design, and analysis and presentation of data. Includes critical evaluation of research literature.

**PHTH 496 Research II (2)**

Applies the research process to problems in related specific allied health fields. Develops a research proposal.

**PHTH 497 Advanced Clinical Experience (40 to 480 hours)**

Advanced clinical experience in selected areas of professional practice.

**PHTH 499 Physical Therapy Independent Study (1-3)**

Project or paper to be submitted on a topic of current interest in an area related to physical therapy. Regular meetings provide the student with guidance and evaluation. Elected on the basis of need or interest.

**PHTH 501 Neurology I (2)**

Physical therapy evaluation and treatment-planning strategies for individuals with balance impairments due to neurological pathologies—including central and peripheral vestibular dysfunction resulting in impairments, functional limitations, and disabilities. Emphasizes application and integration of theoretical constructs, evidence-based practice, examination, evaluation, diagnosis, prognosis, intervention, and measurement of outcomes.

**PHTH 502 Neurology II (3)**

Physical therapy evaluation and treatment-planning strategies for individuals with neurological dysfunction—including stroke; TBI; multiple sclerosis; Parkinson's disease; and other neuromuscular diseases resulting in pathology, impairments, functional limitations, and disabilities. Emphasizes application and integration of theoretical constructs, evidence-based practice, examination

**PHTH 503 Neurology III (3)**

Physical therapy evaluation and treatment planning for individuals with spinal cord injury. Discusses basic physiological and neurophysiological mechanisms specific to the diagnosis. Emphasizes application and integration of theoretical constructs, evidence-based practice, examination, evaluation, diagnosis, prognosis, intervention, and measurement of outcomes.

**PHTH 504 Pediatric Care (3)**

Discusses the etiology, associated problems, and physical therapy care of clients with cerebral palsy, spina bifida, and various orthopaedic disorders. Includes presentation and demonstration of adaptive equipment options. Laboratory demonstrations. Introduces the physical therapist's role in the NICU.

**PHTH 507 Lower-Quarter Biomechanical Relationships (3)**

Advanced examination procedures for performing a biomechanical assessment of the lower extremities. Emphasizes identifying causes of, compensations for, and complications of movement dysfunctions associated with lower-extremity musculoskeletal pain syndromes. Physical therapy management of gait abnormalities.

**PHTH 511 Clinical Orthopaedics (2)**

The first in a series of courses in the orthopaedic tract curriculum. Presents the basis for patient management by the physical therapist for patients with functional impairments stemming from orthopaedic pathologies for all body regions. Introduces and considers the components of patient/client management throughout the course—including examination, evaluation, diagnosis, prognosis, intervention, and outcomes. Includes lectures by orthopaedic surgeons to enhance understanding of surgical procedures utilized in the management of the orthopaedic patient, with emphasis on postoperative rehabilitation.

**PHTH 512 Clinical Psychiatry (2)**

Introduces mental and personality disorders. Reviews abnormal behaviors commonly found in a clinical setting.

**PHTH 515 Topics in Rehabilitation (1-6)**

Lecture and discussion of current topics relating to the practice of physical therapy. Content varies from quarter to quarter. (May be repeated for additional credit for a maximum 6 quarter units.)

**PHTH 516 Electrotherapy (3)**

Principles and techniques of electrotherapy procedures, including electrodiagnosis. Basic physical and physiological indications and contraindications. Lecture, demonstration, and laboratory.

**PHTH 521 Orthopaedics I (3)**

Basic theory of extremity mobilization. Each joint presented in relationship to articular and periarticular structures that determine joint function and dysfunction. Evaluation and mobilization techniques.

**PHTH 522 Orthopaedics II (3)**

Basic theory of spinal evaluation and treatment techniques. General principles of functional anatomy, tissue and joint biomechanics, pathology, and treatment. Medical exercise training.

**PHTH 523 Orthopaedics III (3)**

Basic theory of spinal evaluation and treatment techniques. General principles of functional anatomy, tissue and joint biomechanics, pathology, and treatment. Medical exercise training.

**PHTH 524 Hand Rehabilitation for the Physical Therapist (2)**

Functional anatomy and pathophysiology in the diagnosis and treatment of the forearm, wrist, and hand. Common problems. Integrates scientific knowledge base into treatment choice. Rational and general treatment concepts for, but not limited to, fractures, joint derangement, stiffness, flexor and extensor multiple-system trauma, arthritis, and vascular disorders. Common surgical procedures involving the forearm, wrist, and hand; as well as basic concepts and practical application of static and dynamic splinting.

**PHTH 525 General Medicine I (3)**

Medical and surgical disorders. Basic pathology and/or etiology and clinical manifestations. Medical treatment for conditions within selected specialties: cardiology, respiratory, burns, arthritis, oncology, hematology, immunology, and endocrinology.

**PHTH 526 General Medicine II (3)**

Medical and surgical disorders. Basic pathology and/or etiology and clinical manifestations. Medical treatment for conditions within selected specialties: cardiology, respiratory, burns, arthritis, oncology, hematology, immunology, and endocrinology.

**PHTH 527 Scientific Foundations for Therapeutic Exercise (2)**

Analyzes physical, mechanical, and soft-tissue biomechanical considerations in the formulation of exercise prescriptions. Considers the neurophysiological basis of motor control and motor learning acquisition. Selects exercise modes and dosage for treatment of patients with musculoskeletal and neurological disorders and for the nonpathological individual.

**PHTH 529 Pathokinesiology of Gait (3)**

Advanced observational analysis of normal and abnormal human locomotion, with comparison of pathological differences.

**PHTH 531 Soft-Tissue Mobilization (3)**

Helps practicing physical therapy clinicians optimize skills and refine selection of the most effective soft-tissue mobilization techniques to maximize specific musculoskeletal functional outcomes. Students learn new techniques and refine and master previously learned techniques through lecture, demonstration, practical examinations, and laboratory.

**PHTH 534 Soft-Tissue Techniques (2)**

Trends in soft-tissue manipulation. Lecture, demonstration, and laboratory.

**PHTH 535 Research and Statistics I (3)**

In-depth study of research designs: their advantages and disadvantages, including pretest/posttest designs; posttest-only, control group designs; time series designs; factorial designs; randomized block and repeated-measures designs; and incomplete block designs. Introduces clinical trials, sequential research designs; and single case, experimental designs. Measures and analyzes validity and reliability. Survey-instruments(s) design. Power calculations for choosing appropriate sample sizes.

**PHTH 536 Research and Statistics II (3)**

Analyzes data using one-way ANOVA with multiple comparisons, factorial ANOVA designs, randomized complete and incomplete block designs, and repeated measures. Introduces multiple correlation and regression and model building using multiple regression techniques. Evaluates research literature that uses multivariate analysis for data analysis. Introduces nonparametric statistics. Interprets multivariate analysis computer output.

**PHTH 537 Research and Statistics III (3)**

Research-topic selection, literature review, proposal writing and approval. Research-data collection after proposal approval. Limited to Doctor of Science students in the Physical Therapy Program.

Prerequisite: PHTH 536; and consent of instructor.

**PHTH 538 Research and Statistics IV (3, 6)**

Individual arrangements for doctoral students to work with the instructor on analysis and presentation of research data. Student prepares manuscript presenting results of doctoral research study.

Prerequisite: PHTH 537; and consent of instructor.

**PHTH 539 Research and Statistics V (3)**

Individual arrangements for doctoral students to work with their dissertation chair and research guidance committee to submit a written doctoral dissertation in accordance with Faculty of Graduate Studies published guidelines, and to prepare and present an oral defense of their research findings.

Prerequisite: PHTH 538.

**PHTH 541 Advanced Clinical Practice I (3)**

Student demonstrates and practices advanced examination, assessment, and treatment of the lumbar spine, pelvic girdle, and lower extremities. Lecture and demonstration.

**PHTH 542 Advanced Clinical Practice II (3)**

Emphasizes skills utilized by clinical specialists in neurophysical therapy. Content based on the description of PHTH 541.

**PHTH 543 Advanced Clinical Practice III (3)**

Advanced clinical decision-making skills, with focus on patient classification, clinical-diagnosis practice parameters, and practice guidelines. Emphasizes development of clinical algorithms, clinical prognostic skills, and outcome measures.

**PHTH 544 Physical Therapy Business Development Concepts (1)**

Discussion and practice designed to enhance the knowledge of the practitioner who desires to own, manage, or direct a physical therapy practice or department. General trends, start-up considerations, HRM, finance, marketing research and development; learning to bill, collect, and interpret EOBs; coding and compliance issues (Medicare and state); and locating capital to finance the venture.

**PHTH 545 Orthopaedic Interventions: Mobilization of Peripheral Nerves & Diarthroidal Joints of the Extremities (3)**

Advanced study of the management of orthopaedic and neurological disorders of the extremities. Clinical course designed to strengthen student's knowledge and application of mobilization techniques to the joints and nerves of the periphery. Lecture, laboratory sessions, case studies, and cadaveric specimen-guided study (as specimens available).

**PHTH 546 Women's Health Issues I (3)**

Clinical aspects of women's health issues. How to develop a women's health program in the clinical setting. Introduces various pathologies and treatment strategies for specific diagnoses that could be encountered in the clinical setting. Women's health during adolescence, the reproductive years, and the geriatric years.

**PHTH 547 Women's Health Issues II (3)**

Advanced course further exploring women's health issues—including treatment strategies for women during various phases of their lives. Anatomy and physiology during adolescence, the reproductive years, and the geriatric years.

**PHTH 548 Function-Based Rehabilitation (3)**

Manual therapy approach for the treatment of common musculoskeletal problems integrating orthopaedic and neurological rehabilitation. Course based on a working knowledge of anatomy, muscle balance theory, neurodevelopmental treatment (NDT), muscle length testing, soft-tissue mobilization (STM), and proprioceptive neuromuscular facilitation (PNF) principles. Emphasizes use of clinical reasoning during patient evaluation and patient management.

**PHTH 549 Vestibular Rehabilitation (3)**

Physical therapy evaluation and treatment planning strategies for individuals with vestibular pathologies resulting in impairments, functional limitations, and disabilities. Emphasizes the application and integration of theoretical constructs, evidence-based practice, examination, evaluation, diagnosis, prognosis, intervention, and measurement outcomes.

**PHTH 550 Integrative Approach to Early Rehabilitation (3)**

Advanced study in acute- and skilled-nursing facility rehabilitation as applied to the early physical therapy-rehabilitation process. Emphasizes cardiopulmonary coding systems; evaluations for acute rehabilitation, including spinal cord injury; and cardiovascular accident patients. Emphasizes effective tools and physical therapy advances in evidence-based practice.

**PHTH 551 Advanced Orthopaedic Procedures I (3)**

Student demonstrates and practices advanced examination and treatment of the lumbar spine, pelvic girdle, and lower extremities.

**PHTH 552 Advanced Orthopaedic Procedures II (3)**

Student demonstrates and practices advanced examination and treatment of the cervical spine, shoulder girdle, and upper extremities.

**PHTH 553 Advanced Orthopaedic Procedures III (3)**

Student demonstrates and practices advanced examination and treatment of the lumbar spine, thoracic spine, and rib cage.

**PHTH 554 Geriatrics (2)**

Reviews the normal physiologic and psychologic factors specific to the geriatric population—including aging of the musculoskeletal and sensory systems, diet and nutrition, the senior athlete, spiritual and psychosocial issues, and specific health topics—allowing the future clinician to assist patients with aging safely and gracefully.

**PHTH 555 Differential Diagnosis (2)**

Emphasizes information gathering from history taking, review of systems, and directed questioning, combined with a focused examination to establish a working diagnosis. Uses a hypothetico-deduction strategy to minimize misdiagnosis and teach problem solving—helping students develop a working list of all possible causes of symptoms, including those from mechanical and visceral origins. Emphasizes clinical pattern recognition for both musculoskeletal and nonmusculoskeletal disorders. Teaches strategies to differentiate between musculoskeletal and nonmusculoskeletal disorders. Highlights knowledge and skills related to screening for medical pathology in patients with musculoskeletal complaints of the lumbar spine, pelvis, lower extremities, thoracic spine, shoulder girdle, and upper extremities.

**PHTH 561 Physical Therapy Administration (4)**

Principles of organization and administration in health care delivery. Multidisciplinary approach to patient management and patient-therapist relations. Administration of physical therapy services. Professionalism, medicolegal considerations, supervision and training of support personnel. Departmental design and budgetary considerations.

**PHTH 562 Physical Therapy Business Development (2)**

Covers the personal and business requirements in developing a physical therapy private-practice clinic—including, but not limited to, market analysis, start-up costs, personal hiring, and proforma budgets. Culminates in the presentation of a full business plan.

**PHTH 565 Sports Physical Therapy I (1)**

Advanced study of the neuromusculoskeletal system as it applies to the athletic population. Selected competencies of advanced clinical practice for the sports physical therapist, as outlined by the American Board of Physical Therapy Specialties in the Description of Advanced Clinical Practice in Sports Physical Therapy. Emphasizes the development and implementation of a sports medicine program, preparticipation physical examination, medical emergencies in the sports medicine setting, criteria for return to play, types and frequency of sport specific injuries, pregame sideline/courtside set up, techniques of athletic tape application to various body locations, and on-field examinations.

**PHTH 566 Sports Physical Therapy II (1)**

Advanced study of the neuromusculoskeletal system as it applies to the athletic population. Selected competencies of advanced clinical practice for the sports physical therapist, as outlined by the American Board of Physical Therapy Specialties in the Description of Advanced Clinical Practice in Sports Physical Therapy. Emphasizes recognition and intervention for emergency medical conditions, including abdominal trauma, cardiac pathology, and respiratory emergencies in the athletic/sports medicine arena; protective equipment utilized in athletics; environmental conditions of heat, cold, altitude, and playing surfaces; and criteria utilized for determination of return to play.

**PHTH 568 Advanced Diagnosis and Management: Patellofemoral (1)**

Advanced study of the patellofemoral joint as it applies to the general and athletic populations. Emphasizes examination, classification, diagnosis, and management of patellofemoral pain syndromes. Physical therapy intervention primarily focused on evidence-based treatment approaches, including: joint mobilization, passive range of motion, therapeutic exercise, and a variety of bracing and taping techniques. First course in a series of three courses dealing with the diagnosis and management of lower-limb disorders.

**PHTH 569 Advanced Diagnosis and Management of Foot and Ankle Disorders (1)**

Advanced study of diagnosis and management of foot and ankle disorders. Clinical course designed to strengthen knowledge and application of orthotic therapy. Effective protocols for managing and trouble shooting orthotic therapy patients.

**PHTH 572 Physical Therapy Practicum II (1.5)**

A three-week, full-time (40 hours/week) clinical education assignment done in an affiliated clinic, with an emphasis in any of a variety of settings: acute care, outpatient care, neurorehabilitation, orthopaedics, geriatrics, pediatrics, sports medicine, and preventive care/wellness, etc. The second of three practicums required, scheduled at the end of the Autumn Quarter of the second academic year. Full-time supervision by a licensed physical therapist required. Activities include direct patient care, team conferences, demonstrations, special assignments, and observation.

**PHTH 573 Physical Therapy Practicum III (1.5)**

A three-week, full-time (40 hours/week) clinical education assignment done in an affiliated clinic, with an emphasis in any of a variety of settings: acute care, outpatient care, neurorehabilitation, orthopaedics, geriatrics, pediatrics, sports medicine, and preventive care/wellness, etc. The third of three practicums required, scheduled at the beginning of the Summer Quarter of the third academic year. Full-time supervision by a licensed physical therapist required. Activities include direct patient care, team conferences, demonstrations, special assignments, and observation.

**PHTH 575 Orthopaedics IV (1)**

A four-quarter, in-progress course that integrates examination procedures taught in the orthopaedic curriculum. As a culminating event, each student performs a comprehensive laboratory practical that includes the five elements of patient/client management, as described in the Guide to Physical Therapy Practice: examination, evaluation, diagnosis, prognosis, and intervention.

**PHTH 581 Research Applications I (2)**

Student implements the research proposal, initiated through pilot testing of research-study procedures and data collection tools. Student gathers data in the appropriate research laboratory or practice setting, with the help of a faculty research advisor and/or clinical mentor.

**PHTH 582 Research Applications II (2)**

Student analyzes data with the help of a statistician. Presents research results in the form of a written research report, an oral presentation, and a poster appropriate for a professional meeting.

**PHTH 583A Physical Therapy Affiliation IA (4)**

Seven-week clinical assignment to be completed during the third year in affiliated clinical settings. Emphasizes a variety of clinical settings: acute care, rehabilitation, orthopaedics, geriatrics, and pediatrics. Forty clock hours per week of supervised clinical experience, special assignments, in-services, lectures, demonstrations, and conferences. Student will receive grade for Affiliation IA upon completion of Affiliation IB.

**PHTH 583B Physical Therapy Affiliation IB (1)**

Three-week clinical assignment to be completed during the third year in affiliated clinical settings. Completes PT Affiliation IA. Emphasizes a variety of clinical settings: acute care, rehabilitation, orthopaedics, geriatrics, and pediatrics. Forty clock hours per week of supervised clinical experience, special assignments, in-services, lectures, demonstrations, and conferences. Student receive grade for Affiliation IA and IB upon completion of Affiliation IB.

**PHTH 584 Physical Therapy Affiliation II (5)**

Nine-to-eleven-week clinical assignment to be completed during the third year in affiliated clinical settings. Emphasizes a variety of clinical settings: acute care, rehabilitation, orthopaedics, geriatrics, and pediatrics. Forty clock hours per week of supervised clinical experience, special assignments, in-services, lectures, demonstrations, and conferences.

**PHTH 585 Physical Therapy Affiliation III (5)**

Nine-to-eleven-week clinical assignment to be completed during the third year in affiliated clinical settings. Emphasizes a variety of clinical settings: acute care, rehabilitation, orthopaedics, geriatrics, and pediatrics. Forty clock hours per week of supervised clinical experience, special assignments, in-services, lectures, demonstrations, and conferences.

**PHTH 586 Doctor of Physical Therapy Affiliation I (5)**

A full-time clinical assignment under the supervision of an APTA board-certified clinical specialist in a specialized area of clinical practice. Student receives an "IP" grade at the end of PHTH 586. A grade of "satisfactory" (S) granted after satisfactory completion of PHTH 587.



**PHTH 587 Doctor of Physical Therapy Affiliation II (5)**

A full-time clinical assignment under the supervision of an APTA board-certified clinical specialist in a specialized area of clinical practice. Student receives an "IP" grade at the end of PHTH 586. A grade of "satisfactory" (S) granted after satisfactory completion of PHTH 587.

**PHTH 591 Advanced Orthopaedic Studies (6)**

Specialty track that provides opportunity to pursue, in greater depth, various topics related to current trends in orthopaedic physical therapy; and to develop advanced clinical skills, where appropriate.

**PHTH 592 Advanced Neurologic Studies (4)**

Specialty track that provides opportunity to pursue, in greater depth, various topics related to current trends in neurologic physical therapy; and to develop advanced clinical skills, where appropriate.

**PHTH 594 Advanced General Medicine Studies (4)**

Specialty track that provides opportunity to pursue, in greater depth, various topics related to current trends in general medicine physical therapy; and to develop advanced clinical skills, where appropriate.

**PHTH 595 Applied Research I (1)**

Students pilot test research proposal in a practice setting and test procedures and data forms.

**PHTH 596 Applied Research II (2)**

Students implement research proposal in a practice setting, analyze computer data, and prepare a preliminary research report.

**PHTH 597 Applied Research III (1)**

Students prepare and present a research report both in written and oral formats—including graphics, tables, Power-Point presentations, poster, and abstract.

**PHTH 598 Advanced Specialty Tracks (3)**

Presents the newest clinical treatment applications over the spectrum of the patient population in the field of physical therapy. Includes ortho, neuro, and general medicine.

**PHTH 599 Comprehensive Examination (0)**

Doctor of Physical Therapy Science degree written examination requirement, to be completed at the end of the second didactic year. Successful completion required for continuation in the program. Examination consists of four domains: education, research, clinical practice/basic science, and ethics.

Prerequisite: (PHTH 535 or AHCJ 530), (PHTH 536 or AHCJ 531), AHCJ 599.

**PHTH 629 Lower-Quarter Biomechanical Relationships (3)**

Advanced examination procedures for performing a biomechanical assessment of the lower extremities. Emphasizes identifying the causes, compensations, and complications of movement dysfunctions associated with lower-extremity, musculoskeletal pain syndromes. Physical therapy management of gait abnormalities.

**PHTH 630 Kinetics of the Human Body: Physics-Based Kinesiology (3)**

Examines the mechanical basis of movement in the human body in relation to the length of muscles; the tension developed by muscles under various conditions; the anatomical arrangement of the origin and insertion of the bones and joints; and the biomechanics of complex movement, such as gait and balance. Uses physics principles to explain the mechanics of movement in the body. Topics include: linear movement, rotational movement, work and energy, muscle-length tension relationships, single and multiple joint biomechanics, and gait and balance.

Prerequisite: PMPT 477 or PHTH 477 or PHTH 629 or PHTH 529.

**PHTH 697 Research and Statistics V (3)**

Individual arrangements for doctoral students to work with their dissertation chair and research guidance committee to submit a substantial and acceptable preliminary written doctoral dissertation—either in the traditional formal dissertation or multiple chapter format—in accordance with published guidelines of the Faculty of Graduate Studies, and in the format of the journal in which the candidate hopes to publish. Students prepare and present an oral defense of their research findings.

Prerequisite: PHTH 538.

**PHYSICAL THERAPY—PROGRESSION MASTER'S****PMPT 427 Human Life Sequence (2)**

Sequential development of the human organism from neonate through old age. Modern concepts of postnatal care through the normal process of aging. Evaluates developmental reflexes and gross motor function of the pediatric population, and balance of the geriatric population. Demonstrates treatment techniques as adapted to pediatric and geriatric patients. Discusses cultural awareness. Ethical and legislative issues as they relate to the human life sequence.

**PMPT 474 Physical Therapy Practicum (1.5)**

A three-week assignment in affiliated clinical settings. Forty clock hours per week of supervised clinical experience.

**PMPT 476 Therapeutic Exercise (3)**

Applies physical, mechanical, and soft-tissue biomechanical considerations in the formulation of exercise prescriptions. Considers the neurophysiological basis of motor control and motor-learning acquisition. Selects exercise modes and dosage for treatment of patients with musculoskeletal and neurological disorders and for the nonpathological individual.

**PMPT 477 Locomotion Studies (3)**

Develops competencies in the identification and evaluation of normal and abnormal gait patterns, progressing to development of treatment programs. Includes current prosthetic and orthotic devices and their assistance with gait. Class modified for the progression MPT program.

**PMPT 524 Electrotherapy (2)**

Principles and techniques of electrotherapy procedures, including electrodiagnosis. Basic physical and physiological indications and contraindications. Lecture, demonstration, and laboratory. Class modified for the progression MPT program.

**PMPT 534 Physical Therapy Communication and Documentation (2)**

Principles and dynamics of professional communication. Basic skills—including, but not limited to, the following: initial evaluations, progress notes, discharge summary, patient interviews, letters of justification, legal considerations, and computer documentation programs. Class modified for the progression MPT program.

**PMPT 535 Hydrotherapy and Massage (2)**

Fundamental principles, physiological effects, and techniques of hydrotherapy and massage used in preventive medicine and diagnostic techniques. Lecture, demonstration, and laboratory. Class modified for the progression MPT program.

**PMPT 583 Physical Therapy Affiliation I (4)**

Eight-week assignment in the Winter Quarter of the second year. Emphasizes a variety of clinical settings: acute care, rehabilitation, orthopaedics, geriatrics, and pediatrics. Forty clock hours per week of supervised clinical experience, special assignments, in-services, lectures, demonstrations, and conferences.

**PMPT 584 Physical Therapy Affiliation II (4)**

Eight-week assignment in the final quarter of the program. Emphasizes a variety of clinical settings: acute care, rehabilitation, orthopaedics, geriatrics, and pediatrics. Forty clock hours per week of supervised clinical experience, special assignments, in-services, lectures, demonstrations, and conferences.

**PMPT 585 Physical Therapy Affiliation III (5)**

Ten-week assignment in the final quarter of the program. Emphasizes a variety of clinical settings: acute care, rehabilitation, orthopaedics, geriatrics, and pediatrics. Forty clock hours per week of supervised clinical experience, special assignments, in-services, lectures, demonstrations, and conferences.

**PMPT 591 Advanced Orthopaedic Studies (5)**

Specialty tracks provide opportunity to pursue in greater depth various topics related to current trends in orthopaedic physical therapy. Develops advanced clinical skills, where appropriate.

**PMPT 592 Advanced Neurologic Studies (5)**

Specialty tracks provide opportunity to pursue in greater depth various topics related to current trends in neurologic physical therapy. Develops advanced clinical skills, where appropriate.

**PMPT 593 Advanced General Medicine Studies (3)**

Specialty tracks provide opportunity to pursue in greater depth various topics related to current trends in general medicine physical therapy. Develops advanced clinical skills, where appropriate.

**PROSTHODONTICS****PROS 500 Prosthodontic Literature Review (2)**

Discusses assigned topics from classic and current prosthodontic and course-related literature, led by students and moderated by faculty member in charge. Repeated registrations required to fulfill the total units.

**PROS 501 Removable Partial Prosthodontics Literature Review (2)**

Discusses assigned topics from classic removable partial denture literature, led by students and moderated by faculty member in charge.

**PROS 502 Complete Denture Prosthodontics Literature Review (2)**

Discusses assigned topics from classic complete-denture literature, led by students and moderated by faculty member in charge.

**PROS 505 Patient Presentation Seminar (Prosthodontics, Implant, Perio) (1)**

Presents patient treatment. Discusses alternate methods of rehabilitation, as well as related literature. Repeated registrations required to fulfill the total units.

**PROS 515 Practice Teaching in Prosthodontics (1, 2)**

Teaching experience in the areas of fixed and removable prosthodontics. Repeated registration required to fulfill the total units.

**PROS 525 Dental Materials Science (2)**

Elements of materials science. 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)**

Discusses clinical application and manipulation of dental materials. Identifies and explains specific clinical problems and behavior based on 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)**

Continues PROS 546—emphasizing 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 556 TMJ Function and Dysfunction (1)**

Provides residents with information about the function and dysfunction of the temporomandibular joint and associated structures. Prepares residents to obtain history, perform clinical examination, recognize disorders, and prescribe treatment.

**PROS 557 Advanced Removable Partial Prosthodontics (2)**

Advanced clinical and laboratory procedures, emphasizing 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 and clinical course, with seminar 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 Aesthetics) (2)**

Clinical and laboratory procedures, emphasizing advanced metal-ceramic restorations.

**PROS 595 Maxillofacial Prosthetics (2)**

Design and fabrication of obturators for partial maxillectomy patients, both edentulous and dentulous. Introduces fabrication of extraoral prostheses.

**PROS 604 Literature Review in Implant Dentistry for Prosthodontists (2)**

Gives the postdoctoral student a deeper understanding of the research and literature currently available on the restoration of implants. Emphasizes biomechanics of implant restorations. Repeated registrations required to fulfill the total units.

**PROS 634 Diagnosis and Treatment Planning (2)**

Didactic and clinical aspects of diagnosis and treatment planning for patients with complex dental problems. Repeated registrations required to fulfill the total units.

**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 regimens that complicate care for this population.

**PROS 696 Scholarly Activity in Prosthodontics (1)**

Selected didactic, clinical, and/or laboratory activity developed by the program director or a designated program faculty member. Primarily designed for students to fulfill the certificate requirements for scholarly activity/research in prosthodontics. Multiple registrations may be needed to complete these activities.

**PROS 697A Research (1)**

Student identifies a research project, prepares a proposal, and obtains approval for the protocol. Multiple registrations may be needed to complete these research activities.

**PROS 697B Research (1, 3)**

Conducting the actual research project, including the data collection. Multiple registrations may be needed to complete these research activities.

**PROS 698 Thesis (2)****PROS 710 Clinical Practice of Prosthodontics (6)**

Advanced clinical practice in the treatment of individuals with fixed, removable, maxillofacial, or implant prostheses. A minimum of 180 clock hours per quarter. Repeated registrations required to fulfill total units.

**PREVENTIVE MEDICINE****PRVM 514 Clinical Preventive Medicine (1)**

A year-long course that teaches medical students the effective clinical preventive medicine approaches used in the practice of medicine today. Provides medical students with the useful framework for understanding epidemiology, public health, preventive concepts, disease screening, lifestyle modification, and risk factor identification and reduction. Fosters basic understanding of prevention in the clinical context.

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**PRVM 516 Clinical Preventive Medicine (2)**

A year-long course that teaches medical students the effective clinical preventive medicine approaches used in the practice of medicine today. Provides medical students with the useful framework for understanding epidemiology, public health, preventive concepts, disease screening, lifestyle modification, and risk factor identification and reduction. Fosters basic understanding of prevention in the clinical context.

**PRVM 891 Preventive Medicine Elective (1.5-18)****PSYCHOLOGY****PSYC 226 Lifespan Development (4)**

Life-span course emphasizing the physical, mental, emotional, social, and religious/moral development from conception through adulthood, aging, and death.

**PSYC 299 Directed Study (1-4)**

**PSYC 305 Psychological Foundations of Education (4)**

Explores educational psychology through application of development and learning theories to instruction, achievement motivation, self-esteem, classroom management, supportive and disruptive processes on school sites, campus standards, disciplinary practices, legal/ethical issues. Requires research on effective educational practices and related foundations. Additional research for graduate credit.

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 (2, 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 426 Research Analysis Applications of SPSS (1)**

Introduces the basics of statistical analysis using SPSS. Instruction focuses on general computer proficiency, including familiarization with the software package, methods of data entry, the use of common analysis methods, and the format and interpretation of SPSS output.

**PSYC 460 The Exceptional Individual (3)**

Studies 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. Emphasizes education and career planning. Open to upper division graduate and postgraduate students only.

**PSYC 479 Human Neuropsychology (4)**

Introduces 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.

**PSYC 499 Directed Study (1-4)****PSYC 500 Basic Foundations in Statistical Methods for Psychology (3)**

Provides students with a basic foundation in statistical methods used in the psychological sciences. Includes understanding of both descriptive and inferential statistics. Emphasizes the conceptual understanding of the calculation of statistics and the application of statistical findings to theory and practice. Designed for graduate-level students who need a refresher in statistical methods before proceeding to the advanced graduate statistical courses. Also for students who get a grade below a B- and have to retake STAT 501 (basic statistical concepts and understanding should be reviewed before retaking STAT 501). Credit is not applicable towards the degree in psychology.

**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 instructor.

**PSYC 503 Advanced Multivariate Statistics (4)**

Broad introduction that applies 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; evaluates alternatives to maximum likelihood estimation.

Prerequisite: PSYC 502; or consent of instructor.

**PSYC 504 Research Methods for Clinical Psychologists (4)**

Designed for students in the Psy.D. program. Examines research methods appropriate for application to clinical psychology—from the formulation of research problems to the design, execution, and report of findings. Includes experimental, quasi-experimental, case study, and programmatic evaluation designs.

**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. Includes experimental and quasi-experimental designs, as well as field and case studies. The exploratory-confirmatory distinction in scientific epistemology, and its implications for research and theory. Reviews and critically analyzes research literature from various areas of contemporary psychological science.

Prerequisite: PSYC 502; or consent of instructor.

**PSYC 507 Research Methodologies for Clinical Interventions and Treatment Program Evaluation (2)**

Gives special emphasis to research methodologies relevant to conducting research for clinical interventions. Includes methods and tools for doing treatment program evaluation.

Prerequisite: PSYC 504.

**PSYC 511 Psychometric Foundations (3)**

Advanced orientation to psychological instruments; their theoretical derivation, construction, and use. Emphasizes reliability, validity, and factor structures.

Prerequisite: PSYC 501; or consent of 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 WAISIII, 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 instructor.

**PSYC 512L Assessment I, Practice Laboratory (1)**

Supervised experiences in administering, scoring, interpreting, and report writing relevant to various adult and child intelligence and achievement instruments.

**PSYC 513 Assessment II (2)**

Instruction in administering, scoring, interpreting, and report writing relevant to various adult and child objective personality instruments—including 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; or consent of instructor.

Corequisite: PSYC 513L.

**PSYC 513L Assessment II, Practice Laboratory (1)**

Supervised experiences in administering, scoring, interpreting, and reporting relevant to various adult and child objective personality instruments.

Corequisite: PSYC 513.

**PSYC 514 Assessment III (2)**

Administering, scoring, interpreting, and report writing relevant to various adult and child projective personality instruments—including Rorschach, TAT, CAT, and House-Tree-Person. Considers the empirical reliability and validity data for each instrument.

Prerequisite: PSYC 513; or consent of instructor.

**PSYC 514L Assessment III, Practice Laboratory (1)**

Supervised experiences in administering, scoring, interpreting, and report writing relevant to various adult and child projective personality instruments.

Corequisite: PSYC 514.

**PSYC 524 History, Systems, and Philosophy of Psychology (2)**

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. Examines current trends in light of their contributions to the development of psychology as a science and as a profession.

**PSYC 526 Ethics and Legal Issues in Clinical Psychology (3)**

Overviews 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 527 Psychological/Emotional Aspects of Health and Disease (2)**

Provides students with an understanding of the psychological/emotional contributions/consequences of diseases and health conditions most commonly seen by health psychologists, including cardiovascular, endocrine, gastrointestinal, immunological, neoplasia, and immunological problems.

**PSYC 534 Culture, Psychology, and Religion (3)**

Introduces 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. Examines 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 537 Applied Behavioral Medicine (2)**

Provides students with a set of applied tools for use in the practice of behavioral medicine/health psychology, including: assessment and treatment of risky health behaviors, such as use of tobacco; consult-liaison skills; relaxation training; preparation of notes for medical settings; symptom management; motivational interviewing; brief diagnostic assessments; determination of capacity; and time-limited psychotherapy.

**PSYC 538 Fundamentals of Forensic Psychology (2)**

Introduces students to the fundamental requirements and preparation to perform competently in the legal system. Emphasizes training and preparation required for practice as a forensic psychologist. Emphasizes both a clinical and biosocial psychological viewpoint. Attention given to cultural, diversity, and ethical issues.

**PSYC 539 Psychology and Law (3)**

Provides an overview of the foundational and philosophical distinctions between psychological and legal knowledge, their underlying assumptions, and divergent world views. Gives attention to how each investigates identical situations and arrives at opposite conclusions. Emphasizes the psychological and legal intersections relative to criminal behavior, mental health issues, and psychopathy. Students systematically study the complexity of psychological and legal interactions through case studies.

**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 546 Clinical Applications in Primary Care (2)**

Provides a brief review of disease types commonly seen in primary care, with an emphasis on presentation of somatic conditions. Additional topics include clinical interventions in the primary care setting, introduction to medical terminology and shorthand in primary care, interpreting common laboratory values, consultation/liaison services, physician perspectives of psychological needs of patients, and effective collaboration between physician and psychologist.

**PSYC 547 Health Psychology Assessment (2)**

Covers the use of assessment instruments for research and clinical applications. Topics include behavioral medicine interviewing, the administration and interpretation of standardized instruments such as the Million Behavioral Health Inventory, quality-of-life assessment, and integrated report writing for medical settings.

**PSYC 549 Sensation and Perception (4)**

Surveys the major phenomena, anatomy, mechanisms, and principles of sensation and perception. Topics covered include: the history of the study of perception and psychophysics in psychology, with specific focus on each of the sensory systems—vision, audition, chemical senses, skin senses, motor senses, and balance. Emphasizes the cognitive neuroscience of sensation and perception, complemented by consideration of the behavioral and phenomenological characteristics of the systems.

**PSYC 551 Psychobiological Foundations (4)**

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. Considers visuospatial, visuoperceptual, and visuoconstructive disorders; and apraxia.

**PSYC 552 Brain and Behavior (4)**

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 instructor.

**PSYC 553 Cognitive Neuroscience (4)**

An advanced overview of the discipline that bridges cognitive psychology and neuroscience. Begins with neuroanatomy and the methodologies of electrophysiology and structural and functional imaging; and examines their application to perception, memory, language, cognitive control, attention, decision making, and motivational and emotional behavior.

**PSYC 554 Health Psychology (4)**

Overviews 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 psychophysiological 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.

Prerequisite: PSYC 581, PSYC 581L.

**PSYC 558 Psychological and Forensic Assessment and Evaluation of Competencies (3)**

Studies the legal and psychological analyses of competence. Gives attention to conceptual models of assessment and evaluation, with special emphasis on empirical foundations. Students examine pertinent, legally relevant assessment and evaluation instruments, as well as their development and use—focusing on reliability and validity issues. Includes competence to stand trial, insanity plea, guardian and conservatorship, consent to treatment, capacity to parent, malingering, waiver of rights, and other related issues requiring inquiry, assessment, and evaluation.



**PSYC 564 Foundations of Social and Cultural Psychology (4)**

Surveys 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)**

Examines cross-cultural variations in psychological processes and human behavior in light of the role of culture and implications for the universality of psychological principles. Examines cross-cultural research, theory, and interventions 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 Human Diversity (3)**

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 569 Psychological Disorders and Forensic Issues (2)**

Examines the special problems faced by a psychologist specific to the psychological disorders of PTSD, pain, traumatic brain injury, and other related dysfunctions. Focuses on preparing, presenting, and explaining results that will provide evidence useful to the court and from which legal decisions can be determined.

**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 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)**

Considers human development 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 576 Social Cognitive Development (3)**

Focuses on development of social relationships and cognitive processes across the lifespan. Reviews the major theories of social and cognitive development and the empirical examination of these theories. Gives attention to how individuals think about their social world, as well as how the social world and thought processes interact to influence behavior.

Prerequisite: PSYC 575.

**PSYC 577 Emotional Development (3)**

Examines theories and research related to attachment, relational development within families, and emotional self-regulation across the lifespan. Analyzes the foundation and applications regarding emotional process to further understand the connections with interpersonal functioning, adjustment, and personality within parental, marital, and broader social contexts.

Prerequisite: PSYC 575.

**PSYC 581 Psychological Treatment I: Behavioral and Cognitive Therapies (2)**

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; and consent of instructor.

**PSYC 581L Psychological Treatment I: Behavioral and Cognitive Therapies Practice (1)**

Supervised experience observing and/or engaging in behavior therapy in laboratory assignments.

Corequisite: 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 Psychological Treatment II: Psychodynamic Therapy Practice (1)**

Supervised experience observing and/or engaging in psychodynamic therapy.

Corequisite: PSYC 582.

**PSYC 583 Psychological Treatment III: Humanistic/Phenomenological Approaches to Therapy (2)**

Overviews 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 582; or consent of instructor.

**PSYC 583L Psychological Treatment III: Humanistic/Phenomenological Therapy Practice (1)**

Provides the student with supervised experience observing and/or engaging in humanistic/phenomenological therapy.

Corequisite: PSYC 583.

**PSYC 584 Psychological Treatment IV: Conjoint and Group Psychotherapies (2)**

Provides the student with understanding of conjoint and group psychotherapies. Presents the concepts and techniques of conjoint and group psychotherapies, as well as the empirical data regarding the efficacy of these interventions.

Prerequisite: PSYC 571; or consent of instructor.

**PSYC 584L Psychological Treatment IV: Group Psychotherapies Practice (1)**

Supervised experience observing and/or engaging in conjoint or group therapy.

Prerequisite: PSYC 571. Corequisite: PSYC 584.

**PSYC 591 Colloquia (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 (1-13)**

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)**

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 604 Advanced Topics in Multivariate Analyses (2)**

Advanced topics in statistical analysis and research methods in psychology.

Prerequisite: PSYC 503, PSYC 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. Considers the empirical reliability and validity of data for each instrument; supervised practice in their use and interpretation.

Prerequisite: PSYC 514; or consent of instructor.

**PSYC 615 Advanced Rorschach Assessment (2)**

Advanced issues in the interpretation and integration of Rorschach findings. Reviews Rorschach scoring and interpretation, with an emphasis on difficult scoring and interpretation issues—including the use of Rorschach with children and adolescents. Provides experience with scoring and interpreting example cases.

Prerequisite: PSYC 514, PSYC 514L.

**PSYC 616 Neuropsychological Assessment II (2)**

An advanced approach to the strategies of neuropsychological assessment. Focuses on the use of flexible test collections tailored to assess neuropsychological disorders (such as depression and psychosis) and neurological disorders (such as dementia, attention disorders, and stroke). Emphasizes neuropsychological test integration, case conceptualization, and diagnostic inference.

Prerequisite: PSYC 553 or PSYC 654; or consent of instructor.

**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.

Prerequisite: PSYC 545, PSYC 551; or consent of 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 of 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. Incorporates major papers, both current and historical, relevant to these systems and the major conceptual lines of research.

Prerequisite: or consent of 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 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; 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 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 instructor; corequisite course(s), if any.

**PSYC 659 Child Socialization Processes (3)**

Focuses on honing human relation/interaction skills necessary for intervention with children and families. Gives attention to developing a working knowledge of 2-to-5-year-old children's social, emotional, and cognitive development through course readings and through interactions with preschool age children within the laboratory component of the course.

**PSYC 674 Infant and Toddler Development (2)**

Focuses 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. Reading focuses 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 affect an individual's growth and development in other domains.

Prerequisite: PSYC 575; or consent of instructor.

**PSYC 676 Geropsychology (1)**

Covers human development from late adulthood through old age and death, with particular emphasis on the physical and psychological factors inherent in the aging process. Social, cognitive, physical, and psychological changes examined in light of contemporary research and theory. Required for California psychology licensure.

**PSYC 679 Universal Psychiatric Care (1, 2)**

Provides opportunity to participate in an international institute featuring world leaders in psychiatric care. Topics include: world diagnostic guidelines, psychotropic medications and issues in treating ethnic populations, spirituality and psychiatry, transpersonal psychiatry in theory and practice, multidisciplinary teams in the practice of mental health services, and problems of mental health in immigrant populations. Students registering for 1 unit participate in ten hours of lecture, including a pre- and postsession. Those taking 2 units also develop a major paper on one of the institute topics.

**PSYC 681 Clinical Supervision and Consultation (2)**

Provides instruction in competency-based clinical supervision approaches, as well as in the basic models and related theories of supervision. Assists students to develop an awareness of the professional, ethical, and legal parameters related to supervision, including: principles, methods, and techniques of individual, group, and live supervision. Emphasizes consultation, including models and related theories. Gives attention to professional, ethical, and legal issues involved in interdisciplinary collaboration. Emphasizes issues of diversity in a multicultural context.

**PSYC 681L Clinical Supervision and Consultation Laboratory (1)**

Provides hands-on experience in clinical supervision and consultation as students under instructor supervision apply the knowledge, attitudes, and skills acquired didactically. Utilizes videotaping, class presentations, critiques, and simulations to increase student competency.

**PSYC 682 Psychotherapy Supervision Practicum (1, 2)**

A supervised practice experience in psychotherapy supervision. Enhances 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 instructor.

**PSYC 683 Management and Professional Practice (1)**

Seminar course in management and professional practice. In a variety of settings, exposes students to different management processes; as well as to professional, ethical, and legal requirements. Emphasizes management of integrated health and mental health care- delivery systems. Focuses on varied aspects of professional practice, including the roles psychologists play in developing organizational skills needed to function effectively in the changing health care marketplace.

**PSYC 684 Human Sexual Behavior and Treatment (1)**

Human sexuality in contemporary society. Physiological, psychological, sociocultural, and developmental factors associated with human sexuality. Interventions for sexual dysfunctions and sexual well-being. Fulfills California state licensing requirements for psychologists.

**PSYC 685 Drug Addiction and Therapy (2)**

Overviews the definitions, incidence, detection, assessment, effects, and ethical/legal/therapeutic management of substance abuse. Fulfills California state licensing requirements for psychologists.

**PSYC 686 Child, Partner, and Elder Abuse (2)**

Overviews 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. Fulfills California state licensing requirements for psychologists.

**PSYC 687 Cognitive Behavioral Treatment of Anxiety Disorders (2, 3)**

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 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. Assesses treatment outcome.

Prerequisite: PSYC 581; or consent of the instructor.

**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 696 Psy.D. Research (1-8)**

Develops the Psy.D. research proposal.

Prerequisite: PSYC 502, PSYC 504; and admission to Psy.D. degree program.

**PSYC 697 Doctoral Research (1-16)**

Academic credit for dissertation research. A total of 36 units required.

**PSYC 721 Practicum Preparation I (3)**

Required for all Psy.D. and Ph.D. degree students. Helps students learn beginning assessment and counseling skills. Incorporates demonstrations to facilitate learning. Prepares graduate students for both internal and external practicum.

**PSYC 729 Teaching of Psychology Practicum (1-11)**

Supervised teaching experience for students completing PSYC 523 or those with previous teaching experience.

**PSYC 781 Internal Practicum (2)**

Required unit 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 twice for a total of 3 units.

**PSYC 782 External Practicum I (4)**

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. 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 and good academic and professional standing in the program.

**PSYC 783 External Practicum II (4)****PSYC 784 External Practicum III (4)****PSYC 785 External Practicum IV (4)****PSYC 786 External Practicum V (4)****PSYC 795 Directed Clinical Experience (1-3)**

For students who have finished their external practicum and pre-internship but who still desire further clinical training before going on internship. 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. Clinical experience individually designed according to the needs and desires of the student and under the direction of a member of the department's faculty. May be repeated to a maximum of 8 units.

**PSYC 798 Pre-Internship (4)**

Elective clinical experience for students who have successfully completed the practicum year. May be repeated to a maximum of 16 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 799A Internship (5)**

A one-year internship completed at either an APA- or APPIC-approved placement. Limited to students who begin their internship mid-Summer Quarter (usually the middle of July). Requires 250 contact hours of clinical experience. Student registers initially for 5 units and registers the following Summer Quarter for an additional 5 units.

**PSYC 799B Internship (10)**

A one-year internship completed at either an APA- or APPIC-approved placement. Limited to students who begin their internship either at the beginning of Summer Quarter or the beginning of Fall Quarter. Requires 500 contact hours per quarter of clinical experience. Student registers for 10 units per quarter.

**PSYCHIATRY****PSYT 514 Psychopathology (1, 3)**

Intensive introduction to medical disorders and their treatment. Building on understanding of the neural substrates of normal behavior, emphasizes abnormal brain findings in the mental disorders, along with the social and psychological consequences of the disorders. Includes an introduction to psychotherapeutic approaches and psychiatric medications.

**PSYT 521 Fundamentals of Behavioral Science (2)**

A lecture covering subjects vital to providing compassionate, perceptive medical care. Topics include doctor-patient communication, ethnic and cultural issues, identifying abuse stages of life, dying and palliative care, sexuality, and understanding the determinants of personality.

**PSYT 522 Fundamentals of Behavioral Science (1)**

A lecture covering subjects vital to providing compassionate, perceptive medical care. Topics include doctor-patient communication, ethnic and cultural issues, identifying abuse stages of life, dying and palliative care, sexuality, and understanding the determinants of personality.

**PSYT 599 Psychiatry Directed Study (1.5-18)****PSYT 701 Psychiatry Clerkship (1.5-9)**

Third-year, six-week psychiatry clerkship includes five weeks divided between two psychiatry treatment sites, and one week at an addiction treatment site. Clerkship experiences offer broad and varied training in the treatment of psychiatric problems of adults and children. Students participate in an interactive, case-based seminar series.

**PSYT 891 Psychiatry Elective (1.5-18)**

Offers fourth-year medical students the opportunity to take electives with psychiatry faculty in child and adult settings. An intensive reading/discussion course in religion and psychiatry.

**PHYSICAL THERAPIST ASSISTANT****PTAS 201 Anatomy (4)**

Anatomy of the human body, with emphasis on the neuromuscular and skeletal systems, including anatomical landmarks. Basic neuroanatomy of the central nervous system.

**PTAS 203 Applied Kinesiology (4)**

Introduces functional anatomy of the musculoskeletal system. Applies biomechanics of normal and abnormal movement in the human body. Introduces components of gait. Lecture and laboratory.

Prerequisite: PTAS 201.

**PTAS 205 Introduction to Physical Therapy (1)**

Physical therapy practice and the role of the physical therapist assistant in providing patient care. Quality assurance. Interpersonal skills. Introduces the multidisciplinary approach. Familiarizes the student with health care facilities and government agencies.

**PTAS 206 Documentation Skills (1)**

Introduces basic abbreviations, medical terminology, chart reading, and note writing.

**PTAS 212 Physical Therapy Procedures (3)**

Principles of basic skills in the physical therapy setting. Goniometry. Sensory- and gross-muscle testing. Mobility skills in bed and wheelchair and transfer training. Gait training and activities of daily living. Body mechanics, positioning, and vital signs. Identifies architectural barriers. Teaching techniques for other health care providers, patients, and families. Wheelchair measurement and maintenance. Lecture and laboratory.

**PTAS 224 General Medicine (3)**

Introduces general medicine conditions, including pathology and management of medical problems. Diseases of the body systems, including urinary, reproductive, digestive, circulatory, endocrine, and musculoskeletal. Theoretical principles and practical application of respiratory techniques, exercises, and postural drainage. CPR certification must be obtained before end of term.

**PTAS 225 Neurology (3)**

Introduces neurological conditions, including pathology and management of medical problems of stroke, head injury, Parkinson's disease, spinal cord and nerve injuries, and other conditions.

**PTAS 226 Orthopaedics I (3)**

Introduces common orthopaedic conditions, pathologies, and surgical procedures involving the peripheral joints. Introduces joint mobilization. Procedures and progression of therapeutic exercises for each specific joint covered as these exercises relate to tissue repair and healing response. Practical laboratory includes integration of treatment plans and progressions.

**PTAS 227 Therapeutic Exercise (2)**

Introduces therapeutic exercise theories and practical applications. Tissue response to range of motion, stretch, and resistive exercise. Laboratory covers practical applications of various types of exercise techniques and machines used in the clinics, and a systematic approach to therapeutic exercise progression.

**PTAS 231 Physical Therapy Modalities (3)**

Basic physical therapy modalities—including heat and cold application, hydrotherapy and massage, pool therapy, physiology and control of edema, stump wrapping, standard precautions, and chronic pain management. Lecture and laboratory.

**PTAS 236 Applied Electrotherapy (3)**

Principles and techniques of electrotherapy procedures, including basic physiological effects. Indications and contraindications for specific electrotherapy modalities. Practical application and demonstration of modalities in a laboratory setting.

**PTAS 238 Wound Care (1)**

Normal structure and function of the skin. Pathology of the skin, including problem conditions, burns, and wounds. Lecture and laboratory to include wound identification, measuring, dressing, treatments, and debridement. Model wounds used for hands-on training.

**PTAS 241 Applied Pediatrics (2)**

Normal and abnormal development, from conception to adolescence. Emphasizes developmental sequence, testing, and treatment of neurological and orthopaedic disorders. Practical laboratory.

**PTAS 243 Applied Geriatrics (3)**

Introduces various aspects of geriatric care. Wellness care and adaptation to exercise modalities. Procedures pertaining to the geriatric patient. Diagnosis and aging changes that affect function in geriatric rehabilitation.

**PTAS 244 Introduction to Athletic Training for the Physical Therapist Assistant (1)**

Introductory study of the neuromusculoskeletal system as it applies to the athletic population. Student develops and implements a sports medicine program and participates in physical examination. Medical emergencies in the sports medicine setting, criteria for return to play, types and frequency of sport specific injuries, pregame sidelines/courtside setup, techniques of applying athletic tape to various body locations, and on-field examinations.

**PTAS 251 Orthopaedics II (3)**

Introduces common orthopaedic conditions, pathologies, and surgical procedures of the spine. Treatments, procedures, and progression of therapeutic exercises of the spine as related to tissue repair and healing response. Practical laboratory includes integration of treatment plans and progressions.

**PTAS 252 Applied Neurology (3)**

Introduces techniques to facilitate neurodevelopmental treatment, proprioceptive neuromuscular facilitation, Brunnstrom, and principles of therapeutic exercise of the cardiac patient. Practical laboratory.

**PTAS 261 Physical Therapy Practice (1)**

Student observes evaluations, treatments, and various diagnoses; completes a resume and a state licensing application; and prepares and presents a case study and in-service. Billing procedures and third-party payors.

**PTAS 264 Applied Prosthetics and Orthotics (2)**

Introduces basic principles in the use of selected prosthetic and orthotic devices. Exposes student to various types of devices; discusses patient adjustment to devices. Examines indications and contraindications for orthotic and prosthetic use with patients seen in physical therapy.

Prerequisite: PTAS 203.

**PTAS 265 Professional Seminar (1)**

Contemporary theories and practices of physical therapy. Topics covered by faculty and guest lecturers include: sports taping, ortho taping, soft tissue, geriatric experience through affective learning. Lecture and laboratory.



**PTAS 275 Psychosocial Aspects of Health (2)**

Psychological and sociological reactions to illness or disability. Includes trauma, surgery, and congenital and terminal illness. Individual and family considerations.

**PTAS 291 Physical Therapist Assistant Practicum (1)**

Two-week assignment to be completed during the Winter Quarter in an affiliated clinical setting. Emphasizes patient and staff working relationships. Awareness of patient disorders and limited application of physical therapy techniques. Forty clock hours per week of supervised clinical experience.

**PTAS 293 Physical Therapist Assistant Affiliation I (6)**

One six-week assignment to be completed during the Spring Quarter. Students exposed to a variety of clinical settings. Forty clock hours per week of supervised clinical experience. The combined total of twenty weeks—including PTAS 291, 293, 294, 295—of clinical experience prepares the student for entry-level performance.

**PTAS 294 Physical Therapist Assistant Affiliation II (6)**

One six-week assignment to be completed during the Summer Quarter. Students exposed to a variety of clinical settings. Forty clock hours per week of supervised clinical experience. The combined total of twenty weeks—including PTAS 291, 293, 294, 295—of clinical experience prepares the student for entry-level performance.

**PTAS 295 Physical Therapist Assistant Affiliation III (6)**

Second of two six-week assignments to be completed during the second Summer Quarter. Exposure to a variety of clinical settings. Forty clock hours per week of supervised clinical experience. The combined total of twenty weeks—including PTAS 291, 293, 294, 295—of clinical experience.

**PUBLIC ADMINISTRATION****PUAD 665 Information Technology and Decision Science (4)****PUAD 668 Philosophy and Theory of Public Interest (4)**

Examines principal themes and arguments in Western political philosophy in relation to their application in social policy and public administration. Special attention given to the political ideologies of classic individualistic liberalism and civic republicanism as primary sources for an American public philosophy.

**PUAD 669 Intergovernmental and Public Relations (3)**

Requisites of sound public relations programs among government agencies and for communicating with the general public. Techniques for selecting, preparing, and disseminating governmental issues: media; social, psychological, and political principles.

**PUAD 674 Philanthropy and Development Management (3)**

Reviews the process and skills required to develop and manage philanthropic advancement, including planning. The role of administration in achieving development goals.

**PUAD 675 Public Financial Management and Budgeting (3)**

Addresses the role, dynamics, politics, and processes involved in the public budgetary function; and associated budget-preparation methods. Introduces students to advanced techniques employed by financial analysts in the public sector, including forecasting techniques, performance-measurement construction, activity-based costing, and expenditure-analysis techniques. Examines types and structure of contemporary revenue sources. Reviews the fiscal interrelationships among federal, state, and local levels of government.

**PUAD 676 Cost-Benefit Analysis (2)**

Addresses evaluation of government programs using cost-benefit analysis. Examines how scarce or unemployed resources should be priced, the choice of proper time-discount rates, treatment of income distribution issues, human investments, environment benefits, intergovernmental grants, and regulatory problems. Students examine case studies and complete an evaluation of a program using cost-benefit analysis.

**PUAD 677 Organizational Behavior (4)**

Introduces a wide variety of theories, models, strategies, and experiences in the aspect of management that focuses on understanding, predicting, and influencing human behavior in an organization. Develops skills with which thinking administrators can find their own solutions to problems in specific situations and can function effectively with their employees in the work environment.

Prerequisite: SOWK 672.

**PUAD 678 Public Administration Management (3)**

Reviews the theoretical roots and values of public administration and how these influence perspectives in contemporary public administration management. Emphasizes understanding of the nature of public accountability and the achievement of public goals. Integrates the various theoretical frameworks and analytical tools used to support executive decision making, contingency development, and the implementation of planned change. Reviews diffusion strategies, future forecasting, PERT, and other administrative tools.

**PUAD 688 Administrative Law (3)**

Administrative perspectives on legal principles of agency rule making and adjudication; distinctions between informal and administrative actions; decision making; judicial review; and public control of administrative decisions.

**PUAD 698 Doctoral Project (4)**

Successful completion of the doctoral project requires demonstrated competency in two areas of public administration and social policy. Project design gives students an opportunity to reflect critically on the role and functions of public administration, demonstrate administrative problem solving, and exhibit their leadership capacities. Student chooses two areas of specialization; identifies a significant problem in each; applies appropriate research and administrative analysis; and formulates plausible solutions that illustrate a thorough understanding of the relevant technical, legal, ethical, and political issues. Project prepared in consultation with the student's doctoral guidance committee.

**RADIOLOGY**

**RADS 891 Radiology Elective (1.5-18)**

**RADIATION MEDICINE**

**RDMN 891 Radiation Medicine Elective (1.5-18)**

**READING**

**RDNG 077 Basic Reading Skills—Able I (2)**

For students with limited English language facility and fluency. Focuses on word recognition skills using the Action Phonics method, and oral language communication exercises. Includes vocabulary development, strategies to enhance reading comprehension and study skills, and methods to increase reading rate. Explores a wholistic view of successful student life—including interpersonal relationships, cultural awareness and adaptation, and societal and emotional issues.

**RDNG 176 Study Skills for College Success (1)**

Develops cognitive organizational strategies while increasing the student's rate of reading. Demonstrates brain-compatible learning techniques based on current research. Highlights information-processing techniques to be used when reading textbooks. Develops previewing, skimming, and scanning techniques that enable the student to do quick reviews of course content. Includes efficient memory techniques, test-taking skills, anxiety reduction strategies, and techniques for maintaining a positive family environment while in a heavy study program.

**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 Techniques—Able III (2)**

Advanced reading course to increase student's rate of reading by developing cognitive organizational strategies such as: special techniques for processing information while reading textbooks; and previewing, skimming, and scanning techniques. Advanced skills for improving memory, taking tests, and reducing anxiety.

**RELIGION—ETHICAL STUDIES****RELE 400 Current Issues in Religion and Society (1-4)**

Lecture series addresses a particular topic in bioethics from a variety of theological and religious perspectives. Focuses on current controversial topics in society and health care settings. May be repeated, depending on topic.

**RELE 447 Religion and Society (2-4)**

Explores biblical themes that call individuals of faith to foster social and personal transformation. Examines the dynamics involved when a religious movement evolves toward a religious institution. Models of relationship between church and the world. Additional project(s) required for third and fourth units.

**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 Personal and Professional Ethics (2, 3)**

The foundations, norms, and patterns of personal integrity and professional responsibility. Additional project required for third unit.

**RELE 457 Christian Ethics and Health Care (2, 3)**

Ethical issues in modern medicine and related fields from the perspective of Christian thought and practice. Additional project required for third unit.

**RELE 499 Directed Study (1-3)**

Prerequisite: Consent of instructor.

**RELE 500 Current Issues in Religion and Society (1-4)**

Lecture series addresses a particular topic in bioethics from a variety of theological and religious perspectives. Focuses on current controversial topics in society and health care settings. May be repeated, depending on topic.

**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 533 Ethical Issues in Health Care Management (3, 4)**

Considers the special significance of ethical issues in public health for professionals in business and management positions. 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 535 Ethical Issues in Health Care Management (3, 4)**

Ethical issues encountered by public health business administrators within a health care management setting. Additional project required for fourth unit.

**RELE 547 Christian Business Ethics (3, 4)**

Christian and other perspectives on ethical issues in business and their pertinence to health care delivery and administration. 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 Biblical Ethics (3, 4)**

Exploration of the nature of biblical ethics and the contribution that the Bible makes to ethical reflection and action. 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 instructor.

**RELE 699 Directed Study (1-6)**

Prerequisite: Consent of instructor.

**RELE 704 Medicine and Ethics (2)**

Introductory study of Christian medical ethics, emphasizing personal integrity of the physician, the process of moral decision making, and ethical problems facing contemporary medicine, such as abortion and euthanasia.

**RELE 705 Ethics in Pharmacy Practice (3)**

Ethical issues and principles in the contemporary practice of pharmacy. Christian resources and professional expectations for the ethical decisions of pharmacists.

**RELE 706 Advanced Ethics in Pharmacy Practice (2)**

Creates an atmosphere of in-depth analysis and discussion of ethics in pharmacy practice. Students bring their own cases to discuss, in addition to course readings, guest lectures, and moral decision-making models.

**RELE 714 Advanced Medical Ethics (2)**

Advanced study of issues and cases in contemporary medical ethics.

**RELE 734 Christian Ethics for Dentists (2)**

Ethical issues in contemporary dentistry. Christian resources for ethical decision making.

**RELIGION—GENERAL STUDIES****RELG 265 Special Topics in Religion (1-4)**

Lecture and discussion of a current topic in religion bearing on the theory or practice of one aspect of the discipline. Specific content varies from quarter to quarter. May be repeated for additional credit.

**RELG 504 Research Methods (2-4)**

Studies presuppositions and procedures for scholarship in religion and ethics, with an introduction to research in the natural and behavioral sciences. Practical themes include writing, library and Internet resources, and forms of scholarly papers and articles. Two units of credit may be given for research methods class taken in another discipline. 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. Additional project required for fourth unit.

Prerequisite: Consent of instructor.

**RELG 696 Project (1-4)**

Prerequisite: Consent of instructor and of student's advisor.

**RELG 697 Independent Research (1-8)**

Prerequisite: Consent of instructor and of student's advisor.

**RELG 698 Thesis (1-4)**

Prerequisite: Consent of instructor and of student's advisor.

**RELG 795 Clinical Internship (12)**

Supervised clinical internship. Minimum of one hour of individual supervision per week, and a final evaluation from the supervisor at the completion of 400 hours of clinical internship.

**RELIGION—RELATIONAL STUDIES****RELR 404 Christian Service (1, 2)**

Student participates in approved service learning, with written reflection on the Christian reasons for service. Additional project required for second unit.

**RELR 408 Christian Perspectives on Marriage and the Family (2, 3)**

From a Christian perspective, overviews the family life cycle. Additional project required for third unit.

**RELR 409 Christian Perspectives on Death and Dying (2, 3)**

From a Christian perspective, considers the meaning of death—including the process of dying, cultural issues regarding death and dying, grief and mourning, suicide, and other related issues. Additional project required for third unit.

**RELR 415 Christian Theology and Popular Culture (2, 3)**

Examines concepts and practices in popular culture from a Christian perspective. Additional project required for third unit.

**RELR 427 Crisis Counseling (2, 3)**

Crisis phenomena, current crisis theory, a Christian model of crisis care, and the dynamics and practices of crisis care. Additional project required for third unit.

**RELR 429 Cultural Issues in Religion (2, 3)**

Studies similarities and differences between European-American culture and "minority" cultures in America, and the differences pertaining to the way religion is perceived and practiced. Additional project required for third 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 475 Art of Integrative Care (2, 3)**

The integration of psychosocial and spiritual care in the clinical setting. Additional project required for third unit.

**RELR 499 Directed Study (1-3)**

Prerequisite: Consent of instructor.

**RELR 524 Clinical Pastoral Education (6-12)**

Twelve-week course that includes 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)**

Christian principles of leadership in the community and in the practice of health care. 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 528 Christian Citizenship and Leadership (3, 4)**

Christian principles for fostering healthy communities, transforming the institutions of society, and providing public leadership. Additional project required for fourth unit.

**RELR 535 Spirituality and Mental Health (3, 4)**

Explores the interrelationship between spirituality and mental health. Seeks to enhance understanding of the term "spirituality" in the context of religious traditions; considers the therapeutic effects both of spirituality and of religious traditions. Additional project required for fourth unit.

**RELR 536 Spirituality and Everyday Life (3, 4)**

Explores the place of spirituality in everyday life through assimilation of information drawn from religious theorists, theology, spiritual and religious practices, and occupation. Additional project required for fourth unit.

**RELR 537 Issues in Pastoral Counseling (2)**

Explores issues in the practice of pastoral counseling, such as pastoral assessment, theological reflections, and spirituality.

**RELR 538 Methods in Pastoral Counseling (2)**

Explores pastoral counseling methods; the uniqueness, and contributions to the field of religion and mental health.

**RELR 549 Personal and Family Wholeness (3, 4)**

Studies personal spiritual development as the center for individual and family life and professional practice, with special attention to balancing healthy family relationships and professional obligations.

**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 565 Pastoral Theology and Methodology (3, 4)**

Studies the biblical, theological, and historical foundations for the practice of ministry. Additional project required for fourth unit.

**RELR 567 Pastoral Counseling (3, 4)**

Provides 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)**

Studies the biblical, theological, cultural, religious, relational, and psychological aspects of dying and death. Additional project required for fourth unit.

**RELR 574 Preaching (3, 4)**

Explores 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 575 Art of Integrative Care (3, 4)**

The integration of psychosocial and spiritual care in the clinical setting. Additional project required for fourth unit.

**RELR 584 Culture, Psychology, and Religion (3, 4)**

Introduces 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 Psychology 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)**

Studies logical, moral, and faith reasoning from a cognitive-developmental perspective. How cultural and religious norms affect moral thinking. Additional project required for fourth unit.

**RELR 587 Religion and the Social Sciences (3, 4)**

Introduces classic and contemporary dialogues between religion and the social sciences. Additional project required for fourth unit.

**RELR 588 Personal and Family Wholeness (3, 4)**

Studies personal spiritual development as the center for individual and family life and professional practice, with special attention to balancing healthy family relationships and professional obligations. 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.

**RELR 699 Directed Study (1-6)**

Prerequisite: Consent of instructor.

**RELR 701 Orientation to Religion and Medicine (2)**

Examines the relationship between Scripture and the practice of medicine.

**RELR 709 Christian Perspectives on Death and Dying (2)**

From a Christian perspective, considers the meaning of death, including: the process of dying, cultural issues regarding death and dying, grief and mourning, suicide, and other related issues.

**RELR 715 Christian Dentist in Community (2)**

Studies Christian leadership in the local church, surrounding community, and the larger society—emphasizing the practical development of leadership skills.

**RELR 717 Diversity and the Christian Health Professional (2)**

Facilitates the development of personal and professional understanding and appreciation for the diversity in a multicultural society from a Judeo-Christian perspective.

**RELR 725 Wholeness for Physicians (2)**

Knowledge, values, attitudes, and skills contributing to the physician's goal of personal wholeness.

**RELR 749 Personal and Family Wholeness (2)**

Studies personal spiritual development as the center for individual and family life and professional practice, with special attention to balancing healthy family relationships and professional obligations.

**RELR 775 Art of Integrative Care (2)**

The integration of psychosocial and spiritual care in the clinical setting.

**RELIGION—THEOLOGICAL STUDIES****RELT 404 New Testament Writings (2, 3)**

Interprets 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.

**RELT 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.

**RELT 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.

**RELT 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.

**RELT 420 Topics in the Gospels (2, 3)**

Key passages and themes in the four Gospels and/or related to the life of Jesus, with an exploration of their message for today. Content may vary from quarter to quarter. May be repeated for additional credit when content is different. Additional project required for third unit.

**RELT 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.

**RELT 425 Contemporary Religious Issues (2, 3)**

Analyzes prominent topics in religion discussed in contemporary journals. Additional project required for third unit.

**RELT 426 Jesus (2, 3)**

Studies Jesus as healer and teacher, prophet and reformer, Son of God and Savior. Additional project required for third unit.

**RELT 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.

**RELT 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.

**RELT 440 World Religions (2, 3)**

Surveys the origins, beliefs, and contemporary practices of the world's major religious systems. Gives 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.

**RELT 444 Christian Mission (2, 3)**

Applies biblical theology 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.

**RELT 447 Cross-cultural Ministry (2, 3)**

Studies the challenges of serving in 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.

**RELT 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.

**RELT 470 Visions of Healing in Biblical Prophecy (2, 3)**

Exploration of the visionary accounts of biblical books such as Isaiah, Jeremiah, Daniel, and Revelation. Content may vary from quarter to quarter. Additional project required for third unit.

**RELT 474 Love and Sex in the Bible (2, 3)**

Studies 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.

**RELT 475 Spirituality and the Contemporary Christian (2, 3)**

Explores the meaning of spirituality in the light of Scripture and Christian thought, and studies practices and disciplines that form and mature an individual's spiritual life. Additional project required for third unit.

**RELT 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.

**RELT 477 Biblical Thought and Today's World (2, 3)**

Integration of various aspects of biblical thought with the issues and world views faced by those in a health care environment. Content may vary from quarter to quarter. May be repeated for additional credit when content is different. Additional project required for third unit.

**RELT 499 Directed Study (1-3)**

Prerequisite: Consent of instructor.

**RELT 526 Creation and Cosmology (3, 4)**

Explores 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.

**RELT 534 Anthropology of Mission (3, 4)**

Studies 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.

**RELT 539 Christian Understanding of God and Humanity (3, 4)**

Studies the nature and attributes of God, with special emphasis on God's relation to the world; and the essential dynamics of human existence in light of the central biblical motifs of creature, image of God, and sin. Additional project required for fourth unit.

**RELT 540 World Religions and Human Health (3, 4)**

Studies the history, beliefs, and practices of major religions of the world, with an emphasis on theological and ethical issues in the practice of health care ministry. Additional project required for fourth unit.

**RELT 555 The Adventist Experience (3, 4)**

Introduces the beliefs and values that shape the Seventh-day Adventist community. Additional project required for fourth unit.

**RELT 556 Spirituality in Seventh-day Adventist Theology (3)**

Clarifies the unique role Seventh-day Adventist theology plays in fostering spirituality.

**RELT 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.

**RELT 558 Old Testament Thought (3, 4)**

Introduces the literature and key theological themes of the Old Testament. Content may vary from quarter to quarter. Additional project required for fourth unit.

**RELT 559 New Testament Thought (3, 4)**

Introduces the literature and key theological themes of the New Testament. Content may vary from quarter to quarter. Additional project required for fourth unit.



**RELT 560 Jesus the Revealer: The Message of the Gospel of John (3, 4)**

A study of Jesus as revealer and healer, the basis for the Loma Linda mission, "To make man whole."

**RELT 563 Health Care, Humanity, and God (3, 4)**

Focuses on the centrality of the health professions to the mission of the church, and the ways in which these professions manifest God's saving work and exemplify the ministry of Christ. An additional project is required for fourth unit.

**RELT 564 Apostle of Hope: The Life, Letters, and Legacy of Paul (3, 4)**

A study of the legacy of "the second most influential" person in human history.

**RELT 565 Vision of Healing: The Message of the Book of Revelation (3, 4)**

A study of Revelation's description of the end of suffering and God's vision for healing a broken world.

**RELT 615 Seminar in Philosophy of Religion (3, 4)**

Examines 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.

**RELT 617 Seminar in Religion and the Sciences (3, 4)**

Explores 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.

**RELT 699 Directed Study (1-6)**

Prerequisite: Consent of instructor.

**RELT 706 Adventist Beliefs and Life (2)**

Fundamental tenets of Seventh-day Adventist faith, and the lifestyle that such faith engenders.

**RELT 707 Medicine, Humanity, and God (2)**

Role of the practitioner of medicine as a co-worker with God in the healing of humankind.

**RELT 713 Christian Spirituality (2)**

Study of Scripture and Christian thought on how a person's spiritual life is formed and matured.

**RELT 714 Comparative Religious Experiences (2)**

Examines the religious experiences held by adherents of various Christian confessions.

**RELT 716 God and Human Suffering (2)**

Suffering and evil in relation to the creative and redemptive purposes of God for this world.

**RELT 717 Christian Beliefs and Life (2)**

Introduces basic Christian beliefs and life.

**RELT 718 Adventist Heritage and Health (2)**

Studies 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.

**RELT 726 Jesus (2)**

Studies Jesus as healer and teacher, prophet and reformer, Son of God and Savior.

**RELT 727 Love and Sex in the Bible (2)**

Studies 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.

**RELT 734 Anthropology of Mission (2)**

Studies Christian mission, applying the findings of anthropology as they relate to cultural change. Processes of religious development, factors affecting religious acculturation, and analysis of programs intended to effect changes in religion.

**RELT 740 World Religions and Human Health (3)**

Studies the history, beliefs, and practices of major religions of the world, with emphasis on theological and ethical issues in the practice of health care ministry.

**RELT 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.

**RELT 765 Vision of Healing: The Message of the Book of Revelation (2)**

A study of Revelation's description of the end of suffering and God's vision for healing a broken world.

**RELT 767 Apostle of Hope: The Life, Letters, and Legacy of Paul (2)**

A study of the legacy of "the second most influential" person in human history

**RELT 775 Spirituality and the Christian Health Professional (2)**

Explores the meaning of spirituality in the light of Scripture and Christian thought. Studies practices and disciplines that form and mature an individual's spiritual life.

**REHABILITATION SCIENCE****RESC 515 Political and Professional Advocacy in Rehabilitation (3)**

Highlights distinctions between the processes and outcomes of legislation and regulation in the health care professions. Emphasizes negotiation strategies that enhance success in self-advocacy, and solutions to ensure agreement by all participants. Focuses on identifying and solving professional concerns.

**RESC 516 Practicum in Advocacy (1-3)**

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, emphasizing successful approaches to integration of the rehabilitation professions.

**RESC 697 Research (1-12)**

Twenty units of doctoral research required.

**RESC 699 Dissertation (4)**

Student prepares and defends doctoral dissertation. Registration during quarter of doctoral defense.

**RESTORATIVE DENTISTRY****RESD 701 Restorative Dentistry I Lecture (2)**

Terminology, morphologic characteristics, and interrelationship of permanent teeth.

Corequisite: RESD 701L.

**RESD 701L Restorative Dentistry I Laboratory (2)**

Corequisite: RESD 701.

**RESD 702 Restorative Dentistry II (2)**

Introduces mandibular movement. Relationship to the anatomy of teeth. Studies source, use, and manipulation of dental materials; and their physical properties relative to dentistry.

Corequisite: RESD 702L.

**RESD 702L Restorative Dentistry II Laboratory (2)**

Corequisite: RESD 702.

**RESD 708 Restorative Dentistry III Lecture (2)**

Basic principles and techniques of cavity preparation and restoration of teeth with silver alloy and tooth-colored restorative materials. Studies source, use, and manipulation of dental materials; and their physical properties relative to dentistry.

Corequisite: RESD 708L.

**RESD 708L Restorative Dentistry III Laboratory (2)**

Corequisite: RESD 708.

**RESD 709 Restorative Dentistry IV Lecture (2)**

Basic principles and techniques of cavity preparation and restoration of teeth with silver alloy and tooth-colored restorative materials. Introduces basic casting principles and techniques. Studies the source, use, and manipulation of dental materials; and their physical properties relative to dentistry.

Corequisite: RESD 709L.

**RESD 709L Restorative Dentistry IV Laboratory (2)**

Corequisite: RESD 709.

**RESD 764 Removable Prosthodontics (5.5)**

Covers the basic concepts of treatment and management of the partially and completely edentulous patient utilizing removable prosthesis. Concepts of anatomy, function, and occlusion are covered. The student receives practical hands-on treatment and simulations of immediate complete dentures, removable partial dentures, and designing and treating the completely edentulous patient. The student observes and performs a simulated treatment of a completely edentulous patient. Removable partial denture design principles and hands-on treatment planning to understand the proper treatment planning and sequencing of a patient requiring a combination of operative, fixed, and removable prosthodontics.

**RESD 771 Single Casting Technique Lecture (2)**

Basic tooth preparation for single cast restorations, including porcelain fused to metal, tissue management, impression techniques, and casting fabrication.

**RESD 771L Single Casting Technique Laboratory (2)****RESD 772 Fixed Prosthodontics Lecture (2)**

Indications, treatment planning, design and fabrication of metal and porcelain-fused-to-metal restorations, including single units, fixed partial dentures, and single implant restorations.

**RESD 772L Fixed Prosthodontics Laboratory (2)****RESD 773 Fixed Prosthodontics II Lecture (1, 2)**

Continues RESD 772.

**RESD 773L Fixed Prosthodontics II Laboratory (1, 2)****RESD 801 Fixed Prosthodontics and Occlusion (1)**

Introduces additional techniques for fixed prosthodontics, treatment planning, and repair techniques for prosthetic failures.

**RESD 811 Dental Materials II (1)**

Selection and uses of current dental materials.

**RESD 822 Operative Dentistry II Lecture (1)**

Indications, preparations, and placement of the direct core build-up procedures, atypical cast gold, and complex amalgam.

**RESD 822L Operative Dentistry II Laboratory (1)****RESD 823 Operative Dentistry III Lecture (1)**

Principles of dental aesthetics, adhesion to tooth tissues, preparation and placement of tooth-colored restorations in anterior and posterior teeth.

**RESD 823L Operative Dentistry III Laboratory (1)****RESD 844 Restorative Study Club Seminar (.5)****RESD 854 Implant Dentistry (2)**

Lecture portion focuses on diagnostic and treatment-planning procedures associated with implant dentistry, the benefits of implant dentistry, the scientific and technical foundations for implant surgery and associated advanced procedures, the peri-implant tissues, postplacement care, and clinical complications associated with dental implants.

**RESD 854L Implant Dentistry Laboratory (1)**

Laboratory experience that applies the knowledge of diagnosis and treatment planning to the fabrication of radiographic and surgical templates, and provides experience with the analysis of cone-beam radiographic scans and the use of dental implant-planning software. Additionally, provides an implant-placement experience using a manikin—followed by impression making, the fabrication of a working cast, and the formation of a wax pattern for a definitive restoration.

**RESD 861 Senior Topics in Removable Prosthodontics (2)**

Treatment planning and problem solving in removable prosthodontics and combination cases to prepare fourth-year dental students for dental practice and National Dental Board Examination Part II.

**RESD 875 Restorative Dentistry Clinic (.5-37.5)**

Clinical practice in the restoration of teeth and the replacement of missing teeth—including attendant diagnostic procedures, planning and sequencing of treatment, disease control procedures, and appropriate continuing-care procedures following treatment. Ten quarters must be successfully completed to earn credit.

**RESPIRATORY THERAPY****RSTH 301 Advanced Respiratory Therapy Science I (3)**

Comprehensive review of patient-care techniques. Presents and discusses clinical application of respiratory therapy devices in-depth, and their influences on patient care. Reports and discussions of current and advanced developments. Integrates experience with current concepts and develops logical courses for proper equipment and technique application for specific patient care. (Not taught every year.)

Cross-listing: RSTH 441.

**RSTH 302 Advanced Respiratory Therapy Science II (3)**

Comprehensively reviews patient-care techniques. Presents and discusses clinical application of respiratory therapy devices in-depth, and their influences on patient care. Reports and discussions of current and advanced developments. Integrates experience with current concepts and develops logical courses for proper equipment and technique application for specific patient care. (Not taught every year.)

Prerequisite: Junior standing or consent of the department chair.

**RSTH 303 Advanced Respiratory Therapy Science III (2)**

Comprehensively reviews patient-care techniques. Presents and discusses clinical application of respiratory therapy devices in-depth, and their influences on patient care. Reports and discussions of current and advanced developments. Integrates experience with current concepts and develops logical courses for proper equipment and technique application for specific patient care. (Not taught every year.)

Prerequisite: Junior standing or consent of the department chair.

**RSTH 304 Cardiopulmonary Anatomy and Physiology (4)**

Investigates anatomic and physiologic components of the cardiovascular and respiratory systems. Emphasizes histology, embryology, diffusion, gases transported in the blood, acid-base balance, lung volumes and capacities, mechanics of ventilation, ventilation perfusion relationships, regulation of respiration, cardiac cell-membrane action potentials, and excitation-contraction coupling.

**RSTH 311 Advanced Neonatal Respiratory Care (3)**

Neonatal and fetal physiology, diseases, and therapeutic interventions. Emphasizes neonatal respiratory care. Reviews current research related to high-frequency ventilation, extracorporeal membrane oxygenation, and surfactant therapy.

**RSTH 315 Pediatric Perinatal Respiratory Care (2)**

Pathophysiology of the newborn, prenatal risk factors, pediatric cardiopulmonary diseases, diagnostics, monitoring of clinical indices, and treatments used in perinatal/pediatric respiratory care. Advanced information on surfactant administration, high-frequency ventilation, and ECMO. May be used toward postprofessional B.S. degree in respiratory care in place of RSTH 422.

**RSTH 323 Pulmonary Function Methodology (3)**

Evaluates pulmonary function in health and disease through spirometry, plethysmography, helium dilution, nitrogen washout, single-breath nitrogen, volume of isoflow, and diffusing capacity studies—including blood-gas instrumentation, quality control, quality assurance, and current ATS standards. Lecture and laboratory.

**RSTH 331 Pharmacology I (2)**

Surveys pharmacologic agents currently used in medicine—including their kinetics, dynamics, and therapeutics. Emphasizes drugs and their effects on the respiratory, cardiovascular, and autonomic nervous systems. Topics include the bronchodilators, anti-inflammatory agents, mucokinetic agents, cardiovascular agents, diuretics, antimicrobials, neuromuscular agents, and agents used to treat nicotine dependence.

**RSTH 332 Pharmacology II (2)**

Surveys pharmacologic agents currently used in medicine—including their kinetics, dynamics, and therapeutics. Emphasizes drugs and their effects on the respiratory, cardiovascular, and autonomic nervous systems. Topics include the bronchodilators, anti-inflammatory agents, mucokinetic agents, cardiovascular agents, diuretics, antimicrobials, neuromuscular agents, and agents used to treat nicotine dependence.

**RSTH 334 Patient Assessment (2)**

General introduction to the clinical setting. Assesses and evaluates patients with respiratory disease. Develops clinical practice habits and patient-care techniques. Student must obtain current cardiopulmonary resuscitation (CPR) certification from the American Heart Association before the end of the term.

Corequisite: RSTH 341.

**RSTH 341 Respiratory Therapy Science I (5)**

Basic principles of respiratory therapy, as related to gas physics; medical-gas storage and therapy; and administration of humidity, aerosol and airway-pressure therapies, artificial airways, and resuscitation devices. Emphasizes methods of administration of the therapy, with special attention placed on the equipment used, as well as applies this information to the clinical setting.

**RSTH 342 Respiratory Therapy Science II (5)**

Lecture and laboratory presentation of the principles of respiratory therapy related to lung-inflation therapy; use of artificial airways, and their care and complications. Introduces mechanical ventilatory support, including beginning ventilators, support systems, comparison of methods, and respiratory monitoring. Emphasizes application of this information to the clinical setting.

Prerequisite: RSTH 341.

**RSTH 343 Respiratory Therapy Science III (4)**

Lecture and laboratory presentation of the principles of respiratory therapy related to mechanical ventilatory support, including patient management and ventilatory support systems. Emphasizes methods of ventilatory support, with special attention to the mechanical ventilators commonly used in the students' clinical sites. Applies this information to the clinical setting.

Prerequisite: RSTH 341, RSTH 342.

**RSTH 354 Case Studies in Adult Respiratory Care (2)**

Adult critical-care concepts presented through a case-study approach. Respiratory care plan used to present diseases, treatment, and procedures relevant to respiratory care. Patient rounds further develop critical-thinking skills in a patient-care setting.

Prerequisite: RSTH 381.

**RSTH 366 Diagnostic Techniques (3)**

Continues the clinical use of diagnostic tests and procedures. Emphasizes evaluation of chest radiographs, electrocardiography, and monitoring hemodynamics. Lecture and laboratory.

Prerequisite: RSTH 304, RSTH 331.

**RSTH 381 Cardiopulmonary Diseases I (2)**

Comprehensively studies cardiopulmonary diseases and their adverse effects. Course content includes disease etiology, pathology, pathophysiology, clinical features, prognosis, treatment, and prevention.

Prerequisite: RSTH 304, RSTH 331, RSTH 341.

**RSTH 382 Cardiopulmonary Diseases II (2)**

Comprehensively studies cardiopulmonary diseases and their adverse effects. Course content includes disease etiology, pathology, pathophysiology, clinical features, prognosis, treatment, and prevention.

Prerequisite: RSTH 304, RSTH 381, RSTH 342 (\*may be taken concurrently).

**RSTH 391 Respiratory Care Practicum I (2)**

General introduction to the clinical setting; assessment of patients with respiratory disease. Develops work habits and patient-care techniques. Students must obtain current cardiopulmonary resuscitation (CPR) certification from the American Heart Association before the end of the quarter.

Prerequisite: RSTH 341; AHA CPR certification. Corequisite: RSTH 342.

**RSTH 392 Respiratory Care Practicum II (2)**

Applies specific therapeutic techniques, including oxygen and humidity therapy, aerosol therapy, airway management, lung-inflation techniques, and chest physiotherapy.

Prerequisite: RSTH 342, RSTH 391; AHA CPR certification. Corequisite: RSTH 343.

**RSTH 393 Respiratory Care Practicum III (4)**

Applies therapeutic techniques in continuous mechanical ventilation; special procedures, operation and postanesthesia room, and arterial blood-gas laboratory.

Prerequisite: RSTH 343, RSTH 382, RSTH 392. Corequisite: RSTH 404.

**RSTH 401 Cardiopulmonary Intensive Care (2-4)**

Management of the patient with cardiopulmonary failure. Theory and capabilities of various life support and monitoring systems.

Prerequisite: Postprofessional student, senior standing; or consent of instructor.

**RSTH 404 Critical Care (4)**

Continues the theory, practice, and knowledge of mechanical ventilation—providing an integrated approach to respiratory care in the critical-care arena. A systems-based approach used to incorporate respiratory care concepts, such as planning and implementing of protocols, best-practice guidelines, etc. Presentations, projects, and critical evaluation used to increase critical-thinking skills and patient-care skills.

**RSTH 411 Advanced Cardiac Life Support (2)**

Principles and techniques of advanced emergency cardiac care: review of basic CPR, endotracheal intubation, and the use of airway adjuncts. Monitoring and dysrhythmia recognition. Essential and useful drugs for cardiac life support. Intravenous techniques. Appropriate use of devices for elective cardioversion or defibrillation, stabilization, and transportation. Use of circulatory adjuncts. Acid-base balance, drug therapy, and therapeutic interventions.

**RSTH 421 Perinatal and Pediatric Respiratory Care (2)**

Fetal development and circulation. Prenatal risk factors. Newborn resuscitation; newborn and pediatric assessment. Etiology, pathophysiology, course, treatment, and outcome of respiratory diseases as they relate to problems in pediatrics and neonatology. Discusses ECMO, high-frequency ventilation, and nitric oxide.

Prerequisite: RSTH 304, RSTH 331.

**RSTH 422 Advanced Perinatal and Pediatric Respiratory Care (2)**

Pathophysiology of newborn and pediatric diseases likely to be encountered by the respiratory care practitioner. Perinatal risk factors, resuscitation, and research on the transition to extrauterine life. Diagnostics, monitoring of clinical indices, and treatments used in perinatal/pediatric respiratory care. Advanced information on surfactant, high-frequency ventilation, and ECMO.

Prerequisite: RSTH 421; or consent of instructor. Does not apply to postprofessional respiratory care students.

**RSTH 424 Exercise Physiology and Pulmonary Rehabilitation (3)**

Metabolism of carbohydrates, lipids, and proteins in energy production, oxygen consumption, carbon dioxide production, and respiratory quotient applied to measurable counterparts of oxygen uptake, carbon dioxide output, and respiratory exchange ratio at rest and during exercise. Metabolic studies, body-fat composition, exercise studies, and malnutrition in chronic obstructive pulmonary disease utilized as a foundation for evaluation and implementation of pulmonary rehabilitation program. Rehabilitation components include team assessment, patient training, exercise, psychosocial intervention, and follow-up.

**RSTH 431 Senior Project I (2)**

Students required to develop a proposal for a research paper/project. Under the direction of the program director, students assigned to a mentor who will assist them with developing their paper/project.

**RSTH 432 Senior Project II (2)**

Develops and expands research paper/project begun during previous quarter. Literature search, research question, and data collection methods developed.

Prerequisite: RSTH 431.

**RSTH 433 Senior Project III (2)**

Data collection completed, data analyzed, conclusions and findings written up for publication and for poster presentation.

Prerequisite: RSTH 431, RSTH 432.

**RSTH 434 Advanced Patient Assessment (2)**

Advanced skills in interviewing, physical examination, and interpretation of laboratory data. Lecture, reading material, and physical examination procedures. Provides insight for better interview and examination of patients with cardiopulmonary disease. Increases understanding of the pathophysiology behind the symptoms.

Prerequisite: RSTH 334; Does not apply to postprofessional respiratory care students.

**RSTH 441 Respiratory Therapy Science IV (3)**

Presents and discusses the clinical application of respiratory therapy devices in-depth, and their influences on patient care. Reports and discussions of current and advanced developments. Emphasizes application of this information to the clinical setting. (Not taught every year.)

Prerequisite: RSTH 341, RSTH 342, RSTH 343; or consent of instructor. Cross-listing: RSTH 301.

**RSTH 444 Case Studies in Neonatal/Pediatric Respiratory Care (2)**

Develops respiratory care-management skills in caring for the neonatal and pediatric patient through the presentation of student case studies. Clinical staff and faculty review current management of the newborn, infant, and child. Student presents patients and explains implications of care. Develops presentation skills.

Prerequisite: RSTH 421; Does not apply to postprofessional respiratory care students .

**RSTH 451 Respiratory Care Affiliation I (2)**

General care, basic critical care, and advanced critical care in the adult, pediatric, and neonatal setting as practiced at LLUMC. Open to students who are now, or have been recently, employed by LLUMC.

Prerequisite: CA RCP licensure.

**RSTH 452 Respiratory Care Affiliation II (2)**

Specialty clinical assignments selected from the following areas: adult critical care, cardiopulmonary specialties, pediatrics and neonates, polysomnography, rehabilitation and patient education, research, and special procedures. Limited to students in the postprofessional B.S. degree program in respiratory care.

Prerequisite: AHCJ 461, RSTH 315, RSTH 422.

**RSTH 453 Respiratory Care Affiliation III (2)**

Specialty clinical assignments selected from the following areas: adult critical care, cardiopulmonary specialties, pediatrics and neonates, polysomnography, rehabilitation and patient education, research, and special procedures. Limited to students in the post-professional B.S. degree program in respiratory care.

Prerequisite: AHCJ 461, RSTH 315, RSTH 452; CA RCP licensure.

**RSTH 454 Respiratory Care Affiliation IV (2)**

Specialty clinical assignments selected from the following areas: adult critical care, cardiopulmonary specialties, pediatrics and neonates, polysomnography, rehabilitation and patient education, research, and special procedures. Limited to students in the post-professional B.S. degree program in respiratory care.

Prerequisite: AHCJ 461, RSTH 315, RSTH 452; CA RCP licensure.

**RSTH 455 Respiratory Care Affiliation V (2)**

Specialty clinical assignments selected from the following areas: adult critical care, cardiopulmonary specialties, pediatrics and neonates, polysomnography, rehabilitation and patient education, research, and special procedures. Limited to students in the post-professional B.S. degree program in respiratory care.

Prerequisite: AHCJ 461, RSTH 315, RSTH 452.

**RSTH 457 Physical Diagnosis I (2)**

Systematic review of bedside assessment techniques utilized in the care of patients with respiratory disease. Student presentations and discussions of selected cases that involve diagnostic and therapeutic modalities of particular interest to respiratory therapists. Three units required for B.S. degree in respiratory therapy.

**RSTH 458 Physical Diagnosis II (1)**

Continues discussion of clinical assessment techniques and interpretation of findings in patients with cardiopulmonary disease. Emphasizes use of laboratory tests, chest radiographs, arterial blood gases, and other tests used to evaluate the patient. Lecture, reading, and discussion of case studies.

**RSTH 462 Management Practicum II (2)**

Experience in management of respiratory or emergency medical-care management. Clinical application of the theoretical management skills developed during the didactic portions of the training.

**RSTH 463 Management Practicum III (2)**

Experience in management of respiratory or emergency medical-care management. Clinical application of the theoretical management skills developed during the didactic portions of the training.

**RSTH 464 Case Management in Respiratory Care (2)**

Utilizes a case management approach to patient care in the management and evaluation of treatment and disease. Special emphasis on case management of the respiratory care patient includes discharge planning, utilization review, patient assessment, cost containment, patient education, and integration issues.

Prerequisite: RSTH 334, RSTH 424, RSTH 434; Does not apply to postprofessional respiratory care students .

**RSTH 466 Advanced Diagnostic Techniques (2)**

Advanced diagnostic theory and practice in the following areas: Holter monitoring, echocardiography, bronchoscopy, sleep studies, and other relevant respiratory care diagnostics.

Prerequisite: RSTH 366; Does not apply to postprofessional respiratory care students.

**RSTH 471 Instructional Techniques I (2)**

Develops units of instruction, instructional objectives, and evaluation procedures. Students observe and participate in classroom management; and apply teaching principles through experience in various teaching activities, such as community preventive health care programs, in-service and continuing education, and college classroom and clinical teaching. Conferences and individual guidance.

**RSTH 472 Instructional Techniques II (2)**

Develops units of instruction, instructional objectives, and evaluation procedures. Observation and participation in classroom management. Applies teaching principles through experience in various teaching activities, such as community preventive health care programs, in-service and continuing education, and college classroom and clinical teaching. Conferences and individual guidance.

Prerequisite: RSTH 471.

**RSTH 473 Instructional Techniques III (2)**

Develops units of instruction, instructional objectives, and evaluation procedures. Students observe and participate in classroom management; and apply teaching principles through experience in various teaching activities, such as community preventive health care programs, in-service and continuing education, and college classroom and clinical teaching. Conferences and individual guidance.

Prerequisite: RSTH 472.

**RSTH 474 Cardiopulmonary Health Promotion and Disease Prevention (2)**

Selected topics dealing with aspects of disease prevention. Includes the relevance of statistics, epidemiology, research designs, and clinical trials; as well as selected disease trends, lifestyle modification, the role of physical activity, nutrition and immunization, and public health approaches to communicable diseases.

Prerequisite: RSTH 424.

**RSTH 485 Evidenced-Based Medicine in Respiratory Care (4)**

Provides basic knowledge and experience in the area of evidenced-based medicine as it relates to respiratory care practice and research.

**RSTH 486 Evidenced-Based Medicine in Respiratory Care II (4)**

Provides advanced knowledge and experience in the area of evidenced-based medicine as it relates to respiratory care practice and research. Emphasizes the neonatal and pediatric areas of respiratory care.

**RSTH 487 Evidenced-Based Medicine in Respiratory Care III (4)**

Provides advanced knowledge and experience in the area of evidenced-based medicine as it relates to respiratory care practice and research. Emphasizes the adult areas of respiratory care.

**RSTH 491 Education Practicum I (2)**

Provides experience in clinical education, evaluation, and scheduling. Familiarizes student with hospital affiliation agreements and accreditation issues.

Prerequisite: CA RCP licensure.

**RSTH 492 Education Practicum II (2)**

Provides experience in clinical education, evaluation, and scheduling. Familiarizes student with hospital affiliation agreements and accreditation issues.

Prerequisite: CA RCP licensure.

**RSTH 493 Education Practicum III (2)**

Provides experience in clinical education, evaluation, and scheduling. Familiarizes student with hospital affiliation agreements and accreditation issues.

Prerequisite: CA RCP licensure.



**RSTH 494 Respiratory Care Practicum IV (2)**

Students develop professional competence and maturity in the clinical setting. Comprehensive training in all aspects of respiratory care, including the pulmonary function laboratory and home care.

Prerequisite: RSTH 343, RSTH 382, RSTH 393, RSTH 404.

**RSTH 495 Respiratory Care Practicum V (2)**

Specialty training in respiratory care practice. Students rotate to specialized areas of respiratory care, increasing their proficiency and understanding in the following areas: neonatal/pediatric critical care, adult critical care, cardiopulmonary diagnostics, hyperbaric medicine, sleep disorders medicine, cardiopulmonary rehabilitation, and extended care. In addition, students continue their professional development and competency in the general and critical-care settings.

Prerequisite: RSTH 494, RSTH 404.

**RSTH 496 Respiratory Care Practicum VI (3)**

Continues specialty training in respiratory care practice. Students rotate to specialized areas of respiratory care, increasing their proficiency and understanding in the following areas: neonatal/pediatric critical care, adult critical care, cardiopulmonary diagnostics, hyperbaric medicine, sleep disorders medicine, cardiopulmonary rehabilitation, and extended care. In addition, students continue their professional development and competency in the general and critical-care settings.

Prerequisite: RSTH 495.

**RSTH 499 Respiratory Therapy Independent Study (.5-2)**

Student submits project or paper on a topic of current interest in an area of respiratory therapy. Regular meetings provide student with guidance and evaluation. Elected on the basis of need or interest. The .5 unit of credit designed to offer directed experience in the prevention of AIDS and other communicable diseases in the clinical setting.

**RADIATION TECHNOLOGY****RTCH 325 Excel Basics for Radiology Managers (2)**

Introduces prospective radiology managers and administrators to the basics of EXCEL necessary to create spreadsheets that involve calculation, graphing, and plotting of information. Provides a brief overview of the capabilities of EXCEL in preparation for advanced finance and budgeting courses.

**RTCH 385 Radiologic Trends in Health Care (3)**

A faculty-facilitated course that includes class discussion, group work, and presentation of projects utilizing the online learning environment. Focuses on current and future trends in the field of radiology.

**RTCH 411 Student-Teaching Practicum I (2)**

Classroom teaching experience. Student prepares lecture outlines, objectives, and tests; and presents lectures and laboratory sessions. Practical application of teaching techniques.

**RTCH 412 Student-Teaching Practicum II (2)**

Classroom teaching experience. Student prepares lecture outlines, objectives, and tests; and presents lectures and laboratory sessions. Practical application of teaching techniques.

**RTCH 413 Management Practicum I (2)**

Observation of and discussion with selected administrative personnel in a radiology service. Emphasizes practical application of management theory. Projects assigned.

**RTCH 414 Management Practicum II (2)**

Observation of and discussion with selected administrative personnel in a radiology service. Emphasizes practical application of management theory. Projects assigned.

**RTCH 418 Health Information Management and Radiology Coding for Radiology Managers (4)**

Foundational course for prospective radiology managers and administrators that integrates health information management systems and radiology coding. Familiarizes the student with health information systems and provides them with a sound knowledge of radiology coding—showing how both relate to the smooth running of a radiology department. Introduces the most current guidelines in health information technology and provides students with the tools to better understand the concepts behind accurate coding and policy.

**RTCH 464 Moral Leadership (4)**

Methods of applying servant leadership to management and educational settings. Within a moral framework, discusses concepts of managing learners and professionals, assessing leadership style, the essence of leadership, leadership skill building, and conflict management. Utilizes assigned readings, discussions, papers, and personal inventories to aid in assessing the learner's leadership skills.

**RTCH 471 Applied Research Methods (2)**

Applies research methods to radiation sciences. Directed experience with a research project. Laboratory.

Prerequisite: AHCJ 351, AHCJ 461\* (\*may be taken concurrently).

**RTCH 472 Applied Research Methods (1)**

Applies research methods to radiation sciences. Directed experience with a research project. Continues RTCH 471.

Prerequisite: AHCJ 351, AHCJ 461, RTCH 471.

**RTCH 475 Curriculum Development in Health Sciences (2)**

Applies curriculum-development theories and approaches to the health-science arena. Seminar, course, or curriculum development. Designing assessment tools and procedures, designing a learning experience, selecting appropriate technology, developing a learner-centered handout/syllabus, and cultivating respect for diversity in learning.

**RTCH 485 Digital Management in Radiology (2)**

A student-centered, faculty-facilitated course that is a continuation of RTCH 385. Class discussion, small-group work, and presentation of student projects/paper. New technology and its impact on the radiology department.

**RTCH 494 Senior Project (2, 3)**

Project associated with the development of radiologic procedures and techniques. Units chosen in consultation with advisor.

**RTCH 497 Advanced Clinical Experience (40 to 480 hours)**

Advanced clinical experience in selected areas of professional practice.

**RTCH 498 Leadership Theory and Practice (3)**

A Web-based course that focuses on the leadership aspect of communication. Examines leadership from a theoretical standpoint while relating, assessing, and applying leadership in present-day professional interactions.

**RTCH 499 Radiation Technology Independent Study (.5-2)**

Student submits a project or paper on a topic of current interest in an area related to radiation technology. Regular meetings provide the student with guidance and evaluation. Elected on the basis of need or interest. The .5 unit of credit designed to offer directed experience in the prevention of AIDS and other communicable diseases in the clinical setting.

**RTCH 567 Leadership Theory and Practice (3)**

A Web-based course that focuses on the leadership aspect of communication. Examines leadership from a theoretical standpoint while relating, assessing, and applying leadership in present-day professional interactions.

**RADIATION TECHNOLOGY—IMAGING INFORMATICS****RTII 354 Introduction to Informatics (3)**

Provides a basic overview of computer fundamentals, along with in-depth insight regarding the components that comprise a PACS system—including but not limited to: basic terminology, CR, DR, HIS, RIS, HL-7, networking, storage, and workstation design.

**RTII 358 PACS Planning and Implementation (3)**

Considers the steps needed to successfully launch a PACS system in a radiology department of any size. Focuses on: reason for proposal (RFP), planning, vendor selection, contracts, and cost strategies.

**RTII 359 Digital Radiography and PACS for the Imaging Specialist (2)**

Provides a basic understanding of the principles that affect the technologist in a digital imaging environment, as well as an overview of a picture archival and communication system (PACS). Fosters interest in cutting-edge technologies in radiation science. Presented predominantly in an online environment. Topics include but are not limited to: basic principles in digital radiography, image acquisition, acquisition errors, fundamentals of digital exposure, image evaluation, quality assurance, computer basics, imaging standards, information systems, the EHR, WebPACS, teleradiology, PACS storage, HIPAA concerns in PACS, Moore's Law, and future trends within PACS.

Prerequisite: Licensed medical radiographer, ARRT certified.

**RTII 364 Administrative Issues in Informatics (3)**

Considers issues facing a PACS administrator. Provides understanding of the architecture of a PACS system and the details of running the business aspect of a PACS system. Course topics include: relationship in health care, educational concerns, licensing, emergency protocols, legal issues, and policy formation.

**RTII 368 Future Management of PACS (3)**

Discusses the challenges facing a modern imaging department, and provides understanding of the skills required to maintain a PACS system and prepare for its future successes. Course topics include: the clinical dashboard, breast imaging, 3D imaging, teleradiology, QA, data management, and the electronic health record.

**RADIATION TECHNOLOGY—MEDICAL DOSIMETRY****RTMD 301 Treatment Planning I (3)**

Studies in-depth the planning of isodose distributions and dose calculations within different target volumes. Topics covered include IMRT, conformal therapy, and stereotactic radiosurgery.

**RTMD 302 Treatment Planning II (2)**

Develops the student's ability to construct treatment plans using 3D/IMRT planning techniques. Integrates theory with practice. Students required to complete a number of plans that utilize all the major treatment techniques, based on anatomical tumor sites. Lecture includes discussion and plans related to specific tumors, after which students are expected to produce similar plans, compile a notebook of plans, and present plans to the class as a midterm and final examination.

**RTMD 305 Special Topics (2)**

Studies cutting-edge techniques in depth as they apply to therapy—including radiation oncology and the diagnostic modalities that support them. Topics include IMRT, TBI, USGI, IORT, MLC, dynamic wedging, virtual simulation (CT simulation), stereotactic radiosurgery, HDR, proton therapy, MRI, US, and NRM. Students make a weekly presentation from a peer-reviewed journal or discuss a research paper on one of the studied topics. Class paper on a specific area of study due at the end of the quarter.

**RTMD 307 Principles of Brachytherapy (2)**

Includes a two-week rotation at Long Beach Memorial Hospital to observe brachytherapy. Principles of radiation protection as they relate to brachytherapy.

**RTMD 309 Radiation Therapy Core—Concept Review (1)**

Conducted in the seminar/review format. Students research and present information on weekly schedule of core topics and concepts relating to radiation therapy techniques, oncology, radiobiology, and patient care. Students complete assigned readings and answer general review questions.

**RTMD 314 Quality Assurance, with Laboratory (2)**

General overview of quality-assurance management within a radiation oncology department, with specific emphasis on continuous quality assurance (CQI). Examines the theoretical and practical application of quality-assurance techniques as they relate to treatment planning and other dosimetry functions.

**RTMD 355 Physical Principles of Radiation Therapy I (3)**

Nature and description of the structure of matter and energy. Radioactive decay schemes and interaction of photons and gamma radiation. Instrumentation involved in measurement of ionizing radiation, beam quality, and dose. Laboratory.

**RTMD 356 Physical Principles of Radiation Therapy II (3)**

Discusses the following areas: calibration techniques of photon, particulate, and electron beams; percentage depth dose, tissue-air ratios, treatment planning, scatter functions, field flatness, and symmetry; field shaping, arc therapy, and tissue inhomogeneities; clinical dosimetric considerations. Includes laboratory.

**RTMD 961 Practicum (9)**

Practical application of the theoretical knowledge of dosimetry. Includes external beam-treatment planning, monitor-unit calculations, brachytherapy, and quality-assurance procedures as they pertain to dosimetry practice. Students integrated into the dosimetry and physics team, with opportunity to work with various kinds of treatments and treatment beams. Per week: 24 hours.

**RTMD 962 Practicum (8)**

Practical application of the theoretical knowledge of dosimetry. Includes external beam-treatment planning, monitor-unit calculations, brachytherapy, and quality-assurance procedures as they pertain to dosimetry practice. Students integrated into the dosimetry and physics team, with opportunity to work with various kinds of treatments and treatment beams. Per week: 24 hours.

**RTMD 963 Practicum (8)**

Practical application of the theoretical knowledge of dosimetry. Includes external beam-treatment planning, monitor-unit calculations, brachytherapy, and quality-assurance procedures as they pertain to dosimetry practice. Students integrated into the dosimetry and physics team, with opportunity to work with various kinds of treatments and treatment beams. Per week: 24 hours.

**RTMD 964 Practicum (8)**

Practical application of the theoretical knowledge of dosimetry. Includes external beam-treatment planning, monitor-unit calculations, brachytherapy, and quality-assurance procedures as they pertain to dosimetry practice. Students integrated into the dosimetry and physics team, with opportunity to work with various kinds of treatments and treatment beams. Per week: 24 hours.

**RTMD 965 Practicum (8)**

Practical application of the theoretical knowledge of dosimetry. Includes external beam-treatment planning, monitor-unit calculations, brachytherapy, and quality-assurance procedures as they pertain to dosimetry practice. Students integrated into the dosimetry and physics team, with opportunity to work with various kinds of treatments and treatment beams. Per week: 24 hours.

**RTMD 971 Practicum (10)**

Practical application of the theoretical knowledge of dosimetry. Includes external beam-treatment planning, monitor-unit calculations, brachytherapy, and quality-assurance procedures as they pertain to dosimetry practice. Students integrated into the dosimetry and physics team, with opportunity to work with various kinds of treatments and treatment beams. Per week: 30 hours.

**RTMD 972 Practicum (10)**

Practical application of the theoretical knowledge of dosimetry. Includes external beam-treatment planning, monitor-unit calculations, brachytherapy, and quality-assurance procedures as they pertain to dosimetry practice. Students integrated into the dosimetry and physics team, with opportunity to work with various kinds of treatments and treatment beams. Per week: 30 hours.

**RTMD 973 Practicum (10)**

Practical application of the theoretical knowledge of dosimetry. Includes external beam-treatment planning, monitor-unit calculations, brachytherapy, and quality-assurance procedures as they pertain to dosimetry practice. Students integrated into the dosimetry and physics team, with opportunity to work with various kinds of treatments and treatment beams. Per week: 30 hours.

**RTMD 974 Practicum (10)**

Practical application of the theoretical knowledge of dosimetry. Includes external beam-treatment planning, monitor-unit calculations, brachytherapy, and quality-assurance procedures as they pertain to dosimetry practice. Students integrated into the dosimetry and physics team, with opportunity to work with various kinds of treatments and treatment beams. Per week: 30 hours.

**RADIATION TECHNOLOGY—MEDICAL RADIOGRAPHY****RTMR 202 Orientation Laboratory (1)**

Clinical orientation to the functions of radiologic technologists. Laboratory sessions conducted at affiliated clinical sites.

**RTMR 221 Radiologic Patient Care (2)**

Aspects of patient care in the radiology service. Emphasizes aseptic techniques. Physical and emotional care of the patient in relation to radiologic procedure. Contrast media and other drugs used in the practice of radiology.

**RTMR 224 Law and Ethics in Radiologic Sciences (1)**

Overview of ethics and the law as they apply to radiologic sciences. Topics include ethics and ethical behavior, standards of care, patient rights, informed consent, torts, legal doctrines, and scope of practice.

**RTMR 246 Professional Communications (2)**

Focuses on verbal and written communication skills for the medical radiographer—including PowerPoint presentations, writing scientific papers, communicating with patients, and interpersonal communication with colleagues.

**RTMR 253 Medical Radiography Procedures I (2)**

Applies anatomy and physiology to the radiographic situation. Proper patient positioning, equipment usage, and technical film-quality factors.

Corequisite: RTMR 253L.

**RTMR 253L Medical Radiography Procedures Laboratory I (1)**

Applies principles of patient positioning and radiographic exposure to the laboratory setting. Uses clinical patient simulations and radiographic phantoms to determine optimum techniques.

Corequisite: RTMR 253.

**RTMR 254 Medical Radiography Procedures II (2)**

Applies anatomy and physiology to the radiographic situation. Proper patient positioning, equipment usage, and technical film-quality factors.

Corequisite: RTMR 254L.

**RTMR 254L Medical Radiography Procedures Laboratory II (1)**

Applies principles of patient positioning and radiographic exposure to the laboratory setting. Uses clinical patient simulations and radiographic phantoms to determine optimum techniques.

Corequisite: RTMR 254.

**RTMR 255 Medical Radiography Procedures III (2)**

Applies anatomy and physiology to the radiographic situation. Proper patient positioning, equipment usage, and technical film-quality factors.

**RTMR 255L Medical Radiography Procedures Laboratory III (1)**

Applies principles of patient positioning and radiographic exposure to the laboratory setting. Uses clinical patient simulation and radiographic phantoms to determine optimal radiographic techniques.

Corequisite: RTMR 255.

**RTMR 283 Radiologic Physics (3)**

The physics of ionizing radiation. Theoretical basis for understanding the nature, production, and interactions of ionizing radiation with matter. Examines atomic structure, particles, radioactive energy, radioisotopes, and the electromagnetic spectrum. Covers the basic x-ray electrical circuit, x-ray tube, generator, and related components.

**RTMR 284 Radiation Protection and Biology (2)**

Fundamental concepts of radiation protection and biological effects of radiation on patients and occupationally exposed personnel. Applies radiation safety laws.

**RTMR 285 Principles of Radiography I (3)**

Principles of producing the optimum radiograph. Physical factors involved in photographic processing techniques. Instructs in the use of accessory equipment to obtain the optimum radiograph under any situation. Laboratory.

**RTMR 286 Principles of Radiography II (4)**

Advanced instruction in the principles of radiographic theory and technique. Examines the role of image-intensified fluoroscopy in radiology and introduces the principles of digital imaging in diagnostic radiography. Includes laboratory.

**RTMR 287 Principles of Radiography III (2)**

Advanced instruction in the use of digital imaging in radiology, including the use of PACS to store and transmit digital information in the medical setting. Reviews quality control/quality assurance practices in radiology. Continued introduction of fluoroscopy topics.

**RTMR 301 Introduction to Radiographic Procedures I (1-3)**

Nature and description of radiologic procedures for the nonradiologic technologist. Principles and medical techniques applied to the radiographic setting. Surveys anatomy and instrumentation. Includes observation laboratory.

**RTMR 302 Introduction to Radiographic Procedures II (1-3)**

Nature and description of radiologic procedures for the nonradiologic technologist. Principles and medical techniques applied to the radiographic setting. Surveys anatomy and instrumentation. Includes observation laboratory.

**RTMR 321 Radiographic Film Critique (2)**

Weekly conference for the critical evaluation of the fine points of the radiographic examination.

**RTMR 334 CT and Cross-sectional Anatomy (2)**

Recognition of basic anatomical landmarks as visualized in axially created digital images

**RTMR 342 Computer Applications in Radiology (1)**

An overview of the special modalities in radiology that use computers to generate images and/or treat patients. Examines the on-line information and services available for students and technologists in state and national radiology organizations.

**RTMR 345 Radiologic Pathology (2)**

Appearance of common pathologic processes, using radiologic imaging methods.

**RTMR 363 Comprehensive Review (1)**

Reviews major content areas emphasized on certification examinations. Student evaluation and performance analysis. Time provided to make class presentations, organize study materials, and take simulated registry examinations.

**RTMR 371 Medical Radiography Affiliation I (5)**

The first of a six-course sequence totaling eighteen months of clinical experience covering a wide variety of technical procedures. Stresses basic patient care, radiation protection, and transmission and prevention of HIV and other communicable diseases—with specific application to medical radiography. Clock hours: 160.

**RTMR 372 Medical Radiography Affiliation II (7)**

Continues RTMR 371. Clock hours: 264

**RTMR 373 Medical Radiography Affiliation III (12)**

Continues RTMR 371 and 372. Clock hours: 416.

**RTMR 374 Medical Radiography Affiliation IV (10)**

Continues RTMR 371, 372, and 373. Clock hours: 368.

**RTMR 375 Medical Radiography Affiliation V (10)**

Continues RTMR 372, 372, 373, and 374. Clock hours: 352.

**RTMR 376 Mammography Prep Course (2)**

The basics of mammography. Foundational information in the following areas: equipment, patient education and assessment, anatomy, and physiology and pathology of the breast. Techniques and technical factors in mammography, positioning and image evaluation, and quality control. For individuals working toward California state licensure in mammography.

Prerequisite: Students must provide proof of one of the following: (1) AR RT (R) certification OR (2) enrollment in an accredited medical radiography program, second- year status.

**RTMR 377 Mammography Laboratory (1)**

Clinical experience required prior to sitting for the ARRT (M) examination. Students work with an affiliate to complete competencies specific to mammography.

Prerequisite: Must show proof of California State licensure in Mammography prior to acceptance.

**RTMR 379 Special Project (1-3)**

Project to be submitted in the form of a paper or a visual aid representing a topic of current interest in an area related to radiation sciences. Regular meetings provide guidance to the student.

**RTMR 381 Topics in Medical Radiography I (1-3)**

Surveys selected topics in medical radiography. Procedure summaries, projects, literature reviews. May be taken concurrently with RTMR 371-375 Radiography Affiliation I, II, III, IV, V for credit toward the baccalaureate degree.

**RTMR 382 Topics in Medical Radiography II (1-3)**

Surveys selected topics in medical radiography. Procedure summaries, projects, literature reviews. May be taken concurrently with RTMR 371-375 Radiography Affiliation I, II, III, IV, V for credit toward the baccalaureate degree.

**RTMR 383 Topics in Medical Radiography III (1-3)**

Surveys selected topics in medical radiography. Procedure summaries, projects, literature reviews. May be taken concurrently with RTMR 371-375 Radiography Affiliation I, II, III, IV, V for credit toward the baccalaureate degree.

**RTMR 384 Topics in Medical Radiography IV (1-3)**

Surveys selected topics in medical radiography. Procedure summaries, projects, literature reviews. May be taken concurrently with RTMR 371-375 Radiography Affiliation I, II, III, IV, V for credit toward the baccalaureate degree.

**RTMR 385 Topics in Medical Radiography V (1-3)**

Surveys selected topics in medical radiography. Procedure summaries, projects, literature reviews. May be taken concurrently with RTMR 371-375 Radiography Affiliation I, II, III, IV, V for credit toward the baccalaureate degree.

**RTMR 386 Medical Radiography Affiliation VI (10)**

The last of a six-quarter sequence totaling eighteen months of clinical experience—386 clinical hours that cover a wide variety of technical procedures. Stresses completion of individual clinical requirements needed for ARRT registry eligibility.

**RTMR 401 Advanced Clinical Procedures I (1-3)**

Credit for clinical experience in an affiliated imaging department covering a wide range of radiographic procedures. Periodic evaluations by the clinical supervisor.

**RTMR 402 Advanced Clinical Procedures II (1-3)**

Credit for clinical experience in an affiliated imaging department covering a wide variety of radiographic procedures. Periodic evaluations by the clinical supervisor.

**RTMR 403 Advanced Clinical Procedures III (1-3)**

Credit for clinical experience in an affiliated imaging department covering a wide variety of radiographic procedures. Periodic evaluations by the clinical supervisor.

**RTMR 404 Advanced Clinical Procedures IV (1-3)**

Credit for clinical experience in an affiliated imaging department covering a wide variety of radiographic procedures. Periodic evaluations by the clinical supervisor.

**RTMR 451 Management of a Radiologic Service (3)**

Techniques of organization, planning, and management, with specific applications to a hospital radiology service.

**RTMR 454 Quality Management in Radiation Sciences (2)**

In-depth look at continuous quality management of all aspects in a radiology department, from equipment to personnel.

**RADIATION TECHNOLOGY—MEDICAL SONOGRAPHY****RTMS 339 Echocardiography I (4)**

Focuses on normal anatomy, scan techniques, cardiac measurement, and new dynamics. Case study presentations.

**RTMS 344 Introduction to Medical Sonography (5)**

Introduction to sonography—including ob-gyn, abdomen, vascular, neurosonography, cardiac, and pediatric. Covers terminology and scan techniques for all areas.

**RTMS 345 Ob-Gyn Sonography (5)**

Ob-Gyn scan techniques, fetal anatomy and pathologies, gynecological anatomy and pathologies. Student case presentations and case studies.

**RTMS 346 Vascular Technology/Doppler/Scan Techniques (5)**

Covers vascular technology, Doppler, abdomen, and small parts. Continues case studies and case presentations.

**RTMS 347 Echocardiography II (4)**

Echocardiography, adult and pediatric. Further focuses on anatomy, pathology, hemodynamics, and Doppler. Includes case studies and presentations.

**RTMS 348 Abdomen/Neurosonography (5)**

Sonography of the abdomen and neonatal neurosonography specialities and scan techniques. Visualizes sonography of the abdomen, cross-section scan techniques, and pathologies on ultrasound. Includes neonatal neurosonography; anatomy and pathologies also included.

**RTMS 358 Introduction to Ultrasound Physics and Instrumentation (1)**

Reviews algebraic and metric systems and physics principles as they relate to ultrasound.

**RTMS 379 Ultrasound Physics and Instrumentation I (2)**

Studies the basic physical principles and instrumentation of ultrasound production and imaging. Selected case study presentations, as assigned.

**RTMS 381 Topics in Medical Sonography I (1)**

Surveys selected topics in medical sonography. Procedure summaries, projects, literature reviews.

**RTMS 382 Topics in Medical Sonography II (1)**

Surveys selected topics in medical sonography. Procedure summaries, projects, literature reviews.

**RTMS 383 Topics in Medical Sonography III (1)**

Surveys selected topics in medical sonography. Procedure summaries, projects, literature reviews.

**RTMS 384 Topics in Medical Sonography IV (1, 2)**

Includes board-review sessions; mock boards; and additional lectures in writing a CV, interviewing for a new position, and completing all paperwork associated with taking the national boards.

**RTMS 385 Topics in Medical Sonography V (1-3)**

Selected projects that may be taken concurrently with RTMS 971-978 Medical Sonography for credit toward the B.S. degree.

**RTMS 386 Topics in Medical Sonography VI (1-3)**

Selected projects that may be taken concurrently with RTMS 971-978 Medical Sonography for credit toward the B.S. degree.

**RTMS 387 Ultrasound Physics and Instrumentation II (1)**

Study and review of the basic physical principles and instrumentation of ultrasound, with additional emphasis on Doppler and artifacts.

Prerequisite: RTMS 379.

**RTMS 401 Advanced Clinical Procedures I (1-3)**

Credit for full-time, postcertification clinical practice in a medical sonography service. Periodic evaluations by the clinical supervisor.

**RTMS 402 Advanced Clinical Procedures II (1-3)**

Credit for full-time, postcertification clinical practice in a medical sonography service. Periodic evaluations by the clinical supervisor.

**RTMS 403 Advanced Clinical Procedures III (1-3)**

Credit for full-time, postcertification clinical practice in a medical sonography service. Periodic evaluations by the clinical supervisor.

**RTMS 404 Advanced Clinical Procedures IV (1-3)**

Credit for full-time, postcertification clinical practice in a medical sonography service. Periodic evaluations by the clinical supervisor.

**RTMS 961 Vascular Ultrasound Clinical Affiliation (1)**

Clinical experience in vascular ultrasound (416 clock hours per quarter) covering a wide variety of technical procedures.

**RTMS 962 Vascular Ultrasound Clinical Affiliation (10)**

Clinical experience in vascular ultrasound (416 clock hours per quarter) covering a wide variety of technical procedures.

**RTMS 963 Vascular Ultrasound Clinical Affiliation (10)**

Clinical experience in vascular ultrasound (416 clock hours per quarter) covering a wide variety of technical procedures.



**RTMS 964 Vascular Ultrasound Clinical Affiliation (10)**

Clinical experience in vascular ultrasound (300 clock hours per quarter) covering a wide variety of technical procedures.

**RTMS 965 Cardiac Ultrasound Clinical Affiliation (12)**

Clinical experience in cardiac ultrasound (384 clock hours per quarter) covering a wide variety of technical procedures.

**RTMS 966 Cardiac Ultrasound Clinical Affiliation (11)**

Clinical experience in cardiac ultrasound (352 clock hours per quarter) covering a wide variety of technical procedures.

**RTMS 967 Cardiac Ultrasound Clinical Affiliation (11)**

Clinical experience in cardiac ultrasound (352 clock hours per quarter) covering a wide variety of technical procedures.

**RTMS 968 Cardiac Ultrasound Clinical Affiliation (12)**

Clinical experience in cardiac ultrasound (440 clock hours per quarter) covering a wide variety of technical procedures.

**RTMS 971 Medical Sonography Clinical Affiliation (11)**

A twelve-week, 384-hour clinical experience in medical sonography, consisting of four days/week rotations covering a wide variety of technical procedures.

**RTMS 972 Medical Sonography Clinical Affiliation (11)**

Clinical experience in medical sonography (384 clock hours) covering a wide variety of technical procedures.

Prerequisite: RTMS 971.

**RTMS 973 Medical Sonography Clinical Affiliation (11)**

Clinical experience in medical sonography (352 clock hours) covering a wide variety of technical procedures

Prerequisite: RTMS 972.

**RTMS 974 Medical Sonography Clinical Affiliation (11)**

Clinical experience in medical sonography (352 clock hours) covering a wide variety of technical procedures.

Prerequisite: RTMS 973.

**RTMS 975 Medical Sonography Clinical Affiliation (12)**

Clinical experience in medical sonography (384 clock hours) covering a wide variety of technical procedures.

Prerequisite: RTMS 974.

**RTMS 976 Medical Sonography Clinical Affiliation (11)**

Clinical experience in medical sonography (352 clock hours) covering a wide variety of technical procedures.

Prerequisite: RTMS 975.

**RTMS 977 Medical Sonography Clinical Affiliation (11)**

Clinical experience in medical sonography (352 clock hours) covering a wide variety of technical procedures.

Prerequisite: RTMS 976.

**RTMS 978 Medical Sonography Clinical Affiliation (11)**

Clinical experience in medical sonography (352 clock hours) covering a wide variety of technical procedures.

Prerequisite: RTMS 977.

**RADIATION TECHNOLOGY—NUCLEAR MEDICINE****RTNM 351 Principles of Nuclear Medicine I (3)**

Radioactivity and its application in medicine.

Atomic and nuclear structure, nuclear reactions, sources of radiation, modes of radioactive decay, dosage calculations, radiation hazards, biological effects, instrumentation, and basic measurements. Laboratory.

**RTNM 352 Principles of Nuclear Medicine II (3)**

Radioactivity and its application in medicine. Atomic and nuclear structure, nuclear reactions, sources of radiation, modes of radioactive decay, dosage calculations, radiation hazards, biological effects, instrumentation, and basic measurements. Laboratory.

**RTNM 353 Nuclear Medicine Procedures I (2)**

Clinical applications of the principles discussed in RTNM 351, 352. Transmission and prevention of AIDS and other communicable diseases, with specific application to nuclear medicine. Laboratory.

**RTNM 354 Nuclear Medicine Procedures II (2)**

Clinical applications of the principles discussed in RTNM 351, 352. Transmission and prevention of AIDS and other communicable diseases, with specific application to nuclear medicine. Laboratory.

**RTNM 356 Positron Emission Tomography (2)**

Student learns the fundamental physics, instrumentation, and radionuclide requirements of positron emission tomography (PET).

**RTNM 381 Topics in Nuclear Medicine I (1-3)**

Surveys selected topics in nuclear medicine. Procedure summaries, projects, literature reviews. May be taken concurrently with RTNM 971-974 for credit toward the baccalaureate degree.

**RTNM 382 Topics in Nuclear Medicine II (1-3)**

Surveys selected topics in nuclear medicine. Procedure summaries, projects, literature reviews. May be taken concurrently with RTNM 971-974 for credit toward the baccalaureate degree.

**RTNM 383 Topics in Nuclear Medicine III (1-3)**

Surveys selected topics in nuclear medicine. Procedure summaries, projects, literature reviews. May be taken concurrently with RTNM 971-974 for credit toward the baccalaureate degree.

**RTNM 384 Topics in Nuclear Medicine IV (1-3)**

Surveys selected topics in nuclear medicine. Procedure summaries, projects, literature reviews. May be taken concurrently with RTNM 971-974 for credit toward the baccalaureate degree.

**RTNM 401 Advanced Clinical Procedures I (3)**

Credit for full-time, postcertification clinical practice in a nuclear medicine service. Periodic evaluations by the clinical supervisor.

**RTNM 402 Advanced Clinical Procedures II (3)**

Credit for full-time, postcertification clinical practice in a nuclear medicine service. Periodic evaluations by the clinical supervisor.

**RTNM 403 Advanced Clinical Procedures III (3)**

Credit for full-time, postcertification clinical practice in a nuclear medicine service. Periodic evaluations by the clinical supervisor.

**RTNM 404 Advanced Clinical Procedures IV (3)**

Credit for full-time, postcertification clinical practice in a nuclear medicine service. Periodic evaluations by the clinical supervisor.

**RTNM 971 Nuclear Medicine Affiliation I (11)**

Clinical experience of twelve months (352 clock hours per term) covering a wide variety of technical procedures.

**RTNM 972 Nuclear Medicine Affiliation II (11)**

Clinical experience of twelve months (352 clock hours per term) covering a wide variety of technical procedures.

**RTNM 973 Nuclear Medicine Affiliation III (11)**

Clinical experience of twelve months (352 clock hours per term) covering a wide variety of technical procedures.

**RTNM 974 Nuclear Medicine Affiliation IV (11)**

Clinical experience of twelve months (352 clock hours per term) covering a wide variety of technical procedures.

**RADIATION TECHNOLOGY—  
RADIOLOGIST ASSISTANT****RTRA 324 Medical-Legal Issues in Radiology (1)**

Introduction to the legal system as it pertains to radiation sciences. Concepts such as malpractice, litigation, informed consent, assault, and battery.

**RTRA 346 Clinical Management and Education (2)**

Focuses on analyzing and interpreting physiological data to assist in patient assessment and management. Utilizes critical thinking, action plans, and protocols. Includes relationship-centered patient care, effective communication, and patient education. Introduces clinical pathways, multidisciplinary clinical practice, and a focus on quality and coordination of care.

**RTRA 371 Clinical Internship (2)**

A twelve-week, one day/week rotation totaling 96 hours of clinical experience. A mentored clinical experience during which students complete a wide variety of competencies that prepare them to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult, and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 372 Clinical Internship (5)**

An eleven-week rotation totaling 168 hours of clinical experience. A mentored clinical experience during which students complete a wide variety of competencies that prepare them to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult, and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 373 Clinical Internship (7)**

An eleven-week, three days/week rotation totaling 264 hours. During the mentored clinical experience students will complete a wide variety of competencies and will be able to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult, and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 384 Radiobiology and Health Physics (2)**

Reviews the effects of ionizing and nonionizing radiation and fundamental concepts of radiation protection. Promotes the conscientious operation of radiologic and fluoroscopic devices. Provides a complement to guided practice in operating the fluoroscopic device during clinical mentoring. Procedures and techniques to optimize image quality while reducing radiation exposure to patients, operator, and ancillary personnel.

**RTRA 388 Radiology Procedures and Image Evaluation IV (3)**

Provides a framework for various imaging procedures and the role of the radiologist assistant in the radiology department. Provides the framework for systematic observation of static, digital, X-sectional, and dynamic diagnostic images for the purpose of evaluating the presence of abnormalities, anomalies and pathological conditions.

**RTRA 424 Medical-Legal Issues in Radiology (1)**

Introduction to the legal system as it pertains to radiation sciences. Concepts such as malpractice, litigation, informed consent, assault, and battery.

**RTRA 425 Fluoroscopy and Radiation Protection (1)**

Focuses on the quality assurance and management aspects of fluoroscopy. Includes the following topics: fluoroscopic radiation exposure and protection techniques, technical management, operation of fluoroscopic equipment, and quality control.

**RTRA 426 Radiology Reporting (1)**

Student develops and organizes an imaging report for procedures performed under the supervision of a radiologist. Topics include learning to report, style guidelines, and the American College of Radiology guidelines for communication.

**RTRA 431 Pharmacology I (2)**

Surveys pharmacological agents currently used in medicine, including their kinetics, dynamics, and therapeutics. Places special emphasis on pharmaceuticals commonly used by and given to radiology patients, including contrast media, antineoplastic agents, and radioactive isotopes.

**RTRA 432 Pharmacology II (2)**

Surveys pharmacological agents currently used in medicine, including their kinetics, dynamics, and therapeutics. Places special emphasis on pharmaceuticals commonly used by and given to radiology patients, including contrast media, antineoplastic agents, and radioactive isotopes.

**RTRA 444 Pathophysiology (2)**

Covers the structures and function of human biology. Assists with developing skills of interpreting laboratory data and increasing understanding of the pathophysiology behind patient care.

**RTRA 446 Clinical Management and Education (2)**

Focuses on analyzing and interpreting physiological data to assist in patient assessment and management. Utilizes critical thinking, action plans, and protocols. Includes relationship-centered patient care, effective communication, and patient education. Introduces clinical pathways, multidisciplinary clinical practice, and a focus on quality and coordination of care.

**RTRA 451 Patient Assessment I (2)**

Assists with skills in interviewing, physical examination, and interpreting laboratory data. Increases understanding of the pathophysiology behind patient care. Emphasizes analysis and interpretation of physiological data to assist in patient assessment and management.

**RTRA 452 Patient Assessment II (2)**

Assists with developing skills in interviewing, physical examination, and interpreting laboratory data. Increases understanding of the pathophysiology behind patient care. Emphasizes analysis and interpretation of physiological data to assist in patient assessment and management.

**RTRA 471 Clinical Internship (2)**

A twelve-week, one day/week rotation for a total of 96 hours of mentored clinical experience. Focuses on a wide variety of competencies that enable students to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 472 Clinical Internship (5)**

An eleven-week, two-day/week rotation totaling 176 hours of mentored clinical experience. Focuses on a wide variety of competencies that enable students to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 473 Clinical Internship (6)**

An eleven-week, three days/week rotation totaling 264 hours. A mentored clinical experience during which students complete a wide variety of competencies that prepare them to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult, and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 474 Clinical Internship (7)**

Clinical internship (minimum of 264 clock hours). A mentored clinical experience, students during which students complete a wide variety of competencies that prepare them to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult, and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 476 Topics for the Radiologist Assistant (2)**

Surveys selected topics in the radiologist assistant scope of practice for credit toward the master's degree in radiologist assistant. Topics may include procedures, projects, or literature reviews.

**RTRA 484 Radiologist Assistant Research Project (2)**

Student completes a faculty-facilitated research project related to radiation sciences. Radiation sciences faculty must approve all projects.

**RTRA 485 Radiologist Assistant Research Project (2)**

The student completes a faculty-facilitated research project related to radiation sciences. Radiation sciences faculty must approve all projects.

**RTRA 486 Radiologist Assistant Research Project (2)**

The student completes a faculty-facilitated research project related to radiation sciences. Radiation sciences faculty must approve all projects.

**RTRA 488 Comprehensive Review (1)**

Review of the major content areas covered in the radiologist assistant program. Student evaluation and performance analysis accomplished.

**RTRA 491 Cross-sectional Anatomy I (1)**

Identifies normal and abnormal anatomy in two-dimensional as well as three-dimensional planes. Relates cross-sectional view of anatomy and pathology to radiology procedures.

**RTRA 492 Cross-sectional Anatomy II (1)**

Identifies normal and abnormal anatomy in two-dimensional as well as three-dimensional planes. Relates cross-sectional view of anatomy and pathology to radiology procedures.

**RTRA 521 Radiology Procedures and Image Evaluation I (3)**

Provides a framework for various imaging procedures and the role of the radiologist assistant in the radiology department. Provides the framework for systematic observation of static, digital, X-sectional, and dynamic diagnostic images for the purpose of evaluating the presence of abnormalities, anomalies, and pathological conditions.

**RTRA 522 Radiology Procedures and Image Evaluation II (3)**

Provides a framework for various imaging procedures and the role of the radiologist assistant in the radiology department. Provides the framework for systematic observation of static, digital, X-sectional, and dynamic diagnostic images for the purpose of evaluating the presence of abnormalities, anomalies, and pathological conditions.

**RTRA 523 Radiology Procedures and Image Evaluation III (3)**

Provides a framework for various imaging procedures and the role of the radiologist assistant in the radiology department. Provides the framework for systematic observation of static, digital, X-sectional, and dynamic diagnostic images for the purpose of evaluating the presence of abnormalities, anomalies, and pathological conditions.

**RTRA 524 Radiology Procedures and Image Evaluation IV (3)**

Provides a framework for various imaging procedures and the role of the radiologist assistant in the radiology department. Provides the framework for systematic observation of static, digital, X-sectional, and dynamic diagnostic images for the purpose of evaluating the presence of abnormalities, anomalies, and pathological conditions.

**RTRA 571 Clinical Internship IV (6)**

A thirteen-week, three days/week rotation totaling 312 hours of mentored clinical experience. Focuses on a wide variety of competencies that enable students to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult, and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 572 Clinical Internship V (6)**

An eleven-week, three days/week rotation totaling 264 hours of mentored clinical experience. Focuses on a wide variety of competencies that enable students to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult, and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 573 Clinical Internship VI (6)**

An eleven-week, three days/week rotation totaling 264 hours of mentored clinical experience. Focuses on a wide variety of competencies that enable students to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 574 Clinical Internship VII (6)**

An eleven-week, three days/week rotation totaling 264 hours of mentored clinical experience. Focuses on a wide variety of competencies that enable students to generate a report stating initial observations of diagnostic images on neonatal, pediatric, adult, and geriatric populations. Students utilize clinical contracts and a clinical portfolio.

**RTRA 588 Comprehensive Review (1)**

Review of the major content areas covered in the radiologist assistant program. Student evaluation and performance analysis accomplished.

**RTRA 591 Radiologist Assistant Research Project I (1)**

Student completes a faculty-facilitated research project related to radiation sciences. Radiation sciences faculty must approve all projects.

**RTRA 592 Radiologist Assistant Research Project II (2)**

Student completes a faculty-facilitated research project related to radiation sciences. Radiation sciences faculty must approve all projects.

**RTRA 593 Radiologist Assistant Research Project III (2)**

Student completes a faculty-facilitated research project related to radiation sciences. Radiation sciences faculty must approve all projects.

## **RADIATION TECHNOLOGY— RADIATION SCIENCES**

### **RTRS 584 Basics of Imaging Informatics (3)**

Provides knowledge and understanding of the practical operational and managerial issues essential to the radiology information system (RIS) and the picture archiving and communication system (PACS). Covers electronic storage and retrieval, transferring of files, security, QA and QC, trouble shooting, and a general overview of the filmless environment.

### **RTRS 595 Research and Statistics Concepts and Methods: Intermediate (3)**

In-depth study of research designs, including completely randomized designs and randomized block designs; and the statistical tests—such as ANOVA (one-way, repeated measures, factorial)—used to analyze the data. Introduces multiple linear regression and correlation, as well as model-building techniques. Interprets multivariate analysis computer output and hands-on statistical computer experience. Introduces nonparametric statistical tests and their appropriate use. Measures and analyzes data for validity and reliability studies. Evaluates research literature that uses multivariate analysis for data analysis.

### **RTRS 614 Professional Portfolio (3)**

Completion of a professional portfolio that contains evidence of the personal growth and learning that occurs while the student is progressing through the program. Reflection on the seven core values of Loma Linda University, leadership assessment results, and final papers or projects from student's course work. Student's reflections on the growth, insights, and application of knowledge gained while in the program.

### **RTRS 615 Advances in Technology: Educational and Managerial Issues (3)**

Student evaluates how the rapidly advancing technology in radiation sciences impacts the educational, managerial, and administrative realms. Student develops a project incorporating advancing technology to his/her specialty. Student evaluates how the rapidly advancing technology in radiation sciences impacts the educational, managerial, and administrative realms. Student develops a project incorporating advancing technology to his/her specialty.

### **RTRS 621 Capstone Project I (3)**

Student completes a faculty-facilitated research project related to leadership, management, administration, and education in health care. Radiation sciences faculty must approve all projects one quarter prior to enrollment in this course.

### **RTRS 622 Capstone Project II (3)**

Student completes a faculty-facilitated research project related to leadership, management, administration, and education in health care. Radiation sciences faculty must approve all projects one quarter prior to enrollment in this course.

## **RADIATION TECHNOLOGY—SPECIAL IMAGING**

### **RTSI 361 MRI Physics I (2)**

Two-part course dealing with basic principles, physics, imaging parameters, biological effects, management, and patient protocol of magnetic resonance imaging (MRI).

### **RTSI 362 MRI Physics II (2)**

Basic principles, physics, imaging parameters, biological effects, management, and patient protocol of magnetic resonance imaging (MRI).

Prerequisite: RTSI 361.

### **RTSI 364 Patient Care in Special Imaging (2)**

Overview of patient care in MRI and CT imaging. General aspects of patient care, pharmacology and drug administration, radiation safety. Examines some areas of radiology management. Prepares students for the additional areas required in the national registry for the specialty areas of CT and MRI.

### **RTSI 367 Cross-sectional Radiographic Anatomy (2)**

Overview of gross anatomy. Identifies normal anatomy in two-dimensional as well as three-dimensional planes. Relation of the structural as well as the physiological functions of the different body systems.

### **RTSI 369 CT Physics (2)**

Basic principles, physics, imaging parameters, radiological effects, management, and patient protocol of computed tomography (CT).

**RTSI 381 Topics in Special Imaging I (1-3)**

Surveys selected topics in special imaging. Procedure summaries, projects, literature reviews. May be taken concurrently with RTSI 971-973 for credit toward the baccalaureate degree.

**RTSI 382 Topics in Special Imaging II (1-3)**

Surveys selected topics in special imaging. Procedure summaries, projects, literature reviews. May be taken concurrently with RTSI 971-973 for credit toward the baccalaureate degree.

**RTSI 383 Topics in Special Imaging III (1-3)**

Surveys selected topics in special imaging. Procedure summaries, projects, literature reviews. May be taken concurrently with RTSI 971-973 for credit toward the baccalaureate degree.

**RTSI 389 Special Project (1)**

Student submits project in the form of a paper or a visual aid representing a topic of current interest in an area related to radiation sciences. Regular meetings provide guidance to the student.

**RTSI 391 CVI Internship I (3)**

Advanced clinical training for qualified CRT, ARRT-certified individuals with current CPR and fluoroscopy permit. Three quarters (nine months) of clinical time in the areas of cardiovascular/general angiography and interventional radiography. Full-time (40 hours/week), clinical-learning experience.

**RTSI 401 Advanced Clinical Procedures I (3)**

Credit for full-time, postcertification clinical practice in a radiology service. Periodic evaluations by the clinical supervisor.

**RTSI 402 Advanced Clinical Procedures II (3)**

Credit for full-time, postcertification clinical practice in a radiology service. Periodic evaluations by the clinical supervisor.

**RTSI 403 Advanced Clinical Procedures III (3)**

Credit for full-time, postcertification clinical practice in a radiology service. Periodic evaluations by the clinical supervisor.

**RTSI 404 Advanced Clinical Procedures IV (3)**

Credit for full-time, postcertification clinical practice in a radiology service. Periodic evaluations by the clinical supervisor.

**RTSI 971 Special Imaging (CT/MRI) Affiliation I (10)**

A ten-week, four days/week clinical rotation totaling 320 hours of clinical experience in CT (computerized tomography) and MRI (magnetic resonance imaging) covering a wide variety of technical procedures.

**RTSI 972 Special Imaging (CT/MRI) Affiliation II (10)**

An eleven-week, four days/week clinical rotation totaling 320 hours of clinical experience in CT (computerized tomography) and MRI (magnetic resonance imaging) covering a wide variety of technical procedures.

**RTSI 973 Special Imaging (CT/MRI) Affiliation III (10)**

A ten-week, four days/week rotation totaling 320 hours of clinical experience in CT (computerized tomography) and MRI (magnetic resonance imaging) covering a wide variety of technical procedures.

**RTSI 992 CVI Internship II (12)**

Advanced clinical training for qualified CRT, ARRT-certified individuals with current CPR and fluoroscopy permit. Three quarters (nine months) of clinical time in the areas of cardiovascular/general angiography and interventional radiography. Full-time (40 hours/week), clinical-learning experience.

**RTSI 993 CVI Internship III (12)**

Advanced clinical training for qualified CRT, ARRT-certified individuals, with current CPR and fluoroscopy permit. Three quarters (nine months) of clinical time in the areas of cardiovascular/general angiography and interventional radiography. Full-time (40 hours/week), clinical-learning experience.

**RADIATION TECHNOLOGY—  
RADIATION THERAPY****RTTH 332 Radiation Biology (1)**

The effects of radiation on living systems.

**RTTH 342 Patient-Care Practices in Radiation Therapy (2)**

Aspects of radiation therapy patient care. Emphasizes equipment, treatment, and psychological support of the patient. Transmission and prevention of AIDS and other communicable diseases, with specific application to radiation therapy.

**RTTH 344 Radiation Therapy Procedures (2)**

Study and/or practical applications of patient support and immobilization devices. Principles of choosing patient-treatment modalities. Methods of tumor localization. Purposes and utilization of beam direction and modification equipment.

**RTTH 345 Quality Assurance in Radiation Therapy (1)**

General aspects of continuous quality improvement (CQI) and specific aspects of quality management as they relate to the Department of Radiation Therapy. Examines the comprehensive nature of a quality-management program, and quantification of the radiation therapist's role on the CQI team.

**RTTH 348 Radiation Therapy Review (1)**

Comprehensively reviews radiation physics, protection, and dosimetry. Applies radioactive materials. Radiobiology. Technical aspects of radiation oncology.

**RTTH 353 Psycho-Oncology (2)**

Examines potential psychological effects of malignant disease on the patient and family. The patient's emotional responses to the initial diagnosis, and methods of coping and adapting to the disease and its treatment. Role of the radiation therapist as a member of the patient's emotional-support team.

**RTTH 355 Physical Principles of Radiation Therapy I (3)**

Nature and description of the structure of matter and energy. Radioactive decay schemes and interaction of photons and gamma radiation. Instrumentation involved in measurement of ionizing radiation, beam quality, and dose. Laboratory.

**RTTH 356 Physical Principles of Radiation Therapy II (3)**

Discusses the following areas: calibration techniques of photon, particulate, and electron beams; percentage depth dose, tissue-air ratios, treatment planning, scatter functions, field flatness, and symmetry; field shaping, arc therapy, and tissue inhomogeneities; and clinical dosimetric considerations. Includes laboratory.

**RTTH 357 Applied Dosimetry (2)**

Brachytherapy sources, isotope calibration, protection, and implantation techniques. Teletherapy equipment and protection. Quality assurance for external and brachytherapy procedures. Laboratory.

**RTTH 358 Advanced Dosimetry (3)**

Develops student's ability to construct treatment plans using the 3-D planning system. Integrates theory with practice. Student completes a number of plans that utilize all major treatment techniques

Prerequisite: RTTH 357; or equivalent.

**RTTH 364 Radiation Oncology I (2)**

A three-term course covering pathology, etiology, epidemiology, histopathology, metastasis, staging, and treatment of major types of malignant neoplasms. Includes technique / simulation laboratory.

**RTTH 365 Radiation Oncology II (2)**

A three-term course covering pathology, etiology, epidemiology, histopathology, metastasis staging, and treatment of major types of malignant neoplasms.

Prerequisite: RTTH 364.

**RTTH 366 Radiation Oncology III (2)**

The third in a three-quarter course covering pathology, etiology, epidemiology, histopathology, metastasis, staging, and treatment of major types of malignant neoplasms.

Prerequisite: RTTH 364, RTTH 365.

**RTTH 381 Topics in Radiation Therapy I (1-3)**

Surveys selected topics in radiation therapy. Procedure summaries, projects, literature reviews. May be taken concurrently with RTTH 971-974 for credit toward the baccalaureate degree.



**RTTH 382 Topics in Radiation Therapy II (1-3)**

Surveys selected topics in radiation therapy. Procedure summaries, projects, literature reviews. May be taken concurrently with RTTH 971-974 for credit toward the baccalaureate degree.

**RTTH 383 Topics in Radiation Therapy III (1-3)**

Surveys selected topics in radiation therapy. Procedure summaries, projects, literature reviews. May be taken concurrently with RTTH 971-974 for credit toward the baccalaureate degree.

**RTTH 384 Topics in Radiation Therapy IV (1-3)**

Surveys selected topics in radiation therapy. Procedure summaries, projects, literature reviews. May be taken concurrently with RTTH 971-974 for credit toward the baccalaureate degree.

**RTTH 401 Advanced Clinical Procedures I (3)**

Credit for full-time, postcertification clinical practice in a radiation therapy service. Periodic evaluations by the clinical supervisor.

**RTTH 402 Advanced Clinical Procedures II (3)**

Credit for full-time, postcertification clinical practice in a radiation therapy service. Periodic evaluations by the clinical supervisor.

**RTTH 403 Advanced Clinical Procedures III (3)**

Credit for full-time, postcertification clinical practice in a radiation therapy service. Periodic evaluations by the clinical supervisor.

**RTTH 404 Advanced Clinical Procedures IV (3)**

Credit for full-time, postcertification clinical practice in a radiation therapy service. Periodic evaluations by the clinical supervisor.

**RTTH 971 Radiation Therapy Affiliation I (8)**

The first of a three-course sequence totaling twelve months of clinical experience covering a wide variety of technical procedures. Clock hours: 288.

**RTTH 972 Radiation Therapy Affiliation II (8)**

Continues RTTH 971. Clock hours: 264.

**RTTH 973 Radiation Therapy Affiliation III (8)**

Continues RTTH 971, 972. Clock hours: 264.

**RTTH 974 Radiation Therapy Affiliation IV (8)**

Continues RTTH 971-973 (264 clock hours).

**RTTH 975 Radiation Therapy Affiliation V (12)**

Continues RTTH 971-974 (418 clock hours).

Prerequisite: RTTH 971, RTTH 972, RTTH 973, RTTH 974.

**PHARMACY PRACTICE-DRUG INFORMATION****RXDI 664 Drug Information and Literature Evaluation (3)**

Introduces drug information resources. Trains students to retrieve and critically evaluate literature related to providing pharmaceutical care to patients. Introduces multiple forms of drug literature, including primary, secondary, tertiary, and Internet resources. Trains students to document drug information requests and report adverse drug reactions. Discusses issues related to herbal medicine and alternative therapeutic options. Using knowledge obtained through classroom course assignments, students examine published information to answer common drug information questions.

**PHARMACY PRACTICE—EXPERIENTIAL EDUCATION****RXEE 562 Pharmacist Guided Self-Care 1 (3)**

Familiarizes the student with nonprescription health care products. Emphasizes patient assessment, indicated medical conditions, pharmacology, product selection, self-administration techniques, and patient counseling/follow-up. Lecture/discussion simulates patient encounters.

Prerequisite: P1, Winter Quarter standing.

**RXEE 563 Pharmacist Guided Self-Care 2 (3)**

Familiarizes the student with nonprescription health care products. Emphasizes patient assessment, indicated medical conditions, pharmacology, product selection, self-administration techniques, and patient counseling/follow-up. Lecture/discussion simulates patient encounters.

Prerequisite: RXEE 562; successful completion of RXEE 562; and P1, Spring Quarter standing.

**RXEE 591 Introduction to Community Pharmacy Practice I (2)**

Part of a two-course sequence for practical exposure to community pharmacy practice. Student learns through practicum and reflection the basic skills required in community pharmacy practice

**RXEE 592 Introduction to Community Pharmacy Practice II (2)**

Part of a two-course sequence for practical exposure to community pharmacy practice. Student learns basic skills required in community pharmacy practice through practicum and reflection.

**RXEE 690 Introduction to Hospital Pharmacy Practice (2)**

Exposes students to the various clinical, administrative, and distributive roles and responsibilities of a hospital pharmacist.

Prerequisite: P2 standing.

**RXEE 790 Introduction to Clinical Pharmacy Practice (1)**

Exposes students to a variety of clinical pharmacy services—including ambulatory care, medicine, and a number of specialty practice areas.

Prerequisite: P3 standing.

**RXEE 806 Advanced Clinical Community Practice (6)**

Supervised clinical pharmacy-practice experience that provides advanced pharmaceutical care skills and opportunities in the area of community practice.

**RXEE 807 Academia and Research (6)**

Supervised education that provides additional experiences in the combined areas of academia and research.

**RXEE 808 Clinical Outcomes and Pharmacy Practice Research (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care and research skills in the area of clinical outcomes and pharmacy practice.

**RXEE 809 Clinical Simulation (6)**

Supervised education that provides additional experiences in the area of clinical simulation of pharmacy practice and pharmacotherapy.

**RXEE 810 Research/Psychiatry (6)**

Supervised education and experiences emphasizing the development of research and pharmaceutical care skills in the area of psychiatry.

**RXEE 856 Medicine (6)**

Supervised clinical pharmacy experience emphasizing the development of pharmaceutical care skills in an adult, acute care, inpatient setting.

**RXEE 857 Hospital Practice (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care and medication-distribution skills in an inpatient setting.

**RXEE 858 Ambulatory Care (6)**

Supervised clinical pharmacy experience emphasizing the development of pharmaceutical care skills in ambulatory patient care setting.

**RXEE 859 Clinical Community (6)**

Supervised clinical pharmacy experience emphasizing the development of pharmaceutical care skills in a community pharmacy (chain or independent) environment.

**RXEE 860 Dermatology (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of dermatology.

**RXEE 861 Gastroenterology/Hepatology (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty areas of gastroenterology and hepatology.

**RXEE 862 Health Policy (6)**

Preceptor-supervised education that provides additional experience in the area of health policy.

**RXEE 863 Investigational Drugs (6)**

Preceptor-supervised education that provides additional experience in the area of investigational drugs.

**RXEE 864 Ophthalmology (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of ophthalmology.

**RXEE 865 State/National Pharmacy Associations (6)**

Preceptor-supervised education that provides additional experience in the area of state/national pharmacy association administration.

**RXEE 868 Drug Information (6)**

Supervised education that provides additional experience in the area of drug information.

**RXEE 869 Academia (6)**

Supervised education that provides additional experience in the area of academia.

**RXEE 870 Administration/Management (6)**

Supervised education that provides additional experience in the area of administration and/or management in a health-care system or other inpatient environment.

**RXEE 871 Cardiology (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of cardiology.

**RXEE 872 Research (6)**

Preceptor-supervised education that provides additional experience in the area of research.

**RXEE 873 Long Term Care (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of long-term care.

**RXEE 874 Infectious Disease (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of infectious disease.

**RXEE 875 Neurology (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of neurology.

**RXEE 876 Nuclear Pharmacy (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of nuclear pharmacy.

**RXEE 877 Nutrition (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of nutrition.

**RXEE 878 Oncology (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of oncology.

**RXEE 879 Obstetrics/Gynecology (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of obstetrics and gynecology.

**RXEE 880 Pharmacokinetics (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of pharmacokinetics.

**RXEE 881 Pharmaceutical Industry (6)**

Preceptor-supervised education that provides additional experience in the area of pharmaceutical industry.

**RXEE 882 Pain Management (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of pain management.

**RXEE 883 Managed Care (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of managed care.

**RXEE 884 Pediatric Transplant (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of pediatric transplant.

**RXEE 885 Pediatrics/Neonatology (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty areas of pediatrics and neonatology.

**RXEE 886 Home Health Care (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of home health care.

**RXEE 887 Geriatrics (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of geriatrics.

**RXEE 888 Compounding (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of compounding.

**RXEE 889 Specialty Independent (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of specialty independent practice.

**RXEE 890 Psychiatry (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of psychiatry.

**RXEE 891 Emergency Medicine and Trauma (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of emergency medicine and trauma.

**RXEE 892 Pharmacoeconomics and Outcomes Research (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of pharmacoeconomics and outcomes research.

**RXEE 893 Pharmacy Systems/Technology (6)**

Preceptor-supervised education that provides additional experience in the areas of pharmacy systems and technology.

**RXEE 894 Transplant (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of transplant.

**RXEE 895 Critical Care (6)**

Supervised pharmacy experience emphasizing the development of pharmaceutical care skills in the specialty area of critical care.

**RXEE 896 Poison Control and Toxicology (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of poison control and toxicology.

**RXEE 897 Public Health Service (6)**

Preceptor-supervised education that provides additional experience in the area of public health service.

**RXEE 898 Nephrology (6)**

Preceptor-supervised pharmacy-practice experience that emphasizes the development of pharmaceutical care skills in the specialty area of nephrology.

**PHARMACY PRACTICE—  
PHARMACEUTICAL CARE****RXPC 561 Pharmaceutical Care I (4)**

The first in a sequence of three courses that uses early practice experiences to expose students to career opportunities and issues currently shaping the profession. Introduces foundational concepts and attitudes—balanced with real-world observation—necessary to understand the practice of pharmaceutical care, the essence of being a professional, and the challenges of applying these ideals. Designed to instill a sense of professionalism, promote positive practice philosophies, develop relationships with practitioners, evaluate potential career paths, and foster appreciation for the lifelong-learning nature of pharmacy. Substantial organized, early practice experiences reinforce knowledge and skills taught in didactic course work and encourage reflection. Oral and written communication practice through presentations and class discussions. Students required to learn the top 200 drugs by brand and generic names, therapeutic and drug classifications, and manufacturer.

**RXPC 756 Women's Health (3)**

Develops a deeper understanding of issues related specifically to women's health. Reviews anatomy, physiology, pharmacology, pharmacokinetics, pharmacotherapy, and clinical-trial evidence as they relate to women's health. Enables students to integrate their knowledge of these disciplines in the context of formulating individualized pharmacotherapeutic plans.

**RXPC 760 Clinical Pharmacokinetics (2)**

Focuses on initiating and adjusting individualized drug dosages for selected medications based on patient demographics, organ function, concomitant medications, disease states, and measured drug-plasma levels. Addresses altered drug disposition in special patient populations, i.e., pediatrics, geriatrics, and the obese. Challenges students to critically apply mathematical modeling and clinical pharmacotherapy knowledge at higher levels of sophistication. Students apply knowledge acquired in classroom to longitudinal case study while following patients in the pharmaceutical care laboratory.

Prerequisite: P3 standing.

**RXPC 761 Pharmaceutical Care Laboratory I (4)**

The first of three quarters of laboratory course work that familiarizes students with and educates them about major issues in contemporary pharmacy practice. Teaches the important roles of the pharmacist in drug-therapy management—including evaluating patient medication profiles, monitoring patient outcomes, patient counseling, and disease-state management. Stresses the application of appropriate communication and computer skills in conjunction with these activities. Emphasizes the role of the pharmacist as a health educator. Student gains experience in other practical situations—such as drug-administration techniques, devices, and compounding techniques.

**RXPC 762 Pharmaceutical Care Laboratory II (3)**

The second of three quarters of laboratory course work that familiarizes students with and educates them about major issues in contemporary pharmacy practice. Teaches the important roles of the pharmacist in drug-therapy management—including evaluating patient medication profiles, monitoring patient outcomes, patient counseling, and disease-state management. Stresses the application of appropriate communication and computer skills in conjunction with these activities. Emphasizes the role of the pharmacist as a health educator. Student gains experience in other practical situations—such as drug-administration techniques, devices, and compounding techniques.

Prerequisite: RXPC 761. Corequisite: RXPS 715, RXTH 771, RXTH 772.

**RXPC 763 Pharmaceutical Care Laboratory III (4)**

The third of three quarters of laboratory course work that familiarizes students with and educates them about major issues in contemporary pharmacy practice. Teaches the important roles of the pharmacist in drug-therapy management—including evaluating patient medication profiles, monitoring patient outcomes, patient counseling, and disease-state management. Stresses application of appropriate communication and computer skills in conjunction with these activities. Student gains experience in other practical situations—such as drug-administration techniques, devices, and compounding techniques.

Prerequisite: RXPC 762; P3, SQ standing.

**PHARMACEUTICAL SCIENCES****RXPS 511 Pharmaceutics I (3)**

The first in a series of three courses that presents the physicochemical and biological factors affecting the stability, kinetics, bioavailability, and bioequivalence of drugs in dosage forms. Applies this knowledge to dosage form design, formulation, and drug-delivery systems. Focuses on the theory, technology, formulation, evaluation, and dispensing of solid, semisolid, and liquid dosage forms. Laboratory sessions involve students in the preparation and evaluation of dosage forms.

**RXPS 512 Pharmaceutics II (4)**

Surveys conventional dosage forms—including oral, topical, and parenteral medications—with emphasis on formulation, preparation, and effectiveness. Continues RXPS 511.

**RXPS 513 Pharmaceutics III (3)**

Studies the mathematical, physicochemical, and biological principles concerned with the formulation, preparation, and effectiveness of pharmaceutical dosage forms. Continues RXPS 512.

Prerequisite: RXPS 512.

**RXPS 515 Pharmaceutics Laboratory I (.5)**

Laboratory designed for the student to apply pharmaceutical principles and to develop proficiency when compounding selected formulations and employing aseptic techniques.

Prerequisite: RXPS 511. Corequisite: RXPS 512.

**RXPS 516 Pharmaceutics Laboratory II (.5)**

Continues RXPS 515.

Prerequisite: RXPS 510, RXPS 515. Corequisite: RXPS 513.

**RXPS 524 Physiology I (3)**

The first in a sequence of three courses. Covers the nervous, endocrine, and urinary systems. Focuses on physiological processes required for maintenance of whole-body homeostasis. Presentation of anatomical relationships and structures serves to support the physiological topics discussed. Emphasizes targets for pharmaceutical intervention and the relationship between biochemical processes and drug metabolism and action.

**RXPS 525 Physiology II (3)**

The second in a sequence of three courses. Covers the gastrointestinal, cardiovascular, and respiratory systems. Focuses on the physiological processes required for maintenance of whole-body homeostasis. Presentation of anatomical relationships and structures serves to support the physiological topics discussed. Emphasizes targets for pharmaceutical intervention and the relationship between biochemical processes and drug metabolism and action.

**RXPS 526 Physiology III (3)**

The third in a sequence of three courses. Introduces pathophysiological processes involved in the development and progression of important diseases. Discusses diabetes, metabolic syndrome, cardiovascular disease, HIV infection/AIDS, and cancer. Reviews basic science concepts from a variety of courses completed in previous quarters. Lectures supported with handouts of current scientific literature. Practical training on glucose monitoring and blood pressure screening.

**RXPS 571 Immunology (3)**

The first in a two-course sequence that provides an overview of the host-parasite interaction in infectious diseases. Integrates the basic concepts of the immune response to infectious agents, and the role of immune response in disease; as well as the principles of medical microbiology. Covers basic knowledge of microbial taxonomy, growth, metabolism, reproduction, and genetic variation in sufficient detail for students to understand interactions between host and pathogenic microorganisms in infectious diseases. Emphasizes the rational management, prevention, and control of infectious diseases. Discusses immunologic diseases (e.g., AIDS, SLE, RA) and their therapeutic management. Covers diagnostic procedures.

**RXPS 581 Biochemistry I (3)**

The first in a two-part series that addresses the structure-function relationships of major biomolecules; enzymes in biochemistry; human energy metabolism; and major pathways for human protein, carbohydrate, and lipid metabolism. Discusses important organic functional groups, nomenclature and physical properties, characteristic reactions, stereochemistry, and acid-base properties that are important considerations for drug action. Emphasizes principles of biochemistry as they relate to pH and buffers; hemostasis; enzyme functions; regulation of intermediary metabolism; chemical signaling; and interconversions in the living system, including the role of vitamins, hormones, and enzyme inhibitors. Discusses biotechnological advances, when appropriate.

**RXPS 582 Biochemistry II (3)**

The second in a two-part series that addresses the structure-function relationships of major biomolecules; enzymes in biochemistry; human energy metabolism; and major pathways for human protein, carbohydrate, and lipid metabolism. Discusses important organic functional groups, nomenclature and physical properties, characteristic reactions, stereochemistry, and acid-base properties that are important considerations for drug action. Emphasizes principles of biochemistry as they relate to pH and buffers; hemostasis; enzyme functions; regulation of intermediary metabolism; chemical signaling; and interconversions in the living system, including the role of vitamins, hormones, and enzyme inhibitors. Discusses biotechnological advances, when appropriate.

**RXPS 610 Pharmacokinetics (4)**

Teaches the basic principles of absorption, distribution, metabolism, and elimination of drugs from the body. Focuses on physical, physiological, and biochemical factors that impact these processes. Includes clinical pharmacokinetics principles and practical examples in the recitation periods.

Prerequisite: Successful completion of all P1-level courses and P2; AQ standing.

**RXPS 611 Medicinal Chemistry I (3)**

The first in a three-course sequence that focuses on the chemistry of natural and synthetic drug entities—their physiochemical properties, methods of synthesis, sources, derivatives, modes of biotransformation, and structure-activity relationships. Links the chemical structure of drugs to their pharmacological / pharmacokinetic / toxicity profiles.

Prerequisite: Successful completion of all P1-level courses and P2; AQ standing.

**RXPS 612 Medicinal Chemistry II (3)**

The second in a three-course sequence that focuses on the chemistry of natural and synthetic drug entities—their physiochemical properties, methods of synthesis, sources, derivatives, modes of biotransformation, and structure-activity relationships. Links the chemical structure of drugs to their pharmacological / pharmacokinetic / toxicity profiles.

Prerequisite: RXPS 611.

**RXPS 613 Medicinal Chemistry III (3)**

Principles governing radiation production and safety relative to radiographic anatomy / dental materials. Fundamentals of intraoral and extraoral techniques, darkroom procedures, and mounting of radiographs. Practical application of techniques.

Prerequisite: RXPS 612. Corequisite: RXTH 683.

**RXPS 620 Microbiology (3)**

Provides an overview of the host-parasite interaction in infectious diseases. Builds on the concepts developed in immunology, as well as the principles of medicinal microbiology. Covers basic knowledge of microbial taxonomy, growth, metabolism, reproduction, and genetic variation in sufficient detail for the student to understand interactions between the host and pathogenic microorganisms in infectious diseases. Emphasizes rational management, prevention, and control of infectious diseases. Covers diagnostic procedures.

Prerequisite: P2 standing.

**RXPS 651 Principles of Medicinal Chemistry I (3)**

The first in a three-course sequence that focuses on the chemistry of drug entities. Effects of a drug's chemistry on its various properties, such as pharmacology, toxicology, absorption, distribution, metabolism, excretion, mechanism of action, drug-drug interactions, dosage form formulation(s), stability, cost, and use.

**RXPS 652 Principles of Medicinal Chemistry II (4)**

The second in a three-course sequence that focuses on the chemistry of drug entities. Effects of a drug's chemistry on its various properties, such as pharmacology, toxicology, absorption, distribution, metabolism, excretion, mechanism of action, drug-drug interactions, dosage form formulation(s), stability, cost, and use.

Prerequisite: RXPS 651.

**RXPS 653 Principles of Medicinal Chemistry III (3)**

The third in a three-course sequence that focuses on the chemistry of drug entities. Effects of a drug's chemistry on its various properties, such as pharmacology, toxicology, absorption, distribution, metabolism, excretion, mechanism of action, drug-drug interactions, dosage form formulation(s), stability, cost, and use.

Prerequisite: RXPS 652.

**RXPS 710 Dietary Supplements (3)**

Introduces students to the use of dietary manipulations—including herbals and other supplements—in patient health. Includes legal, biochemical, and formulation issues; benefits and risks of specific agents; and interactions with pharmaceutical treatment.

**RXPS 714 Medicinal Chemistry IV (3)**

The fourth in a six-course sequence. Focuses over a two-year period on the chemistry of natural and synthetic drug entities—their physiochemical properties, methods of synthesis, sources, derivatives, modes of biotransformation, and structure-activity relationships. Links the chemical structure of drugs to their pharmacological/pharmacokinetic/toxicity profiles.

**RXPS 715 Medicinal Chemistry V (2)**

Focuses on enzyme and nucleic acid targets for drugs that are involved with various aspects of chemotherapy; antimicrobial, antiviral, antifungal, antiparasitic, and cancer chemotherapy. Emphasizes mechanism of action and aspects of toxicity of these agents.

Prerequisite: RXPS 714 and P3, WQ standing.

**RXPS 716 Medicinal Chemistry VI (2)**

Completes the consideration of drugs acting on enzyme targets involved with chemotherapy. Considers other drug categories, including drugs interacting with the immune system, both immunostimulants and immunosuppressants; as well as miscellaneous targets involved with diseases, such as osteoarthritis, erectile dysfunction, osteoporosis, and allergic conditions.

Prerequisite: RXPS 715; P3 SQ standing.

**RXPS 717 Introduction to Traditional Chinese Medicine (3)**

Introduces traditional Chinese medicine—a term used to describe a predominantly preventive system of health care that goes beyond specific medical practices to an integration of wellness with all other aspects of life. Familiarizes the student with this alternative world view, which may in many ways serve as a model for current, counseling-intensive pharmacy practice.

Prerequisite: P3 standing.

**RXPS 718 Clinical Toxicology (3)**

Discusses potential toxicity as an intrinsic feature of pharmacy practice. Emphasizes understanding of basic principles of toxicology that can be applied to any toxic emergency that may arise. Focuses on possible toxic effects/consequences, of which the pharmacist should be aware, of drugs and other products sold in pharmacies. Discusses treatment of toxicity, which may require antidotes that the pharmacist will be required to provide.

**RXPS 720 Novel Anticancer Drug Targets (1)**

Provides insight into newly developed anticancer drugs and novel developments in cancer therapeutics.

**RXPS 730 Current Topics in Medicinal Chemistry and Drug Design (1)**

Focuses on discovery and design of new drugs for new therapeutic targets, and on development of new approaches for treatment of diseases.

**PHARMACY CONJOINT****RXRX 501 School of Pharmacy Forum (0)**

Offered each quarter throughout the four-year program. Weekly meetings to provide opportunity for presentations and discussions on current topics affecting pharmacy, health care, and students' career paths. Serves as a forum for students to network and be informed of activities and developments within the School of Pharmacy and Loma Linda University. Exposes students to leaders within the profession, reputable practitioners from various settings, top researchers, and other renowned individuals who discuss important issues, career opportunities, latest research results, and the practice of pharmacy.

**RXRX 506 Introduction to Pharmacy Leadership (1)**

Offers academic credit for activities related to leadership development associated with the California Pharmacy Student Leadership Program. Strengthens leadership behavior. Students invited to take part in this program must register for this course and complete it as a condition of their participation. May be repeated once for a maximum of 2 units.

Prerequisite: Permission of the Office of Student Affairs; PY-1 SQ professional year standing.

**RXRX 507 Professional Development (0)**

Emphasizes the vital role of pharmacy's professional organizations by providing a vehicle within the School of Pharmacy's formal curriculum for student participation. Develops students' leadership abilities and cultivates their input on issues affecting the profession. Offered each quarter throughout the four-year program

Prerequisite: P1 standing.



**RXXR 601 School of Pharmacy Forum (0)**

Weekly meetings provide opportunity for presentations and discussions on topics currently affecting pharmacy, health care, and students' career paths. Serves as a forum for students to network and be informed of activities and developments within the School of Pharmacy and Loma Linda University. Exposes students to leaders within the profession, reputable practitioners from various settings, top researchers, and other renowned individuals who will discuss important issues, career opportunities, latest research results, and the practice of pharmacy. Offered each quarter throughout the four-year program.

Prerequisite: P2; AQ standing.

**RXXR 604 Professional Development (0)**

Emphasizes the vital role of pharmacy's professional organizations by providing a vehicle within the School of Pharmacy's formal curriculum for student participation. Develops students' leadership abilities and cultivates their input on issues affecting the profession. Offered each quarter throughout the four-year program.

Prerequisite: P2 standing.

**RXXR 701 School of Pharmacy Forum (0)**

Required weekly meetings provide opportunity for presentations and discussions on current topics affecting pharmacy, health care, and students' career paths. Serves as a forum for students to network and be informed of activities and developments within the School of Pharmacy and Loma Linda University. Exposes students to leaders within the profession, reputable practitioners from various settings, top researchers, and other renowned individuals who will discuss important issues, career opportunities, latest research results, and the practice of pharmacy. Repeated through the third professional year. Offered each quarter throughout the four-year program.

**RXXR 704 Professional Development (0)**

Emphasizes the vital role of pharmacy's professional organizations by providing a vehicle within the School of Pharmacy's formal curriculum for student participation. Augments the development of students' leadership abilities and cultivates their input on issues affecting the profession. Permits project leaders and committee chairs a set time to meet and to provide an opportunity for all classes to network with each other. Repeated through the third professional year.

**RXXR 711 Formulary Management, Part I (1)**

The first of a two-quarter elective course that introduces students to concepts in formulary management. A lecture series that includes the following topics: pharmacoeconomics, drug information, clinical biostatistics, and therapeutics.

**RXXR 712 Formulary Management, Part II (2)**

The second of a two-quarter elective course that introduces students to applications in formulary management. Consists of independent study in preparation for four projects and two presentations. Assessment based on criteria set forth by specific guidelines and evaluation tools determined by faculty. Offered Winter Quarter.

Prerequisite: RXXR 711.

**RXXR 798 Independent Study with Faculty (1-4)**

Individual student research or project directly mentored by a faculty member. Must include a half-page description of the research or project and associated budget (if any), and must specify the means of assessment of the student's achievement of the research or project requirements. Requires approval of the respective department chair and the student's faculty advisor. May be repeated to a total of 4 units toward the 9-unit elective requirement.

Prerequisite: P2 standing and approval of the project by the respective department chair and the student's faculty advisor.

**RXXR 899 Reconnections (3)**

Provides fourth-year pharmacy students with a formal board-review experience, as well as other didactic content that will assist them in their transition into the professional workforce. Gives students the opportunity to provide formal feedback to the program regarding their experience with the curriculum and other components that comprise the Doctor of Pharmacy Program.

Prerequisite: P4 year students only.

**PHARMACY—SOCIAL AND ADMINISTRATIVE SCIENCES****RXSA 545 Public Health and Lifestyles (3)**

Introduces the first-year pharmacy student to fundamental principles of public health and public health practice, as well as to how pharmacy practice interfaces with public health delivery in a variety of settings. Student identifies and evaluates public health education and health promotion programs, as well as identifies where the pharmacist plays a significant role in ensuring the conditions under which all peoples can be healthy. Introduces the student to the fundamentals of public health principles and practice, while examining how the pharmacist is an integral player to public health-systems delivery and practice.

**RXSA 547 Pharmacy Law (3)**

Reviews basic principles of pharmacy law as they relate to the practice under federal, state, and local regulations. Reviews special problems involving the control of narcotics, poisons, and other controlled substances. Discusses laws relative to business activities and professional ethics as related to the law.

**RXSA 640 Epidemiology and Biostatistics (3)**

Introduces epidemiology, basic statistical concepts, analytical methods, and medical literature-evaluation techniques. Exposes students to biostatistical concepts through clinical application of statistics, using SPSS7 or other currently available statistical packages.

Prerequisite: Successful completion of all P1-level courses; P2; AQ standing.

**RXSA 646 Principles of Management (3)**

Introduces pharmacy students to the five core managerial sciences, i.e., human resource management, operations management, marketing, accounting, and finance. Particularly emphasizes human resource management and operations management skills. Lectures incorporate real-life management cases for discussion, followed by lecture on the principles of management topics.

**RXSA 743 Health Systems, Reimbursement, and Pharmacoeconomics (3)**

Presents fundamental concepts of health outcomes research and pharmacoeconomic analysis, and provides a basic framework to optimize health care resource allocation. Discusses principles of measuring and analyzing costs and outcomes and techniques used to evaluate them across drug treatments. Includes various interactive group assignments to illustrate the methodologies discussed in lecture. Reviews current practice guidelines for pharmacoeconomic evaluation and describes "real world" contexts in which pharmacoeconomic research is conducted. Reviews the structure of the American health system and the role that pharmacists play in it. Presents and evaluates basic concepts of drug reimbursement and clinical pharmacy reimbursement for different pharmacy practice settings.

**RXSA 747 Social, Administrative, and Behavioral Sciences Advanced Seminar (3)**

Offers opportunity to research a health care administrative principle, concept, and/or trend currently impacting the profession of pharmacy. Exploratory aspects of the course require students to perform and complete a project related to a social, administrative, and behavioral sciences principle, concept, or trend that currently impacts the profession of pharmacy. Analytical aspects of the course require students to participate in weekly briefings that discuss traditional and controversial pharmacy administration issues.

**RXSA 748 Advanced Topics in Pharmacy Law (3)**

An elective course that examines specific pharmacy law topics in depth, using legal case studies and probing class discussions. Explores pharmacists' liability issues, the drug-approval process, pharmacists' moral/ethical obligations, antitrust, drug importation, and scope of practice.

Prerequisite: P3; AQ standing; and permission of instructor.

**RXSA 749 Cases in the Pharmaceutical Industry (3)**

Studies and discusses the pharmaceutical industry in four major areas of business—fundamentals of marketing, corporate finance, management, and leadership. Analyzes the industry's decision-making process for each industry. Provides students with substantial knowledge in business and management topics comparable in depth and breadth to M.B.A. courses in business schools. Teaches the inner workings of the industry with which students will be involved during their careers.

**RXSA 750 Wall Street Journal (1)**

Students read selected Wall Street Journal health-related articles and discuss the events that have resulted in news coverage each week in the areas of pharmaceutical/biotechnology, providers/insurance, research, policy, and medical products.

**RXSA 751 Social-Behavioral Aspects of Pharmacy Practice (3)**

The first of a two-course sequence that examines and focuses on models and theories of behavior change. Particular focus on primary models of behavior change relative to public health, health education, preventive health, health promotion, and pharmacological practice. From a combination of pharmacological and public health practice, student gains a broad understanding of the various models and theories that may enhance understanding of how health behavior-change models and theories can be applied to assessing a patient's level of behavior change. Students use knowledge to meet the individual needs of the patient.

**RXSA 754 Social and Behavioral Aspects of Chronic Disease Management (3)**

Examines the concepts and constructs of health behavior change models and theories presented in RXSA 751 Social and Behavioral Aspects of Pharmacy Practice. Presents students with real-world clinical cases and scenarios, as well as with integrated clinical rotations in the course—providing them opportunities to apply knowledge from their didactic lecture material to practical hands-on clinical cases they may encounter during clinical rotations. Provides students with practical and functional knowledge of health behavior-change models and theories as they are applied to clinical pharmacy practice.

Prerequisite: RXSA 751.

**RXSA 757 Clinical Research and Methodology (CRM) (2)**

Builds on the principles of biostatistics and drug information to develop the skills necessary for a practitioner to design and develop a clinical research study worthy of scholarly publication and presentation. Highly recommended for students who wish to pursue a career in managed care, pharmacy practice in an academic setting, or as a clinical coordinator in hospital settings. Offered Spring Quarter of PY3.

Prerequisite: Completion of RXDI 664 and RXSA 640 with a grade of B- or better.

**PHARMACY PRACTICE-THERAPEUTICS****RXTH 670 IPDM I: Principles of Pharmacology (2)**

Part of a twelve-course sequence taught over two years. Focuses on pathophysiology and management of disease states, pharmacology of the drug classes indicated, and the clinical pharmacokinetics that govern drug administration. Develops an understanding of the basic pharmacologic concepts of therapeutics, receptor theory, drug metabolism, and drug interactions. Covers tools to effectively assess therapy, including interpretation of laboratory values and construction of SOAP notes.

Prerequisite: Successful completion of all P1-level courses and P2; AQ standing.

**RXTH 671 IPDM II: Fluids and Electrolytes (2.5)**

Part of a twelve-course sequence. Covers the pathophysiology, management, and drug therapy of conditions related to electrolyte and fluid disturbances; as well as dietary requirements and sources of electrolytes. Addresses pathophysiology, management, and drug therapy of anemias. Enables students to manage electrolyte and fluid disorders and anemias, establish and employ rational treatment, and provide parameters to monitor progress of the regimens.

Prerequisite: Successful completion of all P1-level courses and P2; AQ standing.

**RXTH 674 IPDM VI: Renal and Respiratory Diseases (3.5)**

Part of a twelve-course sequence. Includes pathophysiology, pharmacology, pharmacokinetics, pharmacotherapy, and clinical trial evidence as related to renal and respiratory diseases. Enables students to integrate their knowledge of these disciplines to manage renal and respiratory diseases by establishing and employing rational treatment and providing parameters to monitor progress of the regimens.

**RXTH 683 IPDM IV: Endocrine (3.5)**

Part of a twelve-course sequence. Introduces students to the pharmacology, pharmacokinetics, and pharmacodynamics of agents used in the treatment of endocrine and GI dysfunction; as well as management (evaluation, treatment, monitoring, and follow-up) of patients with endocrine and GI dysfunctions. Students integrate knowledge, attitudes, and skills in a variety of ways to accomplish course outcomes. Includes pathophysiology, pharmacology, pharmacokinetics, pharmacotherapy, and clinical-trial evidence as they relate to endocrine and GI drugs. Enables students to integrate their knowledge of the disciplines studied in the context of formulating an individualized pharmacotherapeutic plan for a given patient.

Prerequisite: completion of all P1 and AQ P2 courses.

**RXTH 684 IPDM III: Cardiovascular I (3.5)**

Part of a twelve-course sequence. Introduces students to the pharmacology, pharmacokinetics, and pharmacodynamics of cardiovascular agents; as well as management (evaluation, treatment, monitoring, and follow-up) of patients with common cardiovascular disorders. Students integrate knowledge, attitudes, and skills in a variety of ways to accomplish course outcomes. Includes anatomy, physiology, pharmacology, pharmacokinetics, pharmacotherapy, and clinical-trial evidence as they relate to cardiology. Enables students to integrate their knowledge of the disciplines studied in the context of formulating an individualized pharmacotherapeutic plan for a given patient.

Prerequisite: P2, SQ standing.

**RXTH 685 IPDM V: Cardiovascular II (3.5)**

Part of a twelve-course sequence. Introduces students to the pharmacology, pharmacokinetics, and pharmacodynamics of agents used in the treatment of endocrine and GI dysfunction; as well as management (evaluation, treatment, monitoring, and follow-up) of patients with endocrine and GI dysfunctions. Students integrate knowledge, attitudes, and skills in a variety of ways to accomplish course outcomes. Includes pathophysiology, pharmacology, pharmacokinetics, pharmacotherapy, and clinical-trial evidence as they relate to endocrine and GI drugs. Enables students to integrate their knowledge of the disciplines studied in the context of formulating an individualized pharmacotherapeutic plan for a given patient.

**RXTH 755 Advanced Topics in Cardiology: An Evidence-Based Approach (4)**

Focuses on current and/or controversial topics in the area of cardiology and cardiovascular pharmacotherapy. More detailed focus on the evidence behind some cardiovascular guidelines.

**RXTH 756 Internal Medicine Clinical Research (2)**

Exposure to and participation in clinical research in internal medicine clinical pharmacy practice.

**RXTH 757 Advanced Cardiovascular Life Support (3)**

Focuses on the development of skills necessary for the management of patients with acute cardiovascular emergencies.

**RXTH 770 IPDM VII: Infectious Diseases I (3.5)**

Part of an eleven-course sequence. Introduces students to the pharmacology, pharmacokinetics, and pharmacodynamics of anti-infectives; as well as management (evaluation, treatment, monitoring, and follow-up) of patients with neurological diseases. Students integrate knowledge, attitudes, and skills in a variety of ways to accomplish course outcomes. Includes anatomy, physiology, pharmacology, pharmacokinetics, pharmacotherapy and clinical trial evidence as they relate to anti-infectives. Enables students to integrate their knowledge of the disciplines in the context of formulating individualized pharmacotherapeutic plans.

Prerequisite: P3, AQ standing.

**RXTH 771 IPDM X: Neurology (4.5)**

Part of a twelve-course sequence. Introduces students to the pharmacology, pharmacokinetics, and pharmacodynamics of agents used in the treatment of endocrine and GI dysfunction; as well as management (evaluation, treatment, monitoring, and follow-up) of patients with endocrine and GI dysfunctions. Students integrate knowledge, attitudes, and skills in a variety of ways to accomplish course outcomes. Includes pathophysiology, pharmacology, pharmacokinetics, pharmacotherapy, and clinical-trial evidence as they relate to endocrine and GI drugs. Enables students to integrate their knowledge of the disciplines studied in the context of formulating an individualized pharmacotherapeutic plan for a given patient.

**RXTH 772 IPDM IX: Infectious Diseases II (4.5)**

Part of a twelve-course sequence. Introduces students to the pharmacology, pharmacokinetics, and pharmacodynamics of agents used in the treatment of endocrine and GI dysfunction; as well as management (evaluation, treatment, monitoring, and follow-up) of patients with endocrine and GI dysfunctions. Students integrate knowledge, attitudes, and skills in a variety of ways to accomplish course outcomes. Includes pathophysiology, pharmacology, pharmacokinetics, pharmacotherapy, and clinical-trial evidence as they relate to endocrine and GI drugs. Enables students to integrate their knowledge of the disciplines studied in the context of formulating an individualized pharmacotherapeutic plan for a given patient.

**RXTH 773 IPDM VIII: Psychiatry (4.5)**

Part of an eleven-course sequence. Introduces students to the pharmacology, pharmacokinetics, and pharmacodynamics of agents used in the treatment of psychiatric disease and addictions; as well as management (evaluation, treatment, monitoring, and follow-up) of patients with these conditions. Students integrate knowledge, attitudes, and skills in a variety of ways to accomplish the course outcomes. Presents pathophysiology, pharmacology, pharmacokinetics, pharmacotherapy and clinical trial evidence as they relate to the drugs used for these miscellaneous conditions. Enables students to integrate their knowledge of the disciplines in the context of formulating an individualized pharmacotherapeutic plan for a given patient.

Prerequisite: P3, AQ standing.

**RXTH 774 IPDM XII: Miscellaneous Conditions and GI Disorders (3.5)**

Part of a twelve-course sequence. Introduces students to the pharmacology, pharmacokinetics and pharmacodynamics of agents used in the treatment of various conditions—including arthritis, gout, glaucoma, dermal conditions, incontinence, SLE, MS, BPH, and others; as well as management (evaluation, treatment, monitoring, and follow-up) of patients with these conditions. Students integrate knowledge, attitudes and skills in a variety of ways to accomplish the course outcomes. Includes pathophysiology, pharmacology, pharmacokinetics, pharmacotherapy, and clinical trial evidence as they relate to the drugs used for the conditions indicated. Enables students to integrate their knowledge of the disciplines studied in the context of formulating an individualized pharmacotherapeutic plan for a given patient.

Prerequisite: P3 SQ standing.

**RXTH 775 IPDM XI: Oncology/Transplant (2.5)**

Part of a twelve-course sequence. Introduces students to the pharmacology, pharmacokinetics, and pharmacodynamics of oncology agents and agents used in the treatment of transplant recipients; as well as management (evaluation, treatment, monitoring, and follow-up) of patients with these conditions. Students integrate knowledge, attitudes, and skills in a variety of ways to accomplish course outcomes. Includes pathophysiology, pharmacology, pharmacokinetics, pharmacotherapy, and clinical-trial evidence as they relate to the drugs used to treat the conditions indicated. Enables students to integrate their knowledge of the disciplines studied in the context of formulating an individualized pharmacotherapeutic plan for a given patient.

Prerequisite: P3 SQ standing.

**RXTH 784 Special Topics in Pharmacy Practice (3)**

Discusses the top 200 drugs as they are currently recognized. Emphasizes therapeutic uses, drug interactions, and side effects. Provides practical tips by practitioners for patient counseling.

**RXTH 785 Advanced Topics in Diabetes (3)**

Focuses on strategies and applications for implementing a diabetes education and management service in an ambulatory care setting. Covers advanced diabetes topics.

**RXTH 788 Advanced Clinical Pharmacy (3)**

Focuses on advanced clinical pharmacy topics and application of clinical knowledge and skills to address medical cases and questions.

**RXTH 789 Advances in Community Pharmacy Practice (3)**

Introduces students to a variety of topics encountered in community pharmacy practice—including handling of devices, management issues, and third-party processing. Develops an advanced level of knowledge and skills.

Prerequisite: Completion of Pharmaceutical Care II (RXPC 562).

**SCHOOL OF DENTISTRY—CONJOINT**  
**SDCJ 744 Clinical Training in Advanced Restorative Dentistry (8)**

A six-month, full-time certificate program that is predominately clinical in nature. Provides mission support among Seventh-day Adventist international dentists, and provides training for other foreign dentists who reside outside the United States and will return to their own dental clinics/countries after completion of the program. Allows qualified dentists from other countries to study and treat patients at Loma Linda University School of Dentistry. Program generates no academic credit and cannot apply toward any other program in the School of Dentistry.

**SDCJ 799 Directed Study (100 to 400 hours)**

**SCHOOL OF DENTISTRY—CLINICAL**  
**SDCL 696 Directed Study (1-4)**

A directed study (DS) course that can be used in any graduate program either to further study of a particular subject or subjects, or to remediate academic deficiencies without having to repeat an entire course. Program director or his/her designee develops the specific course content and assignments.

**SDCL 711 Clinic Orientation I (1)**

Introduces direct patient care in the main clinic. Discusses clinic policies and infection control. Reviews use of the clinic computing system. Discusses basic patient-management techniques, treatment planning, and practice management issues.

**SDCL 712 Clinic Orientation II (2)**

Builds on SDCL 712 Clinic Orientation I and continues instruction related to the clinic computing system. Includes intraoral photography, financial planning for patients, quality assurance and improvement, long-term assessment of care outcomes, and professional relationships.

**SDCL 713 Clinic Orientation III (1)**

The third course in a sequence of clinic orientation courses, which completes the bridge for students transitioning from preclinical to clinical experience.

**SDCL 801 Clinical Patient Care (2)**

Focuses on the delivery of patient care consistent with the highest standards, which bridges all clinical disciplines and provides a structured setting in which faculty interact to formulate a diagnosis, develop treatment plans, deliver treatment, and maintain patient health. Integrates social, ethical, and humanitarian components through instruction and in-group seminars, and during the delivery of patient care. Emphasizes the comprehensive patient-care system, which focuses on patient care, education, environment, and assessment.

**SDCL 802 Clinical Patient Care (2)**

Continues SDCL 801.

**SDCL 803 Clinical Patient Care (2)**

Continues SDCL 801, 802.

**SDCL 804 Clinical Patient Care (2)**

Continues SDCL 801, 802, 803.

**SDCL 805 Clinical Patient Care (2)**

Continues SDCL 801, 802, 803, 804.

**SDCL 806 Clinical Patient Care (2)**

Continues SDCL 801, 802, 803, 804, 805.

**SDCL 807 Clinical Patient Care (2)**

Continues SDCL 805, 806.

**SDCL 808 Clinical Patient Care (2)**

Continues SDCL 805, 806, 807.

**SDCL 896 Clinical Directed Study (1-4)**

A directed study (DS) course that can be used in any graduate program either for advanced clinical activity in selected areas, or to remediate clinical deficiencies without having to repeat an entire course. Program director or his/her designee determines the nature and scope of the clinical activity.

**SDCL 899 Clinic—Continuing Registration for Extended Professional (4-8)**

Continues registration that allows an extended professional to satisfy clinic requirements for degree completion.

**SOCIOLOGY****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 477 Intervention Strategies for At-Risk Youth (4)**

Psychological and spiritual intervention strategies for working with at-risk youth, taught within the framework of nature retreats known as Operation Jessica. Students learn mentoring, spiritual nurturing, and psychoeducational group leadership skills. Modalities include spiritual transformation activities, group interactions, nature exploration, low and high ropes challenge experiences, drama, music, and art. Theory-based topics covered: dangerous coping methods, spiritual deficiencies, and dysfunctional family systems of at-risk youth. Focuses on understanding gang culture, addictive processes, family and community violence, and spiritual recovery strategies.

**SOCI 577 Intervention Strategies for At-Risk Youth (4)**

Psychological and spiritual intervention strategies for working with at-risk youth, taught within the framework of nature retreats known as Operation Jessica. Students learn mentoring, spiritual nurturing, and psychoeducational group leadership skills. Modalities include spiritual transformation activities, group interactions, nature exploration, low and high ropes challenge experiences, drama, music, and art. Theory-based topics covered: dangerous coping methods, spiritual deficiencies, and dysfunctional family systems of at-risk youth. Focuses on understanding gang culture, addictive processes, family and community violence, and spiritual recovery strategies.

**SOCI 585 Sociology of Communities (4)**

Examines classical and contemporary theories of community. Provides a theoretical foundation for applied social science professional programs that require an understanding of the community in contemporary society.

**SOCIAL WORK****SOWK 414 Interviewing and Counseling (4)**

Provides students with orientation to the procedures, methods, and problems associated with a clinical interview. Focuses on developing basic interviewing skills used in the collection of personal data, including the use of various verbal and nonverbal forms of expression, active listening, and appreciation of client diversity. Gives attention to the student's development of self-awareness and continuous integration of professional values and ethical conduct in practice.

**SOWK 477 Universal Psychiatric Care (1, 2)**

Provides an opportunity to participate in an international institute featuring world leaders in psychiatric care. Topics include: world diagnostic guidelines, psychotropic medications and issues in treating ethnic populations, spirituality and psychiatry, transpersonal psychiatry in theory and practice, multidisciplinary teams in the practice of mental health services, and problems of mental health in immigrant populations. Students registering for 1 unit participate in ten hours of lecture, including a pre- and postsession. Those taking 2 units also develop a major paper on one of the institute topics.

**SOWK 494 Conflict Resolution and Dispute Mediation (2)**

Provides cross-disciplinary knowledge and skills needed in conflict resolution and dispute mediation. Course content meets the state of California requirements for mediators and other facilitators. Individuals completing the course are eligible to complete supervised mediation practice with the Riverside County Department of Community Action and receive a mediation certificate from the state of California.

**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 lifespan 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)**

Second course in a three-part sequence. Explores the dynamic of human behavior from young adulthood to senescence, as affected by and expressed in a cross-cultural context. Provides a foundation of knowledge on which to build social work-practice skills.

Prerequisite: 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. Emphasizes examination of societal, professional, and cross-cultural perspectives and contradictions as these have influenced the development of contemporary social policies and services.

**SOWK 517 Foundation Practice I: Individuals (3)**

Introduces student to the application of a generalist practice perspective with micro-systems. Student learns how to conduct a biopsychosocial-spiritual assessment, and is introduced to a full range of beginning intervention strategies for working with individuals. Emphasizes the special problems experienced by populations at risk, women, and minorities; the unique skills necessary for goal-setting and successful interventions; and the cultural values that influence the development and resolution of psychosocial problems.

Prerequisite: or Concurrent: Social work practicum.

**SOWK 518 Foundation Practice II: Groups (3)**

Second course in the practice sequence. Introduces the student to group work methods. Emphasizes differentiation among the types of individuals, situations, and presenting problems best served by group interviews.

Prerequisite: Program prerequisite in interviewing and counseling.

**SOWK 519 Foundation Practice III: Organizations and Communities (3)**

Third course in the practice sequence. 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.

**SOWK 520 Foundation Practice IV: Families (3)**

Fourth course in the practice sequence. Introduces 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: Program prerequisite in interviewing and counseling.

**SOWK 547 Research Methods I (3)**

Reviews the quantitative and qualitative methodological techniques used in designing and analyzing social work research and practice. Emphasizes 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. Emphasizes using and interpreting statistics most common to research designs employed in social work research and practice evaluation.

Prerequisite: Introduction to computing, and introductory statistics.

**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.

Prerequisite: Program prerequisite in interviewing and counseling.



**SOWK 595 Professional Development (2-4)**

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 enrolled in the course as a result of a corrective action plan developed with the Department of Social Work's Academic Standards Committee.

**SOWK 599 Directed Study (1-4)**

Limited to matriculating master's degree students in social work who wish to pursue independent investigations in social work practice or policy under the direction of a department faculty member.

**SOWK 613 Human Behavior in a Cross-cultural Environment III (3)**

Third course in a three-part sequence. Provides a shift from the previous normative developmental perspective to an analysis of behavioral health challenges. Focuses on the review and application of the DSM-IV-TR and Mental Status Examination to enhance person-in-the-environment assessment. Scope of practice perspectives regarding multidisciplinary team treatment in the use of psychopharmacology. Enhances awareness of sociocultural needs and issues of populations at risk. Facilitates increased application and respect for social work values, ethics, and policies.

Prerequisite: SOWK 511, SOWK 512; and qualifying review; or permission of Academic Standards Committee.

**SOWK 615 Social Policy II (3)**

Examines 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 actions.

**SOWK 648 Co-occurring Diagnosis: Substance Abuse with Mental Illness (2)**

Builds on the practice experiences and foundation courses of the first year by increasing competency in the assessment, diagnosis, and treatment of individuals experiencing mental, emotional, and/or behavioral disturbances with co-occurring chemical dependency. Student learns to utilize behavioral health-treatment strategies and substance abuse-counseling techniques from within a biopsychosocial-spiritual paradigm.

**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. Gives special attention 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. Examines traumatic events associated with sexual abuse, life-threatening conditions, and severe familial disruption. Examines 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. Reviews social work's role in the development of interdisciplinary community health care systems services.

**SOWK 653 Interventions with Special-Needs Children (2)**

Focuses on practice with children and families in relationship to environmental stability. Examines 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 654A Therapeutic Interventions with Older Adults I (3)**

Provides an intensive examination of clinical issues related to social work practice with older adults and their families. Students gain increased understanding of the developmental tasks of later life; and the needs, strengths, and diversity of empowered and active older adults. Prepares students to examine and implement evidenced-based interventions at the clinical level with an understanding of how organizational and community-level factors can influence interventions and outcomes. Gives attention to issues related to culturally-competent practice and the interplay of race, ethnicity, and culture.

**SOWK 654B Therapeutic Interventions with Older Adults II (3)**

Provides students with knowledge and skills related to working with frail and vulnerable older adults. Reviews mental disorders as they are uniquely characterized in late adulthood, emphasizing assessment. Addresses loss and institutionalization, adjustment problems related to illness, cultural variations related to illness, advanced directives, alcohol and substance abuse, sleep disorders, and barriers to quality care.

**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. Includes psychodynamic, philosophical, and sociocultural theoretical orientations. 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. Discusses diagnosis, phases of treatment, and special communication issues. Research, ethical, and value issues addressed.

**SOWK 659 Interventions with Persons with Severe Mental Illness (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)**

Explores theories and concepts of ethnicity, 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. Gives particular attention to practice with people of color and recent immigrants. Critically examines prevailing models of social work practice 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 effects on psychosocial functioning. Examines continuum as it guides assessment, treatment modalities and settings, and interdisciplinary interactions.

Prerequisite: Pass qualifying examination; or permission of Academic Standards Committee.

**SOWK 663 Advanced Social Work Practice with Individuals (3)**

Focuses on enhancing student's knowledge and skills in advanced clinical social work with individuals. Integrates assessing and diagnosing for the purpose of planning short- and long-term treatment goals. Emphasizing evidence-based approaches, student learns advanced biopsychosocial-spiritual treatment interventions. Gives attention to imparting a strengths perspective of advanced practice that addresses the challenge of integrating the recovery process within practice environments that are oriented to the application of psychodynamic formulation. Addresses self-regulation to maintain an ethical scope of practice in treatment and consideration of the client's cultural values.

Prerequisite: Pass qualifying examination; or permission of 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, 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 Academic Standards Committee.

**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 671 Foundation Practice V: Social Work Administration (3)**

Provides macropractice 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, and 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 review; or permission of 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. Integrates the course focus 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.

**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 676A, 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). Learning supported through guest speakers and panel discussions. Permission of instructor required for registration by students not in the policy, planning, and administration concentration.

**SOWK 677 Advanced Integrative Seminar in Psychotherapy (2)**

Provides an opportunity to integrate advanced courses with individuals (SOWK 663) and groups (SOWK 665) by furthering the application of in-depth psychodynamic analysis of mentally ill individuals. Identifies specific themes of intrapsychic dilemmas and treatment interventions. Students enhance their analytic writing and verbal skills via presentations based on the bio-psycho-social-spiritual perspective of psychopathologies to be encountered as a clinical social worker. Expands the body of knowledge of social work students who are interested in cultivating expertise in clinical social work via advanced training institutes and/or a doctoral program.

Prerequisite: SOWK 663, SOWK 665.

**SOWK 678 Integrative Generalist Practice and Seminar (2)**

Required of students with advanced standing. Students complete 200 hours of practicum and 20 hours of practicum seminar. 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 generalist 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 679 Universal Psychiatric Care (1, 2)**

Provides an opportunity to participate in an international institute featuring world leaders in psychiatric care. Topics include: world diagnostic guidelines, psychotropic medications and issues in treating ethnic populations, spirituality and psychiatry, transpersonal psychiatry in theory and practice, multidisciplinary teams in the practice of mental health services, and problems of mental health in immigrant populations. Students registering for 1 unit participate in ten hours of lecture including a pre- and postsession. Those taking 2 units also develop a major paper on one of the institute topics.

**SOWK 680 Children and Families Policies and Services (2)**

Provides students with an understanding of the major social policy issues affecting the current organization and delivery of human services for children and families. Analyzes 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. Considers major issues dealing with the economics of health, health planning, and health legislation. Reviews health and mental health programs based on selected cross-national comparisons.

**SOWK 682 Legal and Ethical Aspects in Health and Mental Health Services (3)**

Focuses on those instances when legal mandates or concerns interact with and affect the practice of social work. Overviews 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. Emphasizes 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. Explores course content 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: Pasz qualifying examination; or permission of Academic Standards Committee.

**SOWK 684 Advanced Policy Projects (2, 3)**

Enhances understanding of the interconnections between politics, policy making, and policy analysis 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 Understanding Global Cultures (2)**

Explores the social, cultural, political, and economic factors impacting public 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 sensitive to the unique characteristics of the host environment.

**SOWK 695A Advanced Research Methods (2)**

The first course in a three-quarter sequence that supports the student who chooses to advance his/her knowledge through examination and application of a broad spectrum of quantitative and qualitative research methods used in professional practice settings. Didactic and laboratory experiences draw on the student's advanced practice. Develops student's capacity to differentiate and apply the most appropriate and widely used research designs and methods of practice evaluation and renewal. Gives continuous attention to current federal and state requirements for assessing intervention effectiveness. Emphasizes self-evaluation and evaluation of practice effectiveness with individuals and families.

**SOWK 695B Advanced Research Methods (2)**

The second course in a three-quarter sequence that supports the student who chooses to advance his/her knowledge through examination and application of a broad spectrum of quantitative and qualitative research methods used in professional practice settings. Didactic and laboratory experiences draw on the student's advanced practice. Develops the student's capacity to differentiate and apply the most appropriate and widely used research designs and methods of practice evaluation and renewal. Gives continuous attention to current federal and state requirements for assessing intervention effectiveness. Emphasizes practice evaluation groups as well as the design and implementation of quality assurance studies for monitoring work with specific populations.

**SOWK 695C Advanced Research Methods (2)**

The third course in a three-quarter sequence that supports the student who chooses to advance his/her knowledge through examination and application of a broad spectrum of quantitative and qualitative research methods used in professional practice settings. Didactic and laboratory experiences draw on the student's advanced practice. Develops the student's capacity to differentiate and apply the most appropriate and widely used research designs and methods of practice evaluation and renewal. Gives continuous attention to current federal and state requirements for assessing intervention effectiveness. Emphasizes evaluation at the program, organizational, and community levels.

**SOWK 697 Applied Research (2)**

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.

Prerequisite: SOWK 547, SOWK 549.

**SOWK 698 Thesis (2)**

The culminating work of the student's independent research, under the direction of the research advisor. Registration during the quarter in which student defends research and submits the final document to the department and School of Science and Technology.

**SOWK 701 Professional Colloquium: Spousal or Partner Abuse (1)**

Provides subject content in spousal or partner abuse, as required by the state of California for licensure as a licensed clinical social worker (LCSW).

**SOWK 702 Professional Colloquium: HIV/AIDS (1)**

Provides subject content in HIV / AIDS, as required by the state of California for licensure as a licensed clinical social worker (LCSW).

**SOWK 703 Professional Colloquium: Substance Abuse (1)**

Provides subject content in substance abuse, as required by the state of California for licensure as a licensed clinical social worker (LCSW).

**SOWK 757A Professional Foundation Practicum and Seminar (3)**

Provides student with experiential learning opportunities in foundation social work practice through practicums arranged by the program's director of field education. Student completes 160 practicum hours concurrent with 20 hours of practicum seminar for each of three consecutive quarters. A block practicum option is available to qualified students.

Prerequisite: SOWK 578\* (\*may be taken concurrently). Corequisite: SOWK 578.

**SOWK 757B Professional Foundation Practicum and Seminar (3)**

Provides student with experiential learning opportunities in foundation social work practice through practicums arranged by the program's director of field education. Student completes 160 practicum hours concurrent with 20 hours of practicum seminar for each of three consecutive quarters. A block practicum option is available to qualified students.

Prerequisite: SOWK 578.

**SOWK 757C Professional Foundation Practicum and Seminar (3)**

Provides student with experiential learning opportunities in foundation social work practice through practicums arranged by the program's director of field education. Student completes 160 practicum hours concurrent with 20 hours of practicum seminar for each of three consecutive quarters. A block practicum option is available to qualified students.

Prerequisite: SOWK 578.

**SOWK 787A Advanced Professional Practicum and Seminar (4)**

Provides student with advanced social work experience in his / her selected concentration. Advanced practicums arranged by the program's director of field education. Student required to complete 200 practicum hours concurrent with 20 hours of practicum seminar for each of three consecutive quarters.

Prerequisite: (SOWK 578, SOWK 757A, SOWK 757B, SOWK 757C) or SOWK 678.

**SOWK 787B Advanced Professional Practicum and Seminar (4)**

Provides student with advanced social work experience in his / her selected concentration. Advanced practicums arranged by the program's director of field education. Student required to complete 200 practicum hours concurrent with 20 hours of practicum seminar for each of three consecutive quarters.

Prerequisite: (SOWK 578, SOWK 757A, SOWK 757B, SOWK 757C) or SOWK 678.

**SOWK 787C Advanced Professional Practicum and Seminar (4)**

Provides student with advanced social work experience in his/her selected concentration. Advanced practicums arranged by the program's director of field education. Student required to complete 200 practicum hours concurrent with 20 hours of practicum seminar for each of three consecutive quarters.

Prerequisite: (SOWK 578, SOWK 757A, SOWK 757B, SOWK 757C) or SOWK 678.

**SPANISH****SPAN 101 Elementary Spanish I (2, 4)**

Introduces Spanish culture and language, providing the fundamentals of language: pronunciation, intonation, and grammatical structures. Covers beginning-level grammar and communication (medical and general), designed for students and professionals having little or no previous exposure to the Spanish language. Includes a three-hour language laboratory for the 4-unit course. The 2-unit course covers the beginning level of medical Spanish communication for the Physician Assistant Program and for professionals having little or no previous exposure to the Spanish language.

**SPAN 102 Elementary Spanish II (4)**

Continues SPAN 101, with emphasis on reflexive, preterite, present perfect, and imperfect verbs. Focuses on conversational skills. Includes medical and social vocabulary.

Prerequisite: SPAN 101; or equivalent with instructor's approval.

**SPAN 103 Elementary Spanish III (4)**

Continues SPAN 102, with further study of the fundamentals of pronunciation, composition, and structure of the Spanish language and culture.

Prerequisite: SPAN 102; or equivalent.

**SPAN 118 Spanish Literature I (4)**

Surveys literature from the peninsular Spanish writers. Includes a directed study project covering a review of short stories, discussions of worldview issues of literature and cultural perspectives. Taught in English.

**SPAN 119 Spain: Culture and Civilization (4)**

Introduces and reviews the culture and language of Spain; summarizes and analyzes Spain's achievements in the New World. A directed study project that includes spending time with a Spanish family and writing an eight-page report. Taught in English.

**SPAN 122 Tradition and Paradox of Latin American Women (4)**

Provides health care providers, through literature, with knowledge of the growing Latina population; their cultural needs and experiences in social, academic, and family life activities; and how they strike a balance between their old and new worlds. Taught in English.

**SPAN 123 Practicum in Spanish I (4)**

Practicum in the Spanish language and culture in a total immersion environment. Part of the total cost of tuition may include a trip to a Spanish-speaking country. Supervised experiences communicating with the Spanish-speaking population (behavioral and medical vocabulary included).

Prerequisite: SPAN 101 or SPAN 118 or SPAN 119 or SPAN 122; or Spanish-language class or equivalent (40 hours / contact lectures).

**SPAN 128 Practicum in Spanish II (4)**

Practicum in the Spanish language and culture in a total immersion environment. Part of the total cost of tuition may include a trip to a Spanish-speaking country. Supervised experiences communicating with the Spanish-speaking population (behavioral and medical vocabulary included).

Prerequisite: SPAN 118 or SPAN 119 or SPAN 123; or Spanish-language class or equivalent.

**SPAN 201 Intermediate Spanish I (4)**

Enables students and professionals to interview Spanish-speaking patients in a cross-cultural context and to communicate orally in the Spanish language. Covers the reflexive verbs, present, preterite, imperfect, and future tenses. The subjective in nouns and adverbial clauses, comparatives and superlatives.

Prerequisite: SPAN 103.

**SPAN 202 Intermediate Spanish II (4)**

Reviews and continues SPAN 201. Uses an interactive, communicative approach in which students learn clinical and social vocabulary and are tested at the end of the quarter. Four clinical interviews in Spanish (recording and transcribing); 30-60 minutes of language laboratory; future, conditional, past subjunctive, conditional perfect, and compound tenses.

Prerequisite: SPAN 201; or equivalent.

**SPAN 203 Intermediate Spanish III (4)**

Designed for students in the advanced intermediate level to further study and practice reading comprehension, vocabulary building, conversation, and writing in a cultural context. Conducted in Spanish.

Prerequisite: SPAN 202; or equivalent.

**SPAN 301 Advanced Medical Spanish I (4)**

Focuses on advanced medical terminology and the application of language to patient care, including comprehension and communication between professional and patient. Explores intercultural issues. Includes skills and vocabulary useful in clinical settings as well as phrases and commands used during physical assessments. Conducted entirely in Spanish.

Prerequisite: SPAN 203; or equivalent.

**SPAN 401 Advanced Spanish Composition I (4)**

Designed for Spanish speakers or for students at the advanced level of Spanish. Students must have previous experience in composition classes, SPAN 203 or equivalent. Course covers activities to explore ideas and find a theme for the writing task, various prewriting techniques, methods of organizing compositions, defining the purpose of the piece, and identifying the reader for whom the student will write. Course taught entirely in Spanish.

Prerequisite: SPAN 203; or equivalent.

**SPAN 430 Diversity in Twenty-First Century (4)**

Discusses the philosophy of diversity—including language and culture—taking into account the larger group of immigrants to California, including the Latino and Asian perspective as compared with the mainstream and the African-American group. Explores practical and philosophical ways of promoting personal and social unity in diversity.

**SOCIAL POLICY****SPOL 554 Environment, Resources, and Development Policy (3)**

Provides an advanced interdisciplinary analysis of the sustainability framework in both urban and rural contexts of the developing and developed world. Policy issues of focus selected from: geoinformation science for development, biotechnology and genetic resources, poverty reduction and trade competitiveness, human health and disease, global environmental governance, natural hazards and disaster mitigation, and natural resource management issues such as agroforestry, drylands goods and services, mountain development, integrated water-resource management, and sustainable tourism. Seminar discussions enhanced with case studies, computer-simulation games, laboratory exercises, and student presentations.

Prerequisite: Consent of instructor.

**SPOL 588 Special Topics in Social Policy and Social Research (1-5)**

Reviews current knowledge and/or research methodologies in specified areas of social policy and social research.

**SPOL 599 Independent Study (1-8)**

Limited to Ph.D. degree students who wish to pursue independent investigations in social policy and/or social research under the direction of a department faculty member.

**SPOL 613 Social Science Concepts I (4)**

Part one of a two-part sequence. Reviews key theories, writers, conceptual frameworks, and seminal ideas from social science at-large (economics, sociology, psychology, geography, political science, social work) that have laid the foundation for contemporary social policy analysis and social research—particularly applied social science. Students expected to read a wide selection of material under faculty guidance; and extract concepts, tools, methods, and applications useful to social policy analysis or practice. Multiple faculty and guests lead in the discussion and reading, as well as critique writing.



**SPOL 614 Social Science Concepts II (4)**

Part two of a two-part sequence. Reviews key theories, writers, conceptual frameworks, and seminal ideas from social science at large (economics, sociology, psychology, geography, political science, social work) that have laid the foundation for contemporary social policy analysis and social research—particularly applied social science. Students expected to read a wide selection of material under faculty guidance; and extract concepts, tools, methods, and applications useful to social policy analysis or practice. Multiple faculty and guests lead in the discussion and reading, as well as critique writing.

**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. Students learn to evaluate macroeconomic conditions—such as unemployment, inflation, growth wages, and income distribution—and gain understanding of how such conditions 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 socioeconomic restructuring and sustainable development planning.

**SPOL 654 Research Methods I (4)**

Advanced quantitative research methods. Emphasizes experimental and quasi-experimental designs, and examines specific methodologies used in conducting research in the area of social policy and social research. Topics include measurement issues, research design, sampling, and statistical interpretation. Addresses survey research, time-series designs, and more advanced techniques.

**SPOL 655 Research Methods II (4)**

Advanced course in qualitative and mixed research methods. Emphasizes selected qualitative and mixed research methodologies specific to social policy and social research. Topics covered include theoretical bases for conducting qualitative research; research design; data gathering, including interviewing, observation, archival and historical research, and data analysis and writing. Addresses various methods for integrating qualitative and quantitative methodologies.

**SPOL 656 Organizational Theory and Policy (4)**

Explores the complexities of large organizations; how organizations are born, evolve, and survive. Examines bureaucratic systems, formal and informal structures, communication patterns, and philosophical approaches that influence effectiveness and efficiency of services delivery. Implications of these on the development and implementation of social policies explored.

**SPOL 658 Methods of Policy Analysis and Research (4)**

Examines approaches to policy analysis and assesses the strengths and limitations of various methods. Explores a range of theoretical frameworks and analytical methods used for understanding and analyzing contemporary policy challenges. Addresses ethical issues and the role of values in shaping analysis. Incorporates the empirical methods used to support policy analysis and structure policy research.

**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 Technologies and Decision Science (4)**

Surveys key concepts and tools from information science; operations research; systems science; dynamic modeling; and visualization theory within the social, behavioral, and natural sciences. Focuses on knowledge management in the public and private sector, i.e., design and application of decision-support tools; database creation and management; and communications tools for health, social welfare, public administration, sustainable development, and human services management. Includes computer laboratory experience both in class and on-line.

**SPOL 671 Applied/Structured Research I (2-4)**

Provides students the opportunity to advance knowledge and skills in a specialized area of study. Part of a year-long sequence that culminates in an applied research product at the end of SPOL 673. Research mentor develops with the student a plan for the year, with objectives for each quarter. Research plan approved by the Program Committee. Evaluation based on accomplishment of quarterly objective(s).

**SPOL 672 Applied/Structured Research II (2-4)**

Provides students the opportunity to advance knowledge and skills in a specialized area of study. Part of a year-long sequence that culminates in an applied research product at the end of SPOL 673. Research mentor develops with the student a plan for the year, with objectives for each quarter. Research plan approved by the Program Committee. Evaluation based on accomplishment of quarterly objectives.

**SPOL 673 Applied/Structured Research III (2-4)**

Provides students the opportunity to advance knowledge and skills in a specialized area of study. Part of a year-long sequence that culminates in an applied research product at the end of SPOL 673. Research mentor develops with the student a plan for the year, with objectives for each quarter. Research plan approved by the Program Committee. Evaluation based on accomplishment of quarterly objectives.

**SPOL 681 Dissertation Proposal I (2)**

Development of the dissertation proposal. Research advisor develops with the student mutually agreed-upon objectives. Evaluation based on accomplishment of these objectives.

**SPOL 682 Dissertation Proposal II (2)**

Development of the dissertation proposal. Research advisor develops with the student mutually agreed-upon objectives. Evaluation based on accomplishment of these objectives.

Prerequisite: SPOL 681.

**SPOL 683 Dissertation Proposal III (2)**

Development of the dissertation proposal. Research advisor develops with the student mutually agreed-upon objectives. Evaluation based on accomplishment of these objectives. In addition, student must successfully defend a dissertation proposal according to program and Faculty of Graduate Studies guidelines.

Prerequisite: SPOL 681, SPOL 682.

**SPOL 697 Research (4, 8)**

Credit for dissertation research. Total of 20 units required. May be repeated for credit.

**SPOL 699 Dissertation (4-12)**

Should be taken during the last quarter of registration prior to completion and defense.

**STATISTICS****STAT 414 Introduction to Biostatistics I (3)**

Fundamental procedures in managing, summarizing, presenting, analyzing, and interpreting data. Measures of central tendency and variation. Investigates binomial and normal probability distributions. Topics include: probability; confidence intervals; and hypothesis testing using t-tests, chi-square, correlation, and regression. Briefly introduces ANOVA and multivariate analysis. Emphasizes practical application. Laboratory use of the personal computer in statistical problem solving.

Prerequisite: Competency in introductory level mathematics. Corequisite: STAT 415.

**STAT 415 Computer Applications in Biostatistics (1)**

Laboratory use of the personal computer in statistical problem solving.

Prerequisite: STAT 414\* (\*may be taken concurrently); or equivalent.

**STAT 416 Introduction to Biostatistics II (4)**

Continues STAT 414, including a more in-depth examination of hypothesis testing, power, and sample size. One-way analysis of variance. Introduces nonparametric analysis. Additional experience in evaluating bioresearch literature.

Prerequisite: STAT 414, STAT 415.

**STAT 417 Biomedical Data Management I (4)**

Software designed for data collection, entry, and management. Develops skills in the use of relational databases and spreadsheets.

Corequisite: STAT 416.

**STAT 418 Biomedical Data Management II (4)**

Student designs questionnaires and data-abstraction forms. Data collection, entry, and verification. Data cleaning.

Prerequisite: STAT 417.

**STAT 419 Biomedical Data Management III (4)**

Deployment and maintenance of client/server databases in a research/health care setting.

Prerequisite: STAT 418.

**STAT 421 Data Presentation (3)**

Student summarizes and presents biomedical research data. Explores several application software packages for graphing, summarizing, and presenting data explored.

Prerequisite: STAT 419.

**STAT 439 Fundamentals of Microcomputer Usage (1)**

Fundamental principles of microcomputer use. Introduces DOS and Windows commands and features. Lectures and in-class demonstrations emphasizing how to create, organize, manage, and protect files on hard disks. Laboratory homework required. Not applicable toward a graduate degree in the School of Public Health.

**STAT 441 Word Processing Fundamentals (1)**

Word processing principles and practice featuring current version of Microsoft Word. Laboratory homework required. Not applicable toward a graduate degree in the School of Public Health.

Prerequisite: STAT 439.

**STAT 443 Database Fundamentals (1)**

Database principles and practice featuring current version of FoxPRO. Laboratory homework required.

Prerequisite: College algebra.

**STAT 448 Analytical Applications of SAS (3)**

Features of SAS computer package for analysis of statistical data. Decisions regarding choice of statistical procedures and interpretation of computer output to answer specific research questions.

Prerequisite: STAT 414\*, STAT 415\* (\*may be taken concurrently); or a passing score on the computer competency examination and a previous/concurrent statistical course. Cross-listing: STAT 548.

**STAT 449 Analytical Applications of SPSS (3)**

Familiarizes student with features of the SPSS computer package for analysis of statistical data. Includes decisions regarding choice of statistical procedures and interpretation of computer output to answer specific research questions.

Prerequisite: STAT 414\*, STAT 415\* (\*may be taken concurrently); or passing score on the computer competency examination. Cross-listing: STAT 549.

**STAT 464 Survey and Advanced Research Methods (4)**

Principles and procedures of surveys as applied to the health sciences. Survey and research designs, questionnaire construction, interviewing techniques, sampling techniques, sample-size determination, nonresponse problems. Data collection, coding, processing, and evaluation. Presentation of results. Practical experience gained by completing a survey project.

Prerequisite: STAT 414, STAT 415. Cross-listing: STAT 564.

**STAT 468 Data Analysis (4)**

Concepts and applications of the most common data-analysis methods: correlation and regression, contingency tables, t-tests, analysis of variance, nonparametric methods, and multivariate analyses. Selection of appropriate method of analysis and reporting results. Emphasis placed on individual analysis of real-data sets. Lecture-demonstrations and laboratory work. Data analysis assignments to be completed in SPSS. Cross-listed as STAT 568.

Prerequisite: STAT 414, STAT 415, (STAT 448 or STAT 449).

**STAT 498 Senior Project (5)**

Under faculty direction, student participates in on-the-job experience in data collection, management, and presentation. Requires written summary and oral presentation.

**STAT 499 Directed Study/Special Project (1-4)**

Individual arrangements for undergraduate, upper division students to study under the guidance of a program faculty member. May include readings, literature review, or other special projects. Minimum of thirty hours required for each unit of credit. Maximum of 4 units applicable to any undergraduate degree program.

**STAT 505 Statistics in Health Administration (3)**

Introduces students to basic descriptive statistical concepts, such as measures of central tendency and dispersion, frequency distributions, and graphing. Introduces students to inferential concepts, such as p-values and tests of statistical significance: t-tests, correlation, regression, ANOVA, and chi-square. Covers probability, sample-size calculation, sampling, and surveys.

Prerequisite: Competency in introductory level mathematics.

**STAT 509 General Statistics (4)**

Fundamental procedures of managing, summarizing, presenting, analyzing, and interpreting data. Sampling, measures of central tendency and variation, probability, normal distribution, sampling distribution and standard error, confidence intervals, hypothesis testing, t-test, chi-square, and correlation. Interpretation of computer output for solution of statistical problems. Use and application of the computer to conduct analyses using a statistical package.

Prerequisite: Competency in introductory level mathematics.

**STAT 514 Intermediate Statistics for Health-Science Data (3)**

Selected topics in multiple regression, logistic regression, ANOVA, ANCOVA, and nonparametric tests. Emphasizes understanding, selection, and application of statistical procedures and interpretation of computer output.

Prerequisite: STAT 549.

**STAT 515 Grant- and Contract-Proposal Writing (3)**

A module-based course that presents an overview of the basic principles and practice of successful grantsmanship both from a research and programmatic perspective. Provides a comprehensive understanding of the different processes, structures, factors, and essential skills required when developing competitive proposals that are funded. Describes the various key elements involved in proposal preparation, such as identifying potential funding resources (government and private/foundations), formulating objectives, determining appropriate project/research design and evaluation methods, building budgets and sustainability plans, and understanding the grant-review process.

**STAT 521 Biostatistics I (4)**

Fundamental procedures of collecting, tabulating, and presenting data. Measures of central tendency and variation, normal distribution, sampling, t-test, confidence intervals, chi-square, correlation, and regression. Emphasis on statistical inference.

Prerequisite: STAT 548\* or STAT 549\* (\*may be taken concurrently); or consent of instructor.

**STAT 522 Biostatistics II (4)**

Simple and multiple regression, analysis of the residual, and model building. Multiple and partial correlation. Analysis of variance (fixed-effects model S) with multiple comparisons, including orthogonal contrasts, factorial designs, and analysis of covariance. Power analysis and sample size determination for these models.

Prerequisite: STAT 521.

**STAT 523 Biostatistics III (4)**

Applies the general linear model to a number of analysis-of-variance, regression, and multivariate procedures, including repeated measures, longitudinal data analysis, and mixed models. Power analysis and sample size determination of these models.

Prerequisite: STAT 522.

**STAT 525 Applied Multivariate Analysis (3)**

Multivariate normal distribution, discriminant analysis, principal components analysis, factor analysis, and canonical correlation. Emphasizes application of these analyses and interpretation of results.

Prerequisite: STAT 522.

**STAT 530 Special Topics in Biostatistics (1-4)**

Lecture and discussion on a current topic in biostatistics. May be repeated for a maximum of 4 units applicable to degree program.

Prerequisite: STAT 509\* or STAT 521\* (\*may be taken concurrently).

**STAT 534 Quantitative Data Presentation (3)**

Quantitative data summaries and presentation. Uses selected software programs for graphing, summarizing, and presenting data.

**STAT 535 Introduction to Modern Nonparametric Statistics (3)**

Application and theory of nonparametric methods for analysis of nominal and ordinal data and distribution-free tests, including: rank tests for matched and independent samples, chi-square and goodness-of-fit tests, McNemar's test, rank correlation, k-sample tests, randomizations tests, and Komogorov-Smirnov statistics using traditional approaches as well as modern approaches (permutation and re-sampling techniques).

Prerequisite: STAT 509 or STAT 521.

**STAT 538 Probability and Statistical Theory I (3)**

Statistical regularity, probability spaces. Fundamental theorems in discrete probability. Bayes' Theorem. Random variables, densities, and distribution functions.

Prerequisite: STAT 521.

**STAT 539 Probability and Statistical Theory II (3)**

Continuous distributions. Transformations of random variables. Central-limit theorem. Distributions of sample statistics. Statistical inference, estimation, hypothesis testing, chi-square tests. Correlation.

Prerequisite: STAT 521, STAT 538.

**STAT 545 Survival Analysis (3)**

Statistical methods for analysis of survival data. Censoring mechanisms. Concepts of failure rates and different classes of life distributions under parametric and nonparametric settings. Statistical properties of competing survival functions estimators. Kaplan-Meyer estimator, piecewise exponential estimator, and other equivalent estimators. Cox proportional hazard model and associated statistical inferences.

Prerequisite: STAT 522.

**STAT 548 Analytical Applications of SAS (2)**

Features of SAS computer package for analysis of statistical data. Includes decisions regarding choice of statistical procedures and interpretation of computer output to answer specific research questions.

Prerequisite: STAT 509\* or STAT 521\* (\*may be taken concurrently); or passing score on the computer-competency examination. Cross-listing: STAT 448.

**STAT 549 Analytical Applications of SPSS (2)**

Features of SPSS computer package for analysis of statistical data. Includes decisions regarding choice of statistical procedures and interpretation of computer output to answer specific research questions.

Prerequisite: STAT 509\* or STAT 521\* (\*may be taken concurrently); or passing score on the computer-competency examination. Cross-listing: STAT 449.

**STAT 554 Applied Bayesian Data Analysis (2)**

Bayesian statistical analysis, with focus on applications. Compares Bayesian and frequentist methods. Bayesian model specification; choice of priors; and computational methods using appropriate software, such as WinBUGS—a free software—as a tool for Bayesian data analysis and SAS.

Prerequisite: STAT 539); or equivalent.

**STAT 555 Time Series and More Longitudinal Data Analysis (2)**

Analyses of time series models. Covers stationary and nonstationary models—including ARMA and ARIMA, auto-covariance and auto-correlation functions. Statistical tests for white noise. Introduces forecasting, including: use of regression in forecasting, removal and estimation of trend and seasonality, exponential smoothing, and stochastic time series models.

Prerequisite: STAT 522; or equivalent.

**STAT 556 Categorical Data Analysis (2)**

Topics include basic goodness-of-fit measures, such as Pearson's chi-square statistics, Mantel and Haenszel test, contingency tables, log-linear analysis of multidimensional contingency tables, and logistic regression. Techniques for analysis of count data, such as Poisson regression; and analysis of matched case-control studies and clustered categorical data.

Prerequisite: STAT 522\* (\*may be taken concurrently); or equivalent.

**STAT 557 Research Data Management (2, 3)**

Basic data and file manipulation using database-management systems for health research. Uses several applications, with emphasis on Microsoft Access. Topics include: importing, exporting, merging, and linking files for a variety of applications; creating, updating, and querying databases; and basic programming, application development, and data entry. General computer skills expected, but no prior computer programming experience necessary.

Prerequisite: (STAT 509 or STAT 521), (STAT 548 or STAT 549); General computer skills expected, but no prior computer programming experience necessary. For 3 units—STAT 509 or STAT 521, STAT 548 or STAT 549.

**STAT 558 Advanced Statistical Packages (3)**

Computer applications to advanced statistical procedures using SAS, SPSS, and other statistical software. Advanced techniques facilitating statistical analysis useful to biostatisticians, epidemiologists, health planners, and others transferring data files between software packages, combining and matching files, modifying data, and creating graphical presentations of data.

Prerequisite: (STAT 548 or STAT 549), STAT 521, STAT 522.

**STAT 564 Survey and Advanced Research Methods (3)**

Principles and procedures of surveys as applied to the health sciences. Topics covered include: survey and research designs, questionnaire construction, validity techniques, sampling methods, sample size determination, nonresponse problems, data collection, coding, processing, evaluation, and presentation of results. Hands-on experience presented as a combination of lecture and laboratory activities.

Prerequisite: STAT 509\* or STAT 521\* (\*may be taken concurrently). Cross-listing: STAT 464.

**STAT 568 Data Analysis (3)**

Concepts and applications of the most common data analysis methods: correlation and regression, contingency tables, t-tests, analysis-of-variance, nonparametric methods, and multivariate analyses. Student selects appropriate method of analysis and reporting results. Emphasizes individual analysis of real-data sets. Lecture-demonstrations and laboratory work. All data analysis assignments to be completed in SPSS.

Prerequisite: (STAT 509 or STAT 521), (STAT 548 or STAT 549). Cross-listing: STAT 468.

**STAT 569 Advanced Data Analysis (3)**

Brings together other biostatistics courses in a unified, applied approach. Specifically provides practical experience with real-world biostatistical data, using a wide variety of statistical procedures—including general linear models, generalized linear models, and nonparametric alternatives. Includes guidelines for choosing statistical procedures, model building, validation, and written presentation of results.

Prerequisite: STAT 522.

**STAT 594 Statistical Consulting (1-4)**

Advanced students participate in statistical consultation with senior staff members. Statement of the problem, design of the experiment, definition of response variables, appropriate analysis of data, statistical inferences, and interpretation of data.

Prerequisite: Consent of instructor.

**STAT 605 Seminar in Biostatistics (1)**

Presents and discusses area of interest. Individual research and report.

**STAT 625 Special Topics in Biostatistics (1-3)**

Lecture and discussion on a current topic in biostatistics. May be repeated for a maximum of 6 units applicable to degree program. Recommended for doctoral students.

Prerequisite: STAT 521.

**STAT 692 Research Consultation (1-8)**

Individual consultation on project design and data collection, analysis, evaluation, and interpretation.

Prerequisite: Consent of instructor.

**STAT 694A Research I (1)**

Independent research. Research program arranged with faculty member(s) involved. Written report and oral presentation required.

**STAT 694B Research II (1)**

Independent epidemiologic research. Research program arranged with faculty member(s) involved. Written report and oral presentation required.

**STAT 694C Research III (1)**

Independent epidemiologic research. Research program arranged with faculty member(s) involved. Written report and oral presentation required.

**STAT 694D Research IV (1)**

Independent epidemiologic research. Research program arranged with faculty member(s) involved. Written report and oral presentation required.

**STAT 695 Thesis (2-8)**

Student prepares report of individual guided experimental research study in biostatistics, under direct faculty supervision. Limited to graduate students whose thesis projects have been approved by their research committee.

**STAT 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. Maximum of 4 units applicable to any master's degree program.

Prerequisite: Consent of instructor responsible for supervision and of program advisor.

**STAT 798 Field Practicum (1-4)**

Provides opportunities for students to integrate the biostatistics skills they have learned with public health practice in a community setting. Students seeking the M.P.H. degree in biostatistics typically register for at least two, 1-unit courses in STAT 798, for a minimum of 240 hours of practical experience in public health.

**SCIENCE AND TECHNOLOGY—  
CONJOINT****STCJ 303 Cultural Learning (4)**

Students develop skills in learning a culture by applying principles from two modes of inquiry: ethnography and ethnology. Practice gathering cultural information and data through ethnographic interviews, as well as through research in the human relations area files. Focuses on developing knowledge of a particular culture in which the student has an interest.

**STCJ 501 Critical Thinking (4)**

Develops in postbaccalaureate students critical-thinking skills, including: evaluating ideas, using dialogical learning for deep reliable knowledge, thinking inductively and deductively, accurately conceptualizing for better decision making and behavioral choices, applying critical thinking to academic success and life-long learning.

**STCJ 502 Classroom Teaching Strategies (3)**

Addresses pedagogical issues including, but not limited to: developing a healthy learning environment in the classroom, developing effective teaching strategies, fostering effective learning strategies in students, preparing syllabi, lecturing, managing classroom discussion, evaluating students' performance.

**STCJ 514 Editing, Style, and Grammar for Academic Writing and Publication (2)**

Focuses on mastery of the editing stage of academic manuscript preparation. Applicable to all academic works, including publishable research results, term papers, dissertations, theses, and proposals. Covers the self-editing option, editing techniques, grammar, punctuation, and style. Addresses APA and other styles.

**STCJ 515 Researching and Writing Graduate Level Papers (2-4)**

Provides skills for critical writing, including organization, development of idea, and presentation of conclusion. Develops skills applicable to the preparation of term papers in the students' disciplines.

**STCJ 615 Writing for Thesis/Dissertation (2-4)**

Develops skills necessary for researching and writing theses and dissertations. Includes researching literature in electronic and library sources; and collecting, filtering, paraphrasing, and organizing data from literature. Develops editing skills that may be applied to any prose writing involved in producing a thesis or dissertation—including proposals, abstracts, introductions, reviews of literature, write-ups of data analyses, and conclusions.

**STCJ 905 Preparation for Comprehensive Examinations (0)**

Provides degree-seeking graduate students registration on a continuing basis in order to maintain active status in the School of Science and Technology while preparing for comprehensive examinations. Students work with their primary advisor to outline a plan to review their progress during the term.

**SURGERY****SURG 599 Surgery Directed Study (1.5-18)****SURG 701 Surgery Clerkship (1.5-18)**

Includes one week on each service: anesthesiology, emergency medicine, neurosurgery, otolaryngology, ophthalmology, orthopaedic surgery, plastic surgery, and urology; and one month of general surgery.

**SURG 821 Surgery Subinternship (1.5-18)**

A subinternship in surgery in which the student performs in the intern's role as part of a team in the clinical care of surgical patients. Subinterns expected to take responsibility for the daily care of individual patients, to practice procedural skills, and to assist and participate in the surgical procedures at a level appropriate to their training. Subinterns participate in overnight in-house calls, and respond to in-house emergencies and requests for routine consultations and for evaluation of patients in the emergency department. Duty hours and hours of responsibility for night call will not exceed the guidelines set for the junior house staff by the respective institutions where rotations occur and by the guidelines set forth for medical students on surgery.

**SURG 822 Surgery ICU (1.5-3)**

Includes two-week service on a surgical intensive-care unit.

Prerequisite: SURG 701.

**SURG 891 Surgery Elective (1.5-18)**

May include pediatric surgery, vascular surgery, trauma surgery, general surgery, cardiothoracic surgery, plastic surgery, neurosurgery, otolaryngology, surgical intensive care, and urology.

**UROLOGY****UROL 891 Urology Elective (1.5-18)****WRITING****WRIT 077 Basic Writing I (2)**

This course will include instruction in grammar, sentence structure, and vocabulary usage.

**WRIT 084 Guerilla Grammar (1)**

Polishes and fine-tunes writing fluency by building on grammar and punctuation basics for immediate results. A user-friendly, laser-focused, light-hearted format that enlightens students in the mechanics of written English. Highly recommended to meet ESL needs.

**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 177 Writing II (2)**

Academic and research writing, formatting, and fluency with styles.



**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 319 Writing for Health Professionals—Short Course (1)**

A truncated version of WRIT 317 that includes the basics of genre structure, language structure, prewriting techniques, and self-editing techniques. Emphasizes development of logic through argument and causal factors for purposes of writing clear reports, literature reviews, and research essays. Incorporates basic strategies for reducing writer's block.

**WRIT 324 Writing for Health Care Professionals (2)**

Students learn to write term papers and publishable articles from research in the health care literature.

**WRIT 417 Writing III: Research Writing (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 English-language concepts.

**WRIT 425 Critical Thinking and Writing (1)**

Assists and guides students through the writing process of drafting an orderly, coherent, and acceptable final modality position paper, thesis statement, dissertation abstract, and/or dissertation proposal. A straightforward, intensive, accelerated teaching and learning approach to scholarly writing. Approaches writing as a critical, creative-thinking process. Taught in sections, according to students' needs as they learn by working on their own projects.

**WRIT 451 Writing for Publication I (2)**

Focuses on producing writing that leads to publication. Emphasizes individual writing processes, revision strategies, and polishing drafts prior to sending out for publication. Open to faculty and others by permission of instructor.

**WRIT 452 Writing for Publication II (2)**

Focuses on producing writing that leads to publication. Emphasizes individual writing processes, revision strategies, and polishing drafts prior to sending out for publication. Open to faculty and others by permission of instructor.

Prerequisite: WRIT 451.

**WRIT 453 Writing for Publication III (2)**

Focuses on producing writing that leads to publication. Emphasizes individual writing processes, revision strategies, and polishing drafts prior to sending out for publication. Open to faculty and others by permission of instructor.

Prerequisite: WRIT 452.

**WRIT 486 Graduate's Guide to Resumes, CVs, and Cover Letters (.5)**

Takes an in-depth look at the anatomy of a resume and CV, and explains how they differ. Discusses what makes a good cover letter, and how cover letters can undermine even the best resume or CV. Discusses the latest on computerized resume scanning, including a hands-on, roundtable tutorial to create, edit, or revitalize one's personal resume, CV, or cover letter.

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

Provides graduate students the opportunity to pursue advanced study under the guidance and tutelage of a faculty member in an area related to their graduate study and relevant to their writing skills and needs. Students design an individualized program in professional writing. The developed study program may include attending specified classes, library research, relevant literature review, or interviews and discussions with resource persons who have the expertise in the desired specialty area.

V

THE FACULTY

**Key to Codes**

In the alphabetical listing below, the two-letter code following the department name indicates the school or faculty in which the faculty member holds academic appointment. The two-letter symbols are:

- AH School of Allied Health Professions
- SD School of Dentistry
- SM School of Medicine
- SN School of Nursing
- SP School of Pharmacy
- PH School of Public Health
- SR School of Religion
- ST School of Science and Technology
- GS formerly Graduate School, now Faculty of Graduate Studies
- FGS Faculty of Graduate Studies
- SE Loma Linda University School of Education, now La Sierra University School of Education

**THE FACULTY**

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| <p>AAEN, GREGORY S. Instructor, Department of Pediatrics SM<br/>M.D. Loma Linda University 2003</p>  | <p>ABOGADO, ELVA J. Clinical Instructor SN<br/>M.H.A. California State University, San Bernardino 2000</p>   |
| <p>ABBATE, MATTY F. Professor, Department of Restorative Dentistry SD<br/>D.D.S. University of California, San Francisco 1958</p>  | <p>ABOU-ZAMZAM, AHMED MOHAMMED, JR. Associate Professor, Department of Cardiovascular and Thoracic Surgery SM<br/>M.D. Yale University School of Medicine 1992</p> |
| <p>ABBEY, DAVID E. Professor, Department of Preventive Medicine SM and Department of Epidemiology and Biostatistics PH<br/>Ph.D. University of California, Los Angeles 1972</p>    | <p>ACACIO, BRIAN D. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM<br/>M.D. George Washington University 1993</p>                        |
| <p>ABBOY, RAMADAS. Assistant Clinical Professor, Department of Medicine SM<br/>M.B.B.S. Stanley Medical College, India 1967</p>  | <p>ADAMICH, THOMAS S. Assistant Professor, Department of Periodontics SD<br/>D.D.S. Case Western Reserve University 1983</p>                                       |
| <p>ABD-ALLAH, SHAMEL A. Associate Professor, Department of Pediatrics SM; Assistant Professor, Department of Emergency Medicine SM<br/>M.D. Loyola Stritch Medical School 1989</p> | <p>ADAMS, JANE E. Assistant Professor, Department of Health Administration PH<br/>M.H.A. University of La Verne 1991</p>   |
| <p>ABDOLLAHI, KARIM. Assistant Clinical Professor, Department of Orthopaedic Surgery SM<br/>M.D. University of Health Sciences, Chicago Medical School 1990</p>                    | <p>ADAMS, JOHN F. Adjunct Assistant Professor, Department of Dental Educational Services SD<br/>D.D.S. Loma Linda University SD 1980</p>                           |
| <p>ABEDI, HAMID R. Assistant Professor, Department of Endodontics SD<br/>B.D.S. Royal London Hospital, England, UK 1991</p>  | <p>ADAMS, TRACY R. Assistant Professor, Department of Dental Hygiene, SD<br/>B.S. Loma Linda University SD 2005</p>  |
| <p>ABIDIN, CAROL J. Clinical Instructor, Department of Nutrition PH<br/>B.S. California State Polytechnic University 1991</p>  | <p>ADELMAN, TRAVIS B. Instructor, Department of Family Medicine SM<br/>M.P.A. Loma Linda University AH 2007</p>  |
|  | <p>AFIFI, GHADA YOUSSEF. Assistant Clinical Professor, Department of Plastic and Reconstructive Surgery SM<br/>M.D. Albany Medical College 1990</p>                |

- AFSARI, ALAN M. Assistant Professor, Department of Medicine SM  
M.D. American University of the Caribbean, Netherlands Antilles 2000
- AGARWAL, MADHU R. Associate Professor, Department of Ophthalmology SM; Assistant Professor, Department of Neurosurgery SM  
M.D. University of California, Los Angeles 1999
- AGHAKHANI, ARASH. Assistant Professor, Department of Dental Anesthesiology SD  
M.S. University of Maryland 1996  
D.D.S. University of the Pacific 1994
- AGPAOA, GRACE T. Instructor, Department of Clinical Laboratory Science AH  
B.S. University of California, Riverside 1991
- AHMAD, BORHAAN S. Assistant Professor, Department of Pediatrics SM  
M.D. Kabul University, Afghanistan 1981
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M.B.B.S. University of the Punjabi, India 1969
- AIYAR, SHOBHA S. Assistant Professor, Department of Medicine SM  
M.B.B.S. Mahatma Gandhi Memorial Medical College, India 1989
- AKA, PAUL KOJI. Assistant Clinical Professor, Department of Cardiovascular and Thoracic Surgery SM  
M.D. Loma Linda University SM 1986
- AKAMINE-DAVIDSON, SANDRA M. Clinical Instructor, Department of Ophthalmology SM  
O.D. Southern California College of Optometry 1989
- AKIN, LEE H. Instructor, Department of Oral and Maxillofacial Surgery SD  
D.D.S. University of California, San Francisco 2006
- AKIN, MARIE-ROSE MINHTAM LEVAN. Adjunct Assistant Professor, Department of Pathology and Human Anatomy SM  
M.D. Indiana University 1981
- AL AQEEL, ADNAN. Assistant Professor, Department of Cardiopulmonary Sciences AH  
M.H.I.S. King Saud bin Abdulaziz College, Saudi Arabia 2005
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Ph.D. Texas Woman's University 2006
- AL FAGIH, MOHAMMED RASHID. Adjunct Clinical Professor, Department of Cardiopulmonary Sciences AH  
M.B.Ch.B. Baghdad Medical College, Iraq 1971
- AL-ARDAH, ALADDIN JAMAL. Assistant Professor, Department of Restorative Dentistry SD  
B.D.S. Jordan University of Science and Technology, Jordan 1999
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M.D. University of Santo Tomas, Philippines 1966
- ALBERT, JULIE C. Associate Professor, Department of Psychiatry SM  
D.S.W. University of Southern California 1978
- ALBERTSON STEWART R. Assistant Clinical Professor, Department of Health Policy and Management PH  
J.D. Loyola University New Orleans Law School 2002
- ALBRECHT, EDWARD G. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1980
- ALCAIDE, JEFF G. Clinical Instructor, Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 2000
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M.Th. Edinburgh University, Scotland, UK 1966  
Ph.D. Michigan State University 1962
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B.S. California State University, San Bernardino 2000
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Ed.D. La Sierra University 2001
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Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1982
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M.S. Georgia State University 2007
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Ph.D. Tulane University 1981
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Department of Psychiatry SM  
M.D. Autonomous University of  
Guadalajara, Mexico 1986
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Department of Restorative Dentistry SD  
D.D.S. Universidad Autonoma Baja  
California 1989
- ALVES, DANIEL. Assistant Clinical Professor,  
Department of Environmental and Occupational  
Health PH  
M.P.H. Loma Linda University PH 2004  
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- ALZAYAT, SAMEH F. Instructor, Department of  
Pediatric Dentistry SD  
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Columbia, Canada 1997
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Professor, Department of Restorative Dentistry  
SD  
D.M.D. Boston University 2001
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M.D. Loma Linda University SM 2003
- ANDERSON, DENNIS K. Assistant Clinical  
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Reconstructive Surgery SM  
M.D. Loma Linda University SM 1966
- ANDERSON, DONALD LEE. Associate Professor,  
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- ANDERSON, DONALD LYNN. Associate Professor,  
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- ANDERSON, DUANE R. Assistant Professor,  
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M.D. University of Minnesota 1979
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- ANDERSON, NANCY J. Professor, Department of  
Medicine SM  
M.D. Loma Linda University SM 1976
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D.D.S. Loma Linda University SD 2005
- ANDERSON, S. ERIC. Associate Professor,  
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Orthopedics SD and Orthodontics and  
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Ph.D. The Union Institute of Cincinnati 1989
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Department of Periodontics SD  
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Slovakia 1993
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Orthodontics SD  
D.D.S. University of the Pacific 1946
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1974
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Radiation Medicine SM  
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Periodontics SD and Periodontics Program FGS  
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- AUSTIN, CRAIG EUGENE. Instructor, Department of Clinical Laboratory Science AH  
B.S. Loma Linda University AH 1983
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M.D. Albany Medical College 1978
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D.D.S. Javeriana University, Columbia 1997
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M.D. University of California, San Diego 1977
- AWRAMIK, STANLEY. Clinical Professor, Department of Earth and Biological Sciences ST  
Ph.D. Harvard University 1973
- AYYOOUB, ZIYAD. Assistant Professor, Department of Physical Medicine and Rehabilitation SM  
M.D. Minsk State Medical Institute, Belarus 1986
- AZER, SHERIF A. Associate Professor, Department of Anesthesiology SM  
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D.M.D. University of Montreal, Quebec, Canada 1996
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Ph.D. Universite Pierre et Marie Curie, France 1999
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M.D. Medical College, Busan National University, Republic of Korea 1963
- BAEK, HESUK H. Assistant Professor, Department of Medicine SM  
M.D. Medical College of Georgia 2000
- BAERG, JOANNE E. Assistant Professor, Department of Surgery SM and Department of Pediatrics SM  
M.D. University of British Columbia, Canada 1990
- BAEZ, MERCEDES. Adjunct Assistant Professor, Department of Health Promotion and Education PH  
M.P.H. Universidad de Chile, Chile 1959
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M.D. University of California, Los Angeles 1997
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M.D. Fatima College of Medicine, Manila, Philippines 1999



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M.S. Loma Linda University GS 1983
- BAKER, GRACE T. Instructor, Department of Clinical  
Laboratory Science AH  
B.S. University of California, Riverside 1991
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D.P.T.Sc. Loma Linda University AH 1999
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D.D.S. Loma Linda University SD 1963
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Health PH  
M.B.A. Azusa Pacific University 1984
- BALDWIN, DALTON D. Associate Professor,  
Department of Urology SM  
M.D. Loma Linda University SM 1991
- BALGUMA, FREDDIE B. Associate Clinical Professor,  
Department of Pediatrics SM  
M.D. University of Santo Tomas, Philippines  
1962
- BALLI, KEVIN C. Assistant Professor, Department of  
Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1998
- BANSAL, DALJEET BHATA. Assistant Professor,  
Department of Medicine SM  
M.D. Delhi University 1968
- BANSAL, RAMESH C. Professor, Department of  
Medicine SM  
M.B.B.S. All India Institute of Medical  
Sciences, India 1972
- BANTA, JIMMIE E., JR. Assistant Professor,  
Department of Health Administration PH  
Ph.D. University of California, Los Angeles  
2004
- BARCEGA, BESH R. Assistant Professor, Department  
of Emergency Medicine SM and Department of  
Pediatrics SM  
M.D. Loma Linda University SM 1990
- BARILLA, DORA J. Assistant Professor, Department  
of Health Administration PH  
M.P.H. Loma Linda University PH 1995
- BARKER, GARY R. Assistant Professor, Department  
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M.D. Loma Linda University SM 1980
- BARNES, DONALD T. Assistant Professor,  
Department of Radiology SM  
M.D. Howard University 1971
- BARON, PEDRO W. Professor, Department of  
General and Trauma Surgery SM  
M.D. University of Antioquia School of  
Medicine, Columbia 1977
- BARRERA, MARCO. Clinical Instructor, Department  
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M.D. Montemorelos University, Mexico 1995
- BARRIO, JUAN. Assistant Professor, Department of  
Medicine SM  
M.D. University of California, San Diego  
1997
- BARTNIK, BRENDA L. Assistant Professor,  
Department of Radiology SM  
Ph.D. University of Saskatchewan, Canada  
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- BARTON, LORAYNE. Adjunct Associate Professor,  
Department of Health Promotion and Education  
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M.P.H. Loma Linda University PH 2000  
M.D. University of California, Irvine 1996
- BARTOS SPECHT, REBEKAH. Instructor,  
Department of Medicine SM  
M.S.N. Azusa Pacific 2001
- BASHKIROV, VLADIMIR. Associate Research  
Professor, Department of Radiation Medicine SM  
Ph.D. Moscow Institute of Physics and  
Technology, Russia 1997
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B.S. Loma Linda University AH 1986
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D.D.S. Damascus University Dental School,  
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Department of Orthodontics SD  
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1998
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M.D. Loma Linda University SM 1997
- BAUGH, WILSON B., JR. Assistant Clinical Professor,  
Department of Oral and Maxillofacial Surgery SD  
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1981
- BAUM, MARTI F. Assistant Professor, Department of  
Pediatrics SM  
M.D. Loma Linda University SM 1979
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Department of Dental Educational Services SD  
B.S. Loma Linda University 2007
- BAYLINK, DAVID J. Distinguished Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1957
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Medicine SM  
M.D. University of Southern California  
School of Medicine 1997
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Orthopedic Surgery SM  
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Medicine 1976
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Health Promotion and Education PH; Adjunct  
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Pediatrics SM  
M.D. University of Washington 2004
- BECKNER, JEANNE. Assistant Professor, School of  
Nursing SN  
M.S.N. Azusa Pacific University
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Department of Pathology and Human Anatomy  
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Medicine 1958
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Department of Physician Assistant Sciences AH  
M.S. Western University of Health Sciences  
1997
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Department of Family Medicine SM  
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Department of Ophthalmology SM  
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Ophthalmology SM  
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B.S. University of Washington 1971
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M.D. Loma Linda University SM 1996
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Allied Health Studies AH and Department of  
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Dr.P.H. Loma Linda University 1981
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M.D. New York Medical College 2001
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Restorative Dentistry SD  
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Orthopedic Surgery SM  
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M.B.B.S. Andhra Medical College, India 1994
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- BOHR, THOMAS W. Associate Professor,  
Department of Neurology SM  
M.D. University of California, San Francisco  
1984
- BOLING, EUGENE P. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. University of California, Los Angeles  
1976
- BOLLA, LISA DAWN. Instructor, Department of  
Family Medicine SM  
M.S. Loma Linda University GS 2002
- BOLTON, STEPHANIE L. Assistant Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 2003
- BONNET, REINER B. Adjunct Professor, Department  
of Preventive Medicine SM  
M.D. Loma Linda University SM 1981
- BONYANPOOR, SHAHNAZ. Assistant Professor,  
Department of Pediatric Dentistry SD  
D.M.D. Shiraz University, Iran 1977
- BORK, JANE N. Associate Professor, Department of  
Pediatrics SM  
M.D. Loma Linda University SM 1979

- BORUT, DANIELLE L. Assistant Clinical Professor,  
Department of Pediatrics SM  
M.D. University of Southern California 1969
- BOŠKOVIC, DANILO. Assistant Professor,  
Department of Basic Sciences SM and Assistant  
Professor, Department of Earth and Biological  
Sciences ST  
Ph.D. Queen's University at Canada,  
Ontario, Canada 1997
- BOSSERT, ELIZABETH ANNE. Associate Dean  
Graduate Program, School of Nursing SN  
D.N.S. University of California, San  
Francisco 1990
- BOULAND, DANIEL L. Associate Clinical Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1982
- BOUNDS, JEFFREY ALLEN. Associate Professor,  
Department of Neurology SM  
M.D. Loma Linda University SM 1972
- BOURNE, KENRICK CARLYLE. Assistant Professor,  
Department of Physician Assistant Sciences AH  
and Physician Assistant Program FGS  
Dr.P.H. Loma Linda University PH 1997
- BOWEN, WILLIAM W. Assistant Clinical Professor,  
Department of Surgery SM  
M.D. Loma Linda University SM 1973
- BOWES, LARRY D. Assistant Professor, Department  
of Ophthalmology SM  
M.D. Loma Linda University 1971
- BOWSER, JOHN G. Assistant Research Professor,  
Department of Orthopaedic Surgery SM  
Ph.D. University of London 2001
- BOYD, KENDAL C. Assistant Professor, Department  
of Psychology ST and Clinical Psychology  
Program FGS  
Ph.D. Fuller Theological Seminary 1999
- BOYKO, MICHAEL PETER. Assistant Professor,  
Department of Oral and Maxillofacial Surgery SD  
D.D.S. Loma Linda University SD 1975  
M.P.H. Loma Linda University PH 1975
- BOYLE, BRENDA J. Assistant Professor, School of  
Nursing SN  
M.S.N. University of Phoenix, San  
Bernardino 2001
- BRACHO, YASMIN. Clinical Instructor, Department  
of Physician Assistant Sciences AH  
M.P.A. Loma Linda University AH 2002
- BRADLEY, BRUCE D. Assistant Professor,  
Department of Physical Therapy AH  
D.P.T.Sc. Loma Linda University AH 2001
- BRAMAN, MARCUS A. Adjunct Assistant Professor,  
Department of Preventive Medicine SM  
M.P.H. Loma Linda University PH 2003  
M.D. Loma Linda University SM 1995
- BRAND, LEONARD R. Professor, Department of  
Earth and Biological Sciences ST  
Ph.D. Cornell University 1970
- BRANDON, KAREN R. Clinical Instructor,  
Department of Physical Therapy AH  
D.Sc. Loma Linda University 2005
- BRANDSTATER, BERNARD JOHN. Professor,  
Department of Anesthesiology SM  
M.B.B.S. Adelaide University, Australia 1951
- BRANDSTATER, MURRAY E. Professor, Department  
of Physical Medicine and Rehabilitation SM and  
Department of Neurology SM  
Ph.D. University of Minnesota 1972  
M.B.B.S. Melbourne University, Australia  
1957
- BRANDSTATER, NATHAN R. Associate Professor,  
Department of Radiation Medicine SM  
M.B.A. La Sierra University 2002  
Ph.D. University of California, Los Angeles  
1996
- BRANSON, ROY. Adjunct Assistant Professor, School  
of Religion SR  
Ph.D. Harvard University 1968
- BRANDT, ALLEN L. Associate Clinical Professor,  
Department of Anesthesiology SM  
M.D. College of Medical Evangelists 1952
- BRANDT, JAMES ALLAN. Assistant Professor,  
Department of Clinical Laboratory Science AH  
M.S. Loma Linda University GS 1982
- BRANTLEY, EILEEN J. Assistant Professor,  
Department of Basic Sciences SM and  
Department of Pharmaceutical Sciences SP  
Ph.D. Meharry Medical College 1999
- BRASLOW, LAWRENCE. Associate Clinical  
Professor, Department of Surgery SM  
M.D. Loma Linda University SM 1940
- BRATHWAITE, RON K. Instructor, Department of  
Family Medicine SM  
M.D. University of Maryland 2002

- BRATLUND, CHRISTINA V. Assistant Professor,  
Department of Communication Sciences and  
Disorders  
M.S. Loma Linda University GS 2001
- BRAUER, STANLEY D. Professor, Department of  
Anesthesiology SM  
M.D. Loma Linda University SM 1980
- BREIG, NICHOLAS A. Instructor, Department of Oral  
and Maxillofacial Surgery SD  
D.D.S. University of California, San  
Francisco 2008
- BRENES, EUGENIO J. Clinical Instructor,  
Department of Restorative Dentistry SD  
D.D.S. Universidad Internacional de las  
Americas, Costa Rica 2003
- BRIGGS, BURTON A. Professor, Department of  
Anesthesiology SM  
M.D. Loma Linda University SM 1966
- BRIGGS, ROGER ALLEN. Adjunct Assistant  
Professor, Department of Restorative Dentistry  
SD  
D.D.S. Loma Linda University SD 1973
- BRINEGAR, CHARLES, HOWARD, JR. Emeritus  
Associate Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1963
- BRISTOL, SHIRLEY T. Associate Professor, Nursing  
Program, FGS  
J.D. University of La Verne 1990
- BRITT, WILLIAM, G. III. Associate Professor,  
Department of Psychiatry SM  
Ph.D. Rosemead Graduate School of  
Professional Psychology 1981
- BRITTON, DOUGLAS R. Assistant Professor,  
Department of Earth and Biological Sciences ST  
Ph.D. University of Wyoming 1998
- BROCKMANN, DOUGLAS C. Assistant Clinical  
Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 1978
- BRODEUR, DAVID C. Assistant Professor,  
Department of Restorative Dentistry SD  
M.P.A. Loma Linda University AH 1972  
D.D.S. Loma Linda University SD 1971
- BROOME, DALE R. Associate Clinical Professor,  
Department of Radiology SM  
M.D. University of Missouri, Kansas City  
1987
- BROWN, DOUGLAS. Assistant Professor,  
Department of Orthodontics SD  
M.S. Loma Linda University GS 1991  
D.D.S. University of Southern California  
1981
- BROWN, BRANDON R. Clinical Instructor,  
Department of Oral and Maxillofacial Surgery SD  
D.D.S. University of Iowa 2003
- BROWN, GARY W. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. Universidad Autonoma de  
Guadalajara, Mexico 1980
- BROWN, JAMES A. Assistant Professor, Department  
of General Trauma Surgery SM  
M.D. Medical University of South Carolina  
1978
- BROWN, LANCE A. Associate Professor, Department  
of Emergency Medicine SM and Department of  
Pediatrics SM  
M.D. Harvard University 1994  
M.P.H. Harvard University 1994
- BROWN, LAURA DENISE. Assistant Librarian,  
Library Faculty  
M.L.S. University of California, Los Angeles  
1988
- BROWN, WILLIAM E. Assistant Clinical Professor,  
Department of Orthopedic Surgery SM  
M.D. College of Medical Evangelists 1952
- BROWN-HARRELL, VICKIE D. Assistant Professor,  
Department of Medicine SM  
M.D. University of Iowa 1992
- BRUCE-LYLE, LESLIE A. Assistant Clinical Professor,  
Department of Ophthalmology SM  
M.B.Ch.B. University of Ghana Medical  
School, Ghana 1976
- BRUCKNER, EVERT A. Associate Clinical Professor,  
Department of Medicine SM  
M.D. Stanford University 1958
- BRUNO, RICHARD. Assistant Clinical Professor,  
Department of Health Administration PH  
M.B.A. Woodbury University 1972
- BRUNT, JOHN C. Professor, School of Religion SR  
Ph.D. Emory University 1978
- BRUTTOMESSO, SAMUEL D. Assistant Clinical  
Professor, Department of Pediatrics SM  
M.D. Hahneman Medical College 1970

- BRYAN, PATRICK J. Associate Clinical Professor,  
Department of Radiology SM  
M.B.Ch.B. University College at Galway,  
Ireland 1967
- BUCHHEIM, H. PAUL. Professor, Department of  
Earth and Biological Sciences ST  
Ph.D. University of Wyoming 1978
- BUCHHOLZ, JOHN N. Professor, Department of  
Physiology and Pharmacology SM  
Ph.D. Loma Linda University GS 1989
- BUCKERT, LINDA SCUDDER. Instructor,  
Department of Clinical Laboratory Science AH  
B.S. University of Illinois 1980
- BUCKLES, BEVERLY J. Professor, Department of  
Social Work and Social Ecology ST  
D.S.W. Adelphi University 1989
- BUCKMAN, MICHELLE. Assistant Professor, School  
of Nursing SN  
M.S.N. St. Louis University 1993
- BUI, HONG DANG. Assistant Clinical Professor,  
Department of Pediatrics SM  
M.D. University of Saigon Faculty of  
Medicine, Vietnam 1969
- BULL, BERYL HEATHER. Assistant Professor,  
Department of Physical Medicine and  
Rehabilitation SM  
M.D. Loma Linda University SM 1994
- BULL, BRIAN S. Professor, Department of Pathology  
and Human Anatomy SM  
M.D. Loma Linda University SM 1961
- BULTRON, GILBERTO. Assistant Professor,  
Department of Pediatrics SM  
M.D. University of Cincinnati College of  
Medicine 2002
- BUNNELL, WILLIAM P. Professor, Department of  
Orthopedic Surgery SM and Department of  
Pediatrics SM  
M.D. Temple University 1968
- BURGOS, AUREA ESCOBAR. Instructor, Department  
of Nutrition and Dietetics AH  
B.S. Puerto Rico University, Puerto Rico 1955
- BURK, KELLY A. Clinical Instructor, Department of  
Radiation Technology AH  
B.S. Loma Linda University AH 2003
- BURKE, KENNETH IBER. Associate Professor,  
Department of Nutrition PH and Emeritus  
Professor, Department of Nutrition and Dietetics  
AH  
Ph.D. Florida State University
- BURLEY, TODD D. Clinical Professor, Department of  
Psychology ST  
Ph.D. University of Tennessee, Knoxville 1972
- BURNHAM, GILBERT M. Adjunct Associate  
Professor, Department of Global Health PH and  
Department of Preventive Medicine SM  
Ph.D. University of London, England, UK  
1988  
M.D. Loma Linda University SM 1968
- BURNS, MARGARET ANNE. Associate Professor,  
School of Nursing SN  
D.N.Sc. Catholic University of America 1985
- BURRIS, JOSEPH W. Instructor, Department of  
Emergency Medicine SM  
M.D. University of North Carolina 2004
- BURSTEIN, JEROME. Associate Professor,  
Department of Radiology SM  
M.S. College of St. Francis 1989  
M.D. Albert Einstein College of Medicine  
1968
- BURTCH, PERRY D. Assistant Professor, Department  
of Dental Educational Services, SD  
D.D.S. Loma Linda University SD 1990
- BURTON, PAUL D. Instructor, Department of  
Orthopaedic Surgery SM  
D.O. University of Health Sciences College  
of Osteopathic Medicine
- BUSH, DAVID A. Associate Professor, Department of  
Radiation Medicine SM  
M.D. Loma Linda University SM 1992
- BUSH, SEAN P. Associate Professor, Department of  
Emergency Medicine SM  
M.D. Texas A and M College of Medicine  
1992
- BUTLER, DIANNE GREIVE. Assistant Professor,  
Department of Nutrition PH  
M.S. Loma Linda University GS 1999  
M.B.A. Charles Stuart University 1999
- BUTLER, TERRENCE L. Associate Professor,  
Department of Epidemiology and Biostatistics  
PH  
Dr.P.H. University of California, Los  
Angeles 1986

- BYRNE, JOHN MAURICE. Assistant Professor,  
Department of Medicine SM  
D.O. University of Osteopathic Medicine and  
Health Sciences 1989
- CABALLERO, CORA ALMARIO. Assistant Clinical  
Professor, School of Nursing SN  
M.A. New York University 1993
- CABANSAG, ROGER J. Assistant Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 1998
- CABRERA, JOYCE A. Instructor, Department of  
Occupational Therapy AH  
B.S. Loma Linda University AH 1982
- CAFFREY, ANGELES S. Assistant Professor,  
Department of Gynecology and Obstetrics SM  
M.D. University of Washington 1999
- CALDERON-VIZCAINO, RAQUEL M. Clinical  
Instructor, Department of Cardiopulmonary  
Sciences AH  
B.S. University of Redlands 2002
- CALLA PAULINE JOYCE. Instructor, Department of  
Health Information Management AH  
B.S. Loma Linda University AH 2005
- CAMACHO, ELBER SAMUEL. Assistant Clinical  
Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1972
- CAMPBELL, MICHAEL W. Instructor, University  
Libraries  
M.A. Andrews University 2004
- CAMPOS, FRANCISCO E. Assistant Professor,  
Department of Epidemiology and Biostatistics  
PH  
M.D. Universidad Peruana Cayetano  
Heredia, Peru 1990
- CANGA-SIAO, CYNTHIA R. Assistant Professor,  
Department of Medicine SM  
M.D. Cebu Institute of Medicine, Philippines  
1988
- CANTIN, EDOUARD M. Adjunct Associate Research  
Professor, Department of Biochemistry and  
Microbiology SM  
Ph.D. University of Cambridge, England, UK  
1976
- CANTOS, KENNETH A. Assistant Professor,  
Department of Pathology and Human Anatomy  
SM and Department of Medicine SM  
M.D. Loma Linda University SM 1993
- CAO, JEFFREY D. Professor, Department of  
Pathology and Human Anatomy SM  
M.D. Loma Linda University SM 1971
- CAPLANIS, NICHOLAS. Assistant Professor,  
Department of Restorative Dentistry SD and  
Department of Periodontics SD  
D.M.D. University of Medicine and  
Dentistry at New Jersey 1991
- CARLSON, JOHN P. Assistant Clinical Professor,  
Department of Ophthalmology SM  
M.D. Creighton University 1995
- CARNAHAN, CLARENCE E., JR. Clinical Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 1954
- CARNEY, JOHN P. Assistant Clinical Professor,  
Department of Health Administration PH and  
Department of Epidemiology and Biostatistics  
PH  
M.B.A. University of Phoenix 1992
- CAROTHERS, DAVID N. Adjunct Assistant  
Professor, Department of Dental Educational  
Services SD  
D.D.S. Loma Linda University SD 1980
- CARPENTER, MARK J. Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1980
- CARR, MARK F. Professor, School of Religion SR  
Ph.D. University of Virginia 1998
- CARRIGG, KAREN GRIGSBY. Associate Professor,  
School of Nursing SN  
Ed.D. Loma Linda University SE 1988
- CARSON, MARGIE INDRAJIT. Clinical Instructor,  
Department of Nutrition and Dietetics AH  
B.S. Western Michigan University 1995
- CARTER, ETHELRED E. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. Universidad Autonoma de  
Guadalajara, Mexico 1968
- CARTER, RONALD L. Professor, Department of  
Earth and Biological Sciences ST and Professor of  
Religion SR  
Ph.D. Loma Linda University GS 1977



- CARUSO, JOSEPH MICHAEL. Associate Professor, Department of Orthodontics SD  
D.D.S. Loma Linda University SD 1973
- CARUSO, MICHAEL A. Instructor, Department of Preventive Medicine SM  
M.D. Loma Linda University SM 2000
- CARVALHO, JULIANA. Assistant Professor, Department of Periodontics SD  
B.D.S. Federal University of Minas Gerais, Brazil 1997
- CASELLINI, RENZO CARLO. Clinical Instructor, Department of Restorative Dentistry SD  
M.D.T. Swiss Dental Technology College, St. Gallen, Switzerland 1976
- CASH, ZACHARY J. Instructor, Department of Family Medicine SM  
M.S. Western University of Health Sciences 2007
- CASIANO, CARLOS A. Associate Professor, Department of Biochemistry and Microbiology SM; Assistant Professor, Department of Medicine SM  
Ph.D. University of California, Davis 1992
- CASSIMY, CLYDE P. Assistant Professor, School of Religion SR  
D.Min. Vanderbilt University Divinity School 1981
- CASTANOTTO, DANIELA. Adjunct Associate Research Professor, Department of Biochemistry and Microbiology SM  
Ph.D. University of Messina, Italy 1987
- CASTILLO, ROMEO C. Adjunct Assistant Professor, Department of Family Medicine SM  
M.D. Lyceum Northwestern University, Philippines 1998
- CASTILLO-YETTER, GLENDA M. Clinical Instructor, School of Nursing SN  
B.S. Loma Linda University SN 1979
- CASTRO, DANIEL. Associate Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1986
- CASTRO, VANESSA A. Instructor, Department of Family Medicine SM  
M.S. Loma Linda University 2008
- CASTRO, YVAN. Assistant Professor, Department of Epidemiology and Biostatistics PH  
M.S.A. Andrews University 2000
- CATALANO, RICHARD D. Professor, Department of General and Trauma Surgery SM and Department of Emergency Medicine SM  
M.D. Loma Linda University SM 1976
- CATALON, SAMUEL R. Assistant Clinical Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 1984
- CAVINDER, JUANA R. Adjunct Assistant Professor, Department of Dental Educational Services SD  
D.M.D. Southwestern University, Philippines 1973
- CAZARES, JESUS J. Assistant Professor, Department of Health Promotion and Education PH  
M.P.H. Loma Linda University PH 1985  
M.S. Loma Linda University which school 1984  
M.D. Universidad Autonoma de Guadalajara, Mexico 1976
- CESTERO, GRETCHEN ELIZABETH. Assistant Professor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 2002
- CHA, CHUL C. Emeritus Associate Professor, Department of Pediatrics SM  
M.D. Seoul National University, Republic of Korea 1961
- CHA, JIN S. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2002
- CHADWICK, ROBERT B. Assistant Research Professor, Department of Medicine SM  
Ph.D. Ohio State University 2000
- CHAE, CHANG S. Assistant Clinical Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.B. University of Oklahoma College of Pharmacy 1981
- CHAFFEE, KENNETH D. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1980
- CHAKKA, SEKHAR N. Assistant Professor, Department of Restorative Dentistry SD  
B.D.S. Andhrapradesh, India 1982
- CHAMPLIN, THAD L. Adjunct Associate Professor, Department of Orthodontics SD  
M.S.D. University of the Pacific 1984  
D.D.S. University of Southern California 1969

- CHAN, BOBBY S. Assistant Professor, Department of Medicine SM  
M.D. Franklin University of Medicine and Science of Chicago Medical School 1999
- CHAN, CLEMENT KAR-MAN. Associate Clinical Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1980
- CHAN, CHRIS H. Assistant Clinical Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of Southern California 1991
- CHAN, FRANCIS D. Associate Professor, Department of Pediatrics SM and Department of Medicine SM  
M.D. Loma Linda University SM 1994
- CHAN, JACQUELINE. Assistant Research Professor, Department of Epidemiology and Biostatistics PH  
Dr.P.H. Loma Linda University PH 1999
- CHAN PHILIP J. Professor, Department of Gynecology and Obstetrics SM and Department of Physiology and Pharmacology SM  
Ph.D. Michigan State University 1983
- CHAND, IAN P. Professor, Department of Counseling and Family Science ST  
Ph.D. Pennsylvania State University 1980
- CHANDWANI, DEEPAK N. Assistant Professor, Department of Emergency Medicine SM  
M.D. Chicago Medical School 1999
- CHANG, EDDIE. Assistant Professor, Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 1999
- CHANG, SUZANNE E. Assistant Clinical Professor, Department of Medicine SM  
M.D. Northeastern Ohio University 1997
- CHANG, WALTER T. Assistant Clinical Professor, Department of Plastic and Reconstructive Surgery SM  
M.D. Dartmouth Medical School 2000
- CHANG, WILLIAM. Assistant Clinical Professor, Department of Medicine SM  
D.O. Michigan State University 2000
- CHARLES-MARCEL, ZENO L. Adjunct Associate Professor, Department of Medicine SM  
M.D. Harvard University 1980
- CHASE, DONALD R. Professor, Department of Pathology and Human Anatomy SM  
M.D. Loma Linda University SM 1977
- CHASE, RESA C. Professor, Department of Pathology and Human Anatomy SM  
M.D. Loma Linda University SM 1977
- CHAU, MINH-HANG. Assistant Professor, Department of Urology SM  
M.D. Albert Einstein College of Medicine 1994
- CHAVEZ, CARLOS E. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Universidad Nacional Federico Villarreal, Peru
- CHAVEZ, DAVID V. Adjunct Assistant Professor, Department of Psychology ST  
Ph.D. University of California, Berkeley 1993
- CHEEK, D. DARLENE. Assistant Professor, Department of Dental Hygiene SD  
M.P.H. Loma Linda University PH 1978
- CHEEK, GREGORY A. B. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1987
- CHEE, VINCENT K. Assistant Professor, Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1992
- CHEE-WATKINS, AI-MAE. Assistant Professor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1993
- CHEN, CHIEN-SHING. Associate Professor, Department of Medicine SM  
Ph.D. University of Minnesota 1992  
M.D. China Medical College, Taiwan, Republic of China 1985
- CHEN, JACK J. Associate Professor, Department of Pharmacotherapy and Outcomes Science SP and Associate Professor, Department of Neurology SM  
Pharm.D. University of Utah 1995
- CHEN, JUNG-WEI. Associate Professor, Department of Pediatric Dentistry, SD  
Ph.D. University of Texas, Houston 2007  
M.S. University of Texas, Houston 2002  
D.D.S. Taipei Medical College, Taiwan 1996
- CHEN, KENNETH G. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2005

- CHEN, SHAW S. Assistant Professor, Department of  
Medicine SM  
M.D. Rush University at Chicago 1989
- CHEN, SHIN-TAI. Associate Research Professor,  
Department of Basic Sciences SM  
Ph.D. University of Texas at Dallas 1986
- CHEN, THOMAS J. Assistant Professor, Department  
of Pediatrics SM  
M.D. Loma Linda University SM 2002
- CHEN, TOM T. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1977
- CHENG, LUISA S. Instructor, Department of  
Psychiatry SM  
M.D. Medical College of Wisconsin 2004
- CHENG, WAYNE K. Associate Professor,  
Department of Orthopedic Surgery SM  
M.D. Loma Linda University SM 1995
- CHEUNG, REBECCA J. Assistant Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.D. University of Southern California  
2002
- CHI-LUM, BONNIE. Assistant Professor, Department  
of Health Administration  
M.P.H. Loma Linda University PH 1995  
M.D. Loma Linda University SM 1991
- CHIAPASCO, MATTEO. Visiting Professor,  
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D.D.S. University of Milan, Italy 1989  
M.D. University of Milan, Italy 1984
- CHIEN, ALEXANDER. Assistant Professor,  
Department of Radiology SM  
M.D. University of Michigan 1997
- CHING, VICTOR C. Assistant Clinical Professor,  
Department of Urology SM  
M.D. Loma Linda University SM 1977
- CHINNOCK, LAWRENCE E. Associate Professor,  
Department of Physical Therapy AH  
Ed.D. La Sierra University 1996
- CHINNOCK, RICHARD E. Professor, Department of  
Pediatrics SM  
M.D. Loma Linda University SM 1982
- CHINTE, ZANDY W. Instructor, Clinical Laboratory  
Science AH  
B.S. Loma Linda University AH 2005
- CHIONG, JUN R. Associate Professor, Department of  
Medicine SM  
M.D. Cebu Institute of Medicine, Philippines  
1994
- CHIRIANO, JASON T. Assistant Professor,  
Department of Cardiovascular and Thoracic  
Surgery SM  
D.O. Western University of Health Sciences  
College of Osteopathic Medicine 2002
- CHITSAZAN, MORTEZA. Assistant Professor,  
Department of Medicine SM  
D.O. Western University 1991
- CHO, JONGMIN. Clinical Instructor, Department of  
Radiation Technology AH  
M.S. University of British Columbia 2004
- CHOI, DONGRAK. Associate Professor, Department  
of Radiation Medicine SM  
Ph.D. Yonsei University, Seoul, South Korea  
1992
- CHONKICH, GEORGE D. Associate Professor,  
Department of Surgery SM  
M.D. Loma Linda University SM 1960
- CHO, EUN-HWI, ELIZABETH. Assistant Professor,  
Department of Oral and Maxillofacial Surgery SD  
D.D.S. Loma Linda University SD 1993
- CHOI, CHUL. Assistant Clinical Professor,  
Department of Gynecology and Obstetrics SM  
M.D. Seoul National University, Republic of  
Korea 1968
- CHOI, KYUNG-SOO. Adjunct Instructor, Department  
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D.D.S. University of Illinois at Chicago 1996
- CHOI, YONG C. Associate Clinical Professor,  
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Ph.D. Catholic University of Korea, South  
Korea 1999  
M.S. Loma Linda University GS 1995  
D.D.S. Seoul National University, Republic  
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- CHONG, STEVEN. Assistant Professor, Department  
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M.B.B.S. Yangyon, Mayanmar, Burma 1988
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M.D. Loma Linda University SM 1992

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- CHOW, KENT. Assistant Professor, Department of  
Allied Health Studies AH  
M.B.A. Claremont Graduate School 1995
- CHOW, LORI J. Assistant Clinical Professor,  
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M.D. University of California, Davis 1994
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Orthopaedic Surgery SM  
B.S. Texas A&M University, School of  
Veterinary Medicine 1985
- CHRISPENS, JERE E. Assistant Clinical Professor,  
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1966
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Radiology and Pathology SD  
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- CHRISTISON, CARON SHIZUE. Assistant Clinical  
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- CHRISTISON, GEORGE W. Clinical Professor,  
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M.Div. Andrews University 1970
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- CHU, DEREK C. Assistant Professor, Department of  
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D.D.S. Loma Linda University SD 2004
- CHU, GRACE E.H. Assistant Professor, Department  
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D.D.S. Loma Linda University SD 2007
- CHU, LARINA H. Assistant Professor, Department of  
Physician Assistant Sciences AH  
M.P.A. Loma Linda University AH 2005
- CHUA, KENG L. Assistant Professor, Department of  
Periodontics SD  
D.D.S. University of Melbourne, Australia  
1998
- CHUA, SAMNUEL C. Assistant Professor,  
Department of Emergency Medicine SM  
M.D. University of Southern California 1990
- CHUAN, SANDY S. Instructor, Department of  
Gynecology and Obstetrics SM  
M.D. University of California at Los Angeles  
2003
- CHUI, JAMES. Assistant Clinical Professor,  
Department of Plastic and Reconstructive  
Surgery SM  
M.D. Hahnemann University 1993
- CHUN, MELISSA S. Assistant Professor, Department  
of Oral Diagnosis, Radiology, and Pathology SD  
D.D.S. Loma Linda University SD 2002
- CHUN, TEDMUND T. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University 2006
- CHUNG, DEBORAH MICHELLE. Assistant  
Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 1986
- CHUNG, KWANG-SU S. Adjunct Assistant Professor,  
Department of Restorative Dentistry SD  
M.A. Loma Linda University GS 1981  
D.D.S. Loma Linda University SD 1976
- CHUNG, PAUL Y. Assistant Clinical Professor,  
Department of Ophthalmology SM  
M.D. Loma Linda University SM 1991
- CHUNG, SEUNG-HWAN. Clinical Instructor,  
Department of Restorative Dentistry SD  
M.S. Chonnam National University, South  
Korea 2000
- CHURCH, CHRISTOPHER A. Associate Professor,  
Department of Surgery SM  
M.D. Loma Linda University SM 1996
- CHURG, WARREN, B. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.D. Johns Hopkins University SM 1975
- CIPTA, ANNE T. Associate Professor, Department of  
Physical Medicine and Rehabilitation SM  
M.D. University of Airlangga, Indonesia  
1982

- CLAFFEY, NOEL M. Professor, Department of Periodontics SD  
B.D.S. National University of Ireland, Ireland 1974
- CLARK, ALEXANDRA M. Assistant Professor, Department of Pediatrics SM  
M.D. Albany Medical College 1999
- CLARK, DENNIS E. Adjunct Professor, Department of Oral Diagnosis, Radiology, and Pathology SD  
D.D.S. Loma Linda University SD 1983
- CLARK, HELEN E. Clinical Instructor, Department of Clinical Laboratory Science AH  
B.A. University of California, Los Angeles 1974
- CLARK, MIKE L. Adjunct Assistant Professor, Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 2004
- CLARK, ROBIN D. Associate Professor, Department of Pediatrics SM  
M.D. University of Arizona 1978
- CLARKE, IAN CAMERON. Research Professor, Department of Orthopedic Surgery SM  
Ph.D. University of Strathclyde, Scotland 1972
- CLAUSEN, BENJAMIN LEROY. Adjunct Associate Professor, Department of Earth and Biological Sciences ST and Earth Science Program FGS  
Ph.D. University of Colorado, Boulder 1987
- CLEEK, N. EUGENE. Assistant Professor, Department of General and Trauma Surgery SM  
M.D. Autonomous University of Guadalajara, Mexico 1975
- CLEGG, WILLIAM R. Assistant Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1961
- CLEM, KATHLEEN J. Associate Professor, Department of Emergency Medicine SM and Department of Pediatrics SM  
M.D. Loma Linda University SM 1989
- CLEMENTS, HERMAN R. Assistant Professor, Department of Psychiatry SM  
M.D. Ohio State University 1992
- CLEMENTS, MARK J. Assistant Professor, Department of Radiation Technology AH  
M.A. University of Colorado, Boulder 1970
- CLIFTON, BRETT D. Assistant Clinical Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1986
- CLINE, DENIS J. Assistant Clinical Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1992
- CLINE, MELISSA. Assistant Clinical Professor, Department of Nutrition PH  
Dr.P.H. Loma Linda University PH 2008
- CLYMER, JOHN. Adjunct Assistant Professor, Department of Health Policy and Management PH  
A.B.A. Wabash College 1982
- COBB, CAMILLA J. Associate Professor, Department of Pathology and Human Anatomy SM  
M.D. Meharry Medical College 1977
- COCHRANE, RYAN M. Assistant Professor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 2005
- COEN, MICHAEL J. Associate Professor, Department of Orthopedic Surgery SM  
M.D. University of Nebraska Medical Center 1990
- COGGIN, C. JOAN. Emeritus Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1953
- COHEN, JOSEPH I. Assistant Clinical Professor, Department of Pathology and Human Anatomy SM  
M.D. Medical College of Wisconsin 1986
- COJOCARU, TRAIAN T. Associate Professor, Department of Neurosurgery SM  
M.D. Facultatea de Medicina IMF/University of Bucharest, Romania 1972
- COLBURN, KEITH K. Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1970
- COLE, BRADLEY ALAN. Assistant Professor, Department of Neurology SM  
M.D. Loma Linda University 1992
- COLE, CASEY C. Instructor, Department of Family Medicine SM  
M.S.N. Western University 2007  
M.D. Loma Linda University SM 1992

- COLE, DOROTHEE. Assistant Professor, Department of Neurology SM  
M.D. Loma Linda University SM 1994
- COLEMAN, MARLENE M. Assistant Clinical Professor, Department of Pediatrics SM  
M.D. University of California, Irvine 1970
- COLLIER, CARL E. Assistant Professor, Department of Anesthesiology SM  
D.O. College of Osteopathic Medicine, Iowa 1980
- COLLINS, NORBERTO E. Assistant Clinical Professor, Department of Surgery SM  
M.D. Universidad de Córdoba, Andalusia, Spain 1973
- COLOHAN, AUSTIN R. T. Professor, Department of Neurosurgery SM  
M.D. McMaster University, Ontario, Canada 1978
- COLWELL, WILLIAM. Instructor, Department of Health Administration PH  
B.A. Jones International University 2006  
B.A. Loma Linda University PH 1986
- COMUNALE, FRANCIS L. Professor, Department of Anesthesiology SM  
M.D. Boston University 1959
- COMMUNALE, MARK E. Professor, Department of Anesthesiology SM  
M.D. Tufts University School of Medicine 1985
- CONCEPCION, WALDO. Adjunct Associate Professor, Department of Surgery SM General and Trauma Surgery SM  
M.D. Autonomous University of Guadalajara, Mexico 1978
- CONDON, DAVID S. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1994
- CONDON STANLEY C. Associate Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1956
- CONDON, VANETA MABLEY. Associate Professor, School of Nursing SN  
Ph.D. Claremont Graduate School 1996
- CONNELL, BERTRUM C. Professor, Department of Nutrition and Dietetics AH and Department of Nutrition PH  
Ph.D. University of Missouri 1978
- CONNER, MICHAEL LEROY. Assistant Professor, Department of Health Administration PH  
Ed.S. Loma Linda University SE 1984
- CONNORS, DIANNA. Assistant Professor, Department of Counseling and Family Science ST  
M.A. Western Michigan University 1978
- COOPER, JAN L. Clinical Instructor, Department of Ophthalmology SM  
O.D. Southern California College of Optometry 1987
- CORBETT STEPHEN W. Professor, Department of Pediatrics SM and Department of Emergency Medicine SM  
M.D. University of Wisconsin 1988  
Ph.D. University of Wisconsin 1982
- CORDERO-MACINTYRE, ZAIDA R. Assistant Research Professor, Department of Nutrition PH  
Ph.D. University of Arizona 1998
- CORONADO, MICHAEL P. Assistant Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of the Pacific 1975
- CORSELLI, JOHANNAH. Assistant Professor, Department of Gynecology and Obstetrics SM  
Ph.D. University of California, Riverside 1986
- CORTEZ, ELISA ANNETTE. Assistant Professor, Library Faculty  
M.L.I.S. University of Michigan 1994
- COTA, LOUIS J., JR. Clinical Instructor, Department of Clinical Laboratory Science AH  
B.S. California State University, Dominguez Hills 1981
- COTE, DOMINIC. Clinical Instructor, Department of Endodontics SD  
D.M.D. Université de Montréal, Quebec, Canada 1997
- COTTON, ADRIAN N. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1996
- COTTRELL, ALFRED C., JR. Assistant Professor, Department of Medicine SM  
M.D. Hahnemann Medical College 1982
- COUPERUS, JAMES J. Associate Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1967

- COUTRAKON, GEORGE B. Assistant Professor,  
Department of Radiation Medicine SM  
Ph.D. State University of New York, Stony  
Brook 1982
- COVRIG, DUANE M. Adjunct Assistant Professor,  
School of Religion SR  
Ph.D. University of California, Riverside  
1999
- COWAN, GLORIA E. Adjunct Professor, Department  
of Psychology ST  
Ph.D. Rutgers State University of New Jersey  
1964
- CRAIG, DEBRA D. Associate Professor, Department  
of Medicine SM and Department of Family  
Medicine SM  
M.D. Loma Linda University SM 1982
- CRAIG, KEVAN Z. Clinical Instructor, Department of  
Physical Medicine SM  
D.O. University of New England College of  
Osteopathic Medicine 1991
- CRANIN, A. NORMAN. Adjunct Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. New York University College of  
Dentistry 1951
- CRANSTON, RICHARD THOMAS. Assistant  
Professor, Department of Psychiatry SM  
M.S. Ohio State University 1974
- CRAVALHO, JULIANA. Assistant Professor,  
Department of Periodontics SD  
B.D.S. Federal University of Minas Gerais,  
Brazil 1997
- CRAWFORD, JAMES MERLIN. Clinical Professor,  
Department of Dental Educational Services and  
Department of Health Administration PH  
M.P.H. Harvard University 1969  
D.D.S. Loma Linda University SD 1960
- CRISTALL, JENNIFER B. Assistant Professor,  
Department of Anesthesiology SM  
M.D. University of Manitoba, Canada 2002
- CROFUT KLEINMAN, JANE A. Instructor,  
Department of Basic Sciences SM  
M.A. University of Phoenix 1992
- CROUSE, BARBARA ANNE. Clinical Instructor,  
Department of Nutrition PH  
B.Sc. University of Alberta at Edmonton,  
Canada
- CRUDO, RONALD P. Assistant Professor,  
Department of Restorative Dentistry SD  
D.M.D. University of Medicine and  
Dentistry of New Jersey 1973
- CRUZ, ERNESTO, JR. Assistant Clinical Professor,  
Department of Pediatrics SM  
M.D. Loma Linda University SM 1981
- CUMINGS, CHRISTOPHER D. Assistant Clinical  
Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1970
- CUMMINGS, G. R. REED. Assistant Professor,  
Department of Endodontics SD  
D.D.S. Loma Linda University SD 1991
- CUMMINGS, JOSEPH H. Assistant Clinical Professor,  
Department of Preventive Medicine SM  
M.D. University of Illinois 1973
- CUNI, JILL R. Assistant Clinical Professor,  
Department of Pediatrics SM  
M.D. Loma Linda University 1997
- CUNNINGHAM, JANET A. Assistant Professor,  
Department of Family Medicine SM  
M.D. Wright State University School of  
Medicine 1981
- CURNOW, SALLY M. Assistant Professor, School of  
Nursing SN  
M.S.N. Whitworth College, Intercollegiate  
Center for Nursing Education 1993
- CURRIER, JAMES E. Adjunct Assistant Professor,  
Department of Radiation Medicine SM  
M.D. Loma Linda University SM 1997
- CURTIN, JOSEPH A. Assistant Clinical Professor,  
Department of Pediatric Dentistry SD  
D.D.S. Ohio State University 2002  
B.A. Miami University, Ohio 1998
- CURTIS, LORI N. Associate Librarian, University  
Libraries  
M.L.S. University of California, Los Angeles  
1987
- CUTLER, DREW C. Assistant Professor, Department  
of Pediatrics SM  
M.D. University of Washington School of  
Medicine 1982
- CUTTING, CHARLES ALBERT, JR. Assistant  
Professor, Department of Restorative Dentistry  
SD  
D.D.S. Loma Linda University SD 1968

- DAHER, NOHA SALIM. Associate Professor,  
Department of Allied Health Studies AH and  
Allied Health Studies Program FGS  
M.S.P.H. Loma Linda University PH 1992
- DAHER, TONY. Associate Clinical Professor,  
Department of Restorative Dentistry SD  
D.D.S. University of St. Joseph, Lebanon  
1977
- DAI, QIANG GUO. Assistant Research Professor,  
Department of Orthopaedic Surgery SM  
Ph.D. University of Iowa 1990
- DAI, VO MINH. Assistant Clinical Professor,  
Department of Pediatrics SM  
M.D. University of Saigon Faculty of  
Medicine, South Vietnam 1974
- DAILEY, RONALD JAMES. Associate Professor,  
Department of Dental Educational Services SD  
Ph.D. University of Southern California 1994
- DAKA, SMITHA. Assistant Professor, Department of  
Medicine SM  
M.B.B.S. Rajiv Gandhi University, India 2002
- DALY, JERRY E. Associate Librarian, Library Faculty  
M.S.L.S. University of Southern California  
1980
- DAMODARAN, CHITRA. Assistant Professor,  
Department of Medicine SM  
M.D. University of Madras, India 1982
- DANDAMUDI, NAGAMANI. Assistant Professor,  
Department of Medicine SM  
M.B.B.S. SV Medical College, India 1981
- DANESH, SID A. Assistant Clinical Professor,  
Department of Physician Assistant Sciences AH  
M.D. Tehran University School of Medicine,  
Iran 1979
- DANIEL, ALTHEA P. Assistant Professor,  
Department of Pediatrics SM  
M.D. University of California, Los  
Angeles/Drew Medical School 1988
- DANIEL-UNDERWOOD, LYNDA. Assistant  
Professor, Department of Emergency Medicine  
SM  
M.D. Loma Linda University SM 1991
- DARNELL, T. ALLAN. Assistant Professor,  
Department of Global Health PH  
M.P.H. Loma Linda University PH 1998  
M.D. Loma Linda University SM 1995
- DART, G. CHARLES, JR. Assistant Professor,  
Department of Allied Health Studies AH  
M.B.A. La Sierra University 1994
- DAS, AMITAVA. Assistant Research Professor,  
Department of Medicine SM  
Ph.D. University of Lucknow, India 2003
- DASHTIPOUR, KASHAYAR. Instructor, Department  
of Neurology SM  
Ph.D. Ancana University 1999  
M.D. Ahwaz University of Medical Sciences,  
Iran 1992
- DASON, SAM D. Assistant Professor, Department of  
Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1993
- DAVIDIAN, JAMES L. Associate Clinical Professor,  
Department of Ophthalmology SM  
M.D. Loma Linda University SM 1970
- DAVIDIAN, MARILYN HOPKINS. Assistant  
Professor, Department of Health Information  
Management AH  
M.A. Claremont Graduate School 1997
- DAVIDIAN, RICHARD D. Professor, Division of  
General Studies ST  
Ph.D. Northwestern University 1986
- DAVIDSON, MICHAEL JAMES. Assistant Professor,  
Department of Physical Medicine and  
Rehabilitation SM  
B.S. California State University, Dominguez  
Hills 1992
- DAVIS, CARRIE E. Assistant Professor, Department  
of Emergency Medicine SM  
M.D. Rosalind Franklin University 2004
- DAVIS, CAROL HORE. Instructor, Department of  
Radiation Technology AH  
M.A. Loma Linda University GS 1997
- DAVIS, JOSEPH V. III. Assistant Professor,  
Department of General and Trauma Surgery SM  
D.O. Texas College of Osteopathic Medicine  
1982
- DAVIS, KATHERINE GLADKOWSKI. Assistant  
Professor, Department of Clinical Laboratory  
Science AH  
M.S. Loma Linda University 2006
- DAVIS, LINDA I. Assistant Professor, Department of  
Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of Southern California  
2001



- DAVIS, MARK L. Adjunct Assistant Professor,  
Department of Restorative Dentistry SD  
Pharm.D. University of Southern California  
2002  
D.D.S. Loma Linda University SD 1988
- DAVIS, NICCETA. Associate Professor, Department  
of Physical Therapy AH and Physical Therapy  
Program FGS  
Ph.D. American University 1999
- DAVIS, SCOTT M. Clinical Instructor, Department of  
Psychiatry SM  
M.D. Boston University School of Medicine  
1991
- DAVIS, WILLIE L., JR. Assistant Professor,  
Department of Pharmaceutical Sciences SP  
Ph.D. Meharry Medical College 2001
- DEAN, JEFFREY S. Assistant Professor, Department  
of Oral and Maxillofacial Surgery SD  
D.D.S. Creighton University 1991  
M.D. University of Texas 1995  
DeCARVALHO, LORIE T. Associate Clinical  
Professor, Department of Psychiatry SM  
Ph.D. Loma Linda University GS 2003
- DE GUZMAN, ODETTE. Assistant Clinical Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.D. University of Southern California  
2002
- DEBOLD-GOLDEN, ALYSSA J. Adjunct Assistant  
Professor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1995
- DE LA PENA, WENDY L. Assistant Professor,  
Department of Pediatrics SM  
M.D. University of Wisconsin 2000
- DE LEON, DAISY D. Associate Professor,  
Department of Physiology and Pharmacology SM  
Ph.D. University of California, Davis 1987
- DE LEON, MARINO A. Associate Professor,  
Department of Physiology and Pharmacology SM  
and Department of Pathology and Human  
Anatomy SM  
Ph.D. University of California, Davis 1987
- DEGUZMAN, LINO J. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. University of Santo Tomas, Philippines  
1986
- DEL RIO, MICHAEL J. Assistant Clinical Professor,  
Department of Cardiovascular and Thoracic  
Surgery SM  
M.D. Cornell University Medical College  
1981
- DELANGE, MARIE T. Instructor, Department of  
Radiation Technology AH  
B.S. University of Redlands 1988
- DEMATTOS, NATASHA V. Instructor, Department  
of Neurology SM  
M.D. Loma Linda University 2003
- DEMING, DOUGLAS D. Professor, Department of  
Pediatrics SM  
M.D. Loma Linda University SM 1975
- DEMIRDJI, SAMUEL A. Assistant Professor,  
Department of Orthodontics SD  
D.D.S. Loma Linda University SD 2001  
Ph.D. University of Colorado, Boulder 1993
- DEMOS, DEBRA S. Assistant Professor, Department  
of Pediatrics SM  
M.D. Autonomous University of  
Guadalajara 1981
- DENLER, LOREN LEE. Assistant Clinical Professor,  
Department of Ophthalmology SM  
M.D. Loma Linda University SM 1964
- DENMARK, THOMAS K. Associate Professor,  
Department of Emergency Medicine SM and  
Department of Pediatrics SM and Associate  
Professor, Department of Basic Sciences SM  
M.D. Loma Linda University SM 1994
- DEPPE, LINDA B. Assistant Professor, Department of  
Family Medicine SM  
D.O. University of Osteopathic Medicine and  
Health Sciences 1986
- D'ERRICO, ELLEN M. Assistant Professor of  
Nursing, School of Nursing SN  
Ph.D. University of California, Los Angeles  
2006
- DESAI, PRIYANKA. Instructor, Department of  
Pharmacotherapy and Outcomes Science SP  
Pharm.D. Drake University College of  
Pharmacy and Health Sciences 2009
- DESAI, SANDIP J. Assistant Professor, Department of  
Restorative Dentistry SD  
B.D.S. University of Bombay, India 1985
- DESAI, TEJAS D. Instructor, Department of Medicine  
SM  
D.O. University of North Texas 2003

- DEVARAJ, ALWYN S. Assistant Professor,  
Department of Dental Educational Services, SD  
B.D.S. College of Dental Surgery, Manipal,  
India 1990
- DEW, ANN L. Assistant Clinical Professor,  
Department of Environmental and Occupational  
Health PH and Department of Preventive  
Medicine SM  
D.O. University of Osteopathic Medicine,  
Des Moines 1989
- DEWOLFE-ESTRADA, SANDRA E. Clinical  
Instructor, Department of Neurology SM  
M.S.N. University of California, Los Angeles  
1991
- DEXTER, JAMES R. Associate Clinical Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1974
- DIAZ, LYNN. Assistant Professor, Department of  
Endodontics SD  
D.D.S. University of California, Los Angeles  
1995
- DICELLO, JOHN F. Professor, Department of  
Radiation Medicine SM  
Ph.D. Texas A&M University 1967
- DICKINSON, BARBARA F. Clinical Instructor,  
Department of Nutrition and Dietetics AH;  
Assistant Clinical Professor, Department of  
Nutrition PH  
M.S. Loma Linda University GS 1982
- DICKINSON, ELDON C. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1964
- DICKINSON, ELIZABETH J. Associate Professor,  
Department of Cardiopulmonary Sciences AH  
and School of Nursing SN  
M.P.H. Loma Linda University PH 1993
- DICKSONO-GILLESPIE, LAURIE. Assistant  
Professor, Department of Pediatrics SM  
Ph.D. McGill University, Montreal, Canada  
2005
- DIEL, HANS A. Clinical Professor, Department of  
Preventive Medicine SM  
D.H.Sc. Loma Linda University PH 1975  
M.P.H. Loma Linda University PH 1975
- DIETRICH, TERRY J. Assistant Clinical Professor,  
Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1971
- DINGER, CORALIE LYNN. Instructor, Department  
of Dental Hygiene SD  
B.S. Loma Linda University SD 1990
- DINSBACH, NATHAN A. Assistant Professor,  
Department of Restorative Dentistry, SD  
D.D.S. Loma Linda University SD 2004
- DOAN, ANDREW P. Assistant Clinical Professor,  
Department of Ophthalmology SM  
M.D. Johns Hopkins University 2001
- DOETSCH, JANE M. Clinical Instructor, School of  
Nursing SN  
M.H.A California State University, San  
Bernardino 1989
- DOHR, MAK NAI. Instructor, Department of Dental  
Hygiene SD  
B.S. Loma Linda University SD 1992
- DOMINGUEZ, ANDRES E. Assistant Clinical  
Professor, Department of Pharmacotherapy and  
Outcomes Science SP  
Pharm.D. University of Southern California  
1981
- DOMINGUEZ, CARL P. Assistant Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.D. University of Illinois at Chicago  
2004
- DONALDSON, THOMAS K. Assistant Clinical  
Professor, Department of Orthopaedic Surgery  
SM  
M.D. Loma Linda University SM 1984
- DONG, DAVID K. M. Clinical Instructor, Department  
of Pediatrics SM  
M.D. Ross University, New York 2002
- DOROTTA, IHAB. Assistant Professor, Department  
of Anesthesiology SM  
M.B.Ch.B University of Alexandria, Egypt  
1995
- DOS SANTOS, HILDEMAR F. Assistant Professor,  
Department of Health Promotion and Education  
PH  
Dr.P.H. Loma Linda University PH 1999  
M.D. Rio Grande University Medical School,  
Brazil 1978
- DOTY, RICHARD D. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. University of California, Los Angeles  
1974

- DOUGLAS, TERRY D. Associate Professor,  
Department of Communication Sciences and  
Disorders AH  
Ph.D. The University of Memphis 1994
- DOVICH, JESSE A. Clinical Instructor, Department of  
Ophthalmology SM  
M.D. Loma Linda University SM 2003
- DOWNEY, RALPH III. Associate Professor,  
Department of Medicine SM and Department of  
Neurology SM  
Ph.D. University of California, Riverside  
1989
- DRAKE, CARLENE M. Associate Professor,  
University Libraries  
M.S.L.S. University of Southern California  
1978
- DRIEBERG, KEITH. L. Associate Clinical Professor,  
Department of Psychology ST; Assistant Clinical  
Professor, Department of Physical Medicine and  
Rehabilitation SM  
M.P.H. Loma Linda University PH 1994  
Ph.D. United States International University  
1990
- DRINKARD, JAMES PHILLIP. Clinical Professor,  
Department of Medicine SM  
M.D. Georgetown University 1961
- DU, DAI VIEN. Assistant Professor, Department of  
Family Medicine SM  
M.D. University of California, Davis 1998
- DUCSAY, CHARLES A. Professor, Department of  
Physiology and Pharmacology SM  
Ph.D. University of Florida 1980
- DUERKSEN-HUGHES, PENELOPE J. Associate  
Professor, Department of Biochemistry and  
Microbiology SM  
Ph.D. Emory University 1987
- DUFF, JANEEN C. Assistant Professor, Department  
of Dental Hygiene SD  
B.S. Loma Linda University SD 1981
- DUMITRESCU, ADRIAN. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2001
- DUNBAR, JENNIFER A. Assistant Professor,  
Department of Ophthalmology SM  
M.D. Loma Linda University SM 1991
- DUNBAR, RICHARD D. Associate Professor,  
Department of Radiology SM  
M.D. Loma Linda University SM 1962
- DUNBAR, SABINE S. Assistant Professor, School of  
Nursing SN  
M.S. Central Queensland University,  
Australia 2002
- DUNBAR, STEPHEN G. Assistant Professor,  
Department of Earth and Biological Sciences ST  
Ph.D. Central Queensland University,  
Australia 2002
- DUONG, CHRISTINE A. Assistant Professor,  
Department of Medicine SM  
M.D. Ross University 2000
- DUPPER, BRENT D. Assistant Professor, Department  
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D.D.S. Loma Linda University SD 1988
- DUPPER, GILBERT L. Associate Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1967
- DURAN, GRACIELA G. Assistant Professor,  
Department of Dental Educational Services SD  
B.S. Loma Linda University SD 2007
- DUS, IVAN. Assistant Professor, Department of  
Orthodontics SD  
M.D. University of Padua, Italy 1980
- DUWAL, RAMILA D. Assistant Clinical Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 1998
- DYJACK, ANGELA B. Clinical Professor, Department  
of Environmental and Occupational Health PH  
M.P.H. Loma Linda University PH 1981
- DYJACK, DAVID T. Professor, Department of  
Environmental and Occupational Health PH;  
Associate Professor, Department of Global  
Health PH and Department of Preventive  
Medicine SM  
Dr.P.H. University of Michigan 1996
- DYSINGER, WAYNE S. Associate Professor,  
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Professor, Department of Preventive Medicine  
SM and Department of Health Administration  
PH  
M.P.H. Loma Linda University PH 1990  
M.D. Loma Linda University SM 1986
- EARLL, ART CHARLES. Assistant Professor, School  
of Religion SR  
M.Div. Andrews University 1971

- EATEDALI, LIDA. Assistant Professor, Department of Medicine SM  
M.D. Azad University, Tehran, Iran 1994
- EBRAHIMI, KAMYAR Y. Instructor, Department of Urology SM  
M.D. University of California 2003
- EBY, MICHAEL W. Instructor, Department of Gynecology and Obstetrics SM and Department of Anesthesiology SM  
M.D. Loma Linda University SM 1998
- EDDERKAOUI, BOUCHRA. Assistant Research Professor, Department of Medicine SM  
Ph.D. Catholic University of Louvain, Belgium 1995
- EDDOW, CHRISTINE MARIE. Clinical Instructor, Department of Physical Therapy AH  
M.P.T. University of Southern California 1990
- EDMUNDSON, DONNA T. Clinical Instructor, School of Nursing SN  
M.S.N. California State University, Dominguez Hills 1995
- EDWARDS, LINCOLN PAUL. Assistant Professor, Department of Dental Educational Services SD  
Ph.D. Loma Linda University GS 1998
- EFTIMIE, LIVIU FLORIAN. Assistant Professor, Department of Oral and Maxillofacial Surgery SD  
D.D.S. Loma Linda University SD 1993  
D.M.D. Dental School Tg at Mures, Romania 1989
- EGELBERG, JAN H. Adjunct Professor, Department of Periodontics SD  
D.D.S. Royal Dental School, Malmö, Sweden 1960
- EGGERS, MARILYN B. Associate Professor, Division of General Studies ST  
Ph.D. Andrews University 1999
- EGUCHI, JIMMY H. Assistant Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 2002
- EJIKE, JANETH C. Assistant Professor, Department of Pediatrics SM  
M.B.B.S. University of Lagos, Nigeria 1994
- EKE, CLIFFORD C. Assistant Clinical Professor, Department of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1992
- ELDER, HARVEY A. Clinical Professor, Department of Medicine SM and Department of Global Health PH  
M.D. Loma Linda University SM 1957
- ELIAS, GRACE SALIM. Assistant Clinical Professor, Department of Plastic and Reconstructive Surgery SM  
M.D. Loma Linda University SM 1979
- ELIAS, INTITHAR S. M. Assistant Professor, Department of Allied Health Studies AH  
M.S. Loma Linda University GS 1979
- ELISON, JOSEPH M. Assistant Professor, Department of Orthodontics SD  
D.D.S. Loma Linda University SD 2003
- ELLER, CHERYL G. Assistant Professor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1980
- ELLOWAY-SONG, TAMARAH R. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1990
- ELLSTROM, MERVIN L. Assistant Clinical Professor, Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 1975  
M.P.H. Loma Linda University PH 1975
- ELMENDORF, EDWARD NEIL III. Associate Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 1973
- ELO, JEFFREY A. Assistant Professor, Department of Oral and Maxillofacial Surgery SD  
D.D.S. Indiana University 2002
- ELSHERIF, ISMAIL I. Assistant Professor, Department of Endodontics SD  
B.D.S. Cairo University, Egypt 1979
- EMANUELLI, SILVIO F. Adjunct Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. University of Pavia, Lombardy, Italy 1986
- EMMERSON, WILLIAM JOHN. Assistant Clinical Professor, Department of Orthodontics SD  
D.D.S. Loma Linda University SD 1980
- EMERY, RICHARD D. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1997
- ENDRESS, ERIN L. Associate Clinical Professor, Department of Physician Assistant Sciences AH  
M.P.A. St. Francis University 2007

- ENG, GILBERT P. Assistant Professor, Department of  
Medicine SM  
D.D.S. Loma Linda University SD 1997
- ENGE, KARI M. Assistant Clinical Professor,  
Department of Psychiatry SM  
M.D. University of Oslo 1983
- ENGBERG, DANIEL L. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.D. Loma Linda University SM 1976
- ENGLANDER, DAVID M. Assistant Professor,  
Department of Emergency Medicine SM  
M.D. Temple School of Medicine 1973
- ENIX, DEBORAH. Clinical Instructor, Department of  
Occupational Therapy AH  
M.P.H. Loma Linda University PH 1984
- ENLOE-WHITAKER, SUZANNE E. Assistant Clinical  
Professor, Department of Medicine SM  
D.O. College of Osteopathic Medicine of the  
Pacific 1998
- ESCHER, ALAN PIERRE. Associate Professor,  
Department of Basic Sciences SM  
Ph.D. Cornell University 1992
- ESCOBAR-PONI, BERTHA C. Associate Professor,  
Department of Pathology and Human Anatomy  
SM and Anatomy Program FGS  
M.D. Universidad Centro-Occidental  
Lisandro Alvarado, Venezuela 1989
- ESCOBAR, RICARDO A. Assistant Professor,  
Department of Earth and Biological Sciences ST  
M.S. Loma Linda University 2007
- ESCUTIN, RODOLFO ONG, JR. Assistant Professor,  
Department of Neurology SM  
M.D. University of Santo Tomas, Philippines  
1987
- ESKES, CHRISTY L. Assistant Professor, Department  
of Physician Assistant Sciences AH and  
Instructor, Department of Family Medicine SM  
M.S. Loma Linda University 2003
- ESPERANTE, RAUL. Adjunct Assistant Professor,  
Department of Earth and Biological Sciences ST  
and Biology Program FGS  
Ph.D. Loma Linda University GS 2002
- ESTEY, MARK EDWARD. Associate Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1998
- EVANS, DWIGHT C. Associate Professor,  
Department of Medicine SM and Department of  
Health Administration PH  
M.D. Loma Linda University SM 1973
- EVANS, J. ROBERT. Clinical Instructor, Department  
of Medicine SM  
M.D. Jefferson Medical College 1982
- EVERETT, LORI LYNN. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1988
- EZPELETA, ERMA P. Instructor, Department of  
Radiation Technology AH  
B.S. Loma Linda University AH 1994
- FAIRHURST, JANELLE C. Instructor, Department of  
Dental Hygiene SD  
B.S. Loma Linda University SD 1988
- FALTAS, NABIL S. Assistant Clinical Professor,  
Department of Psychiatry SM  
M.D. Cairo University, Egypt 1978
- FALTYS, JOHN R. Adjunct Instructor, Division of  
General Studies ST  
Orange Coast College 1984
- FAN, JOSEPH T. Associate Professor, Department of  
Ophthalmology SM  
M.D. University of California, San Diego  
1990
- FAN, VICTOR S. C. Lecturer, Department of  
Endodontics SD  
D.M.D. University of Louisville 1984  
Ph.D. University of Minnesota 1973
- FANG, DENNY Y. Assistant Professor, Department  
of Endodontics SD  
D.D.S. University of California, Los Angeles  
1998
- FANOUS, YVONNE F. Associate Professor,  
Department of Pediatrics SM  
M.D. Cairo University, Egypt 1973
- FARAG, BASEM R. Assistant Professor, Department  
of Medicine SM  
M.D. New Jersey Medical School, Newark  
1995
- FARGO, RAMIZ A. Assistant Professor, Department  
of Medicine SM  
M.D. Loma Linda University SM 1996

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M.D. University of Baghdad, Iraq 1967
- FARLEY, JOHN R. Professor, Department of Medicine SM and Department of Basic Sciences SM  
Ph.D. University of California, Davis 1977
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D.D.S. Loma Linda University SD 2003  
D.M.D. Azad University, Tehran, Iran 1999
- FAROOQI, MUBASHIR A. Assistant Clinical Professor, Department of Psychiatry SM  
M.B.B.S. Khyber Medical College, Pakistan 1979
- FARRAGE, JAMES ROBERT. Associate Professor, Department of Orthodontics SD and Orthodontics and Dentofacial Orthopaedics Program FGS  
D.D.S. Loyola University School of Dentistry 1965
- FAVRE, CECILE. Assistant Research Professor, Department of Radiation Medicine SM  
Ph.D. University of Geneva, Switzerland 1995
- FAYARD, CARLOS R. Associate Professor, Department of Psychiatry SM  
Ph.D. California School of Professional Psychology 1988
- FAYARD, ELBA E. S. Associate Professor, Department of Pediatrics SM  
M.D. Buenos Aires Medical School, Argentina 1979
- FECHTER, LAURENCE D. Research Professor, Department of Surgery SM  
Ph.D. University of Rochester 1973
- FEDAK, MARIAN ANNE. Assistant Clinical Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1969
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B.S. California State University, San Bernardino 1974
- FELDSHER, MENDEL J. Assistant Clinical Professor, Department of Psychiatry SM  
M.D. University of Southern California 1996
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M.D. University of Texas, Galveston 1970  
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D.O. College of Osteopathic Medicine of the Pacific 1991
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M.D. Loma Linda University SM 1993
- FERRY, DAVID R. Associate Professor, Department of Medicine SM  
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M.D. UMDNJ Robert Wood Johnson Medical School, Camden 2003
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M.P.H. Loma Linda University PH 1974  
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D.O. Chicago College of Osteopathic Medicine 1986
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School of Nursing  
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M.D. Loma Linda University SM 1984
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M.D. McGill University 1988
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M.D. Autonomous University of  
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D.D.S. Loma Linda University SD 1987
- FITZSIMMONS, BETTY M. Clinical Instructor,  
Department of Clinical Laboratory Science AH  
M.S. California State University, Fullerton  
1987
- FLEMING, ELAINE. Assistant Professor, Department  
of Nutrition PH  
M.P.H. Loma Linda University PH 1975
- FLEMING, JOHN S. Assistant Professor, Department  
of Family Medicine SM  
M.D. University of Tennessee 1961
- FLEMING, WESLEY E. Assistant Professor,  
Department of Neurology SM  
M.D. Loma Linda University SM 1998
- FLETCHER, BRYAN D. Clinical Instructor,  
Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 2008
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Ph.D. Temple University 1990
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Professor, Department of Restorative Dentistry  
SD  
D.D.S. Loma Linda University SD 2000
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Pharm.D. University of Southern California  
2001
- FLORES, CHRISTOPHER V. Assistant Clinical  
Professor, Department of Family Medicine SM  
M.D. University of California, Irvine 1990
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Department of Orthodontics SD  
M.S. Loma Linda University GS 1988  
D.D.S. Loma Linda University SD 1982
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Restorative Dentistry SD  
M.S. Loma Linda University GS 1988  
D.D.S. Loma Linda University SD 1982  
D.D.S. Universidad de San Carlos de  
Guatemala, Guatemala 1972
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of Periodontics SD  
D.D.S. University of Mexico, Puebla state,  
Mexico 1977
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Surgery SM  
M.D. University of Colorado 1997
- FODOR, ISTVAN PROFESSOR. Department of  
Biochemistry and Microbiology SM  
Ph.D. Institute of Molecular Biology, U.S.S.R.  
Academy of Sciences, Russia 1968
- FOGEL, TRAVIS G. Assistant Professor, Department  
of Physical Medicine and Rehabilitation SM  
Ph.D. Michigan State University at East  
Lansing 1999
- FONG, SHIRLEY A. Assistant Clinical Professor,  
Department of Gynecology and Obstetrics SM  
M.D. St. Louis University 1998

- FOO, RON S. Assistant Clinical Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 1998
- FORDE, RONALD E. Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1983
- FORLAND, STEVEN C. Associate Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP and Assistant Professor, Department  
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Pharm.D. University of California, San  
Francisco 1974
- FORRESTER, BONNIE JO. Associate Professor,  
Department of Physical Therapy AH  
D.P.T.Sc. Loma Linda University AH 2002
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Department of Social Work and Social Ecology  
ST  
M.S.S.W. University of Louisville 1979
- FOSTER, GARY PAUL. Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1988
- FOSTER, GLENN L. Emeritus Professor, Department  
of Medicine SM  
M.D. College of Medical Evangelists 1957
- FOULSTON, R. MICHAEL. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1986
- FOWLER, KENNETH A. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1984
- FOX, CURTIS A. Professor, Department of  
Counseling and Family Science ST  
Ph.D. University of Tennessee, Knoxville  
1997
- FRADIN-READ, DOMINIQUE. Assistant Clinical  
Professor, Department of Preventive Medicine  
SM  
M.D. Free University of Brussels, Belgium  
1980
- FRANCO, DANIEL. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.D. Autonomous University of  
Guadalajara, Mexico 1979
- FRANCO, EDSON S. Assistant Professor, Department  
of General and Trauma Surgery SM  
M.D. University of California, San Diego  
1994
- FRANK, BEVERLY B. Adjunct Associate Professor,  
Department of Psychology ST  
Psy.D. Pepperdine University 1990
- FRANK, MARGARET S. Instructor, Department of  
Radiation Technology AH  
B.S. Nowrosjee Wadia College, Poona, India  
1964
- FRANK, ROBERT JOHN. Lecturer, Department of  
Endodontics SD  
D.D.S. Ohio State University 1972
- FRANKS, KEVIN R. Assistant Professor, Department  
of Restorative Dentistry SD  
D.D.S. University of California, Los Angeles  
1994
- FRASER, GARY E. Professor, Department of  
Medicine SM, Department of Preventive  
Medicine SM, and Department of Epidemiology  
and Biostatistics PH  
Ph.D. University of Auckland, New Zealand  
M.B.Ch.B. University of Otago, New  
Zealand 1969
- FRAUSTO, TERESA. Assistant Professor, Department  
of Psychiatry SM  
M.D. University of Illinois 1991
- FREEMAN, KIMBERLY R. Associate Professor,  
Department of Social Work and Social Ecology  
ST and Social Policy and Social Research  
Program FGS  
Ph.D. Loma Linda University GS 1999
- FREIER RANDALL, MARY-CATHERIN. Professor,  
Department of Psychology ST; Associate  
Professor, Department of Pediatrics SM and  
Department of Health Promotion and Education,  
PH  
Ph.D. University of Health Sciences, Chicago  
Medical School 1989
- FRENCH, KATTY JOY FENTON. Associate Professor,  
School of Nursing SN  
Ph.D. University of California, Riverside  
1988
- FRENCH, ROBERT E. Assistant Professor,  
Department of Orthodontics SD  
M.S. Loma Linda University GS 1964  
D.D.S. Chicago College of Dental Surgery  
1954
- FRIDEY, JOY L. Assistant Clinical Professor,  
Department of Pathology and Human Anatomy  
SM  
M.D. Medical College of Pennsylvania 1982



- FRIEDMAN, GERALD S. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. University of Miami 1966
- FRIEDRICHSEN, ERIC J. Assistant Clinical Professor,  
Department of Ophthalmology SM  
M.D. Loma Linda University SM 1987
- FRIESEN, DEBRA K. Assistant Professor, Department  
of Dental Hygiene SD  
B.S. Loma Linda University SM 1993
- FRITZ, HELMUTH F. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1973
- FRITZSCHE, PEGGY J. Professor, Department of  
Radiology SM  
M.D. Loma Linda University SM 1966
- FRIVOLD, GEIR PAUL. Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1981  
M.P.H. Loma Linda University PH 1981
- FROST, DANETTA S. Instructor, Department of  
Nutrition and Dietetics AH  
B.S. Pacific Union College 1965
- FRY-BOWERS, EILEEN. Assistant Professor of  
Nursing SN  
J.D. Whittier Law School, Costa Mesa,  
California 2006
- FRYKMAN, ERIK K. Assistant Clinical Professor,  
Department of Environmental and Occupational  
Health PH and Department of Preventive  
Medicine  
M.P.H. Loma Linda University PH 1999  
M.D. Loma Linda SM 1996
- FRYKMAN, GARY K. Clinical Professor, Department  
of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1965
- FUENTES, JOSE A. Assistant Professor, Department  
of Health Promotion and Education PH  
Ph.D. University of New Mexico 1989
- FUENTES, J. PAUL. Assistant Professor, Department  
of Periodontics SD  
D.D.S. University of California, Los Angeles  
1981
- FUKUSHIMA, KEN M. Assistant Clinical Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.D. University of the Pacific 1984
- FUNADA, DEAN TAKASHI. Assistant Professor,  
Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 1996
- FUNKHOUSER, LAURA S. Assistant Professor,  
Department of Pediatrics SM  
M.P.H. Johns Hopkins University 1984  
M.D. Eastern Virginia Medical School 1978
- FURR, YVONNE J. Assistant Professor, Department  
of Pharmacotherapy and Outcomes Science SP  
M.S. California State University, Los Angeles  
1985
- GABRIEL, ALLEN. Instructor, Department of Plastic  
and Reconstructive Surgery SM  
M.D. University of Nevada School of  
Medicine 2001
- GABRIEL, EDWARD. Assistant Clinical Professor,  
Department of Radiology SM  
M.D. UHS/Chicago Medical School 1987
- GAEDE, DONN P. Assistant Professor, Department  
of Global Health PH  
M.P.H. Loma Linda University PH 1979
- GAGE, ARTHUR DALE. Assistant Professor,  
Department of Endodontics SD  
D.D.S. University of California, Los Angeles  
1991
- GALARNYK, IHOR A. Associate Clinical Professor,  
Department of Psychiatry SM  
M.D. McGill University, Montreal, Canada  
1982
- GALLEMORE, JOSEPH D. Adjunct Assistant  
Professor, Department of Dental Educational  
Services SD  
D.D.S. Loma Linda University SD 1993
- GALLOWAY, MEGHAN M. Instructor, Department  
of Neurosurgery SM  
M.P.A. Loma Linda University AH 2008
- GALVEZ, CESAR AUGUSTO. Assistant Professor,  
Department of Health Promotion and Education  
PH  
Dr.P.H. Loma Linda University PH 2001
- GANTES, BERNARD GEORGES. Adjunct Associate  
Professor, Department of Periodontics SD  
D.D.S. University Rene Descartes, France  
1978

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J.D. San Joaquin School of Law 1983  
D.D.S. University of the Pacific 1963
- GARBER, DAVID L. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Temple University 1974
- GARBEROGLIO, CARLOS A. Clinical Professor, Department of General and Trauma Surgery SM  
M.D. National University of Rosario 1973
- GARBEROGLIO, MARIA C. Assistant Professor, Department of Pediatrics SM  
M.D. National University of Rosario 1974
- GARCIA, GABRIELA ELIZABETH. Assistant Professor, Department of Orthodontics SD  
D.D.S. Universidad Nacional Autónoma de Honduras, Honduras 1998
- GARCIA, HENRY ALBERT. Assistant Professor, Department of Physical Therapy AH  
M.P.T. Loma Linda University AH 1990
- GARDINER, GEOFFREY A., SR. Emeritus Professor, Department of Radiology SM  
M.D. College of Medical Evangelists 1949
- GARRETT, CONSTANCE L. Assistant Clinical Professor, Department of Nutrition PH; Clinical Instructor, Department of Nutrition and Dietetics AH  
M.A. University of Redlands 1981  
M.S. Case Western Reserve University 1972
- GARRISON, ROGER C. Assistant Professor, Department of Medicine SM  
D.O. Oklahoma State University, College of Osteopathic Medicine 1999
- GATLING, JASON W. Assistant Professor, Department of Anesthesiology SM  
M.D. Loma Linda University 2002
- GATOV, NELSON REED. Assistant Professor, Department of Orthodontics SD  
D.D.S. Loma Linda University SD 1975
- GATTUSO, KATHERINE M. Assistant Professor, Department of Cardiopulmonary Sciences AH  
B.A. Clarion State University 1975
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D.D.S. Loma Linda University SD 2005
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M.D. State University of New York, College of Medicine 1955
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M.D. Loma Linda University SM 1970
- GENTRY, DAVID W. Assistant Professor, Department of Radiology SM  
M.D. University of Tennessee Graduate School of Medicine 2003
- GHAMSARY, MARK M. Assistant Professor, Department of Epidemiology and Biostatistics PH  
Ph.D. University of California, Riverside 1997
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M.D. Loma Linda University SM 1990
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M.D. Loma Linda University SM 1987
- GHEEN, CORY. Instructor, Department of Nutrition and Dietetics AH  
B.P.S. The Culinary Institute of America 1999
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D.D.S. Loma Linda University SD 1980
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M.D. Loma Linda University SM 1983
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M.D. Lebanese University, Faculty of Medical Sciences, Lebanon 1991
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M.D. Loma Linda University SM 1978
- GIBSON, DOROTHY W. Clinical Instructor, Department of Nutrition and Dietetics AH  
B.S. Pacific Union College 1966
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1983
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Clinical Laboratory Science AH  
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Ophthalmology SM  
M.P.H. Loma Linda University PH 1978  
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M.S.N. Azusa Pacific University 2004
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M.D. Loma Linda University SM 1957
- GODGES, JOSEPH JOHN. Assistant Professor,  
Department of Physical Therapy AH  
D.P.T. Loma Linda University AH 2001
- GOEL, STEPHEN T.T. Assistant Professor,  
Department of Oral and Maxillofacial Surgery SD  
D.D.S. Loma Linda University 1986

- GOGINENI, HYMA P. Assistant Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.D. Ferris State University 2000
- GOLD, PHILIP MICHAEL. Professor, Department of  
Medicine SM  
M.D. University of California, Los Angeles  
1962
- GOLDEN, ALYSSA J. Instructor, Department of  
Dental Hygiene SD  
B.S. Loma Linda University SD 1995
- GOLDEN, GARY J. Assistant Professor, Department  
of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1977
- GOLDSTEIN, MITCHELL R. Associate Professor,  
Department of Pediatrics SM  
M.D. University of Miami 1988
- GOLKAR, LINDA. Assistant Professor, Department  
of Medicine SM  
M.D. University of Southern California 1993
- GOLLES, DEE. E. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1980
- GOLLIN, GERALD. Associate Professor, Department  
of General and Trauma Surgery SM and  
Department of Pediatrics SM  
M.D. University of California, San Francisco  
1987
- GOLLIN, YVONNE G. Assistant Professor,  
Department of Gynecology and Obstetrics SM  
M.D. University of California, San Francisco  
1987
- GOMES, MARSHALL E. Assistant Professor,  
Department of Medicine SM  
D.D.S. Loma Linda University SD 1985
- GONZAGA, ALMA ALMARIO. Assistant Professor,  
Department of Medicine SM  
M.D. Far Eastern University, Philippines  
1979
- GONZALEZ, RAMON RAFAEL, JR. Associate  
Professor, Department of Physiology and  
Pharmacology SM  
Ph.D. Wake Forest University 1973
- GONZALEZ, WILBERTH. Associate Clinical  
Professor, Department of Gynecology and  
Obstetrics SM  
M.D. Loma Linda University SM 1967
- GOODACRE, CHARLES J. Professor, Department of  
Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1971
- GOODLOW, GERALD ROSS. Assistant Clinical  
Professor, Department of Physical Medicine and  
Rehabilitation SM  
M.D. Wayne State University 1984
- GOODWIN, HOWARD T. Adjunct Professor,  
Department of Earth and Biological Sciences ST  
Ph.D. University of Kansas 1990
- GOODRICH, SHARON ANNE. Assistant Clinical  
Professor, School of Nursing SN  
M.A. University of Redlands 1980
- GORDEN, MARK W. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1976
- GORENBERG, ALAN E. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1986
- GORENBERG, DANIEL. Associate Clinical Professor,  
Department of Medicine SM  
M.D. University of Illinois 1955
- GOSS, JAMES F. Assistant Professor, Department of  
Cardiopulmonary Sciences AH  
M.H.A. Chapman University 2006
- GOSS, SYLVIA M. Assistant Librarian, Library  
Faculty  
M.L.S. University of Southern California  
1985
- GOTTFRIED, MYRON LEON. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1976
- GRABOWSKY, RICHARD L. Assistant Professor,  
Department of Pediatric Dentistry SD  
D.D.S. University of California, Los Angeles  
1975
- GRAMES, BARRY S. Assistant Clinical Professor,  
Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1990
- GRANGAARD, LUELLE MARIE. Clinical Instructor,  
Department of Occupational Therapy AH  
M.A. University of Puget Sound,  
Washington 1983
- GRANGE, JEFFREY T. Associate Professor,  
Department of Emergency Medicine SM  
M.D. Loma Linda University SM 1994

- GRAUPNER, GERHART. Assistant Research Professor, Department of Nutrition PH  
M.D. Hannover Medical School, Germany  
1980
- GRAY, PAUL E. Assistant Professor, Department of General and Trauma Surgery SM  
M.D. University of Louisville 2002
- GREEK, JAMES O. III. Associate Professor, School of Religion SR and Department of Surgery SM  
D.Min. Fuller Theological Seminary 1985
- GREEN, LORA M. Research Professor, Department of Radiation Medicine SM and Department of Basic Sciences SM; Professor, Department of Medicine SM and Microbiology and Molecular Genetics Program FGS  
Ph.D. University of California, Riverside  
1987
- GREEN, STEVEN M. Professor, Department of Emergency Medicine SM and Department of Pediatrics SM  
M.D. University of California, San Diego  
1985
- GREENBECK, SALLY PALANOS. Assistant Professor, Department of Clinical Laboratory Science AH  
M.P.H. Loma Linda University PH 1996
- GREENWOOD, HELEN R. Instructor, Department of Allied Health Studies AH  
M.A. University of Redlands 2001
- GREGORIUS, THEODORE K. Clinical Instructor, Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 2000
- GRIDLEY, DAILA S. Professor, Department of Radiation Medicine SM, Department of Medicine SM, and Department of Biochemistry and Microbiology  
Ph.D. Loma Linda University GS 1978
- GRIFFIN, MARGARET ANN SLAUGHTER. Assistant Professor, Department of Medicine SM  
M.D. Washington University at St. Louis  
1977
- GRIFFIN, RONALD ALPHONSO. Assistant Professor, Department of Medicine SM  
M.D. George Washington University 1971
- GRIFFITH, ANDREA Y. Assistant Librarian, University Libraries  
M.L.I.S. San Jose State University 2003
- GROHAR, ALBIN H. Associate Professor, Department of Health Administration PH  
Ph.D. Andrews University 1989
- GROVER, RYAN S. Assistant Professor, Department of Radiation Medicine SM  
M.D. University of Southern California 2001
- GRUBE, GERALD L. Assistant Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1971
- GRUMMONS, DUANE CHARLES. Assistant Professor, Department of Orthodontics SD  
D.D.S. Marquette University 1970
- GRYKA, REBECCA J. Associate Professor, Department of Pharmacotherapy and Outcomes Science SP  
Ph.D. University of Southern California 1984  
Pharm.D. University of Southern California  
1980
- GRYTE, CRYSTAL D. Assistant Clinical Professor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 2005
- GUERRERO, JENNIFER LOUISE. Instructor, Department of Health Information Management AH  
B.S. Loma Linda University AH 1997
- GUEVARA-CHANNELL, PATRICIA. Assistant Clinical Professor, Department of Family Medicine SM  
M.D. University Technologique de Pereira, Colombia 1988
- GUGAN, AGNES S. Assistant Professor, Department of Pediatrics SM  
M.D. University Catholique de Couvain, Belgium 1977
- GUILLEMA, SHARLYN R. Assistant Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of California, San Francisco 2005
- GUILLEN, THERESA CHRISTINE. Adjunct Instructor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1994
- GULDNER, GREGORY T. Associate Professor, Department of Emergency Medicine SM and Department of Pediatrics SM  
M.D. Stanford University 1997

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Department of Occupational Therapy AH  
M.S. California State University, Los Angeles  
1988
- GUNNARSSON, DELIGHT S. Assistant Professor,  
Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1999
- GUO, ANDREW H. Assistant Professor, Department  
of Preventive Medicine SM  
M.B.A. University of Southern California  
2006  
M.P.H. Loma Linda University PH 2004  
M.D. Howard University College of  
Medicine 2000
- GUPTA, ARUN K. Assistant Professor, Department  
of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2007
- GUPTA, SUBHAS C. Professor, Department of  
Surgery SM  
Ph.D. University of Louisville/Columbia  
State University 1997  
M.D. McGill University 1992
- GUPTA, RAVINDER. Assistant Professor,  
Department of Restorative Dentistry SD  
B.D.S. Manipal College of Dental Sciences,  
India 2003
- GURULE, DONNA LYNNE. Assistant Professor,  
Department of Environmental and Occupational  
Health PH  
M.P.H. Loma Linda University PH 1986
- GUSTAFSON, G. ALLEN. Associate Clinical  
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M.D. Loma Linda University SM 1970
- GUSTAFSON, BRENNA L. Assistant Professor,  
Department of Anesthesiology SM  
M.D. Loma Linda University 2000
- GUSTAVSSON, LARS G. Assistant Clinical Professor,  
Department of Global Health PH  
M.B.A. Andrews University 1990
- GUTH, KATHLENE B. Assistant Clinical Professor,  
Department of Radiology SM  
M.D. Loma Linda University SM 1973
- GUTH, RICHARD H. Assistant Professor,  
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M.D. Loma Linda University SM 1973
- GUTHRIE, GEORGE E. Adjunct Assistant Professor,  
Department of Preventive Medicine SM  
M.D. Loma Linda University SM 1981
- GUTHRIE, IVANNA K. Assistant Clinical Professor,  
Department of Psychology ST  
Ph.D. Arizona State University 2002
- GUTIERREZ, MARY. Professor, Department of  
Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of Southern California  
1987
- GUZEK, JAMES P. Associate Clinical Professor,  
Department of Ophthalmology SM  
M.D. Hahnemann Medical College 1978
- GUZMAN, ERNIE. Assistant Professor, Department  
of Pediatrics SM  
M.D. Albert Einstein College of Medicine  
1986
- GUZON-CASTRO, ERLINDA. Assistant Professor,  
Department of Anesthesiology SM  
M.D. University of Santo Tomas, Philippines  
1965
- HAACKE, E. MARK. Adjunct Professor, Department  
of Radiology SM  
Ph.D. University of Toronto, Toronto,  
Canada 1978
- HABER, VIVIANE S. Assistant Professor, Department  
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D.D.S. Loma Linda University SD 1985
- HADDAD, ELLA HASSO. Associate Professor,  
Department of Nutrition PH  
Dr.P.H. Loma Linda University PH 1978
- HADDAD-WILSON, MOUNA EDMOND. Assistant  
Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1991
- HADDOCK, BRYAN LEROY. Assistant Clinical  
Professor, Department of Health Promotion and  
Education PH  
Dr.P.H. Loma Linda University PH 1997
- HADLEY, G. GORDON. Professor, Department of  
Pathology and Human Anatomy SM  
M.D. College of Medical Evangelists 1944
- HADLEY, H. ROGER. Professor, Department of  
Urology SM  
M.D. Loma Linda University SM 1974
- HAERICH, PAUL E. Professor, Department of  
Psychology ST  
Ph.D. University of Florida 1989

- HAGE, JEAN-CLAUDE. Assistant Clinical Professor,  
Department of Family Medicine SM and  
Department of Physiology and Pharmacology SM  
M.D. University of Sherbrooke, Quebec,  
Canada 1992
- HAGGLOV, CALVIN G. Assistant Professor,  
Department of Family Medicine SM  
M.D. University of Manitoba, Winnipeg,  
Canada 2002
- HAIIVY, JACOB. Assistant Clinical Professor,  
Department of Oral and Maxillofacial Surgery SD  
M.D. Mt. Sinai School of Medicine 1997  
D.D.S. New York University, College of  
Dentistry 1994
- HALL, B. DANIEL. Associate Professor, Department  
of Restorative Dentistry SD  
D.D.S. University of San Francisco 1961
- HALL, DONALD R. Adjunct Assistant Professor,  
Department of Health Promotion and Education  
PH  
Dr.P.H. Loma Linda University PH 1978
- HALL, RAYMOND G, JR. Associate Professor,  
Department of Physiology and Pharmacology SM  
Ph.D. Loma Linda University GS 1968
- HALL, SUSAN L. Assistant Professor, Department of  
Medicine SM  
M.D. Loma Linda University SM 1998  
Ph.D. Loma Linda University GS 1996
- HALLER-WADE, TINA M. Assistant Clinical  
Professor, Department of Family Medicine SM  
D.O. Kirsville College of Osteopathic  
Medicine 1990
- HALLSTROM, HADAR P. G. Adjunct Associate  
Professor, Department of Periodontics SD  
D.D.S. University of Lund, Faculty of  
Odontology, Sweden 1977
- HALSTEAD, LINDA G. Assistant Professor,  
Department of Health Promotion and Education  
PH  
M.A. University of California, Riverside 1979
- HALVERSON, JANET E. Instructor, Department of  
Pediatrics SM  
M.S.N. University of California, Los Angeles  
1981
- HAMADA, DEBRA LYNN. Instructor, Department of  
Health Information Management AH  
A.B. College of St. Scholastica 1984
- HAMADA, NORMAN M. Professor, Department of  
Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of the Pacific 1980
- HAMERSLOUGH, RHONDA D. Adjunct Assistant  
Professor, Department of Dental Hygiene SD  
M.A. Azusa Pacific University 2000
- HAMILTON, NALO M. Assistant Professor of  
Nursing, SN  
M.S.N. Vanderbilt University 2005  
Ph.D. Meharry Medical College 2003
- HAMMOND, PAUL G. Associate Clinical Professor,  
Department of Medicine SM  
M.B.B.S. University of Oxford, England 1970
- HANDYSIDES, ROBERT A. Associate Professor,  
Department of Endodontics SD and Endodontics  
Program FGS  
D.D.S. Loma Linda University SD 1993
- HANSEN, KENT A. Assistant Professor, Department  
of Dental Educational Services SD  
J.D. Willamette University 1979
- HANSEN, RONALD C. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
M.S. Loma Linda University GS 1978  
D.D.S. Loma Linda University SD 1970
- HARDER, SHERI L. Assistant Professor, Department  
of Radiology SM  
M.D. University of Saskatchewan, Canada  
1994
- HARDESTY, JEFFREY STEVEN. Assistant Professor,  
Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1980
- HARDESTY, ROBERT A. Clinical Professor,  
Department of Surgery SM  
M.D. Loma Linda University SM 1978
- HARDIN, STEVEN BARTON. Assistant Clinical  
Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1985
- HARDING, GEORGE T. IV. Professor, Department of  
Psychiatry SM  
M.D. Loma Linda University SM 1953
- HARDT, WILLIAM HARRY. Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1994
- HARMS, LAWRENCE A. Assistant Clinical Professor,  
Department of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1983

- HARPER, BRENT A. Clinical Instructor, Department of Physical Therapy AH  
D.P.T. Western University of Health Sciences  
2005
- HARRIS, DAVID P. Assistant Professor, Division of General Studies ST  
Ph.D. Claremont Graduate University 1995
- HARRIS, MELVYN LEWIS. Assistant Professor, Department of Emergency Medicine SM  
M.D. University of Oklahoma Medical Center 1977
- HARRIS, SHEILA ANN. Assistant Professor, Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 1998
- HART, DYNNETTE. Associate Professor, School of Nursing ST  
Dr.P.H. Loma Linda University PH 1994
- HART, ELAINE A. Assistant Professor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 2000
- HART, KENNETH W. Assistant Professor, Department of Global Health PH and Department of Preventive Medicine SM  
M.D. Loma Linda University SM 1969
- HART, RICHARD H. Professor, Department of Global Health PH, Department of Health Promotion and Education PH, and Department of Preventive Medicine SM  
Dr.P.H. John Hopkins University 1977  
M.D. Loma Linda University SM 1970
- HARTMAN, RICHARD E. Assistant Professor, Department of Psychology ST  
Ph.D. Washington University, St. Louis 2001
- HASANIYA, NAHIDH W. Associate Professor, Department of Cardiovascular and Thoracic Surgery SM  
M.D. Kuwait School of Medicine, State of Kuwait 1987  
Ph.D. University of Hawaii
- HASHIMOTO, MASAHIRO. Adjunct Instructor, Department of Allied Health Studies AH  
B.A. National Mie University, Japan 1983
- HASHMI, AIJAZ. Associate Professor, Department of Pediatrics SM  
M.D. University of Ottawa, Canada 1989
- HASSAN, MOHAMED AMIN. Assistant Professor, Department of Periodontics SD  
B.D.S. Cairo University Dental School, Egypt 1991
- HASSO, ANTON. Clinical Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1967
- HATHOUT, EBA H. Professor, Department of Pediatrics SM  
M.D. Faculty of Medicine at Kuwait, State of Kuwait 1985
- HAU, BENNY. Assistant Professor, Department of Physician Assistant Sciences AH  
M.D. Loma Linda University SM 1991
- HAUCK, ARTHUR J. Adjunct Associate Professor, Department of Pathology and Human Anatomy SM  
M.D. Loma Linda University SM 1976
- HAVILAND, MARK G. Professor, Department of Psychiatry SM, Psychiatry Program FGS and School of Nursing SN  
Ph.D. University of Northern Colorado 1979
- HAYASAKA, RUBY A. Clinical Instructor, Department of Nutrition and Dietetics AH  
M.A. University of Redlands 1986
- HAYCOCK, KORBIN H. Assistant Professor, Department of Emergency Medicine SM  
M.D. Loma Linda University SM 2000
- HAYES, WILLIAM K. Professor, Department of Earth and Biological Sciences ST  
Ph.D. University of Wyoming 1991
- HAYNES-LEE, JOAN E. Assistant Professor, Department of Family Medicine SM  
M.D. Howard University 1994
- HAYWOOD, L. JULIAN. Clinical Professor, Department of Medicine SM  
M.D. Howard University 1952
- HEGSTAD, DOUGLAS R. Associate Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1980
- HEIGHT, VICKIE Y. Assistant Clinical Professor, Department of Medicine SM  
M.D. Albert Einstein College of Medicine 1981
- HEINE, NANCY J. Assistant Professor, Department of Medicine SM  
M.Ed. University of Southern California 1996



- HEINRICH, BRUCE SCOTT. Assistant Professor,  
Department of Orthodontics SD  
D.D.S. Loma Linda University SD 1984
- HEINRICH, CHERRIE A. Assistant Professor,  
Department of Plastic and Reconstructive  
Surgery SM  
M.D. Loma Linda University 2001
- HEISKELL, LAWRENCE E. Assistant Clinical  
Professor, Department of General and Trauma  
Surgery SM  
M.D. University of Guadalajara, Mexico 1985
- HEISLER, WILLIAM HENRY. Professor, Department  
of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1959
- HENDERSON, SONDRÁ DIMAYO. Clinical  
Instructor, Department of Nutrition and Dietetics  
AH  
M.P.H. Loma Linda University PH 1981
- HENKEN, HEATHER E. Assistant Professor,  
Department of Pediatrics SM  
M.D. Loma Linda University 2004
- HENKIN, JEFFREY M. Associate Professor,  
Department of Periodontics SD  
D.D.S. University of Illinois 1971
- HENKIN, JENNIFER L. Instructor, Department of  
Oral and Maxillofacial Surgery SD  
D.M.D. Nova Southeastern University 2007
- HENRY-SAVAJOL, OLIVIER. Assistant Clinical  
Professor, Department of Restorative Dentistry  
SD  
D.D.S. University of the Mediterranean,  
School of Dentistry, France 2001
- HERBER, MARILYN D. Instructor, Department of  
Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1958
- HERBER, RAYMOND A. Emeritus Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1957
- HEREDIA-MILLER, FROYLANA. Assistant  
Professor, Department of Social Work and Social  
Ecology ST  
M.S.W. University of Southern California  
1993
- HERFORD ALAN S. Associate Professor, Department  
of Oral and Maxillofacial Surgery SD and  
Department of General and Trauma Surgery SM  
M.D. University of Texas 1997  
D.D.S. Loma Linda University SD 1994
- HERINGTON, DIANA LYNN. Clinical Instructor,  
Department of Nutrition PH  
B.S. Northern Michigan University 1974
- HERNANDEZ, BARBARA A. Associate Professor,  
Department of Counseling and Family Science ST  
Ph.D. University of Minnesota 2003
- HERNANDEZ, ELVIN ABUEG. Assistant Professor,  
Department of Social and Administrative  
Sciences SP  
Dr.P.H. Loma Linda University PH 2005  
D.D.S. Loma Linda University SD 2004
- HERNANDO-RIVERA, INHERLA. Assistant Clinical  
Professor, Department of Nutrition PH;  
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AH  
D.H.Sc. Loma Linda University PH 1987
- HERRICK, KEVIN RAY. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.D. University of Colorado 1998  
Ph.D. University of Davis 1992
- HERRING, ROSA PATRICIA. Associate Professor,  
Department of Health Promotion and Education  
PH  
Ph.D. Texas Women's University 1992
- HERRINGTON, VALERIE ROSE. Assistant Professor,  
Department of Neurology SM  
D.O. Michigan State University College of  
Osteopathic Medicine at Lansing 1987
- HERRMAN, JAN M. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. Louisiana State University 1980
- HERRMANN, E. CLIFFORD. Emeritus Associate  
Professor, Department of Biochemistry and  
Microbiology SM  
Ph.D. Virginia Polytechnic Institute 1970
- HERRMANN, MARILYN MURDOCH. Dean, School  
of Nursing SN  
Ph.D. Claremont Graduate University 1992
- HERRMANN, PAUL C. Associate Professor,  
Department of Clinical Laboratory Science AH  
and Department of Pathology and Human  
Anatomy SM  
Ph.D. Stanford University 1996  
M.D. Loma Linda University 2000
- HERSH, H. MICHAEL. Assistant Professor,  
Department of Periodontics SD  
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Dentistry 1972

- HERZBERGER, KATHY A. Instructor, Department of  
Medicine SM  
B.S.N. University of Phoenix 2000
- HESSINGER, DAVID A. Professor, Department of  
Basic Sciences SM  
Ph.D. University of Miami at Coral Gables  
1970
- HEUSTIS, DARRYL G. Professor, Department of  
Pathology and Human Anatomy SM and  
Department of Clinical Laboratory Science AH  
M.D. Loma Linda University SM 1973
- HEWES, GORDON E. Assistant Professor,  
Department of Health Administration PH  
M.B.A. University of La Verne 1992
- HEWITT, LIANE HINAZUMI. Assistant Professor,  
Department of Occupational Therapy AH  
M.P.H. Loma Linda University PH 1985
- HEYDE, MARILYNN GOULARD. Assistant  
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M.P.H. Loma Linda University PH 2000
- HEYWOOD, J. THOMAS. Clinical Professor,  
Department of Medicine SM  
M.D. University of California, San Diego  
1980
- HICKMAN, DONALD MAC. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1964
- HICKS, JAMES B. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Meharry Medical College 1980
- HIGUCHI, SHAWN K. Assistant Professor,  
Department of Neurology SM  
M.D. Loma Linda University SM 2001
- HILGERS, JAMES J. Associate Professor, Department  
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D.D.S. Loyola University Chicago Dental  
School 1969
- HILL, MICHAEL E. Associate Professor, Department  
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M.D. University of Virginia 1985
- HILLIARD, DENNIS A. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1975
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Basic Sciences SM  
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1974
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1972
- HILLS, RENEE L. Assistant Clinical Professor,  
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M.S. Loma Linda University GS 1981
- HINDMAN, BERNARD W. Associate Professor,  
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M.D. University of Miami 1963
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PH  
Dr.P.H. Loma Linda University PH 1990
- HINSHAW, DAVID B., JR. Professor, Department of  
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M.D. Loma Linda University SM 1971
- HINTON, SHAWN J. Adjunct Assistant Professor,  
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D.D.S. Howard University 1986
- HIROKANE, JANE M. Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1990
- HISADA, PAUL A. Assistant Professor, Department  
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1999
- HOAG, E. PATRICK. Associate Clinical Professor,  
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D.D.S. Loma Linda University SD 1973
- HOANG, THANH X. Assistant Professor,  
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M.D. St. George's University School of  
Medicine, Grenada 1999
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M.D. University of California, Irvine 1988
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Nutrition and Dietetics AH  
Ed.D. Loma Linda University SE 1991

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Science SP  
Pharm.D. University of Southern California  
1988
- HODGKINS, MARIE E. Assistant Clinical Professor,  
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D.D.S. Loma Linda University SD 1994
- HOFFMAN, CHARLES D. Adjunct Professor,  
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Ph.D. Adelphi University 1972
- HOFFMAN, WILLIAM C. Adjunct Assistant  
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D.D.S. Loma Linda University SD 1983
- HOFFMANN, OLIVER C. Associate Professor,  
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D.D.S. Universidad Wunborg, Germany 1997  
M.S. Loma Linda University 2003
- HOFMEISTER, ELIZABETH M. Adjunct Associate  
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Sciences 2005
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1984
- HOLLOWAY, TREVOR K. Assistant Professor,  
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D.D.S. Loma Linda University SD 2004
- HOLMAN, CHARLES MICHEAL. Assistant  
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D.D.S. Loma Linda University SD 1963
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M.H.A. Chapman University 1991
- HOLMES-ENIX, DEBORAH B. Clinical Instructor,  
Department of Occupational Therapy AH  
M.P.H. Loma Linda University PH 1984
- HOLNESS, YVETTE ADRIENNE. Assistant Professor,  
Department of Physical Medicine SM  
M.D. Loma Linda University SM 1981
- HOLSHOUSER, BARBARA A. Professor, Department  
of Radiology SM; Instructor, Department of  
Radiation Technology AH  
Ph.D. Loma Linda University GS 1983
- HOLT, DAVID LYNN. Assistant Clinical Professor,  
Department of Health Administration PH  
M.B.A. University of Redlands 1989
- HOLT, JOHN R. Adjunct Assistant Professor,  
Department of Dental Anesthesiology SD  
D.D.S. Baylor University 1987  
B.S. Texas Technological University 1983
- HOLT, ROBERT, JR. Associate Professor, Department  
of Periodontics SD and Periodontics Program  
FGS  
D.D.S. Meharry Medical College 1979
- HOM, WENDELL. Adjunct Assistant Professor,  
School of Nursing SN  
B.S. University of California, Berkeley 1972
- HOMER, ROBERT JACKSON. Assistant Professor,  
Department of Orthodontics SD  
D.D.S. Loma Linda University SD 1957
- HONG, KELLY E. Assistant Professor, Department of  
Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2004
- HONGO, KUMIKO. Assistant Professor of Nursing,  
School of Nursing SN  
M.S.N. Chiba University, Japan 1998
- HONNY, JEAN M. Assistant Professor, Department  
of Dental Hygiene SD  
B.S. Loma Linda University SD 1997
- HOOKER, WILLIAM M. Associate Professor,  
Department of Pathology and Human Anatomy  
SM and Department of Dental Educational  
Services SD  
Ph.D. Loma Linda University GS 1969

- HOPEWELL, WILLIAM J. III. Assistant Professor,  
Department of Cardiovascular and Thoracic  
Surgery SM  
M.D. State University of New York at  
Syracuse 1970
- HOPKINS, GAIL E. Instructor, Department of  
Orthopaedic Surgery SM  
M.D. University of Alabama 1997
- HOPKINS, GARY L. Adjunct Assistant Professor,  
Department of Health Promotion and Education  
PH  
M.D. Universidad Autonoma de  
Guadalajara, Mexico 1975  
Dr.P.H. Universidad Autonoma de  
Guadalajara, Mexico 1975
- HOPP, JOYCE WILSON. Dean Emerita, School of  
Allied Health Professions AH; Distinguished  
Professor Emerita, School of Allied Health  
Professions AH; and Distinguished Professor  
Emerita, Department of Health Promotion and  
Education PH  
Ph.D. University of Southern California 1974
- HOPPER, ANDREW O. Professor, Department of  
Pediatrics SM  
M.D. University of Texas Medical School  
1977
- HORINOUCI, CATHERINE KAZUE. Assistant  
Professor, School of Nursing SN  
M.S. California State University, Los Angeles  
1983
- HORRICKS, DONALD. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1980
- HORSTMANN, JONATHAN WILLIAM. Assistant  
Clinical Professor, Department of Family  
Medicine SM  
M.D. Washington University at St. Louis  
1977
- HOTCHNER, BRADLEY R. Assistant Clinical  
Professor, Department of Orthopedic Surgery SM  
M.D. St. Louis University 1981
- HOUCHIN, KENNETH W. Assistant Clinical  
Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1985
- HOWARD, FRANK D. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. Harvard Medical School 1985  
Ph.D. Stanford University 1981
- HOXIE, RUSSELL EVAN, JR. Associate Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1988
- HOYLE, JERRY D. Associate Clinical Professor,  
Department of Psychiatry SM  
Ph.D. California School of Professional  
Psychology 1980
- HSU, FRANK P. K. Associate Professor, Department  
of Neurosurgery SM and Department of  
Otolaryngology SM  
Ph.D. University of Maryland 1994  
M.D. University of Maryland 1985
- HSU, SHERI S. Instructor, Department of Medicine  
SM  
M.D. 2005, Temple University
- HSU, SHU-CHUAN CHEN. Clinical Instructor,  
Department of Occupational Therapy AH  
M.A. Texas Women's University 1979
- HSUEH, CHUNG-TSEH. Associate Professor,  
Department of Medicine SM  
Ph.D. State University, New York 1993  
M.D. Taipei Medical College, Taiwan 1986
- HTOY, SALLY L. Assistant Clinical Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.D. University of the Pacific 1997
- HU, CHARLES K. Assistant Professor, Department of  
General and Trauma Surgery SM  
M.D. Wayne State University 1998
- HUANG, GALEN C. L. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. University of Miami School of  
Medicine 1975
- HUANG, JAMES JUE-TE. Assistant Professor,  
Department of Medicine SM  
M.D. Boston University Medical School 1990
- HUANG, WEN-HSIUNG LUKE. Assistant Clinical  
Professor, Department of Pediatrics SM  
M.D. Kaohsiung Medical College, Taiwan  
1968
- HUARINGA, ARMANDO J. Professor, Department  
of Medicine SM  
M.D. National Major University of San  
Marcos, Peru 1979

- HUBBARD, IONELA O. Assistant Clinical Professor,  
Department of Preventive Medicine SM;  
Assistant Professor, Department of Physical  
Medicine and Rehabilitation SM  
M.D. School of Medicine and Pharmacology,  
Romania 1982
- HUBBARD, RICHARD W. Associate Research  
Professor, Department of Pathology and Human  
Anatomy SM and Department of Nutrition PH  
Ph.D. Purdue University 1961
- HUECKER, ESTHER. Associate Professor,  
Department of Occupational Therapy AH and  
Occupational Therapy Program FGS  
Ph.D. University of Southern California 2005
- HUENERGARDT, DOUGLAS W. Professor,  
Department of Counseling and Family Science ST  
Ph.D. Northwestern University 1967
- HUFFAKER, GARY G. Assistant Clinical Professor,  
Department of Ophthalmology SM  
M.D. Loma Linda University SM 1973
- HUFFAKER, SUSAN MATTOON. Assistant  
Professor, Department of Physical Therapy AH  
M.P.T. Loma Linda University AH 1996
- HUGHES, W. WILLIAM, III. Associate Professor,  
Department of Pharmaceutical Studies SP,  
Department of Pathology and Human Anatomy  
SM, and Division of General Studies ST  
Ph.D. Loma Linda University GS 1978
- HUI, NOEL T. Assistant Professor, Department of  
Urology SM  
M.D. National Defense Medical Center,  
Taipei, Taiwan 1970
- HUMPHRIES, VALERIE JEAN. Clinical Instructor,  
Clinical Laboratory Science AH  
M.S. California State University, Dominguez  
Hills 1981
- HUNG, YUAN-LUNG. Clinical Instructor,  
Department of Restorative Dentistry SD  
D.M.D. Centro Escolar University
- HUNT, ENACIO G. Assistant Professor, Department  
of Medicine SM  
M.D. State University of New York,  
Downstate 1984
- HURLBUTT, MICHELLE THERESIA. Assistant  
Professor, Department of Dental Hygiene SD  
B.S. University of Nebraska 1979
- HUSSAIN, FARABI M. Assistant Professor,  
Department of General and Trauma SM  
M.D. Loma Linda University SM 1994
- HUSSAIN, TARIQ M. ARIF Instructor, Department of  
Cardiopulmonary Sciences AH  
B.S. Boise State University 2001
- HUSSEIN, GAMAL I. Associate Clinical Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.D. University of Texas at Austin and  
San Antonio 1991
- HUSTON, PATRICK L. Assistant Professor,  
Department of Periodontics SD  
D.D.S. University of the Pacific 1998
- HWANG, BESSIE L. Assistant Clinical Professor,  
Department of Epidemiology and Biostatistics  
PH  
M.P.H. Loma Linda University PH 1993  
M.D. Loma Linda University SM 1968
- HYMAN, RAMONA L. Associate Professor of  
Religion SR  
Ph.D. University of Alabama, Tuscaloosa  
2006  
M.A. Andrews University 1986
- IHDE, JANET K. Associate Clinical Professor,  
Department of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1977
- ING, JEFFREY J. Assistant Clinical Professor,  
Department of Ophthalmology SM  
M.D. Loma Linda University SM 1992
- ING, MICHAEL B. Assistant Professor, Department  
of Medicine SM  
M.D. Loma Linda University SM 1990
- INGERSOLL, LEE R. Associate Clinical Professor,  
Department of Endodontics SD  
D.D.S. Loma Linda University SD 1970
- INGRAM, KATHIE M. Assistant Professor, School of  
Nursing SN  
M.S.N. Loma Linda University GS 1970
- IORIO, MICHAEL. Instructor, Department of  
Radiation Technology AH  
M.P.A. California State University, San  
Bernardino 2007

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School of Nursing SN  
Ph.D. United States International University  
1984
- ISAAC, GEORGE M. Associate Professor, Department  
of Medicine SM  
M.D. Loma Linda University SM 1989
- ISAAC, IZABELLA. Assistant Clinical Professor,  
Department of Neurology SM  
M.D. Loma Linda University SM 1995
- ISAEFF, DALE M. Professor, Department of Medicine  
SM  
M.D. Loma Linda University SM 1965
- ISAEFF, WAYNE B. Associate Professor, Department  
of Ophthalmology SM  
M.D. Loma Linda University SM 1962
- ISINHUE, MING C. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.D. University of California, San Francisco  
1984
- ISMAIL, MOHAMED H. Assistant Clinical Professor,  
Department of Medicine SM and Department of  
Preventive Medicine SM  
M.B.B.Ch. Cairo University Faculty of  
Medicine, Egypt 1999
- ITOH, TAKEO. Adjunct Professor, Department of  
Allied Health Studies AH  
Ph.D. Kyushu University, Fukuoka, Japan  
1983
- IWAKI, YUICHI. Professor, Department of Pathology  
and Human Anatomy SM  
Ph.D. Sapporo Medical School, Sapporo,  
Japan 1984  
M.D. Sapporo Medical School, Sapporo,  
Japan 1975
- IWATA, LUKE H. Assistant Clinical Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1977
- JABLOW, JAY T. Assistant Professor, Department of  
Medicine SM  
M.D. University of Pennsylvania,  
Philadelphia 1963
- JABOLA, B. RODNEY. Instructor, Department of  
Radiation Medicine SM  
M.D. Loma Linda University SM 1980
- JACELDO-SIEGL, KAREN. Assistant Research  
Professor, Department of Nutrition PH  
Dr.P.H. Loma Linda University PH 2003
- JACKNIK, MICHELE A. Assistant Clinical Professor,  
Department of Health Promotion and Education  
PH  
M.S.Ed. Southern Illinois University at  
Carbondale 1977
- JACKSON, CHRISTIAN. Assistant Professor,  
Department of Medicine SM  
M.D. University of Chicago 1999
- JACKSON, CRAIG R. Associate Professor,  
Department of Social Work and Social Ecology  
ST and Department of Allied Health Studies AH  
J.D. Western State University College of Law  
1993
- JACKSON, G VICTORIA. Assistant Professor,  
Department of Social Work and Social Ecology  
ST and Clinical and Social Work Program FGS  
M.S.W. University of Michigan 1972
- JACKSON, MICHAEL H. Assistant Professor,  
Department of Health Administration PH  
M.P.H. University of California, Los Angeles  
1968
- JACOBS, DURAND F. Clinical Professor, Department  
of Psychiatry SM  
Ph.D. Michigan State University 1953
- JACOBS, RICHARD A. Clinical Instructor,  
Department of Nutrition and Dietetics AH  
Ph.D. University of Michigan 1971
- JACOBSON, ALAN K. Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1981
- JACOBSON, HAROLD L. Assistant Professor,  
Department of Endodontics SD  
D.D.S. University of the Pacific 1980
- JACOBSON, J. PAUL. Assistant Professor,  
Department of Radiology SM  
M.D. University of California School of  
Medicine 1997
- JACOBSON, JOHN D. Associate Professor,  
Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1970
- JAEGER, RICH W. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1980

- JAFFER, ALI M. Assistant Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of Southern California 2002
- JAHROMI, MARJON B. Assistant Professor, Department of Dental Anesthesiology SD  
D.D.S. University of Michigan Dental School 2001
- JAIPAUL, NAVIN. Assistant Professor, Department of Medicine SM  
M.D. University of Iowa 2000
- JAMES, SIGRID. Associate Professor, Department of Social Work and Social Ecology ST  
Ph.D. University of Southern California 2003
- JAMISON, BRADLEY. Assistant Professor, Department of Health Administration and Department of Global Health PH  
Ph.D. Andrews University 1996  
M.A. Andrews University 1990
- JANG, G. DAVID. Professor, Department of Medicine SM  
M.D. Korea University College of Medicine 1965
- JANNER, DONALD L. Associate Professor, Department of Pediatrics SM  
M.D. Georgetown School of Medicine 1986
- JANSEN, CARL. Associate Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1963
- JANZ, MARK R. Assistant Clinical Professor, Department of Global Health PH  
M.P.S. Cornell University 1989
- JARAMILLO, DAVID E. Assistant Professor, Department of Endodontics SD  
D.D.S. Universidad Autonoma de Guadalajara, Mexico 1989
- JAVAHERIAN, HEATHER A. Associate Professor, Department of Occupational Therapy AH  
O.T.D. Creighton University 2004
- JAVOR, GEORGE T. Emeritus Research Professor, Department of Biochemistry and Microbiology SM  
Ph.D. Columbia University 1967
- JAWOR, RONALD WALTER. Assistant Professor, Department of Orthodontics SD  
D.D.S. Loyola University at Chicago 1969
- JEFFREY, RONALD LEE. Assistant Clinical Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1980
- JEKKI, BALSAM F. Assistant Professor, Department of Restorative Dentistry SD  
B.D.S. Baghdad University, Iraq 1994
- JEKKI, RAMI R. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2006
- JELSING, PRISCILLA J. Assistant Professor, Department of Periodontics SD  
D.D.S. Universidade Salgado de Oliveira, Brazil 2004
- JENG, CHESTER C. Assistant Professor, Department of Restorative Dentistry SD  
J.D. Pacific West College of Law 2004  
D.D.S. University of the Pacific 1998
- JENG, LEO C. Assistant Professor, Department of Pediatrics SM  
M.D. New York Medical College 2000
- JENG, SHYUN. Assistant Professor, Department of Ophthalmology SM  
M.D. National Taiwan University, Republic of China 1979
- JENKINS, LOUIS E. Professor, Department of Psychology ST  
Ph.D. Pennsylvania State University 1973
- JENNINGS, JOHN C. Associate Professor, Department of Medicine SM  
M.D. Northwestern University 1970
- JENNINGS-NUNEZ, CHASITY D. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM  
M.D. Harvard Medical School 1995
- JESSE, CLARAN H., SR. Associate Clinical Professor, Department of Orthopaedic Surgery SM  
M.D. College of Medical Evangelists 1944
- JESSE, JAMES THOMAS. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1973
- JEWELL, MARGARET A. Clinical Instructor in Nursing SN  
M.S. University of Missouri, Kansas City 1996
- JIFFRY, KATHY. Assistant Professor, Department of Pediatrics SM  
M.D. University of Colombo, Sri Lanka 1980

- JIH, WILLIAM W. Assistant Professor, Department of Family Medicine SM  
M.D. Albany Medical College 1999
- JIMENEZ, PETER N. Assistant Professor, Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 2000
- JIN, RAMI. Assistant Clinical Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of Southern California 2005
- JINAMORNPHONGS, SUCHAYA. Assistant Professor, Department of Medicine SM  
M.D. St. George's University School of Medicine, Grenada 1999
- JO, DAVID JAEKWAN. Assistant Professor, Department of Orthodontics SD  
D.D.S. Loma Linda University SD 1982
- JO, PHILIP DAE-HYUN. Clinical Instructor, Department of Endodontics SD  
D.D.S. Loma Linda University SD 2001
- JOB, ALLEN J. Assistant Professor, Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 2003
- JOB, JAYAKARAN S. Associate Professor, Department of Preventive Medicine SM, Department of Global Health PH, and Department of Epidemiology and Biostatistics PH  
Dr.P.H. Johns Hopkins Hospital 1986  
M.P.H. Loma Linda University PH 1985  
M.D. Christian Medical College, India 1982  
M.B.B.S. Christian Medical College, India 1975
- JOB, LEELA. Associate Professor, Department of Pediatrics SM  
M.D. Christian Medical College, India 1975
- JOBE, CHRISTOPHER MALLORY. Professor, Department of Orthopedic Surgery SM and Department of Pathology and Human Anatomy SM  
M.D. Baylor College of Medicine 1975
- JOE, VICTOR C. Assistant Professor, Department of General and Trauma Surgery SM  
M.D. Medical College of Virginia 1995
- JOHNA, SAMIR D. Clinical Professor, Department of General and Trauma Surgery SM  
M.D. University of Baghdad, Iraq 1983
- JOHNS, WARREN. Associate Professor, University Libraries  
Ph.D. Andrews University 2005
- JOHNSON, CAMERON J. Assistant Professor, Department of Psychiatry SM  
M.D. Loma Linda University SM 1989
- JOHNSON, ERIC. Associate Professor, Department of Physical Therapy AH  
D.Sc. Loma Linda University AH 2001
- JOHNSON, D. ROBERT. Associate Clinical Professor, Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1961
- JOHNSON, EBENEZER. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1988
- JOHNSON, ERIC G. Professor, Department of Physical Therapy AH  
D.P.T.Sc. Loma Linda University AH 2001
- JOHNSON, JAMES P. Instructor, Department of Psychiatry SM  
Ph.D. California School of Professional Psychology at San Diego 1998
- JOHNSON, MARK S. Associate Research Professor, Department of Basic Sciences SM  
Ph.D. University of Utah 1984
- JOHNSON, MICHELLE M. Assistant Professor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1993
- JOHNSON, NEAL A. Assistant Professor, Department of Dental Educational Services SD  
Ph.D. Loma Linda University GS 2004
- JOHNSON, RON SCOTT. Clinical Instructor, Department of Clinical Laboratory Science AH  
B.S. University of California, Riverside 1981
- JOHNSON, RONALD B. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1984
- JOHNSON, SUSIE M. Instructor, Department of Clinical Laboratory Science AH  
B.S. Loma Linda University AH 1981
- JOHNSON, WALTER D. Professor, Department of Neurosurgery SM, Department of Radiation SM and Department of Otolaryngology and Head and Neck Surgery SM  
M.D. Loma Linda University SM 1983



- JOHNSTON, GEORGE E. Associate Professor,  
Department of Environmental and Occupational  
Health PH  
Ph.D. Loma Linda University GS 1977
- JOHNSTON, ZINA A. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University 2000
- JOHNSTONE, DALE R. Assistant Professor,  
Department of Periodontics SD  
D.D.S. University of Southern California  
1971
- JONES, ANGELA MARY. Clinical Instructor, School  
of Nursing SN  
M.A. California State University, San  
Bernardino 1996
- JONES, BRUCE D. Assistant Professor, Department of  
Restorative Dentistry SD  
D.D.S. University of California, San  
Francisco 1972
- JONES, LADONNA M. Assistant Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.D. Purdue University 2003
- JONES, PATRICIA SADIE. Professor, School of  
Nursing SN  
Ph.D. George Peabody College 1977
- JORETEG, TORBJORN I. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. University of Kiel, West Germany 1976  
Ph.D. Karolinska Institute, Sweden 1986
- JOSEPH, JAMES P. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. University of Illinois 1967
- JOSEPH, THERESA M. Assistant Professor,  
Department of Allied Health Studies AH  
M.B.A. California State University, San  
Bernardino 1993
- JUNCAJ, JENNY. Assistant Professor, Department of  
Restorative Dentistry SD  
D.D.S. University of Detroit Mercy 2001
- JUNG, TIMOTHY T. K. Clinical Professor,  
Department of Surgery SM  
M.D. Loma Linda University SM 1974
- JUTZY, KENNETH ROY. Associate Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1977
- JUTZY, ROY V. Emeritus Professor, Department of  
Medicine SM  
M.D. Loma Linda University SM 1952
- KAFROUNI, GEORGE I. Assistant Professor,  
Department of Cardiovascular and Thoracic  
Surgery SM  
M.D. Loma Linda University SM 1961
- KAIRIS, LISA A. Assistant Professor, Department of  
Gynecology and Obstetrics SM  
M.D. University of Illinois at Chicago 1996
- KAISER, ADEEL. Instructor, Department of Radiation  
Medicine SM  
M.D. Johns Hopkins School of Medicine 2003
- KALBERMATTER, OLGA R. Instructor, Department  
of Pediatrics SM  
B.S. Loma Linda University 1975
- KALE, RAHUL M. Assistant Professor, Department  
of Medicine SM  
M.D. New York Medical College, New York  
2001
- KALEITA, THOMAS A. Assistant Clinical Professor,  
Department of Pediatrics SM  
Ph.D. California School of Professional  
Psychology 1980
- KALINA, SHARON L. Associate Clinical Professor,  
Department of Surgery SM  
M.D. Université de Bordeaux II, France 1982
- KALOSHIAN, JASMINE H. Clinical Instructor,  
Department of Clinical Laboratory Science AH  
B.S. Loma Linda University AH 1984
- KAN, JOSEPH YUN KWONG. Professor, Department  
of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1990
- KANACKI, LANA SUE MCLOUTH. Assistant  
Professor, School of Nursing SN  
M.S. Loma Linda University GS 1991
- KANG, JOANNE. Assistant Professor, Department of  
Medicine SM  
M.D. New York Medical College 1997  
M.S. Massachusetts Institute of Technology  
1994
- KAO, CECILIA C. Assistant Professor, Department of  
Pediatric Dentistry SD  
D.D.S. University of California, San  
Francisco 2001

- KARADOTTIR, HILDUR. Adjunct Instructor,  
Department of Dental Hygiene SD  
Dental Educational College, Sweden 1988
- KARAGYOZYAN, YREVAN M. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2007  
D.D.S. UP Ivan Petrovich Pavlov School of  
Dentistry, Bulgaria 1988
- KARKARE, NAKUL V. Assistant Professor,  
Department of Orthopaedic Surgery SM  
M.B.B.S. University of Amravati, India 1995
- KARAMATSU, MIA L. Instructor, Department of  
Emergency Medicine SM  
M.D. University of Hawaii 2004
- KARUNIA, MARTINA I. Assistant Professor,  
Department of Nutrition and Dietetics AH  
M.P.H. Loma Linda University PH 2002  
M.S. University of California, Davis 1999
- KASARJIAN, JULIE K.A. Instructor, Department of  
Medicine SM  
M.D. Loma Linda University SM 2005  
Ph.D. Loma Linda University 2005
- KASISCHKE, FRED CLARE. Assistant Professor of  
Religion, School of Religion SR and Assistant  
Professor, Department of Dental Educational  
Services SD  
D.Min. Fuller Theological Seminary 1988
- KATIRAEI, PEJMAN. Assistant Professor,  
Department of Pediatrics SM  
D.O. Western University of Health Sciences  
2003
- KATRIB, GHINA G. Assistant Professor, Department  
of Physician Assistant Sciences AH  
M.P.A. Loma Linda University AH 2003
- KATSAROS, EMMANUEL P. Assistant Professor,  
Department of Medicine SM  
D.O. Midwestern University 1995
- KATTADIYIL, MATHEW THOMAS. Associate  
Professor, Department of Restorative Dentistry  
SD and Prosthodontics Program FGS  
B.D.S. College of Dental Surgery at Manipal,  
India 1990
- KATZ, JEFFREY M. Assistant Professor, Department  
of Medicine SM  
M.D. University of Minnesota 1967
- KAWAHARA, NANCY E. Associate Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.D. University of Southern California  
1982
- KAY, BRENT W. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. Oregon Health Sciences University  
1991
- KAYALI, ZEID. Assistant Professor, Department of  
Medicine SM  
M.D. Aleppo University, Syria 1995
- KEDLAYA, DIVAKARA. Associate Professor,  
Department of Physical Medicine SM  
M.D. Government Medical College at  
Mysore University, India 1991
- KEEBAUCH, JENNIFER. Assistant Professor,  
Department of Family Medicine SM  
M.D. University of Florida 1992
- KEENEY, ELDEN D. Associate Professor, Department  
of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1960
- KEJRIWAL, KAMAL. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.D. Sawai-Man-Singh Medical College,  
India 1995
- KELLN, KENNETH L. Adjunct Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1964
- KELLOGG, DONALD R. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1972
- KELLY, THOMAS J. Assistant Professor, Department  
of Radiology SM  
M.D. University of Maryland Medical School  
1986
- KENDRICK, LORNA D. Associate Professor, Nursing  
Program FGS  
Ph.D. University of California, Los Angeles  
2003
- KENNEDY, CASEY M. C. Assistant Clinical  
Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1990
- KENNEDY, WILLIAM A. Associate Professor,  
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M.D. McGill University, Montreal, Quebec  
1981

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Department of Family Medicine SM  
M.D. George Washington University 1996
- KESSLER, TODD S. Assistant Professor, Department  
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M.D. Michigan State College of Human  
Medicine 1996
- KETTERING, JAMES D. Emeritus Professor,  
Department of Biochemistry and Microbiology  
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Services SD  
Ph.D. Loma Linda University GS 1974
- KETTLER, SHARMEL O. Adjunct Assistant  
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D.O. Touro Osteopathic University 2002
- KEUSHKERIAN, SIMON M. Assistant Clinical  
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M.D. American University of Beirut,  
Labanan 1981
- KEVORKIAN, GARY K. Assistant Professor,  
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- KHALIL, SHERIF FOUAD. Assistant Clinical  
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M.D. Benha Medical School, Egypt 1985
- KHAN, AQEEL S. Assistant Professor, Department of  
Emergency Medicine SM and Department of  
Pediatrics SM  
M.B.B.S. Bhau Din Zakria University at  
Ultan, Pakistan 1986
- KHAN, FAISAL A. Associate Clinical Professor,  
Department of General and Trauma Surgery SM  
M.D. University of Southern California 1980
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Department of Restorative Dentistry SD  
D.D.S. Azad University, Iran 1996
- KHAZAENI, LEILA M. Assistant Professor,  
Department of Ophthalmology SM  
M.D. University of Michigan Medical School  
2000
- KHEHRA, BALRAM S. Assistant Professor,  
Department of Medicine SM  
M.B.B.S. Government Medical College at  
Patiala, India 1988
- KHIRKHAHI, ELHAM. Assistant Professor,  
Department of Periodontics SD  
D.D.S. University of Colorado at Denver  
1994
- KHERADPOUR, ALBERT. Assistant Professor,  
Department of Pediatrics SM  
M.D. Tehran University, Iran 1980
- KHOO, KEIKO INADA. Associate Professor,  
Department of Communication Sciences and  
Disorders AH  
M.A. University of California, Los Angeles  
1987  
M.S. Loma Linda University GS 1979
- KHUBESRIAN, MARINA. Assistant Clinical  
Professor, Department of Family Medicine SM  
M.D. University of California, Los Angeles  
1992
- KIDDER, MELISSA M. Assistant Professor,  
Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1994
- KIDO, DANIEL K. Professor, Department of  
Radiology SM  
M.D. Loma Linda University SM 1965
- KIEF-GARCIA, MONIKA L. Assistant Clinical  
Professor, Department of Radiology SM  
M.D. Baylor College of Medicine 1987
- KIERNAN, WILLIAM H. Instructor, Department of  
Ophthalmology SM  
O.D. Southern California College of  
Optometry 1981
- KIGER, ROBERT D. Professor, Department of  
Periodontics SD  
D.D.S. Loma Linda University SD 1970
- KILLEEN, JAMES DAVID, JR. Professor, Department  
of Cardiovascular and Thoracic Surgery SM  
M.D. Loma Linda University SM 1975
- KIM, DANIEL IL-SUN. Assistant Professor,  
Department of Medicine SM  
M.D. Hahnemann University at Philadelphia  
1994
- KIM, DENNIS Y. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1997
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M.D. Stony Brook, New York 1998

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Department of Emergency Medicine SM and  
Department of Pediatrics SM  
M.D. Loma Linda University SM 1990
- KIM, JAY S. Professor, Department of Dental  
Educational Services SD  
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Department of Physical Medicine SM and  
Department of Anesthesiology SM  
M.D. Loma Linda University SM 1991
- KIM, JEONG S. Assistant Professor, Department of  
Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2005  
Ph.D. Yonsei University, South Korea 2000
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Department of Dental Educational Services SD  
D.D.S. Loma Linda University 2001
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Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1999
- KIM, JOHN Y. Assistant Professor, Department of  
Surgery SM  
M.D. University of Michigan 1994
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Medicine SM  
D.O. Southeastern University of Health  
Sciences 1990
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Medicine SM  
M.D. Hallym University, South Korea 1989
- KIM, PAUL D. Assistant Professor, Department of  
Surgery SM  
M.D. Loma Linda University SM 1998
- KIM, RICHARD SEONG EUI. Assistant Professor,  
Department of Family Medicine SM  
M.D. Loma Linda University SM 1983
- KIM, SOO YOUN. Assistant Professor, Department of  
Pediatrics SM  
M.D. Loma Linda University SM 1995
- KIM, SUNHWA JENNY. Assistant Professor,  
Department of Pediatrics SM  
M.D. Loma Linda University SM 2002
- KIM, TAE EUNG J. Assistant Professor, Department  
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M.D. University of Michigan Medical School  
2000
- KIM, TOMMY Y.H. Assistant Professor, Department  
of Emergency Medicine SM and Department of  
Pediatrics SM  
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- KIM, Y. WILLIAM. Assistant Professor, Department  
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Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2001
- KIM, YOON J. Assistant Professor, Department of  
Periodontics SD  
D.D.S. Seoul National University, Republic  
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- KIMBALL-JONES, PENNY L. Associate Professor,  
Department of Anesthesiology SM  
M.D. Loma Linda University SM 1985
- KIMURA, MARILYN H. Assistant Clinical Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 1991
- KINBACK, KEVIN M. Assistant Clinical Professor,  
Department of Psychiatry SM  
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1973
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Professor, Department of Pharmacotherapy and  
Outcomes Science SP  
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1977
- KINSEY, DAVID J. Assistant Professor, Department  
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M.A. Wright State University 1979
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Sciences SM and Professor, Department of  
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1984
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B.S. University of Redlands 1989
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D.D.S. Loma Linda University SD 1984  
B.S. Pacific Union College 1977
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M.D. West Virginia University 1972
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D.D.S. University of Chile, Chile 1967
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D.D.S. University of Nebraska 1953
- KLOMPUS, STEVE J. Assistant Clinical Professor, Department of Physician Assistant Sciences AH  
M.P.A. University of Southern California 1975
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M.D. Loma Linda University SM 1977
- KLOP, WINIFRED J. Assistant Professor, Department of Psychiatry SM  
M.S.W. University of Southern California 1993
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Ph.D. University of Southern California 1987
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M.S. National Institution for Academics, Japan 2003
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Restorative Dentistry SD  
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Nursing SN  
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Ph.D. University of Chicago 1983
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M.D. Loma Linda University SM 1995
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M.S. University of Southern California 1999
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M.D. Loma Linda University SM 1958
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M.D. Loma Linda University SM 1955
- KUHN, MICHAEL ALLAN. Associate Professor,  
Department of Pediatrics SM  
M.D. University of Texas Southwestern  
Medical School 1988

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Department of Preventive Medicine SM  
M.D. Loma Linda University SM 1999  
B.A. La Sierra University 1997
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Department of Periodontics SD  
D.D.S. Loma Linda University SD 1974
- KUNIHIRA, RICHARD Y. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1986
- KUNIYOSHI, KEVIN S. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1997
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Department of Psychiatry SM and Department of  
Preventive Medicine SM  
M.D. Columbia University 1979
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M.D. Loma Linda University SM 2001
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M.D. University of California, Los Angeles,  
School of Medicine 1987
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Family Medicine SM  
M.D. El-Minya University, Egypt 2000
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Department of Family Medicine SM and  
Assistant Professor, Department of Pathology  
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M.D. Loma Linda University SM 2000
- LAI, MEI Y. Assistant Professor, Department of  
Medicine SM  
M.D. Fluminense Federal University, Brazil  
1987
- LALEZARZADEH, FARIBORZ. Instructor,  
Department of General and Trauma Surgery SM  
D.O. Western University of Health Science  
2001
- LAM, EDUARDO D. Instructor, Department of  
Emergency Medicine SM  
M.D. University of California, Los  
Angeles/Charles Drew University 2004
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Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of Southern California  
2003
- LAM, MARY P. Assistant Professor, Department of  
Pediatrics SM  
M.D. John A. Burns School of Medicine 1983
- LAM, TRANG T. Assistant Professor, Department of  
Medicine SM  
M.D. Creighton University SM 1995
- LAMB, DIANA T. Clinical Instructor, Department of  
Nutrition PH  
B.S. California State University, Long Beach  
1993
- LAMBERTON, HENRY H. Associate Professor,  
Department of Psychiatry SM and School of  
Religion SR  
Psy.D. Fuller Theological Seminary 1992
- LAMPKIN, ANDY. Assistant Professor, School of  
Religion SR  
Ph.D. Vanderbilt University 2000
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Department of Urology SM  
M.D. University of Medicine and Dentistry  
of New Jersey 1983
- LANDEL, ROBERT F. Adjunct Associate Professor,  
Department of Physical Therapy AH  
D.P.T. University of Southern California  
1996
- LANDLESS, PETER N. Adjunct Assistant Professor,  
Department of Global Health PH  
M.D. University of Witwatersrand, South  
Africa 1974
- LANE, CARTER ALAN. Clinical Instructor,  
Department of Orthodontics SD  
D.D.S. Loma Linda University SD 2000
- LANGGA, EULY MAYPA. Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1985
- LANGGA, LEO MAYPA. Clinical Instructor,  
Department of Cardiopulmonary Sciences AH  
B.S. Loma Linda University AH 1988
- LANGRIDGE, WILLIAM HENRY RUSSELL.  
Professor, Department of Biochemistry and  
Microbiology SM  
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Amherst 1973

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Medicine SM  
M.D. Southwestern University, Philippines  
1984
- LARSEN, JAMES PETER. Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1982
- LARSEN, RANAE L. Professor, Department of  
Pediatrics SM  
M.D. Loma Linda University SM 1982
- LARSON, DAVID R. Professor, School of Religion SR  
Ph.D. Claremont Graduate University 1982  
D.Min. Claremont School of Theology 1973
- LARSON, LAWRENCE B. Assistant Clinical  
Professor, Department of Pharmacotherapy and  
Outcomes Science SP  
Pharm.D. University of Southern California  
1983
- LASHIER, HARVEY M. Assistant Professor,  
Department of Ophthalmology SM  
M.D. Loma Linda University SM 1963
- LAU, ALAN C. K. Assistant Professor, Department of  
Medicine SM  
M.B.B.S. University of Hong Kong, Hong  
Kong 1976
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Anesthesiology SM  
M.D. Loma Linda University SM 1979
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Department of Pharmacotherapy and Outcomes  
Science SP  
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1989
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SM  
M.D. College of Medical Evangelists 1947
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Ph.D. Iowa State University 1982
- LAU, KATHLEEN M. Assistant Professor,  
Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1982
- LAU, SUSIE HUNG. Assistant Professor, Department  
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M.D. Medical College of Georgia 1986
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Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 2003
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M.D. Loma Linda University 2003
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Ed.S. La Sierra University 2005  
M.B.A. California State University 1993
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M.D. Hahnemann Medical College 1974
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Restorative Dentistry SD  
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Oral and Maxillofacial Surgery SD  
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2004
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M.D. Loma Linda University 2003
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- LEE, SONNY C.Y. Assistant Professor, Department of Pediatrics SM and Department of Medicine SM  
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- LIMJOCO, URIEL R. Assistant Clinical Professor, Department of General and Trauma Surgery SM  
M.D. University of the Philippines, Philippines 1957
- LINAS, GLENIS D. Clinical Instructor, Department of Clinical Laboratory Science AH  
B.S. California State University at Long Beach, California 1968
- LIN, JU-AN. Assistant Clinical Professor, Department of Medicine SM  
Ph.D. Loma Linda University GS 1996  
M.D. Shanghai Medical University, China 1992
- LIN, REN-JANG. Adjunct Research Professor, Department of Biochemistry and Microbiology SM  
Ph.D. Pennsylvania State University at Hershey 1983  
B.S. California State University, Long Beach 1968
- LINDLEY, ELISA M. Clinical Instructor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1998
- LINDSTED, KRISTIAN DAVID. Professor, Department of Environmental and Occupational Health PH and Department of Epidemiology and Biostatistics PH  
Ph.D. Michigan State University 1982
- LINGAMPALLY, VENKATA N. Assistant Professor, Department of Radiation Medicine SM  
Ph.D. Osmania University, India 2004
- LINKHART, THOMAS A. Research Professor, Department of Pediatrics SM and Department of Basic Sciences SM  
Ph.D. University of California, Davis 1975
- LINTON, ANNE E. Assistant Clinical Professor, Department of Psychiatry SM  
M.D. Case Western Reserve University 1989
- LITVINOFF, GREGORY PAUL. Assistant Professor, Department of Oral and Maxillofacial Surgery SD  
D.D.S. University of California, Los Angeles 1975
- LIU, ANTONIO K. Assistant Clinical Professor, Department of Neurology SM  
M.D. University of Southern California 1995
- LIU, MARINA J. Assistant Professor, Department of Anesthesiology SM  
M.D. University of California, Irvine 1998
- LIU, PAUL CHI-WAY. Assistant Clinical Professor, Department of Orthopedic Surgery SM  
M.D. University of Nevada 1988
- LIU, YI. Assistant Professor, Department of Family Medicine SM  
Ph.D. Loma Linda University GS 1997  
M.D. Shanghai Medical University, China 1985
- LIU, YONG. Assistant Professor, Department of Periodontics SD  
D.D.S. West China University of Medical Sciences, China 1992
- LIWNICZ, REGINA G. Assistant Professor, Department of Psychiatry SM  
M.D. University of Cincinnati 1989
- LLAGUNO, MARIAN C. Assistant Professor of Nursing SN  
M.S. California State University, Long Beach 2002
- LLAURADO, JOSEP G. Professor, Department of Radiology SM  
M.D. University of Barcelona, Spain 1950
- LLOYD, SUSAN T. Associate Professor, Nursing Program, FGS  
Ph.D. University of San Diego 2000  
M.S. Loma Linda University GS 1978
- LO, TAKKIN. Assistant Professor, Department of Medicine SM and Department of Surgery SM  
M.D. Loma Linda University SM 1986
- LOEW, GUILLERMO E. Assistant Professor, Department of Pediatrics SM  
M.D. University of Buenos Aires, Argentina 1968
- LOFTHOUSE, GERALD A. Assistant Clinical Professor, Department of Family Medicine  
M.D. Loma Linda University SM 1977
- LOH, MICHELLE H. Assistant Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 1992

- LOH, SAMUEL. Clinical Instructor, Department of Anesthesiology SM  
M.D. Howard University 1971
- LOHMAN, EVERETT BERNELL III. Professor, Department of Physical Therapy AH  
D.P.T.Sc. Loma Linda University PH 1998
- LOHR, JASON LEE. Assistant Professor, Department of Family Medicine SM  
M.D. Loma Linda University SM 2001
- LOHR, MARIA BELEN. Assistant Professor, Department of Family Medicine SM  
M.D. Loma Linda University SM 2001
- LOIS-WENZEL, MELIANA. Associate Professor, Department of Pediatrics SM  
M.D. University of Chile, Chile 1973
- LONGO, LAWRENCE D. Distinguished Professor, Department of Physiology and Pharmacology SM and Department of Pediatrics SM  
M.D. College of Medical Evangelists 1954
- LONSBURY-MARTIN, BRENDA L. Research Professor, Department of Surgery SM  
Ph.D. University of Oregon Medical School 1975
- LONSER, ROLAND E. Assistant Professor, Department of Pathology and Human Anatomy SM  
M.D. Loma Linda University SM 1967
- LOO, LAWRENCE K. Associate Professor, Department of Medicine SM  
M.D. University of California, San Diego 1981
- LOPEZ, DAVID. Associate Professor, Department of Cardiopulmonary Sciences AH  
Ed.D. La Sierra University 2001
- LOPEZ, EDUARDO. Assistant Professor, Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 2002  
M.D. Washington University, St. Louis 1955
- LOREDO, LILIA N. Assistant Professor, Department of Radiation Medicine SM  
M.D. Loma Linda University SM 1984
- LOSEY, TRAVIS E. Assistant Professor, Department of Neurology SM  
M.D. Loma Linda University 2002
- LOUSUEBSAKUL, VICHUDA. Assistant Professor, Department of Epidemiology and Biostatistics PH  
Dr.P.H. Loma Linda University PH 2001
- LOVE, JUSTIN D. Instructor, Department of Dermatology SM  
M.P.A. Loma Linda University AH 2006
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Ph.D. University of Maryland 1969
- LOVELESS, WILLIAM A. Professor, Department of Dental Educational Services SD  
Ed.D. University of Maryland 1964
- LOWE, MICHAEL A. Instructor, Department of Emergency Medicine SM  
M.D. Loma Linda University SM 2002
- LOWE, OARIONA. Assistant Clinical Professor, Department of Pediatric Dentistry SD  
D.D.S. Howard University 1981
- LOWRY, H. MAYNARD. Professor, Department of Dental Educational Services SD  
Ph.D. State University of New York at Buffalo 1988
- LOWRY, JEAN B. Emeritus Professor, Department of Communication Sciences and Disorders AH  
Ph.D. Kent State University 1973
- LOZADA, JAIME L. Professor, Department of Restorative Dentistry SD and Department of Periodontics SD  
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D.D.S. Loma Linda University SD 2008  
Ph.D. University of Hong Kong, Hong Kong 2003
- LUBISICH, ERINNE. Assistant Professor, Department of Restorative Dentistry SD  
D.M.D. Oregon Health and Science University 2004
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B.S. University of Washington 1999

- LUDI, H. DANIEL. Assistant Professor, Department of General and Trauma Surgery SM  
M.D. Universidad Nacional de Cordoba, Argentina
- LUH, GEORGE YU-CHIEN. Associate Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1992
- LUI, PAUL D. Associate Professor, Department of Urology SM  
M.D. Loma Linda University SM 1984
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B.S. Loma Linda University AH 1983
- LUM, SHARON S. J. Assistant Professor, Department of General and Trauma Surgery SM  
M.D. Washington University 1992
- LUO, XIAN. Instructor, Department of Radiation Medicine SM  
Ph.D. Loma Linda University 2004  
M.D. Capital University of Medical Sciences, China 1998
- LURTZ, MONICA M. Adjunct Assistant Professor, Department of Basic Sciences SM  
Ph.D. Baylor College of Medicine 1998
- LUTHER, R. DANIEL II. Assistant Professor, Department of Emergency Medicine SM  
M.D. Loma Linda University SM 1981
- LY, ANH-VUONG NGOC. Assistant Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of the Pacific 2001
- LY, LUONG. Assistant Clinical Professor, Department of Physician Assistant Sciences AH  
M.D. St. George's University School of Medicine 1999
- LYNCH, ELIZABETH LEA. Assistant Professor, Department of Emergency Medicine SM  
M.D. Loma Linda University SM 1994
- LYKO, ADAM A. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 2001
- MAASKANT, TRUDI LYNN. Assistant Clinical Professor, Department of Physical Therapy AH  
M.P.T. Loma Linda University AH 1996
- MACKENZIE, D. ALLAN. Clinical Professor, Department of Orthopaedic Surgery SM  
M.D. McGill University 1964
- MACE, JOHN W. Professor, Department of Pediatrics SM and Department of Pediatric Dentistry SD  
M.D. Loma Linda University SM 1964
- MACK, ERIC J. Associate Professor, Department of Pharmaceutical Sciences SP  
Ph.D. University of Utah 1988
- MACKENZIE, D. ALLAN. Clinical Professor, Department of Orthopedic Surgery SM  
M.D. McGill University 1964
- MACKETT, M. C. THEODORE. Adjunct Professor, Department of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1968
- MACKNET, KENNETH D., JR. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1996
- MACKNET, MARK R. Assistant Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 2001
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M.D. Academy of Medicine at Sofia, Bulgaria 1983
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M.D. St. George's University School of Medicine, Grenada 1998
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Ph.D. Columbia University 2002
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M.D. Maulana Azad Medical College, India 1995  
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Science SP  
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M.D. University of Madras, India 1988
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Nutrition and Dietetics AH  
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M.B.B.S. M.P. Shah Medical College, India  
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Department of Medicine SM  
M.B.B.S. Delhi University, India 1968
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Department of Medicine SM  
M.D. Ohio State University 2000
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Medicine SM  
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M.D. Loma Linda University SM 1976
- MANSOUR, MARIE C. Adjunct Assistant Professor  
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M.B.A. Nova Southeastern University 2002  
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Department of Radiation Medicine SM  
M.D. Shanghai Second Medical University,  
China 1991
- MAR, JEFFREY N. Assistant Professor, Department of  
Psychiatry and Department of Pediatrics SM  
M.D. Dartmouth Medical School 1999
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Family Medicine SM  
M.B.Ch.B. Stellenbosch University Medical  
School, South Africa 1973
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M.D. University of Rochester at New York  
1990
- MARCKS, KURT O. Assistant Professor, Department  
of Endodontics SD  
D.D.S. Loma Linda University SD 1994
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Pharmacotherapy and Outcomes Science SP  
Pharm.D. 2009, Idaho State University
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Occupational Health PH  
M.S. Rice University 1991
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Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2000
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M.D. Loma Linda University SM 1970
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Sciences AH and Cardiopulmonary Sciences  
Program FGS  
M.S. University of Southern California 2005
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Department of Physical Therapy AH  
Ph.D. University of Washington 1991
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D.D.S. University of the Pacific at San  
Francisco 1974
- MARTELL, AXA I. Assistant Professor, Department  
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M.D. Montemorelos University, Mexico 1989

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D.Min. McCormick Theological Seminary  
1990
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M.D. Loma Linda University SM 1990
- MARTIN, ARTEMIO ROBERT. Assistant Clinical Professor, Department of Physical Medicine SM  
M.D. Loma Linda University SM 1997
- MARTIN, BRADFORD DOUGLAS. Associate Professor, Department of Physical Therapy AH and Physical Therapy Program FGS  
Ph.D. Loma Linda University GS 1984
- MARTIN CHRISTOPHER T. Assistant Clinical Professor, Department of Restorative Dentistry SD  
D.D.S. University of the Pacific 1973
- MARTIN, GLEN K. Research Professor, Department of Surgery, SM  
Ph.D. University of Oregon Medical School  
1995
- MARTIN, JENNIFER. Instructor, Department of Family Medicine SM  
M.S. Loma Linda University 2008
- MARTIN, LESLIE R. Adjunct Assistant Professor, Department of Psychology ST  
Ph.D. University of California, Riverside  
1996
- MARTIN, MARK C. Assistant Professor, Department of Surgery SM  
D.M.D. McGill University 2002  
M.D. University of Manitoba, Winnipeg, Canada 1996
- MARTIN, OSCAR D. Assistant Clinical Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of the Pacific 1992
- MARTIN, ROBERT DOUGLAS. Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 1976
- MARTINEZ, HELEN R. Instructor, Department of Allied Health Studies AH  
M.A. University of Redlands 2001
- MARTORELL-BENDEZU, LILY B. Assistant Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 2001
- MASANGCAY, CLARO YAMBABO. Instructor, Department of Clinical Laboratory Science AH  
B.A. University of California, Santa Barbara  
1989
- MASHNI, MICHAEL. Department of Physiology and Pharmacology SM  
D.D.S. Loma Linda University SD 1992
- MASKIN, MICHAEL B. Assistant Professor, Department of Psychiatry SM  
Ph.D. Fordham University 1973
- MASKIEWICZ, RICHARD. Assistant Professor, Department of Pharmaceutical Sciences SP  
Ph.D. University of California, San Bernardino 1979
- MASKIEWICZ, VICTORIA. Assistant Professor, Department of Pharmaceutical Sciences SP  
Ph.D. University of California, San Francisco  
1989
- MASON, LINDA JO. Professor, Department of Anesthesiology SM and Department of Pediatrics SM  
M.D. Loma Linda University SM 1974
- MASSEY, EVELYN L. Assistant Professor, Department of Cardiopulmonary Sciences AH  
M.D. UTESA University, Dominican Republic 1982
- MATA-GREENWOOD, EUGENIA I. Assistant Professor, Department of Basic Sciences SM  
Ph.D. University of Illinois 2000
- MATAYA, RONALD. Assistant Professor, Department of Global Health PH  
M.D. West Ukauas State University 1981
- MATAMALA, TOMAS P. Assistant Professor, Department of Epidemiology and Biostatistics PH  
M.A. Universidad de Concepcion, Chile 2000
- MATEJA, SHARON B. Assistant Clinical Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1982
- MATHEY, JAMES A. Assistant Clinical Professor, Department of Physician Assistant Sciences AH  
M.P.A. Loma Linda University AH 2004  
B.S. Loma Linda University SN 1994
- MATHIAS, LIESL A. Assistant Professor, Department of Pediatrics SM  
M.B.B.S. St. Johns Medical College, India  
1990

- MATHEWS, FREDERICK R. Assistant Professor,  
Department of Oral and Maxillofacial Surgery SD  
M.S. Loma Linda University GS 1987  
D.D.S. Loma Linda University SD 1983  
M.P.H. Loma Linda University PH 1983
- MATHUR, MUDIT. Assistant Professor, Department  
of Pediatrics SM  
M.B.B.S. University of Delhi, India 1990
- MATIKO, JAMES D. Assistant Clinical Professor,  
Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1977
- MATOS CHAMORRO, RODRIGO. Associate  
Professor, Department of Epidemiology and  
Biostatistics PH  
Ph.D. Universidade Estadual de Campinas,  
Brazil 1997
- MATTHEWS, WAYNE R. Assistant Professor,  
Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.D. University of the Pacific 1979
- MAURER, JAMES S. Assistant Clinical Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 1991
- MAXWELL, A. GRAHAM. Emeritus Professor,  
School of Religion SR  
Ph.D. University of Chicago Divinity School  
1959
- MAZLUMIAN, JORGE R. Assistant Clinical  
Professor, Department of Pediatrics SM  
M.D. University of Buenos Aires, Argentina  
1971
- MARTHUR, BRUCE C. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1982
- MARTHUR III, CLAIRE L. Associate Professor,  
Department of Medicine SM and Associate  
Professor, Department of Emergency Medicine  
SM  
M.D. University of Florida 1972
- MCCAFFERY, SHARON M. Instructor, Department  
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M.D. University of California, San Francisco  
Medical School 2000
- MCCARTY, KENNETH D. Assistant Professor,  
Department of Family Medicine SM  
M.S. Loma Linda University GS 1998
- MCCLATCHEY, SCOTT K. Adjunct Associate  
Professor, Department of Ophthalmology SM  
M.D. University of Chicago, Pritzker School  
of Medicine 1985
- MCCLEARY, KARL J. Adjunct Assistant Professor,  
Department of Health Administration PH  
Ph.D. University of Alabama at Birmingham  
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- MCCLURE, CHALMER D. Assistant Professor,  
Department of Pediatrics SM and Department of  
Neurology SM  
Ph.D. Loma Linda University GS 1992  
M.D. Loma Linda University SM 1989
- MCCLURE, FAITH H. Adjunct Associate Professor,  
Department of Psychology ST  
Ph.D. University of California, Los Angeles  
1989
- MCCRACKEN, JOHN D. Associate Clinical Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1985
- MCDONALD, PEARL Z. Clinical Instructor,  
Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1971
- MCDOWALL, RAELENE F. Clinical Instructor,  
Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 2007  
B.S. Andrews University 1998
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Department of Communication Sciences and  
Disorders AH  
M.S. Loma Linda University GS 1995
- MCGANN, DAVID G. Instructor, Department of  
Surgery SM  
M.S. Colorado State University 1972
- MCGHEE, WILLIAM H. Professor, Department of  
Psychiatry SM  
M.D. Loma Linda University SM 1972
- MCGREGOR, SAMAR S. Assistant Clinical Professor,  
Department of Nutrition PH  
M.P.H. Loma Linda University PH 1986
- MCGREW, DAVID R. Assistant Clinical Professor,  
Department of Ophthalmology SM  
M.D. Loma Linda University SM 1976
- MCINDOE, THOMAS WINFIELD. Assistant Clinical  
Professor, Department of Orthopedic Surgery SM  
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M.D. University of Guadalajara, Mexico 1983
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Department of Environmental and Occupational  
Health PH  
Dr.P.H. Loma Linda University PH 2002
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D.D.S. Georgetown University 1970
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Department of Medicine SM  
M.D. Loma Linda University SM 1986
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Pathology and Human Anatomy SM  
Ph.D. College of Medical Evangelists 1960
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Department of Family Medicine SM  
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Medicine 1995
- MCNAUGHTON, TIMOTHY G. Assistant Professor,  
Department of Emergency Medicine SM  
Ph.D. University of Utah 1996  
M.D. University of California, Los Angeles  
2000
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M.D. Loma Linda University SM 1972
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Department of Radiology SM  
M.D. Loma Linda University SM 1983
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Preventive Medicine SM  
M.D. University of California, San Diego  
2003
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Department of Health Information Management  
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M.A. California State University, San  
Bernardino 2001
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Professor, Department of Health Promotion and  
Education PH  
Dr.P.H. Loma Linda University PH 1993
- MEDINA, KERI KUNIYOSHI. Assistant Professor,  
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Hahn School of Nursing 1996
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A.S. Loma Linda University AH 1993
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D.D.S. Federico Villareal National  
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M.B.B.S. King Edward Medical College,  
Pakistan 1997
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Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1980
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Department of Medicine SM  
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Medicine SM  
M.D. Manila Central University, Philippines  
1992
- MEJIA, MAXIMINO A. Assistant Professor,  
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Dr.P.H. Loma Linda University PH 2000
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PH  
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- MELLOR, SHARISA K. Assistant Professor,  
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B.S. Loma Linda University GS 2003
- MELTZER, ELLIOTT A. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.D. Louisiana State University Medical  
Center 1979
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M.P.T. Loma Linda University AH 1995
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University of Rennes Medical School, France  
1992
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Science SP  
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1997

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Brazil 2003
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Radiation Technology AH  
B.S. University of Redlands 2002
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Department of Psychiatry SM  
M.D. Washington School of Medicine 1965
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M.D. Loma Linda University SM 1980
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Physician Assistant Sciences AH and Department  
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M.P.A. Portland State University 1999  
M.D. University of Kansas 1972
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M.S. Loma Linda University GS 1972
- MEYER, JAMES A. Clinical Professor, Department of  
Anesthesiology SM  
M.D. Loma Linda University SM 1958
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M.A. Indiana University 2002
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1975
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M.S. University of Nebraska 2006
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Department of Basic Sciences SM  
Ph.D. Gazi University, Ankara, Turkey 1997
- MIRZA, FARRUKH. Assistant Professor, Department  
of Pediatrics SM  
M.D. Dow Medical College, Pakistan 1989
- MISHRA, MAHAVIR B. Associate Professor,  
Department of Periodontics SD  
B.D.S. Gujarat University, India 1971  
M.D.S. Gujarat University, India 1980
- MITCHELL, GREGORY D. Assistant Professor,  
Department of Restorative Dentistry  
D.D.S. Loma Linda University SD 1984
- MITCHELL, ROBERT DAVID. Assistant Professor,  
Department of Orthodontics SD  
D.D.S. Loma Linda University SD 1978
- MITTAL, RENU. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.B.B.S. University of London, England, UK  
1982
- MOBILIA, ADRIAN. Assistant Professor, Department  
of Periodontics SD  
D.D.S. University of Buenos Aires School of  
Dentistry, Argentina 1991
- MODESTE, NAOMI NOREEN. Professor,  
Department of Health Promotion and Education  
PH  
Dr.P.H. Loma Linda University PH 1984
- MODY, AMEER P. Assistant Professor, Department  
of Medicine SM and Instructor, Department of  
Pediatrics SM  
M.D. Albany Medical College, New York  
1999  
M.P.H. George Washington University 1994
- MOHAMMADI-ARAGHI, MOHAMMAD H.  
Assistant Professor, Department of Oral and  
Maxillofacial Surgery SD  
M.S. University of Illinois at Chicago 1982  
D.D.S. University of Tehran, Iran 1965
- MOHAN, SUBBURAMAN. Research Professor,  
Department of Medicine SM  
Ph.D. Bangalore University, India 1978
- MOHEIMANI, ASSAD. Instructor, Department of  
Orthopedic Surgery and Rehabilitation SM  
M.D. Ohio State College of Medicine 1977
- MOHR, GINA M. J. Assistant Professor, Department  
of Family Medicine SM  
M.D. Loma Linda University SM 1996
- MOHR, LESTER L. Assistant Professor, Department  
of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1966
- MOJICA, AUDREY N. Assistant Professor,  
Department of Oral Diagnosis, Radiology, and  
Pathology SD  
D.D.S. Loma Linda University SD 2008  
B.S. California Polytechnic University at San  
Luis Obispo 2004
- MOLDOVAN, IOANA. Assistant Professor,  
Department of Medicine SM  
M.D. University of Medicine and Pharmacy  
Carol Davila, Romania 1996
- MOLINA, GRACIELA O. Instructor, Department of  
Health Promotion and Education PH  
B.Ed. University of Morelos, Mexico  
1987
- MOLINA, RAFAEL. Assistant Professor, Department  
of Health Policy and Management PH  
M.Ed. University of Morelos, Mexico  
1994
- MOLINE, MARY VOGEL. Professor, Department of  
Counseling and Family Science ST  
Ph.D. Brigham Young University 1979  
M.P.H. Loma Linda University PH 1975  
Dr.P.H. Loma Linda University PH 1975
- MOLKARA, AFSHIN M. Assistant Professor,  
Department of Cardiovascular and Thoracic  
Surgery SM  
M.D. Howard University 1996
- MOLONEY, PATRICK M. Assistant Clinical  
Professor, Department of Medicine SM  
M.B.Ch.B. University College Galway,  
Ireland 1968
- MONCUR, LEANDER. Assistant Professor,  
Department of Anesthesiology SM  
M.D. Loma Linda University SM 2002
- MONSON, DEBORAH. Assistant Professor of  
Nursing SN  
M.S. Loma Linda University SN 2006

- MONTGOMERY, SUSANNE B. Professor,  
Department of Health Promotion and Education  
PH, Department of Preventive Medicine SM, and  
Department of Global Health PH  
Ph.D. University of Michigan 1987  
M.P.H. University of Michigan, 1984  
M.S. Justus Liebig Universität, Giessen,  
Germany 1982
- MONTI, BEVERLY ANN. Clinical Instructor SN  
M.S.N. University of San Diego 1995
- MOORE, KATHLEEN LOU. Assistant Professor,  
Department of Dental Educational Services SD  
M.S. University of Southern California 1999
- MOORES, DONALD C. Associate Professor,  
Department of General and Trauma Surgery SM  
and Assistant Professor, Department of  
Pediatrics SM  
M.D. Loma Linda University SM 1987
- MOORHEAD, J. DAVID. Adjunct Associate  
Professor, Department of Urology SM  
M.D. Loma Linda University SM 1973
- MORETTA, CARLOS MANUEL. Clinical Instructor,  
Department of Oral and Maxillofacial Surgery SD  
D.D.S. Loma Linda University SD 2001
- MOREY, JANETTE L. Clinical Instructor, Department  
of Occupational Therapy AH  
B.S. University of North Dakota 1978
- MORGAN, DANIEL. Clinical Instructor, Department  
of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 2007
- MORGAN, DOREE L. Assistant Clinical Professor,  
Department of Nutrition PH  
M.P.H. Loma Linda University PH 1978
- MORGAN, JOHN W. Professor, Department of  
Epidemiology and Biostatistics PH  
Dr.P.H. Loma Linda University PH 1987
- MORGAN, WALTER C. Assistant Clinical Professor,  
Department of Family Medicine  
M.D. University of Washington 1981
- MORIKAWA, WESLEY MIKJO. Assistant Clinical  
Professor, Department of Pediatric Dentistry SD  
D.D.S. University of Southern California  
1981
- MORRIS, CHRISTOPHER LEE. Professor,  
Department of Pediatrics SM  
M.D. University of Minnesota 1980
- MORRIS, JOAN D. Associate Professor, Department  
of Pediatrics SM  
M.D. University of Florida 1986
- MORROW, STEVEN GALE. Professor, Department of  
Endodontics SD  
D.D.S. Loma Linda University SD 1960
- MORTON, KELLY R. Associate Research Professor,  
Department of Family Medicine SM and  
Department of Psychology ST and Experimental  
Psychology Program FGS  
Ph.D. Bowling Green State University 1992
- MOSAAD, PHEBE FAWZI. Assistant Professor,  
Department of Anesthesiology SM  
M.B.Ch.B. Kasr El Aini School of Medicine,  
Egypt 1967
- MOSAVIN, RASHID. Associate Professor,  
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Sciences SP  
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SD  
D.D.S. Loma Linda University SD 2003  
B.S. California State University, Fresno 1999
- MOSES, KENNETH P. Assistant Professor,  
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M.D. Loma Linda University SM 1998
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Dr.P.H. Loma Linda University PH 2005
- MOSLEY, TERESE RENE. Instructor, Department of  
Radiation Technology AH  
B.S. Loma Linda University AH 1983
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Department of Dental Hygiene SD  
B.S. Loma Linda University SD 2003
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Science SP  
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Department of Emergency Medicine SM and  
Department of Pediatrics SM  
D.O. College of Osteopathic Medicine of the  
Pacific 1996
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Professor, Department of Pediatrics SM  
M.D. Technical University of Santiago, Chile  
1985
- MUDGE, M. KENNETH. Clinical Professor,  
Department of Orthopedic Surgery SM  
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England 1970
- MUKHERJEE, ASHIS. Assistant Clinical Professor,  
Department of Medicine SM  
M.D. Cornell University Medical College  
1985
- MULDER, SHANNON M. Assistant Professor,  
Department of Anesthesiology SM  
M.D. Loma Linda University SM 1983
- MULLA, NEDA F. Associate Professor, Department  
of Pediatrics SM  
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Center College of Medicine, Kuwait  
1986
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1979
- MUNCE, C. JOHN. Assistant Professor, Department  
of Endodontics SD  
D.D.S. Loma Linda University SD 1978
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D.D.S. Cayetano Heredia Peruvian  
University, Peru 1985
- MUNIZ, BRENDA. Clinical Instructor, Department of  
Health Information Management AH  
B.S. Loma Linda University 1990
- MUNOZ OLIVARES, JOSE E. Assistant Professor,  
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D.D.S. Universidad Nacional Pedro  
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Dominican Republic 1979
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M.D. Loma Linda University SM 1977
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- MURAD, WADSWORTH H. Clinical Instructor,  
Department of Psychiatry SM  
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- MURASE, MIYAKO. Adjunct Instructor, Department  
of Allied Health Studies AH  
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Department of Environmental and Occupational  
Health PH  
Ph.D. University of São Paulo, Brazil 1995
- MURDOCH, J. LAMONT. Professor, Department of  
Medicine SM  
M.D. Loma Linda University SM 1963
- MURDOCH, WILLIAM GORDON C., JR. Associate  
Professor, Department of Psychiatry SM  
M.D. Loma Linda University SM 1973
- MURRAY, RICK D. Associate Clinical Professor,  
Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1975
- MUTINGA, MUENI L. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 2001
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Department of Global Health PH  
M.P.H. Loma Linda University PH 2005
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Department of Global Health PH  
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Emergency Medicine SM  
M.D. Loma Linda University SM 1995
- NAFTEL, JOHN C. Assistant Professor, Department  
of Emergency Medicine SM  
M.D. University of California, Los Angeles  
1972
- NAHOUM, HENRY ISSAC. Professor, Department of  
Orthodontics SD  
D.D.S. Columbia University 1943
- NAKANO, JONATHAN K. Clinical Instructor,  
Department of Oral and Maxillofacial Surgery SD  
D.M.D. Boston University Dental School  
2003
- NALIN, RONALD. Adjunct Assistant Professor,  
Department of Earth and Biological Sciences ST  
and Earth Science Program FGS  
Ph.D. Universita degli Studi de Paduva, Italy  
2006
- NAM, JUHYEOK. Associate Professor of Religion,  
School of Religion SR  
Ph.D. Andrews University 2005 and Religion  
Program FGS
- NAM, EDUARDO J. Assistant Professor, Department  
of Medicine SM  
M.D. Loma Linda University SM 2002
- NAMIHAS, IVAN C., JR. Assistant Professor,  
Department of Radiation Medicine SM  
M.D. Loma Linda University SM 1984
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Department of Restorative Dentistry SD  
D.D.S. Carol Davila University, Romania  
1999
- NARULA, MINAKSHI. Assistant Professor,  
Department of Orthodontics SD  
B.D.S. RA Dental College at Calcutta, India  
1985
- NARVAEZ, JULIO. Associate Professor, Department  
of Ophthalmology SM  
M.D. Loma Linda University SM 1992
- NASH, DANIEL A. Assistant Professor, Department  
of Medicine SM  
M.D. University of Nevada, Reno 1988
- NASH, SANDRA B. Assistant Professor, Department  
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D.D.S. Loma Linda University SD 1980
- NASH, WALTER C. Associate Clinical Professor,  
Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1955
- NATTRESS, LeROY W. JR. Assistant Clinical  
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Management PH  
Ph.D. Walden University 1996
- NAUERTZ, CINDA L. Assistant Professor,  
Department of Pediatrics SM  
M.D. Loma Linda University SM 1999
- NAVA, P. BEN, JR. Professor, Department of  
Pathology and Human Anatomy SM  
Ph.D. Loma Linda University GS 1973
- NAYAK, KRISHNA. Clinical Research Professor,  
Department of Medicine SM  
Ph.D. Stanford University 2001
- NAYLOR, W. PATRICK. Professor, Department of  
Restorative Dentistry SD  
D.D.S. Georgetown University 1978
- NAZARI, MOSTAFA. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Espahan University, Iran 1986
- NEERGAARD, JAMES O. Adjunct Assistant  
Professor, Department of Global Health PH  
Dr.P.H. Loma Linda University PH 2006
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Department of Health Promotion and Education  
PH  
Dr.P.H. Loma Linda University PH 2005
- NEGERIE, MEKEBEB. Adjunct Assistant Professor,  
Department of Global Health PH  
Dr.P.H. Loma Linda University PH 1994
- NEGLIO, MICHAEL J. Assistant Clinical Professor,  
Department of Radiology SM  
M.D. University Autonomous of  
Guadalajara, Mexico 1974
- NEIDIGH, JONATHAN W. Assistant Professor,  
Department of Basic Sciences SM  
Ph.D. University of Washington 1999
- NEISH, CHRISTINE GERKEN. Associate Professor of  
Nursing, SN and Associate Professor,  
Department of Health Promotion and Education  
PH  
Ph.D. Claremont Graduate University 1988
- NELSON, ALAN A. Adjunct Associate Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 1979

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Cardiopulmonary Sciences AH  
M.P.H. Adventist Institute of Advanced  
Studies 2007
- NELSON, BONNIE ANN. Assistant Professor,  
Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 1988
- NELSON, GREGORY A. Professor, Department of  
Radiation Medicine SM  
Ph.D. Harvard University 1979
- NELSON, JERALD C. Professor, Department of  
Medicine SM and Department of Pathology and  
Human Anatomy SM  
M.D. College of Medical Evangelists 1957
- NELSON, LAURIE E. Clinical Instructor, Department  
of Occupational Therapy AH  
M.A. University of Southern California 1995
- NELSON, M. GARY. Assistant Professor, Department  
of Dental Educational Services SD  
B.A. Alameda University 2003
- NELSON, PETER C. Assistant Professor, Department  
of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1970
- NELSON, RICHARD DEANE. Assistant Clinical  
Professor, Department of Cardiopulmonary  
Sciences AH  
M.D. Angeles University 1995
- NELSON, RICHARD R. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.M.D. University of Oregon Dental School  
1972
- NELSON, SCOTT C. Assistant Professor, Department  
of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1996
- NELSON, WILBUR K. Adjunct Assistant Professor,  
Department of Cardiopulmonary Sciences, AH  
M.D. Bicol Christian College of Medicine,  
Philippines 1988
- NESPER, TIMOTHY P. Assistant Professor,  
Department of Emergency Medicine SM  
M.D. University of Southern California 1983
- NEUENDORFF, HAROLD THOMAS. Clinical  
Instructor, Department of Occupational Therapy  
AH  
B.S. Loma Linda University AH 1992
- NEUFELD, ROLAND DELMER WARREN. Assistant  
Professor, Department of Orthodontics SD and  
Orthodontics and Dentofacial Orthopaedics  
Program FGS  
D.D.S. Loma Linda University SD 1974
- NEUFELD, TIMOTHY E. Associate Clinical Professor,  
Department of Family Medicine SM  
M.D. Loma Linda University SM 1970
- NEUMANN, MONICA M. Associate Professor,  
Department of Anesthesiology SM  
M.D. Loma Linda University SM 1974
- NEVINS, MYRON. Adjunct Assistant Professor,  
Department of Oral and Maxillofacial Surgery SD  
D.D.S. Temple University 1965
- NEWBOLD, DANIEL D. Assistant Professor,  
Department of Periodontics SD  
D.D.S. Loma Linda University SD 1982
- NEWBOLD, JEAN L. Assistant Clinical Professor,  
Department of Nursing SN  
M.S. Loma Linda University GS 1985
- NEWELL, DANIEL W.H. Assistant Professor,  
Department of Counseling and Family Science ST  
M.S. Loma Linda University 2000
- NEWSOM, CHIE H. Instructor in Nursing SN  
M.S. Loma Linda University 2008
- NEWTON, FREDERICK A. Adjunct Professor,  
Department of Psychology GS  
Ph.D. University of Houston 1975
- NEWTON, STEVEN DOUGLAS. Assistant Clinical  
Professor, Department of Physical Therapy AH  
M.B.A. University of Redlands 1992
- NG, SHERALENE H. C. Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1990
- NGO, EHREN BRENT. Assistant Professor,  
Department of Cardiopulmonary Sciences AH  
M.S. University of Maryland 1999
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of Preventive Medicine SM and Department of  
Health Promotion and Education PH  
M.D. Loma Linda University SM 1963
- NGO, PHAT H. Assistant Professor, Department of  
Medicine SM  
M.D. Tufts University 2000

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M.D. Albert Einstein College of Medicine 1998
- NGUYEN, ANH. Assistant Professor, Department of Family Medicine SM  
M.D. Loma Linda University SM 2006
- NGUYEN, H. BRYANT. Assistant Professor, Department of Emergency Medicine SM  
M.D. University of California, Irvine 1998
- NGUYEN, HIEU T.M. Assistant Professor, Department of Family Medicine SM  
D.O. Western University of Health Sciences 2001
- NGUYEN, HOA T. Assistant Professor, Department of Medicine SM  
M.D. University of California, Los Angeles 1999
- NGUYEN, HOLLY H. Adjunct Assistant Professor, Department of Dental Educational Services SD  
D.D.S. Loma Linda University 2001
- NGUYEN, LEE H. Assistant Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of California, San Francisco 2004
- NGUYEN, NGA T. Instructor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. Loma Linda University 2009
- NGUYEN, THAO. Assistant Clinical Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of Arkansas Medical Sciences 2000
- NGUYEN, THIEU P. Assistant Professor, Department of Pediatrics SM  
M.D. University of Washington 2000
- NGUYEN, THUAN HUU. Instructor, Department of Clinical Laboratory Science AH  
M.P.H. Loma Linda University PH 1975
- NGUYEN, THUY-HUYNH. Assistant Clinical Professor, Department of Psychiatry SM  
M.D. American University of the Caribbean, Netherlands Antilles 1991
- NGUYEN, VAN H.T. Assistant Clinical Professor, Department of Physician Assistant Sciences AH  
M.P.A. Marietta College 2005
- NICK, DOYLE R. Associate Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1978
- NICK, JAN M. Associate Professor, School of Nursing SN  
Ph.D. Texas Women's University 1997
- NICK, KEVIN E. Associate Professor, Department of Earth and Biological Sciences ST  
Ph.D. University of Oklahoma at Norman 1990
- NICKSON, KENNETH L. Assistant Professor, Department of Emergency Medicine SM  
M.D. University of Tennessee 1971
- NICOLA, QUINTES PERRY. Assistant Professor, Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1969
- NIE, YING. Assistant Research Professor, Department of Radiation Medicine SM  
Ph.D. Indiana University-Purdue University 1995  
M.D. Beijing University Medical College 1984
- NINAN, BARBARA L. Assistant Professor of Nursing SN  
M.S.N. University of Phoenix 1993
- NINNIS, JANET. Associate Professor, Department of Pediatrics SM  
M.D. University of Arizona College of Medicine 1977
- NIST, LAURA DAWN HENRICHSEN. Associate Professor, Department of Neurology SM  
M.D. Loma Linda University SM 1995
- NITTA, ANNETTE TSUGIE. Assistant Clinical Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1985
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D.D.S. Northwestern University 1987
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D.D.S. Loma Linda University SD 2006
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- NYIRADY, LAURA F. Assistant Professor, School of Nursing SN  
M.S.N. Boston University 1977
- NYIRADY, STEPHEN A. Associate Professor, Department of Basic Sciences SM  
Ph.D. Loma Linda University GS 1972
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Ph.D. University of British Columbia at Vancouver, Canada 1989
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Ph.D. Loma Linda University GS 1989
- OBIOCHA, IKECHI. Assistant Professor, Department of Medicine SM  
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- O'CALLAGHAN, THOMAS A. Associate Professor, Department of Surgery SM  
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M.D. University of Utah 1983
- ODA, KEIJI. Instructor, Department of Epidemiology and Biostatistics PH  
M.P.H. Loma Linda University 2006
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D.M.D. Tufts University School of Dental Medicine 1991
- OH, JISOO. Assistant Clinical Professor, Department of Epidemiology and Biostatistics  
Dr.P.H. La Sierra University 2005
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D.D.S. Kyungpook National University, South Korea 1981
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M.D. University of Michigan 1986
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D.D.S. Loma Linda University SD 1997  
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D.D.S. Loyola University 1983
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M.D. University of California, Irvine 2000
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D.D.S. Jordan University Science and Technology, Jordan 1999  
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Ph.D. Monash University, Australia 1988
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M.D. Loma Linda University SM 1996
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M.D. St. George University 1999
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M.D. McGill University, Montreal, Quebec, Canada 1966
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M.D. Loma Linda University SM 1993
- OSBORNE, JOHN E. Assistant Professor, Department of Emergency Medicine SM  
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- OSHIRO, BRYAN T. Associate Professor, Department of Gynecology and Obstetrics SM  
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- OSHIRO, KAREN N. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM  
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D.D.S. Loma Linda University SD 1996
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B.S. University of Redlands 1981
- OTERO, JAY M. Assistant Professor, Department of Psychiatry SM  
M.D. Medical College of Virginia 1989
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M.D. University of Yamanashi, Japan 1987
- OWEN, FAYE DENISE. Assistant Clinical Professor, Department of Psychiatry SM  
M.D. University of Texas Southwestern Medical School 1989
- OWEN, JASON E. Assistant Professor, Department of Psychology ST  
Ph.D. University of Alabama at Birmingham 2003  
M.P.H. University of Alabama at Birmingham 2001
- OYAMA, KOTARO. Assistant Clinical Professor, Department of Restorative Dentistry SD  
D.D.S. Nippon Dental University, Japan 1997
- PADGETT, JAMES R., JR. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1982

- PAI, ANITA M. Assistant Professor, Department of Physical Medicine SM  
M.D. Loma Linda University SM 1999
- PAI, RAMDAS G. Professor, Department of Medicine SM  
M.D. Kasturba Medical College, Manipal, India
- PAI, SHANTHARAM R. Assistant Professor, Department of Family Medicine SM and Department of Medicine SM  
M.B.B.S. Kasturba Medical College, India 1981
- PAIK, SUN H. Adjunct Associate Professor, Department of Environmental and Occupational Health PH  
Ph.D. University of Maryland 1997
- PAINTER, NATHAN A. Assistant Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. Virginia Commonwealth University 2003
- PALAGANAS, JANICE C. Instructor, Department of Basic Sciences SM  
M.S.N. University of Pennsylvania 2002
- PALLADINO, JUDITH CLARK. Assistant Professor, Department of Occupational Therapy AH  
M.A. California State University, Long Beach 1984
- PALMER, ERIK G. Assistant Clinical Professor, Department of Family Medicine SM  
D.O. Western University 1995
- PALMER, LINDA MARGARET. Clinical Instructor, Department of Health Information Management AH  
B.S. Loma Linda University AH 1979
- PAPPAS, JAMES M. Associate Professor, Department of Pathology and Human Anatomy SM; Assistant Clinical Professor, Department of Clinical Laboratory Science AH  
M.D. Loma Linda University SM 1985
- PARK, PAULINE A. Clinical Instructor, School of Nursing SN  
B.S. Loma Linda University SN 1969
- PARK, YONG JUN DAVID. Instructor, Department of Oral and Maxillofacial Surgery SD  
D.D.S. Loma Linda University SD 2004
- PARKER, RICHARD L. Associate Clinical Professor, Department of Dental Educational Services SD  
M.D. Loma Linda University SM 1991  
D.D.S. Loma Linda University SD 1968
- PARMENTER, NANCIE. Assistant Professor of Nursing SN  
M.S.N. University of Portland 1981
- PARRIS, RICHARD K. Assistant Professor, Department of Periodontics SD  
D.D.S. University of California, Los Angeles 1979
- PARSI, MANOOCHHEHR G. Assistant Professor, Department of Periodontics SD  
D.M.D. Shiraz University, Iran 1979
- PATCHIN, REBECCA J. Assistant Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 1989
- PATEL, ASHISH. Instructor, Department of Clinical Laboratory Science AH  
B.S. Loma Linda University AH 2004
- PATEL, BIPIN L. Assistant Clinical Professor, Department of Psychiatry SM  
M.B.B.S. BJ Medical College, India 1979
- PATEL, GAUTTAM. Assistant Professor, Department of Medicine SM  
M.B.B.S. Jawaharlal Nehru Medical College, India 1998
- PATEL, HITEN. Clinical Instructor, Department of Physician Assistant Sciences AH  
Pharm.D. University of California, San Francisco 2001
- PATEL, MATILAL C. Assistant Professor, Department of Orthopaedic Surgery SM  
M.B.B.S. MS University at Baroda, India 1966
- PATEL, PARUL. Instructor, Department of Anesthesiology SM  
M.D. University of Maryland at Baltimore Medical School 2004
- PATEL, RISHI. Clinical Instructor, Department of Restorative Dentistry SD  
D.D.S. University of Bristol, England 2002
- PATEL, SHASHANK. Clinical Instructor, Department of Clinical Laboratory Science AH  
B.S. Long Beach State University 1984
- PATTERSON, STEPHEN C. Assistant Professor, Department of Emergency Medicine SM  
M.D. University of California, Irvine 1999

- PATTON, WILLIAM C. Associate Professor,  
Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1969
- PATYAL, BALDEV RAJ. Associate Professor,  
Department of Radiation Medicine SM  
Ph.D. Washington State 1988
- PAULIEN, JON. Professor of Religion, School of  
Religion SR  
Ph.D. Andrews University 1987
- PAULO, CYNTHIA ANN. Clinical Instructor,  
Department of Environmental and Occupational  
Health PH  
M.S. California State University, San  
Bernardino 1992
- PAVLOVICH, SHARON. Instructor, Department of  
Occupational Therapy AH  
B.A. California State University, San  
Bernardino 2006
- PAYNE, KIMBERLY J. Assistant Professor,  
Department of Pathology and Human Anatomy  
SM and Department of Medicine SM  
Ph.D. University of Oklahoma Health  
Sciences Center 1998
- PEARCE, WILLIAM. Professor, Department of Basic  
Sciences SM and Department of Gynecology and  
Obstetrics SM  
Ph.D. University of Michigan 1979
- PECAUT, MICHAEL JAMES. Associate Research  
Professor, Department of Radiation Medicine SM  
and Department of Biochemistry and  
Microbiology SM and Biochemistry Program FGS  
Ph.D. University of Colorado at Boulder  
1999
- PECKHAM, NORMAN H. Associate Professor,  
Department of Pathology and Human Anatomy  
SM  
M.D. Loma Linda University SM 1962
- PENA, DULCE L. Assistant Professor, Department of  
Allied Health Studies AH  
J.D. Pepperdine University 1990
- PENDLETON, KAREN S. Assistant Professor,  
Department of Occupational Therapy AH  
M.A. La Sierra University 1997
- PENG, WEI-PING PENNY. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1999
- PENNIECOOK, TRICIA Y. Assistant Professor,  
Department of Epidemiology and Biostatistics  
PH  
M.P.H. University of Montemorelos, Mexico  
1996  
M.D. University of Montemorelos, Mexico  
1994
- PEREIRA, CARLINDO DA REITZ. Assistant  
Professor, Department of Ophthalmology SM  
M.D. University of Stellenbosch, South  
Africa 1995
- PEREIRA, VALERIA R. S. Assistant Professor,  
Department of Pediatric Dentistry SD  
D.D.S. Universidade Federal de Santa  
Catarina, Brazil 1985
- PEREYRA-SUAREZ, ROBERT. Assistant Clinical  
Professor, Department of Cardiovascular and  
Thoracic Surgery SM  
M.D. Loma Linda University SM 1976
- PEREZ, DEBORAH. Clinical Instructor, Department  
of Clinical Laboratory Science, AH  
B.S. California State University, Sacramento  
1978
- PEREZ, MIA C. Assistant Professor, Department of  
Pathology and Human Anatomy SM  
M.D. University of the Philippines,  
Philippines 1992
- PEREZ, YACZAIRA. Assistant Clinical Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 2002
- PERROTTE, JUDITH P. Clinical Instructor, School of  
Nursing SN  
M.S. Loma Linda University GS 1997
- PERRY, CHRISTOPHER C. Assistant Professor,  
Department of Basic Sciences SM  
Ph.D. University of Liverpool, England, UK  
1999
- PERSICHINO, JON G. Assistant Professor,  
Department of Medicine SM  
D.O. Western University 2003
- PESAVENTO, RICHARD D. Assistant Clinical  
Professor, Department of Ophthalmology SM  
M.D. University of California, Irvine 1980
- PETER, MARLON C. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 2003

- PETERS, DONALD L. Professor, Department of Endodontics SD  
D.D.S. Loma Linda University SD 1961
- PETERS, JUDITH MILLER. Associate Professor, School of Nursing SN  
Ed.D. Loma Linda University SE 1968
- PETERS, WARREN R. Assistant Professor, Department of Preventive Medicine SM and Department of Epidemiology and Biostatistics PH  
M.D. Loma Linda University SM 1969
- PETERSEN ANNE BERRIT. Assistant Professor, School of Nursing SN  
M.P.H. Loma Linda University PH 2006  
M.S. Loma Linda University SN 2005
- PETERSEN, DARRELL K. Instructor, Department of Pathology and Human Anatomy SM  
B.Arch. Andrews University 1997
- PETERSEN, FLOYD F. Assistant Professor, Department of Epidemiology and Biostatistics PH and Department of Preventive Medicine SM and School of Nursing SN  
M.P.H. Loma Linda University PH 1977
- PETERSON, DONALD I. Clinical Professor, Department of Neurology SM  
M.D. College of Medical Evangelists 1947
- PETERSON, GORDON WILLARD. Professor, Department of Neurology SM and Department of Physical Medicine SM  
M.D. Loma Linda University SM 1974
- PETERSON, JOHN ERIC, JR. Emeritus Professor, Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 1970
- PETERSON, SOFIA. Assistant Professor, Department of Medicine SM  
M.B.B.S. Andhra Medical College, India 1994
- PETROFSKY, JERROLD S. Professor, Department of Physical Therapy AH  
Ph.D. St. Louis University 1976
- PETTI, GEORGE HYACINTH, JR. Professor, Department of Otolaryngology and Head and Neck Surgery SM  
M.D. Loma Linda University SM 1962
- PEVERINI, RICARDO L. Associate Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 1984
- PEZZOTTI, GIUSEPPE. Adjunct Professor, Department of Orthopaedic Surgery SM  
Ph.D. Osaka University, Japan 1991
- PFEIFFER, BRENDA L. Assistant Professor, Department of Radiation Technology AH  
M.A. University of Phoenix 1998
- PFEIFFER, TERESE R. Instructor, Department of Radiation Technology AH  
B.S. Loma Linda University 1983
- PHAM, LIEN TRAN. Assistant Clinical Professor, Department of Family Medicine SM  
M.D. University of Saigon, Vietnam 1978
- PHATAK, PRASHANT V. Assistant Professor, Department of Medicine SM  
M.D. University of California, Los Angeles School of Medicine 1999
- PHATAK, SONAL V. Assistant Professor, Department of Medicine SM  
M.D. University of California, Los Angeles 1999
- PHILIP, SHAIENDRI E. Assistant Professor, Department of Radiology SM  
M.D. University of Maryland 1996
- PHILLIPS, BARRATT L. Assistant Clinical Professor, Department of Ophthalmology SM  
M.D. University of Utah 1995
- PHILLIPS, GORDON D. Clinical Instructor, Department of Family Medicine SM  
M.D. Loma Linda University SM 1981
- PHIPATANAKUL, WESLEY P. Assistant Professor, Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1998
- PIEDRA-MUNOZ, ISABELLA. Assistant Professor, Department of Pediatric Dentistry SD  
D.D.S. Universidad del Valle, Columbia 1990
- PIERSON, CRYSTAL A. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2005
- PILLAR, EDWARD A. Assistant Professor, Department of Emergency Medicine SM  
D.O. College of Osteopathic Medicine of the Pacific 1988
- PLUNK, LESLIE B. Clinical Instructor, Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 2007

- POHOST, GERALD M. Professor, Department of  
Medicine SM  
M.D. University of Maryland 1967
- POINDEXTER, THERESA P. Adjunct Assistant  
Professor, Department of Ophthalmology SM  
M.D. Washington University 1978
- POKORNY, CORINNA M. Assistant Professor,  
Department of Ophthalmology SM  
M.D. Drexel University 2003
- POLLARD, LESLIE N. Associate Professor, School of  
Religion SR  
D.Min. School of Theology, Claremont 1992  
Ph.D. Andrews University 2007
- POLVOORDE, GAIL ANN. Assistant Clinical  
Professor, Department of Physical Therapy AH  
M.P.T. Loma Linda University AH 2003
- POLYCARPE, MARTINE Y. Adjunct Instructor,  
Department of Global Health PH  
M.P.H. Loma Linda University PH 2001
- POME CARDENAS, NEDA. Instructor, Department  
of Health Promotion and Education PH  
M.P.H. Loma Linda University PH 1995
- POMEROY, JONNEL. Instructor, Department of  
Pediatrics SM  
B.S. Loma Linda University SN 1977
- PORTER, CORWIN. Assistant Clinical Professor,  
Department of Environmental and Occupational  
Health PH  
M.P.H. Loma Linda University 2000
- POTHIER, PATRICIA KATHLEEN. Associate  
Professor, School of Nursing SN  
Ph.D. University of San Diego 2001
- POTTS, MICHAEL L. Adjunct Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SN 1975
- POWER, GORDON. Professor, Department of  
Physiology and Pharmacology SM  
M.D. University of Pennsylvania School of  
Medicine 1961
- PRENDERGAST, THOMAS J. Associate Clinical  
Professor, Department of Epidemiology and  
Biostatistics PH  
M.S. University of North Carolina 1972  
M.D. Washington University School of  
Medicine 1966
- PRESTON, WILLIAM. Associate Professor,  
Department of Radiation Medicine SM  
Ed.D. University of Rochester 1974
- PRIETO, CLAUDIA V. Assistant Professor,  
Department of Endodontics SD  
D.D.S. Colombian School of Dentistry,  
Colombia 1989
- PRINCE, JOHN C. Assistant Professor, Department of  
Urology SM  
M.D. University of California, San Francisco  
1963
- PROCHAZKA, ERNEST J. Associate Clinical  
Professor, Department of Preventive Medicine  
SM  
M.D. University of Vienna, Austria 1983
- PROCTOR, DARYL LYNDEN. Assistant Professor,  
Department of Orthodontics SD  
M.S. Loma Linda University GS 2001  
D.D.S. Loma Linda University SD 1994
- PROCTOR, GEORGE JASON. Assistant Clinical  
Professor, Department of Psychiatry SM  
M.D. University of Virginia 1993
- PROCTOR, STOY E. Adjunct Assistant Professor,  
Department of Health Promotion and Education  
PH  
M.P.H. Loma Linda University PH 1971
- PROUSSAEFS, PERIKLIS THEODORE. Assistant  
Clinical Professor, Department of Restorative  
Dentistry SD  
D.D.S. University of Athens School of  
Dentistry, Greece 1993
- PRZEKOP, PETER R. Assistant Professor,  
Department of Surgery SM  
D.O. Western University of Health Sciences  
1999
- PUERTO, SOFIA. Assistant Clinical Professor, School  
of Nursing SN  
Ph.D. Columbia Pacific University 1993
- PULIDO, EMMELINE R. Assistant Professor,  
Department of Pediatrics SM  
M.D. Loma Linda University SM 1988
- PULSIPHER, DAVID ALLEN. Assistant Clinical  
Professor, Department of Oral and Maxillofacial  
Surgery SD  
M.D. University of Texas Southwestern  
Medical Center at Dallas 1997  
D.D.S. Baylor College of Dentistry 1993

- PULVERMAN, R. STEVEN. Assistant Clinical Professor, Department of Family Medicine SM  
D.O. College of Osteopathic Medicine 1978
- PUMPHREY, CHARLES D. Assistant Clinical Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 1985
- PUNJABI, ANIL P. Associate Clinical Professor, Department of Surgery SM; Associate Professor, Department of Oral and Maxillofacial Surgery SD  
M.D. Case Western Reserve University School of Medicine 1993  
D.D.S. University of Southern California Dental School 1990
- PURSLEY, DONALD G. Adjunct Associate Professor, Department of Health Administration PH  
D.B.A. George Washington University 1978
- PUTERMAN, ISRAEL. Clinical Instructor, Department of Restorative Dentistry SD  
D.M.D. Boston University 2002
- PUTNOKY, GILBERT JOHN. Associate Clinical Professor, Department of Medicine SM  
M.D. St. Louis University School of Medicine 1973
- PUVVULA, LAKSHMI K. Assistant Professor, Department of Medicine SM  
M.B.B.S. Guntur Medical College, India 1987
- PYKE, JANELLE. Assistant Professor, Division of General Studies ST  
M.A. Loma Linda University 1986
- QIN, XUE ZHONG. Associate Research Professor, Department of Medicine SM  
Ph.D. West Virginia University 1992
- QUAN, WALTER JR. Associate Professor, Department of Medicine SM  
M.D. Ohio State University, Columbus 1986
- QUANSAH, ALFRED K. Assistant Professor, Department of Preventive Medicine SM  
M.P.H. Loma Linda University PH 1999  
M.D. Institute of Medicine and Pharmacy, Clug-Napoa, Romania 1986
- QUIGLEY, M. ELIZABETH. Clinical Instructor, Department of Nutrition PH and Department of Nutrition and Dietetics  
M.S. Tufts University 1977
- QUILICHE, RUTH B. Assistant Professor, Department of Nutrition PH  
Doctoral Equivalent Universidad de San Martin de Porres 2006
- QUISHENBERRY, MARY CLAIRE. Clinical Instructor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1962
- QURESHI, SONEA I. Assistant Professor, Department of Pediatrics SM  
M.B.B.S. King Edward Medical University, Pakistan 1995
- RACINE, HAROLD V. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1968
- RACKAUSKAS, GULNARA. Instructor, Department of Medicine SM  
M.D. Kaunas University of Medicine, Lithuania 1986
- RACKI, TROY R. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2008  
B.S. Pacific Union College 2004
- RADOVICH, PATRICIA ANN. Assistant Clinical Professor, School of Nursing SN  
M.S.N. California State University at Long Beach 1995
- RAGHAVAN, RAVI. Associate Professor, Department of Pathology and Human Anatomy SM and Assistant Professor, Department of Neurosurgery SM  
M.B.B.S. Calicut Medical College, India 1980
- RAHMAN, MAISARA I. Instructor, Department of Family Medicine SM  
M.D. American University of the Caribbean 2005
- RAINS, SHASTIN. Instructor, Department of Pharmacotherapy and Outcomes Science SP  
B.S. Southwestern Adventist University 2004
- RAIS, SHIRLEY MARIE. Assistant Librarian, Library Faculty  
M.L.S. San Jose State University 1992
- RAISZADEH, MOUSSA. Assistant Professor, Department of Radiology SM  
Pharm.D. University of Tabriz, Iran 1971

- RAJARAM, SUJATHA. Assistant Professor,  
Department of Nutrition PH  
Ph.D. Purdue University 1993
- RAMAL, EDELWEISS R. Assistant Professor, School  
of Nursing SN  
Ph.D. Andrews University 2002
- RAMBHAROSE, JOHN ANTHONY. Assistant  
Clinical Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1989
- RAMIREZ, CLARA M. Assistant Professor, Division  
of General Studies ST  
Ph.D. American University of Asturias,  
Kingdom of Spain 2000
- RAMIREZ, JOHNNY. Professor, School of Religion  
SR  
Ed.D. Harvard University 1993
- RAMOS, PATRICIA. Assistant Professor, Department  
of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2008
- RAO, RAVINDRA. Professor, Department of  
Pediatrics SM  
M.B.B.S. Karnataka University MR Medical  
College, India 1975
- RASI, ALFREDO. Associate Professor, Department of  
Cardiovascular and Thoracic Surgery SM  
M.D. Buenos Aires Medical School,  
Argentina 1961
- RASMUSSEN, THOMAS. Assistant Professor,  
Department of Anesthesiology SM  
M.D. Loma Linda University SM 1974
- RASOOL, SHUJA. Instructor, Department of  
Medicine SM  
M.B.B.S. Allama Medical College, Lahore,  
Pakistan 2000
- RATHBUN, W. EUGENE. Professor, Department of  
Periodontics SD  
Ph.D. University of California, Los Angeles  
1970  
D.D.S. Loma Linda University SD 1965
- RAUSER, MICHAEL EDWARD. Assistant Professor,  
Department of Ophthalmology SM  
M.D. University of Maryland 1990
- RAY, ANDREA O. Assistant Professor, Department  
of Surgery SM  
M.D. Hahnemann School of Medicine 1994
- RAZA, ANWAR S. Associate Professor, Department  
of Pathology and Human Anatomy SM  
M.B.B.S. SIND Medical College, Pakistan  
1983
- RAZA, SYED J. Assistant Clinical Professor,  
Department of Medicine SM  
M.B.B.S. Dow Medical College 1989
- RAZZOUK, ANEES J. Professor, Department of  
Cardiovascular and Thoracic Surgery SM  
M.D. Loma Linda University SM 1982
- REA, BRENDA L. Assistant Clinical Professor,  
Department of Health Promotion and Education  
PH  
M.P.T. Loma Linda University AH 1995
- REA, RONALD MILTON. Assistant Professor,  
Department of Physical Therapy AH  
M.P.T. Loma Linda University AH 1994
- REDDY, VISWANATHA J. Assistant Clinical  
Professor, Department of Psychiatry, SM  
M.D. American University of the Caribbean,  
Netherlands Antilles 1998
- REESE, LEROY A. Assistant Professor, Department of  
Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1972
- REEVES, CLIFTON D. Professor, Department of  
Surgery SM  
M.D. Loma Linda University SM 1960
- REEVES, MARK E. Associate Professor, Department  
of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1992  
Ph.D. University of California, Los Angeles  
1990
- REEVES, MICHELLE E. Assistant Professor,  
Department of Family Medicine SM  
M.D. Loma Linda University SM 1986
- REHNGREN-MCCOY, CHRISTINA SUE. Clinical  
Instructor, Department of Nutrition PH  
B.S. Loma Linda University PH 1980
- REINHOLD, ESKILD A. Associate Clinical Professor,  
Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1968
- REISCHE, SUSAN E. Assistant Clinical Professor,  
Department of Health Promotion and Education  
PH  
Dr.P.H. Loma Linda University PH 1989



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Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1961
- RENDON, STEWART E. Assistant Professor,  
Department of General and Trauma Surgery SM  
M.D. University of California, Los Angeles  
1998
- RESCH, CHARLOTTE SUSANNA. Assistant Clinical  
Professor, Department of Plastic and  
Reconstructive Surgery SM  
M.D. Dalhousie University Medical School  
1980
- RETAMOZO, BONNIE J. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2005  
B.S. Southern Adventist University 1996
- REYNOLDS, LOWELL W. Professor, Department of  
Physical Medicine and Rehabilitation SM and  
Department of Anesthesiology SM  
M.D. Loma Linda University SM 1991
- REZKALLA, MAHER A. Assistant Professor,  
Department of Medicine SM  
M.B.B.Ch. Zagozig University Hospital  
School of Medicine, Egypt 1978
- RHEE, JOON W. Assistant Professor, Department of  
Health Promotion and Education PH and  
Department of Environmental and Occupational  
Health PH; Clinical Instructor, Department of  
Preventive Medicine SM  
M.D. Loma Linda University SM 1998  
Ph.D. Loma Linda University GS 1998
- RHETTA, TERI L. Instructor, Department of Medicine  
SM  
M.D. Case Western Reserve University  
School of Medicine 2004
- RICE, DWIGHT D. Assistant Professor, Department  
of Oral Diagnosis, Radiology, and Pathology SD  
D.D.S. Loma Linda University 1996
- RICE, GAIL TAYLOR. Professor, Department of  
Allied Health Studies AH  
Ed.D. Loma Linda University SE 1983
- RICE, T. RICHARD. Professor, School of Religion SR  
Ph.D. University of Chicago Divinity School  
1974
- RICHARDS, DOUGLAS C. Assistant Clinical  
Professor, Department of Preventive Medicine  
SM and Department of Health Promotion and  
Education PH  
M.D. Oral Roberts University 1989
- RICHARDS, SUSAN CLONINGER. Associate  
Professor, Department of Oral Diagnosis,  
Radiology, and Pathology SD  
D.D.S. Loma Linda University SD 1984
- RICHARDSON, PAUL L. Associate Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1972
- RICHARDSON, RAYMOND G. Assistant Clinical  
Professor, Department of Surgery SM  
M.D. Washington University 1960
- RICK, GORDON M. Adjunct Associate Professor,  
Department of Oral Diagnosis, Radiology and  
Pathology SD  
D.D.S. Loma Linda University SD 1968
- RICKETTS, HERMAN H. L. Associate Clinical  
Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1962
- RIESEN, SHARON K. Associate Professor,  
Department of Pediatrics SM  
M.D. Loma Linda University SM 1982
- RIESENMAN, JOHN P. Associate Clinical Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 1981
- RIGGS, MATT L. Adjunct Professor, Department of  
Psychology ST  
Ph.D. Kansas State University 1989
- RIGSBY, RHODES LANE. Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1987
- RIMMER, STEVEN O. Assistant Clinical Professor,  
Department of Ophthalmology SM  
M.D. University of California, San Diego  
1989
- RINGER, JACK. Assistant Clinical Professor,  
Department of Restorative Dentistry SD  
D.D.S. University of the Witwatersrand,  
South Africa 1978  
Ph.D. Case Western Reserve University 1969
- RIPLEY, KAREN. Assistant Professor of Nursing, SN  
M.S. Loma Linda University SN 2006

- RIRIE, CRAIG M. Associate Professor, Department of Periodontics SD  
D.D.S. Creighton University Dental School  
1972
- RIRIE, SETH S. Visiting professor, Department of Periodontics SD  
Ph.D. Case Western Reserve University  
School of Medicine 2000
- RITER, HOLLI C. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1998
- RIVERA, JORGE L. Assistant Professor, Department of General and Trauma Surgery SM and Department of Family Medicine SM  
M.D. Loma Linda University SM 1979
- RIVERA, MARTHA E. Assistant Professor, Department of Pediatrics SM  
M.D. University of California, Irvine 1985
- RIZKALLA, SUZANNE S. Assistant Clinical Professor, Department of Medicine SM  
M.D. Ain Shams University, Egypt 1985
- ROATH, RODNEY MARK. Instructor, Department of Clinical Laboratory Science AH  
M.B.A. California State University, San Bernardino 1991
- ROBBINS, ELIZABETH B. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2006
- ROBERSON, B. BUD. Assistant Clinical Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 1945
- ROBERTS, DOUGLASS B. Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1966
- ROBERTS, GLYNIS. Clinical Instructor, Department of Health Information Administration AH  
B.S. Loma Linda University AH 1982
- ROBERTS, RANDALL LEE. Associate Professor, School of Religion SR  
D.Min. Fuller Theological Seminary 1996
- ROBINSON, LIA M. Clinical Instructor, Department of Nutrition PH  
B.S. California State University, Los Angeles  
1976
- ROBINSON, MAGDA L. Assistant Clinical Professor, Department of Family Medicine SM  
M.D. Universidad de Montemorelos, Mexico  
1973
- ROBLES, ANTONIO E. Professor, Department of General and Trauma Surgery SM  
M.D. Buenos Aires University, Argentina  
1972
- ROCHE, SUSAN. Associate Professor, Department of Oral Diagnosis, Radiology, and Pathology SD  
D.D.S. Loma Linda University SD 1993
- RODDY, SARAH M. Associate Professor, Department of Pediatrics SM and Department of Neurology SM  
M.D. Loma Linda University SM 1980
- RODRIGUEZ LOPEZ, SOFIA I. Assistant Clinical Professor, Department of Endodontics SD  
D.D.S. University of Quetzacoalt, Mexico  
1997
- ROE, PHILLIP. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2003
- ROGERS, FRANK ROBERT. Associate Professor, Department of Surgery SM  
M.D. Loma Linda University SM 1974
- ROGERS, MARK. Clinical Instructor, Department of Cardiopulmonary Sciences AH  
B.S. Loma Linda University AH 1988
- ROGERS, THOMAS CHARLES. Associate Professor, Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1983
- ROGGENKAMP, CLYDE L. Associate Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1970
- ROJAS, HEATHER L. Assistant Professor, Department of Pathology and Human Anatomy SM  
M.D. Loma Linda University SM 2003
- ROLAND, DAVID DARYL. Assistant Professor, Department of Endodontics SD  
D.D.S. Loma Linda University SD 1978
- ROMAN, MAHER ABDELSAYED. Assistant Professor, Department of Medicine SM  
M.D. Cairo University, Egypt 1984
- ROMANO, THOMAS J. Assistant Professor, Department of Medicine SM  
M.D. Yale University 1973

- RONAN, ANN M. Clinical Instructor, Department of Family Medicine SM  
M.A. University of Rhode Island 1995
- ROOS, PHILIP J. Associate Professor, Department of Medicine SM and Department of Physiology and Pharmacology SM  
M.D. Loma Linda University SM 1976
- ROPACKI, SUSAN A. Assistant Professor, Department of Psychology ST  
Ph.D. University of Rhode Island 2003
- ROSARIO, CAROLAN R. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1988
- ROSAASEN, HEATHER A. Assistant Clinical Professor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 2003
- ROSENQUIST, ROBERT C., JR. Assistant Clinical Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1977
- ROSS, TERI HAINES. Instructor, Department of Clinical Laboratory Science AH  
B.S. Loma Linda University AH 1982
- ROSSI, CARL J., JR. Associate Professor, Department of Radiation Medicine SM  
M.D. Loyola University Stritch School of Medicine 1988
- ROSSI, JOHN JOSEPH. Adjunct Professor, Department of Basic Sciences SM  
Ph.D. University of Connecticut 1976
- ROTH, ARIEL A. Adjunct Professor, Department of Earth and Biological Sciences ST  
Ph.D. University of Michigan 1955
- ROTH, KENNETH. Associate Clinical Professor, Department of Orthopaedic Surgery SM  
M.D. Marquette Medical School 1963
- ROTH, PATRICIA J. Assistant Clinical Professor, Department of Psychiatry SM  
Ph.D. Trinity School of Graduate Studies 2000
- ROTH, WILLIAM G. Associate Professor, Department of Psychiatry SM  
Psy.D. Biola University 1986
- ROUSE, GLENN ALLEN. Associate Professor, Department of Radiology SM; Associate Clinical Professor, Department of Radiation Technology AH  
M.D. Loma Linda University SM 1976
- ROUSE, TERRI LYNNE. Instructor, Department of Health Information Management AH  
B.S. Loma Linda University AH 1994
- ROWE, MARK ROBERT. Assistant Professor, Department of Surgery SM and Department of Pediatrics SM; Associate Professor, Department of Surgery SM  
M.D. Loma Linda University SM 1994
- ROWSELL, EDWARD H. Assistant Professor, Department of Pathology and Human Anatomy SM  
M.D. Loma Linda University SM 1994  
Ph.D. Loma Linda University GS 1994
- ROY-CHOWDHURY, SHARMILA. Assistant Professor, Department of General and Trauma Surgery SM  
M.B.B.S. Jawaharial Institute of Postgraduate Medical Education 1991
- RUCKLE, HERBERT C. Professor, Department of Urology SM  
M.D. Loma Linda University SM 1986
- RUDATSIKIRA, EMMANUEL MITSINDO. Associate Professor, Department of Epidemiology and Biostatistics PH  
Dr.P.H. Loma Linda University 2005  
M.D. University of Kinshasa, Republic of the Congo 1978
- RUDICH, MARC D. Assistant Clinical Professor, Department of Surgery SM  
M.D. Albany Medical College 1971
- RUDOMETKIN, NATHAN J. Assistant Clinical Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 2001
- RUH, KATJA. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1991
- RUIZ, CYNTHIA CHAVEZ. Assistant Clinical Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1981
- RUNDLE, CHARLES H. Assistant Research Professor, Department of Medicine SM  
Ph.D. University of Alabama 1996
- RUNGCHARASSAENG, KITICHAJ. Associate Professor, Department of Orthodontics SD  
D.D.S. Chulalongkorn University, Thailand 1991

- RUNYON, BRUCE A. Professor, Department of Medicine SM  
M.D. University of Iowa 1976
- RUSCH, ROY M. Assistant Clinical Professor, Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1965
- RUSHING, ROSANNE. Assistant Professor, Department of Health Promotion and Education PH and Department of Global Health PH
- RUSHING, SHARON L. Assistant Professor, Department of Global Health PH and Department of Health Policy and Management PH  
M.P.H. Loma Linda University PH 2003
- RUSSELL, FINDLAY E. Research Professor, Department of Surgery SM  
Ph.D. Laurence University 1974  
M.D. College of Medical Evangelists 1950
- RUTEBUKA, OBED BASHORA. Assistant Professor, Department of Environmental and Occupational Health PH  
Ph.D. Loma Linda University GS 1996
- RYNEARSON, R. DAVID. Associate Professor, Department of Orthodontics SD and Orthodontics and Dentofacial Orthopaedics Program FGS  
D.D.S. Loma Linda University SD 1971
- SAATY, HANS P. Assistant Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1982
- SABATE, JOAN. Professor, Department of Epidemiology and Biostatistics PH and Department of Nutrition PH  
M.D. Universidad Autònoma de Barcelona, Catalonia 1978
- SADJADI, SEYED-ALI. Associate Professor, Department of Medicine SM  
M.D. University of Tehran Medical School, Iran 1972
- SADRIEH, KIARASH. Assistant Professor, Department of Pediatrics SM  
M.D. Finch University of Health Sciences 2001
- SAHEEBA, NEETA C. Assistant Clinical Professor, Department of Psychiatry SM  
M.D. Grant Medical School, Bombay, India 1982
- SAHL, ERIK F. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2006
- SAHNEY, SHOBHA. Associate Professor, Department of Pediatrics SM  
M.B.B.S. Lady Hardine Medical College of Delhi University, India 1969
- SAKALA, ELMAR P. Professor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1973
- SAKS, GERALD. Clinical Professor, Department of Pediatrics SM  
M.D. New York University at Buffalo 1960
- SALAMAT, AREZOU. Instructor, Department of Occupational Therapy AH  
M.O.T. Pacific University, Oregon 2000
- SALARY, TISHA L. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 2001
- SALCEDO, LORENA D. Clinical Instructor, Department of Pediatric Dentistry SD  
D.D.S. University of Texas Health Science Center 2002
- SALEMI, CHARLES S. Assistant Clinical Professor, Department of Epidemiology and Biostatistics PH  
M.D. Tufts University School of Medicine 1965
- SALVADOR, HERMINIA S. Associate Professor, Department of Gynecology and Obstetrics SM  
M.D. Far Eastern University, Philippines 1961
- SALZMAN, STEVE. Assistant Clinical Professor, Department of Family Medicine SM  
M.D. Autonomous University of Guadalajara, Mexico 1982
- SAMADY, ABDUL R. Assistant Professor, Department of Anesthesiology SM  
M.D. Kabul University Medical School, Afghanistan 1965
- SANCHEZ, ALBERT S. Adjunct Professor, Department of Nutrition PH  
Dr.P.H. University of California, Los Angeles 1968

- SANDBERG, LAWRENCE. Clinical Research Professor, Department of Pathology and Human Anatomy SM and Department of Medicine SM Ph.D. University of Oregon School of Health Sciences 1966  
M.D. University of Illinois 1957
- SANDERS, ISAAC. Emeritus Professor, Department of Radiology SM  
M.D. State University College of Medicine at New York 1955
- SANDERS, JOYCE HYUNA. Assistant Professor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 2003
- SANGLIN, CONSTANCE P. Associate Clinical Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 1971
- SANDQUIST DOUGLAS D. Adjunct Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1997
- SANDRO, JACQUELIN S. Clinical Instructor, Department of Clinical Laboratory Science AH  
B.S. University of California, Los Angeles 1967
- SANDY, GISELLA L. Assistant Professor, Department of Surgery SM  
M.D. Loma Linda University SM 1998
- SANDY, HANNAH P. Assistant Professor of Nursing SN  
M.S.N. University of Colorado Health Sciences Center 2006  
N.D. University of Colorado Health Sciences Center 2004  
M.P.H. Loma Linda University PH 1998
- SANFORD, MICHAEL A. Assistant Clinical Professor, Department of Urology SM  
M.D. New York Medical College 1994  
B.S. Loma Linda University AH 1983
- SANTANA, RUBEN R. Instructor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2002  
D.M.D. University of the Philippines, Philippines 1985
- SAPIAN, SCHUBERT L. Adjunct Assistant Professor, Department of Dental Educational Services SD  
D.D.S. Loma Linda University 1997
- SARPY, NANCY LOUISE. Assistant Professor, School of Nursing SN  
M.S. Loma Linda University GS 1993
- SASAKI, GORDON H. Clinical Professor, Department of Surgery SM  
M.D. Yale University 1968
- SASSOUNIAN, MOJGAN. Clinical Instructor, Department of Clinical Laboratory Science AH  
B.S. University of California, Irvine 1982
- SAUKEL, G. WILLIAM. Associate Professor, Department of Pathology and Human Anatomy SM  
M.D. Medical University of South Carolina 1980
- SAVEDRA, MARILYN K. Adjunct Professor, School of Nursing SN  
D.N.S. University of California, San Francisco 1973
- SAWYER MACKNET, DANIELLE C.A. Instructor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University 2003
- SCARIATI, PAULA D. Associate Clinical Professor, Department of Preventive Medicine SM  
D.O. New York College of Osteopathic Medicine 1989
- SCHAEPPER, MARY A. Associate Professor, Department of Psychiatry SM  
M.D. Loma Linda University SM 1996
- SCHANTZ, BORGE. Professor, Department of Allied Health Studies AH  
Ph.D. Fuller Theological Seminary 1983
- SCHARFFENBERG, JOHN A. Adjunct Professor, Department of Nutrition PH  
M.D. Loma Linda University SM 1948
- SCHEER, PETER MATTHIAS. Assistant Clinical Professor, Department of Oral and Maxillofacial Surgery SD  
D.D.S. Loma Linda University SD 1984
- SCHILL-DEPEW, AMY E. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University 2004
- SCHILLING, LAURA J. Instructor, Department of Pediatrics SM  
M.D. Loma Linda University SM 2001

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Department of Family Medicine SM  
M.D. State University of New York at  
Buffalo School of Medicine 1968
- SCHLUNT MICHELLE L. Assistant Professor,  
Department of Anesthesiology SM  
M.D. Loma Linda University SM 1993
- SCHMIDT, MERRILL E. Associate Clinical Professor,  
Department of Endodontics SD  
D.D.S. Loma Linda University SD 1962
- SCHNEIDER, KIMBER L. Assistant Clinical  
Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1971
- SCHNEIDER, LOUISE E. Assistant Professor,  
Department of Nutrition PH and Department of  
Nutrition and Dietetics AH  
Dr.P.H. Loma Linda University PH 1976
- SCHNEIDER, STUART BENJAMIN. Clinical  
Instructor, Department of Clinical Laboratory  
Science AH  
M.B.A. University of Laverne 1991
- SCHNEPPER, HAROLD. Emeritus Professor,  
Department of Restorative Dentistry SD  
M.S.D. University of Washington 1954  
D.M.D. University of Oregon 1946
- SCHOENE, HERMAN R. Associate Clinical Professor,  
Department of Orthopaedic Surgery SM  
M.D. University of Buffalo 1956
- SCHRODER, HOBE J. Associate Research Professor,  
Department of Physiology and Pharmacology SM  
Ph.D. University of Hamburg, Germany  
1976
- SCHULTE, REINHARD W. Associate Professor,  
Department of Radiation Medicine SM and  
Department of Radiation Medicine SM  
M.D. Cologne University, Germany 1984
- SCHULTZ, GERALD. Associate Clinical Professor,  
Department of Ophthalmology SM  
M.D. New York Medical College 1963
- SCHULZ, ELOY E. Professor, Department of  
Radiology SM  
M.D. National University at Cordoba,  
Argentina 1966
- SCHWAB, ERNEST ROE III. Associate Professor,  
Department of Allied Health Studies AH and  
Allied Health Studies Program FGS  
Ph.D. Loma Linda University GS 1989
- SCHWANDT, ALLEN L. Associate Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1954
- SCOFIELD, N. MICHAEL. Adjunct Assistant  
Professor, Department of Health Information  
Management AH  
M.B.A. University of California, Los Angeles  
1973
- SCOTT, KENDALL G. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.D. University of Southern California 1979
- SCOTT, LOREEN KAY. Clinical Instructor,  
Department of Cardiopulmonary Sciences AH  
B.A. California State University, San  
Bernardino 1996
- SCOTT, MICHAEL D. Assistant Professor,  
Department of Physical Medicine and  
Rehabilitation SM  
M.D. Drew/University of California, Los  
Angeles School of Medicine 1989
- SEABAUGH, VALERIE A. Assistant Professor,  
Department of Anesthesiology SM  
M.D. Loma Linda University SM 1998
- SEALE, STUART A. Adjunct Assistant Professor,  
Department of Preventive Medicine SM  
M.D. Loma Linda University 1979
- SEAVEY, TIMOTHY. Instructor, Department of  
Radiation Technology AH  
B.S. Loma Linda University AH 2007
- SECOR, RONALD J. Assistant Professor, Department  
of Dental Educational Services SD  
M.B.A. University of LaVerne 1997
- SEDRAK, JOSEPH F. Assistant Professor, Department  
of Medicine SM  
M.D. University of South Alabama 1976
- SEGURA, GEORGE A. Assistant Professor,  
Department of Pediatrics SM  
M.D. Universidad de Montemorelos, Mexico  
1981
- SEGURA, STEWART D. Clinical Instructor,  
Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 2007
- SEGURA, THOMAS R. JR. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. University of Southern California  
1985

- SEHDEV, MOHAN K. Assistant Professor,  
Department of Plastic and Reconstructive  
Surgery SM  
M.D. University of Bombay, India 1963
- SEHEULT, ROGER D. Assistant Clinical Professor,  
Department of Medicine SM and Assistant  
Clinical Professor, Department of Physician  
Assistant Sciences AH  
M.D. Loma Linda University SM 2000
- SEHGAL, GURMEET K. Instructor, University  
Libraries  
M.L.S. Texas Women's University 2005
- SEIBERLING, KRISTIN A. Assistant Professor,  
Department of Otolaryngology and Head and  
Neck Surgery SM  
M.D. Northwestern University 2002
- SENTENN, GREGG A. Assistant Clinical Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 1972
- SERABYN, CYNTHIA L. Assistant Professor,  
Department of Medicine SM  
D.O. College of Osteopathic Medicine of the  
Pacific 1991
- SERRAO, STEVE. Assistant Professor, Department of  
Health Policy and Management PH  
M.P.H. Loma Linda University PH 2006
- SERROS, EDWARD R. Associate Clinical Professor,  
Department of Medicine SM  
M.D. Stanford University 1974
- SERVIN-ABAD, LUIS A. Assistant Professor,  
Department of Medicine SM  
M.D. Universidad de Panama School of  
Medicine, Panama City 1997
- SEVILLA, CONRADO C. Assistant Clinical Professor,  
Department of Psychiatry SM  
M.D. De La Salle University College of  
Medicine, Philippines 1987
- SHABAHANG, SHAHROKH. Associate Professor,  
Department of Endodontics SD  
D.D.S. University of the Pacific 1987
- SHAFFER, AUDREY JEANNE. Assistant Clinical  
Professor, Department of Health Information  
Management AH  
M.A. Central Michigan University 1982
- SHAH, MANOJ C. Associate Professor, Department  
of Pediatrics SM  
M.B.B.S. University of Baroda, India 1978
- SHAH, PRAFUL C. Assistant Clinical Professor,  
Department of Pediatrics SM  
M.B.B.S. Grant Medical College 1976
- SHAIN, LINDA J. Instructor, Department of Clinical  
Laboratory Science AH  
B.S. Loma Linda University AH 1981
- SHAKESPEARE, BRENT E. Assistant Clinical  
Professor, Department of Restorative Dentistry  
SD  
D.D.S. Loma Linda University SD 1988
- SHANK, AUDREY CHAPIN FISHER. Assistant  
Professor, Department of Family Medicine SM  
M.D. Loma Linda University SM 2001
- SHANK, GREGORY SCOTT. Assistant Professor,  
Department of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1999
- SHANKEL, TAMARA MICHELLE. Associate  
Professor, Department of Pediatrics SM and  
Department of Medicine SM  
M.D. Loma Linda University SM 1988
- SHARBINI, WAYEL A. Assistant Professor,  
Department of Cardiopulmonary Sciences, AH  
M.P.H. Loma Linda University PH 1999
- SHAREEF, TAHSEEN N. Assistant Professor,  
Department of Medicine SM  
M.D. Medical College of Pennsylvania 1993
- SHARKEY, JEANNINE. Adjunct Assistant Professor  
of Nursing, SN  
M.S.N. California State University, Long  
Beach 1995
- SHARP, BRIAN D. Assistant Professor, Department  
of Communication Sciences and Disorders AH  
M.S. University of Redlands 1995
- SHAUGHNESSY, PAIGE. Associate Professor,  
Department of Communication Sciences and  
Disorders AH  
Ph.D. University of Utah 1985
- SHAVLIK, DAVID JOSEPH. Assistant Professor,  
Department of Epidemiology and Biostatistics  
PH  
M.P.H. Loma Linda University PH 1997
- SHAVLIK, GERALD W. Adjunct Assistant Professor,  
Department of Epidemiology and Biostatistics  
PH  
M.P.H. Loma Linda University PH 1971

- SHAW, DOMINIQUE M. Assistant Professor,  
Department of Gynecology and Obstetrics SM  
M.D. University of California, Los Angeles  
2001
- SHAW, KATHRYN J. Assistant Clinical Professor,  
Department of Gynecology and Obstetrics SM  
M.D. University of Southern California 1983
- SHEDD, JOANNA. Instructor in Nursing SN  
B.S. Loma Linda University SN 2002
- SHEHATA, MARIANNE. Assistant Clinical  
Professor, Department of Restorative Dentistry  
SD  
D.D.S. Loma Linda University SD 2003
- SHELDON, RICHARD L. Clinical Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1968
- SHELLARD, EDWARD R. Adjunct Associate  
Professor, Department of Restorative Dentistry  
SD  
D.D.S. Case Western Reserve University  
1987
- SHENG, MATILDA. Assistant Research Professor,  
Department of Medicine SM  
Ph.D. Virginia Polytechnic Institute and  
State University 1996  
M.S. Indiana University of Pennsylvania  
1992
- SHEPARD, ANDREW. Instructor, Department of  
Radiation Technology AH  
B.S. Loma Linda University AH 1998
- SHEPERD, MICHAEL D. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.D. Loma Linda University SM 1980
- SHEPHERD, JEFFREY C. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1984
- SHEPHERD, JERI J. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University 1986
- SHERIDAN, ALLAN. Assistant Professor,  
Department of Orthodontics SD  
D.D.S. Case Western Reserve University  
1964
- SHERIDAN, CLARE M. Associate Professor,  
Department of Pediatrics SM and Department of  
Emergency Medicine SM  
M.B.Ch.B. University College at Dublin,  
Ireland 1973
- SHERIDAN, FRANK P. Assistant Clinical Professor,  
Department of Pathology and Human Anatomy  
SM  
M.B.Ch.B. University College at Dublin,  
Ireland 1971
- SHERMAN, MARK D. Assistant Professor,  
Department of Ophthalmology SM  
M.D. Albert Einstein Medical College 1985
- SHERWIN, THOMAS S. Associate Professor,  
Department of Emergency Medicine SM;  
Assistant Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 1989
- SHERZAI, ABDULLAH. Assistant Professor,  
Department of Neurology SM  
M.D. Eastern Virginia Medical School 1995
- SHEU, MARIA MIAO-YIN. Assistant Professor,  
Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 1994
- SHI, WEI-XING. Professor, Department of  
Pharmacotherapy and Outcomes Science SP  
Ph.D. Yale University School of Medicine  
1990
- SHIMADA, TAKA AKI. Adjunct Instructor,  
Department of Allied Health Studies AH  
M.S. Tokyo Metropolitan University  
Graduate School of Science 2007
- SHIN, ANTHONY S. Assistant Professor, Department  
of Psychiatry SM  
M.D. Seoul National University, South Korea  
1983
- SHINGU, NAOHITO. Adjunct Instructor,  
Department of Allied Health Studies AH  
M.S. Hiroshima University, Japan 2000
- SHIU, WILFRED W. Assistant Clinical Professor,  
Department of Preventive Medicine SM  
M.D. Loma Linda University SM 1990
- SHOJI, HIROMU. Clinical Professor, Department of  
Orthopaedic Surgery SM  
M.D. University of Tokyo Faculty of  
Medicine, Japan 1964
- SHOOK, JAMES E. Associate Professor, Department  
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M.D. Loma Linda University SM 1977
- SHOVER, HEATHER T. Assistant Clinical Professor,  
Department of Preventive Medicine SM  
M.D. University of California, Los Angeles  
1996



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M.D. Loma Linda University SM 1992
- SHVARTSMAN, HYUN S. Assistant Professor, Department of Gynecology and Obstetrics SM  
M.D. New York Medical College 1996
- SIAPCO, GINA S. Associate Professor, Department of Nutrition PH  
Dr.P.H. Loma Linda University 2004
- SICCAMA, MELISSA D. Assistant Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 2004
- SIDDIGHI, SAM. Instructor, Department of Gynecology and Obstetrics  
M.D. New York Medical College 2001  
M.S. University of Cincinnati 2008
- SIDDIQUI, KHWAJA A. Clinical Instructor, Department of Family Medicine SM  
M.D. Kabul University School of Medicine 1962
- SIEGEL, KIMBERLY L. Assistant Professor, Department of Preventive Medicine SM  
M.P.H. Loma Linda University PH 2005  
M.D. University of New Mexico 2001
- SILBERSTEIN, JEANNE F. Assistant Clinical Professor, Department of Nutrition PH  
M.S. University of Hawaii 1984
- SILSTON, STEPHEN MICHAEL. Assistant Professor, Department of Periodontics SD  
D.D.S. Indiana University 1971
- SILVA, VASTHI VIVIAN. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1979
- SILVET, HELME. Assistant Professor, Department of Medicine SM  
M.D. Tartu University, Estonia 1993
- SILVIA, MARY. Assistant Professor, Department of Pediatrics SM  
M.D. Harvard Medical School 2001
- SIMENTAL, ALFRED A., JR. Assistant Professor, Department of Surgery SM and Department of Pediatrics SM  
M.D. Loma Linda University SM 1995
- SIMJEE, RASHEED. Assistant Professor, Department of Periodontics SD  
D.M.D. Harvard University 1998
- SIMMS, PAUL B. Adjunct Assistant Professor, Department of Health Administration PH  
M.P.H. University of Michigan 1993
- SIMMS, RICHARD A. Professor, Department of Orthodontics SD  
D.D.S. Howard University 1953
- SIMON, DIANNA J. Associate Clinical Professor, Department of Social Work and Social Ecology ST, Clinical Social Work Program FGS, and Department of Psychiatry SM  
Ph.D. University of Southern California 1993
- SIMON, JAMES H. Lecturer, Department of Endodontics SD  
D.D.S. Temple University 1961
- SIMON, LAUREN MERYL. Associate Professor, Department of Family Medicine SM  
M.D. Hahnemann University 1990
- SIMPSON, CHERYL J. Professor, Department of Counseling and Family Science ST  
Ph.D. University of Oregon 1980
- SIMPSON, KAREN ANN. Associate Professor, Department of Dental Hygiene SD  
M.P.H. Loma Linda University GS 1978
- SIMPSON, LINDSEY M. Instructor, Department of Cardiopulmonary Sciences AH  
B.S. Loma Linda University AH 2006
- SIMPSON, WILLIAM ROBERT. Assistant Professor, Department of Psychiatry SM  
M.A. University of Maryland 1974
- SINGH, PRAMIL. Associate Professor, Department of Epidemiology and Biostatistics PH and Epidemiology and Biostatistics Program FGS  
Dr.P.H. Loma Linda University 1999
- SINGHA, SAHEEBA. Assistant Professor, Department of Restorative Dentistry SD  
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- SINGHVI, AJEET RAJ. Assistant Clinical Professor, Department of Medicine SM  
M.B.B.S. SMS Medical School, University of Rajasthan, Rajasthan 1973
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M.D. Loma Linda University SM 1995
- SKORETZ, RANDALL WAYNE DANIEL. Adjunct Assistant Professor, School of Religion SR  
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- SLATER, JERRY D. Professor, Department of Radiation Medicine SM  
M.D. Loma Linda University SM 1982
- SLATER, LEE J. Lecturer, Department of Oral and Maxillofacial Surgery SD  
M.S. Indiana University 1982  
D.D.S. University of California, Los Angeles 1975
- SLATER, SHELLEY K. Clinical Instructor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1980
- SLJUKA, KATHERINE E. Instructor, Department of Preventive Medicine SM  
M.D. Loma Linda University SM 2000
- SLOOP, R. RICHARD. Adjunct Associate Professor, Department of Neurology SM  
M.D. Loma Linda University SM 1986
- SMALL, MARY L. Associate Clinical Professor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1966
- SMITH, BRUCE E. Assistant Clinical Professor, Department of Preventive Medicine SM and Department of Global Health PH  
M.D. University of Texas at San Antonio 1975
- SMITH, DOUGLAS C. Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1966
- SMITH, DUSTIN DAVID. Assistant Professor, Department of Emergency Medicine SM  
M.D. Texas Technical University Health Sciences Center 1998
- SMITH, JASON C. Assistant Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1996
- SMITH, JODI O. Assistant Clinical Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1994
- SNIDER, DOUGLAS H. Assistant Professor, Department of Endodontics SD  
D.D.S. Loma Linda University SD 1983
- SODERBLOM, ROBERT E. Associate Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1963
- SOEPRONO, FRED F. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1973
- SOGIOKA, NORMAN Y. Assistant Clinical Professor, Department of Plastic and Reconstructive Surgery SM  
M.D. Loma Linda University SM 1973
- SOJI, TSUYOSHI. Adjunct Professor, Department of Allied Health Studies AH  
Ph.D. Jikei University, Japan 1978
- SONAWALA, MEHUL S. Instructor, Department of Medicine SM  
M.B.B.S. Grant Medical College, India 1992
- SONG, GRACE E. Clinical Instructor, Department of Family Medicine SM  
M.D. Loma Linda University SM 1999
- SONG, ELISA H. Assistant Professor, Department of Restorative Dentistry SD  
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- SONG, YIPING. Assistant Professor, Department of Restorative Dentistry SD  
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Ph.D. West China University 1993
- SONNE, JANET L. Clinical Professor, Department of Psychology ST  
Ph.D. University of California, Los Angeles 1981
- SORAJJAKOOL, SIROJ. Professor, School of Religion SR  
Ph.D. Claremont School of Theology 1999
- SORENSEN, PATRICIA M. Assistant Clinical Professor, School of Nursing SN  
M.S.N. University of California, Los Angeles 1982
- SORET, SAMUEL. Associate Professor, Department of Environmental and Occupation Health PH and Department of Earth and Biological Sciences ST  
Ph.D. Loma Linda University GS 1993
- SORRELS, RONALD L. Adjunct Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1973

- SOTO, RITA C. Assistant Professor, Department of Pediatric Dentistry SD  
B.S. University of California, Irvine 1998  
D.D.S. University of Iowa 1995
- SOTO-WEGNER, UBALDO A. Assistant Research Professor, Department of Basic Sciences SM  
Ph.D. Catholic University of Chile, Chile 1994
- SOWERS, LAWRENCE C. Professor, Department of Biochemistry and Microbiology SM and Department of Medicine SM  
Ph.D. Duke University 1983
- SPAETH, MAYA C. Instructor, Department of Plastic and Reconstructive Surgery SM  
M.D. University of Calgary, Alberta, Canada 2000
- SPARKS, STEVEN R. Associate Professor, Department of Cardiovascular and Thoracic Surgery SM  
M.D. University of Cincinnati Medical School 1986
- SPEARMAN, CHARLES B. Assistant Professor, Department of Cardiopulmonary Sciences AH  
M.S. University of Southern California 1994
- SPECHT, NORMAN L. Assistant Professor, Department of Medicine SM and Department of Cardiopulmonary Sciences AH  
M.D. Loma Linda University SM 1983  
M.D. Autonomous Universidad Barcelona, Spain 1978  
Dr.P.H. University of California, Los Angeles 1968
- SPENCER-SAFIER, MICHELLE M. Assistant Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of Michigan 1995
- SPENCER-SMITH, E. LAURENCE. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1982
- SPINT, KENNETH RILEY. Assistant Professor, Department of Oral and Maxillofacial Surgery SD  
D.M.D. University of Oregon Dental School 1962
- SPRENGEL, JEAN E. Assistant Clinical Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 1981
- SRIKUREJA, WICHIT. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University 1997
- SRINIVASAN, BALACHANDRAN D. Adjunct Professor, Department of Ophthalmology SM  
M.D. Columbia University 1967
- SRISKANDARAJAH, MALATHY. Assistant Professor, Department of Medicine SM  
M.D. University of Colombo, Sri Lanka 1979
- SRIVASTAVA, APURVA K. Associate Research Professor, Department of Medicine SM  
Ph.D. Lucknow University at Lucknow, India 1992
- STACEY, DESMOND GRAHAM CHARLES. Assistant Professor, School of Religion SR and Department of Dental Educational Services SD  
Ph.D. Loma Linda University GS 1999  
M.A. Loma Linda University GS 1998
- STACY, PANADDA MANOONKITTIWONGSA. Assistant Professor of Nursing SN  
M.S. Loma Linda University 1997
- STANHISER, RUTH S. Assistant Clinical Professor, Department of Family Medicine SM  
M.D. Loma Linda University SM 1975
- STANTON, DAVID MORGAN. Assistant Professor, Department of Cardiopulmonary Sciences AH  
M.S. Loma Linda University GS 1991
- STAPLES-EVANS, HELEN MURIEL. Assistant Professor, School of Nursing SN  
M.S. Loma Linda University GS 1984
- ST. CLAIR, JENNIFER C. Assistant Professor, Department of Communication Sciences and Disorders AH  
M.S. Loma Linda University GS 1999
- STEELE, ROBERT. Assistant Professor, Department of Emergency Medicine SM  
B.S. Loma Linda University SD 1997  
M.D. Wayne State University 1996
- STEFFES, BRUCE C. Associate Professor, Department of Surgery SM  
M.D. University of Michigan at Ann Arbor 1976
- STEINER, ANN LESLIE. Assistant Professor, Department of Dental Educational Services SD  
D.M.D. University of Florida 1980

- STEINMANN, JOHN C. Assistant Clinical Professor,  
Department of Orthopaedic Surgery SM  
D.O. College of Osteopathic Medicine of the  
Pacific 1986
- STELMACH, DEBRA JEANNE. Clinical Instructor,  
School of Nursing SN  
M.S.N. University of California, Los Angeles  
1997
- STEPHENS, JONELLE ANN. Professor, Department  
of Dental Hygiene SD  
Ed.S. Loma Linda University SE 1982  
M.S. Columbia University 1971
- STEPHENSON, CHARLES M., SR. Clinical Professor,  
Department of Ophthalmology SM  
M.D. Loma Linda University SM 1956
- STEPIEN, BETTY. Assistant Professor, Department of  
Medicine SM  
M.D. University of California, Los Angeles  
Medical School 1999
- STEVENS, TIMOTHY W. Instructor, Department of  
Oral and Maxillofacial Surgery SD  
D.D.S. Loma Linda University SD 2003
- STEVENS, WESLEY T. Assistant Professor,  
Department of Pathology and Human Anatomy  
SM  
M.D. Loma Linda University SM 2000
- STEWART, CHARLES E. Assistant Professor,  
Department of Surgery SM  
M.D. Loma Linda University SM 1970
- STEWART, CHARLES EUGENE III. Associate  
Professor, Department of Surgery SM  
M.D. Loma Linda University SM 1970
- STEWART, GAIL MARIE. Associate Professor,  
Department of Emergency Medicine SM and  
Department of Pediatrics SM  
D.O. Michigan State University 1980
- STEWART, STEVEN C. Professor, Department of  
Urology SM  
M.D. Loma Linda University SM 1971
- STEWART, SYLVIA DIANNE. Assistant Professor,  
School of Nursing SN  
Ph.D. Claremont Graduate School 1993
- STIER, GARY R. Associate Professor, Department of  
Anesthesiology SM  
M.D. Loma Linda University SM 1983
- STILSON, CARL B. Assistant Professor, Department  
of Emergency Medicine SM  
M.D. University of California, Irvine 1974
- STILSON, DONALD L. Assistant Clinical Professor,  
Department of Anesthesiology SM  
M.D. College of Medical Evangelists 1945
- STILSON, MATTHEW K. Assistant Professor,  
Department of Emergency Medicine SM  
M.D. University of California, Irvine 2002
- STIREWALT-BOGGS, SHARON A. Instructor,  
Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1993
- STOCKDALE, JOHN C. Assistant Clinical Professor,  
Department of Psychiatry SM  
M.D. Loma Linda University SM 1958
- STOLETNIY, LISET N. Assistant Professor,  
Department of Medicine SM  
M.D. Facultad de Medicina Montevideo,  
Uruguay 1985
- STONE, CORA (PENNY) WEISE. Assistant Clinical  
Professor, School of Nursing SN  
M.P.H. Loma Linda University PH 1988
- STONE, RENEE N. Instructor, Department of  
Radiation Medicine AH  
M.A.M. University of Redlands 2008
- STORKERSEN, KRIS J. Assistant Professor,  
Department of Ophthalmology SM  
M.D. University of California, Davis 1989
- STOTTLEMYER, DEBRA D. Assistant Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1986
- STOUT, CHARLES E. Assistant Research Professor,  
Department of Radiology SM  
M.D. Loma Linda University SM 2002  
Ph.D. Loma Linda University GS 2002
- STRAND, PETER F. Assistant Clinical Professor,  
Department of Orthodontics SD  
D.D.S. University of California, Los Angeles  
1972
- STRINGER, DALE E. Associate Professor,  
Department of Oral and Maxillofacial Surgery SD  
D.D.S. University of Iowa at Iowa City 1972
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Department of Global Health PH  
M.P.H. Loma Linda University PH 2005  
Ph.D. Cornell University 1980

- STRONG, DONNA DEE. Research Professor,  
Department of Medicine SM  
Ph.D. University of California, Los Angeles  
1977
- STRONG, RICHARD MERLE. Associate Clinical  
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M.D. University of California, Irvine 1975
- STRUM, SCOTT RUSSELL. Associate Professor,  
Department of Physical Medicine SM  
M.D. Loma Linda University SM 1990
- STRUTZ, JUDITH M. Associate Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1985
- STULLER, CHARLES B. Associate Clinical Professor,  
Department of Oral and Maxillofacial Surgery SD  
D.D.S. Temple University 1972
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Pediatric Dentistry SD  
D.M.D. Oregon Health Science University  
2004
- SUAREZ, SANDY. Assistant Professor, Department  
of Social Work and Social Ecology ST  
M.S.W. Loma Linda University ST 2002
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of Basic Sciences SM  
M.S. Georgia Institute of Technology 2004  
M.S. Eastern Michigan University 2002  
M.S. University of Pune, India 2000  
B.S. University of Pune, India 1998
- SU-ERICKSON, DIANA B. Clinical Instructor,  
Department of Occupational Therapy AH  
B.S. Loma Linda University AH 1978
- SUGIYAMA, RAYMOND. Assistant Professor,  
Department of Orthodontics SD and Dentofacial  
Orthopaedics Program FGS  
D.D.S. Case Western Reserve University  
1964
- SUH, JUNG HWA. Assistant Professor, Department  
of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2005
- SUH, YOUNG I. Associate Professor, Department of  
Periodontics SD  
M.S. Loma Linda University GS 2000  
D.D.S. Kyungpook National University 1983
- SULAIMAN, RAGHAD J. Assistant Professor,  
Department of Restorative Dentistry SD  
B.D.S. Baghdad University, Iraq 1999
- SULIT, VICTOR F. Assistant Clinical Professor,  
Department of Preventive Medicine SM  
M.P.H. Loma Linda University PH 2004  
M.D. University of California, Davis 1996
- SULZLE, HOWARD W. Assistant Professor,  
Department of Physical Therapy AH  
Ed.D. Loma Linda University SE 1995
- SUN, CHAO HUANG. Assistant Clinical Professor,  
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M.D. Kaohsiung Medical College, Taiwan  
1979
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Ph.D. Shanghai Second Medical University,  
China 1998  
M.S. Zhejiang Medical University, China  
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D.M.D. Zhejiang Medical University, China  
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Restorative Dentistry SD  
D.D.S. University of California, Los Angeles  
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Department of Basic Sciences SM  
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Shanghai, China 1998
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of Biophysics and Bioengineering ST  
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Taiwan 2002
- SUTHAR, MUKESH B. Assistant Professor,  
Department Of Ophthalmology SM  
M.D. University of Southern California 1993
- SUTJITA, MADE. Assistant Professor, Department of  
Medicine SM  
M.D. University of Udayana, Indonesia 1980
- SUTTON, MARK S. Assistant Professor, Department  
of Family Medicine SM  
M.D. Loma Linda University SM 1990
- SUZUKI, SHIGEYUKI. Adjunct Professor,  
Department of Allied Health Studies AH  
Ph.D. Nagoya University, Japan 1996
- SWABB, RICHARD JOHN. Assistant Professor,  
Department of Medicine SM  
M.D. College of Medicine and Dentistry at  
New Jersey 1978

- SWEN, R. WESLEY. Clinical Instructor, Department of Physical Therapy AH  
M.P.T. Loma Linda University AH 1966
- SWENSON, TERRY R. Assistant Professor, School of Religion SR  
M.Div. Andrews University 1987
- SWIFT, JAMES DALE. Assistant Clinical Professor, Department of Pediatrics SM  
M.D. Chicago Medical School 1988
- SWISHER, LARRY G. Assistant Professor, Department of Oral and Maxillofacial Surgery SD  
D.D.S. Loma Linda University SD 1975
- SWOPE, DAVID M. Associate Professor, Department of Neurology SM  
M.D. Loma Linda University SM 1989
- SYMS, JAMES M. Assistant Professor, Department of Physical Therapy AH  
M.P.T. Loma Linda University AH 1995
- TABUENCA, ARNOLD D. Professor, Department of General and Trauma Surgery SM  
M.D. Rosario National University, Argentina 1981
- TAGGE, DERYA U. Associate Professor, Department of Surgery SM  
M.D. University of Michigan 1987
- TAGGE, EDWARD P. Professor, Department of General and Trauma Surgery SM  
M.D. Loyola-Strizh Medical School 1982
- TAHERI, S. REZA. Associate Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of Minnesota College of Pharmacy 1998
- TAMAYOSE, TERI S. Adjunct Assistant Professor, Department of Health Policy and Management PH  
Ed.D. Pepperdine University 2003
- TAMESIS, RICHARD R. Assistant Professor, Department of Ophthalmology SM  
M.D. University of the Philippines, Philippines 1983
- TAN, CATHERINE A. Assistant Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 1992
- TAN, DANIEL E., JR. Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1975
- TAN, JASON A. Instructor, Department of Anesthesiology SM  
M.D. Loma Linda University 2004
- TAN, S. C. MATTHEW. Assistant Clinical Professor, Department of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1969
- TAN, ROBERT. Assistant Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of the Pacific, Stockton 1998
- TAN, SHIRLEY M. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1988
- TAN, SHIRLEY L. Assistant Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 1971
- TANAKA, CHIHARU. Adjunct Instructor, Department of Allied Health Studies AH  
B.H.S. National Institution Academics Japan 2003
- TANAKA, WAYNE K. Associate Professor, Department of Oral and Maxillofacial Surgery SD  
D.D.S. University of Washington 1976
- TANG, DAVID H. Assistant Professor, Department of Emergency Medicine SM  
M.D. University of California at Los Angeles Medical School 1979
- TANG, HONG-MING. Assistant Professor, Department of Endodontics SD  
D.D.S. Yang-Ming University 1985
- TANG, JIPING. Associate Professor, Department of Basic Sciences SM  
M.D. Chongqing University of Medical Science, China 1988
- TANTAMANGO, YESSSENIA M. Instructor, Department of Health Promotion and Education PH  
M.P.H. Peruvian Union University, Peru 2005  
M.D. San Marcos University 2003
- TANZER, DAVID J. Adjunct Associate Professor, Department of Ophthalmology SM  
M.D. Georgetown University 1990
- TARAR, AHMAD K. Assistant Professor, Department of Psychiatry SM  
M.D. University of California, British West Indies 1981

- TAVARES, MARGARET A. Instructor, Clinical Laboratory Science AH  
B.S. University of Notre Dame 1982
- TAWANSY, KHALED A. Assistant Clinical Professor, Department of Ophthalmology SM  
M.D. University of Michigan 1991
- TAYLOR, BARRY L. Professor, Department of Biochemistry and Microbiology SM  
Ph.D. Case Western Reserve University 1973
- TAYLOR, BERNARD A. Professor, School of Religion SR  
Ph.D. Hebrew Union College 1989
- TAYLOR, DAVID LAWSON. Professor, School of Religion SR  
D.Min. Vanderbilt University 1977
- TAYLOR, DESMYRNA RUTH. Assistant Clinical Professor, Department of Physical Therapy AH  
M.P.T. Loma Linda University AH 1995
- TAYLOR, ELIZABETH ANN JOHNSTON. Associate Professor, Nursing Program FGS  
Ph.D. University of Pennsylvania 1992
- TAYLOR, GUY D. Assistant Professor, Department of Orthodontics SD  
D.D.S. West Virginia University 1967
- TAYLOR, MAXINE CLARK. Assistant Professor, Department of Nutrition and Dietetics AH  
Ed.D. La Sierra University 2005
- TAYLOR, PARNELL L. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. University of Nebraska 1980
- TAYLOR, THOMAS W., JR. Clinical Instructor, Department of Cardiopulmonary Sciences AH  
B.S. University of Redlands 1993
- TEEL, CHARLES W., JR. Adjunct Professor, School of Religion SR  
Ph.D. Boston University 1972
- TEEL, ROBERT W. Emeritus Professor, Department of Physiology and Pharmacology SM  
Ph.D. Loma Linda University GS 1972
- TEICHMAN, SIEGMUND. Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1968
- TEJADA-DE-RIVERO, DAVID A. Associate Professor, Department of Health Administration PH  
M.P.H. University of North Carolina 1958  
M.D. University of Chile, Chile 1956
- TELLER, DOUGLAS W. Assistant Clinical Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1981
- TERUYA, THEODORE H. Adjunct Assistant Professor, Department of Surgery SM  
M.D. University of Hawaii 1985
- TESKE, MILTON R. Assistant Clinical Professor, Department of Emergency Medicine SM  
M.D. Loma Linda University 1981
- TESTERMAN, JOHN K. Associate Professor, Department of Family Medicine SM  
M.D. Loma Linda University SM 1980  
Ph.D. University of California at Irvine 1971
- TESTERMAN, NANCY S. Instructor, Department of Family Medicine SM and Assistant Professor of Nursing SN  
M.S. Loma Linda University GS 1971
- THAKKAR, KHYATI K. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2007  
B.D.S. Government Dental College, India 1999
- THELANDER, KEIR J. Assistant Professor, Department of General and Trauma Surgery SM  
M.D. Indiana University School of Medicine 1999
- THEODOROU, ANTHONY G. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1964
- THIEL, JOHN T. Assistant Clinical Professor, Department of Psychiatry SM  
M.D. Loma Linda University SM 1971
- THINN, MIE MIE. Assistant Professor, Department of Medicine SM  
M.B.B.S. Institute of Medicine, Rangoon, Burma 1994
- THOMAS, HEATHER J. Assistant Professor, Department of Occupational Therapy AH  
M.A. University of Southern California 1998
- THOM, CHARLES J. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. University of Southern California 1982
- THOMAS, LARRY L. Assistant Clinical Professor, Department of Global Health PH and Department of Preventive Medicine SM  
M.D. Loma Linda University SM 1974

- THOMAS, MARK E. Assistant Professor, Department of Emergency Medicine SM  
D.O. College of Osteopathic Medicine of the Pacific 1989
- THOMAS, TAMARA LYNN. Professor, Department of Emergency Medicine SM and Department of Cardiopulmonary Sciences AH  
M.D. Loma Linda University SM 1987
- THOMAS, TERESA CASHEEN. Clinical Instructor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1995
- THOMPSON, DAVID CARL. Assistant Professor, Department of General and Trauma Surgery SM  
M.D. University of Pittsburgh 1973
- THOMPSON, GARY J. Assistant Professor, Department of Medicine SM  
D.O. Western University of Health Sciences 2001
- THOMPSON, JOSEPH R. Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1964
- THOMPSON, KEVIN STUART. Assistant Professor, Department of Pathology and Human Anatomy SM  
M.D. Loma Linda University SM 1987
- THOMPSON-RAZZOUK, TERESA L. Assistant Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 1990
- THOMSEN, C. TORBEN. Professor, Department of Health Administration PH  
Ph.D. Michigan State University 1973
- THOMSEN, LANE C. Professor, Department of Oral Diagnosis, Radiology, and Pathology SD  
D.D.S. Loma Linda University SD 1965
- THORNTON, SHEILA M. Instructor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 1994
- THORP, ANDREA W. Assistant Professor, Department of Emergency Medicine SM  
M.D. Loma Linda University SM 2001
- THORPE, DONNA G. Assistant Professor, Department of Physical Therapy AH, Physical Therapy Program FGS, and Department of Epidemiology and Biostatistics PH  
M.P.H. Loma Linda University PH 1992
- THORPE, GARY W. Assistant Clinical Professor, Department of Physician Assistant Sciences AH  
M.D. University of Kansas 1994
- TIDWELL, DENNIS D. Adjunct Assistant Professor, Department of Global Health PH  
M.P.H. Mahidol University Thailand 1989
- TIDWELL, LILA M. Adjunct Assistant Professor, Department of Global Health PH  
M.P.H. Mahidol University, Thailand 1989
- TINSLEY, CYNTHIA H. Assistant Professor, Department of Pediatrics SM  
M.D. John A. Burns School of Medicine 1985
- TIRTAMAN-SIE, CONNY. Assistant Professor, Department of Medicine SM  
M.D. Erasmus University, Netherlands 1985
- TITO, DAVID D. Assistant Professor, Department of Emergency Medicine SM  
M.D. University of California, Los Angeles 1991
- TIWARI, BHOODEV. Assistant Clinical Professor, Department of Medicine SM  
M.B.B.S. Sardar Patel Medical College, India 1988
- TOHM, DONALD G. Assistant Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1984
- TOLEDO, GERARDO ALBERTO MANELLI. Assistant Professor, Department of Endodontics SD  
D.D.S. Universidad Nacional de Cordoba, Argentina 1993
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D.D.S. Universidad Nacional de Cordoba, Argentina 1990
- TONG, KAREN ANGELA. Associate Professor, Department of Radiology SM  
M.D. University of British Columbia, Canada 1990
- TONSTAD, SIGVE K. Associate Professor of Religion, SR and Assistant Professor, Department of Medicine SM and Religion Program FGS  
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M.D. Loma Linda University SM 1979



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Ph.D. University of Oslo, Norway 1990  
M.D. Loma Linda University 1979
- TOOMA, TOM SAEED. Assistant Clinical Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1979
- TORABINEJAD, MAHMOUD. Professor, Department of Endodontics SD  
Ph.D. University of London, England, UK 1995  
M.S.D. University of Washington 1976  
D.M.D. Dental School University of Tehran, Iran 1971
- TORRES, ABEL. Professor, Department of Medicine SM; Associate Professor, Department of Health Administration PH  
M.D. Mt. Sinai School of Medicine 1979
- TORRES, F. JOSE. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Javieriana University, Colombia 1990
- TORRES, SIDNEY EUGENE. Assistant Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 1983
- TORRES, VILMA I. Associate Professor, Department of Medicine SM  
M.D. State University of New York at Stonybrook 1979
- TORREY, ROBERT R., JR. Assistant Clinical Professor, Department of Urology SM  
M.D. Loma Linda University SM 1971
- TOWNSEND, DENISE J. Assistant Professor, Department of Medicine SM  
M.D. University of Florida 1987
- TOWNSEND, PATRICIA PETERSON. Assistant Clinical Professor, School of Nursing SN  
M.S. Loma Linda University GS 1986
- TRAFICANTE, FRANK R. Associate Professor, Department of Pediatric Dentistry SD and Pediatric Dentistry Program FGS  
D.D.S. University of Texas at Houston 1984
- TRAN, LOUIS P. Assistant Professor, Department of Emergency Medicine SM  
M.D. Loma Linda University SM 1997
- TRAN, MARIE M. Instructor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of the Pacific, Stockton 2009
- TRAPP, LARRY DALE. Associate Professor, Department of Dental Anesthesiology SD  
D.D.S. University of California, San Francisco 1975
- TREIMAN, STEPHEN. Assistant Professor, Department of Pediatrics SM  
M.D. University of Texas at Houston Medical School 1997
- TRENKLE, INGRID K. Assistant Clinical Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1973
- TRENKLE, STEVEN J. Assistant Clinical Professor, Department of Pathology and Human Anatomy SM  
M.D. Loma Linda University SM 1973
- TRINH, JOSEPH H. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. University of California, Los Angeles 1994
- TROTT, JAMES R. Assistant Professor, Department of Dental Educational Services SD  
D.D.S. Loma Linda University 1982
- TRUPP, DIANA L. Assistant Professor, Department of Pediatrics SM  
M.D. Loma Linda University SM 1982
- TSAI, CHRISTOPHER K.L. Assistant Clinical Professor, Department of Urology SM  
M.D. Loma Linda University SM 1994
- TSAI, HSIU-CHIN. Adjunct Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. National Yang Ming University, Taiwan 1979
- TSAI, JAMES Y. Assistant Professor, Department of Medicine SM  
M.D. St. George University, Grenada 1997
- TSAI, JULIAN C. Assistant Clinical Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1969
- TAO, BRYAN E. Associate Professor, Department of Neurology SM  
M.D. Loma Linda University SM 1996

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M.D. Loma Linda University SM 1996
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M.D. University of the Philippines, Philippines 1979
- TULLY, RICHARD J. Associate Professor, Department of Radiology SM  
M.D. University of Chicago 1968
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M.D. University of Santo Tomas, Philippines 1980
- TURNER, RODNEY L. Adjunct Assistant Professor, Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1984
- TWEED, ROSEMARIE. Assistant Clinical Professor, Department of Pediatrics SM  
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- TYSOR-TETLEY, MARY E. Clinical Instructor, Department of Psychiatry SM  
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D.O. UMDNJ School of Osteopathic Medicine 1995
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M.D. Loma Linda University SM 1997
- UNDERWOOD, MATTHEW B. Assistant Professor, Department of Emergency Medicine SM  
M.D. Loma Linda University SM 1992
- UNGER, JEFFREY R. Assistant Clinical Professor, Department of Family Medicine SM  
M.D. Northwestern University 1980
- UNIS, JOSEPH S. Assistant Clinical Professor, Department of Radiology SM  
M.D. University of Nebraska 1970
- UNWALLA, KHUSHRO B. Assistant Clinical Professor, Department of Psychiatry SM  
M.D. Kasturba Medical College, India 1977
- UPPALA, PADMA P. Associate Professor, Department of Environmental and Occupational Health PH  
Ph.D. Loma Linda University GS 1991
- URBAN, ISTVAN. Adjunct Assistant Professor, Department of Restorative Dentistry SD  
M.D. SOTE School of Medicine, Hungary 1996  
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- URQUIZO ARESTEQUI, RAUL. Assistant Professor, Department of Health Promotion and Education PH
- VALADEZ, BARBARA H. Instructor, Department of Periodontics SD  
A.S. University of California, Los Angeles 1980
- VALENTINI, PASCAL. Adjunct Associate Professor, Department of Restorative Dentistry SD  
D.D.S. University of Paris, France 1981
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Ed.D. Loma Linda University SE 1990
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M.B.A. University of Redlands 2001  
M.A. Loma Linda University 1987
- VALLEJOS, MARIA. Assistant Professor, Department of Epidemiology and Biostatistics PH  
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- VAN CLEVE, LOIS H. Emeritus Professor, School of Nursing SN  
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M.D. University of Stellenbosch, South Africa 1992
- VANNIX, DAVID L. Assistant Clinical Professor, Department of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1986
- VANNIX, ROBERT S. Assistant Clinical Professor, Department of Cardiovascular and Thoracic Surgery SM  
M.D. Loma Linda University SM 1953

- VAN STRALEN, DAVED W. Assistant Professor,  
Department of Pediatrics SM  
M.D. University of California, Irvine 1984
- VARADARAJAN, PADMINI. Assistant Professor,  
Department of Medicine SM  
M.B.B.S. Gandhi Medical College (Osmania  
University) 1993
- VARGAS, EDWARD J. Instructor, Department of  
Emergency Medicine SM  
M.D. Albany Medical College 1997
- VASHISHT, VARUN. Assistant Professor,  
Department of Restorative Dentistry SD  
B.D.S. Government Dental College,  
Amritsar, India 2003
- VAUGHAN, DARRELL L. Adjunct Assistant  
Professor, Department of Gynecology and  
Obstetrics SM  
M.D. Loma Linda University SM 1973
- VAUGHAN, KRISTIN E. Instructor, Department of  
Pharmacotherapy and Outcomes Science SP  
Pharm.D. Loma Linda University 2009
- VENDEN, LOUIS. Emeritus Professor, School of  
Religion SR  
Ph.D. Princeton Theological Seminary 1979
- VERDE, EDWARD W. Assistant Professor,  
Department of Anesthesiology SM  
M.D. Loma Linda University 1997
- VERDE, E. RAY. Associate Professor, Department of  
Psychiatry SM  
M.D. Loma Linda University SM 1988
- VERMA, ASHOK K. Associate Clinical Professor,  
Department of Medicine SM  
M.B.B.S. Medical College Patiala, India 1975
- VERMEERSCH, DAVID. Associate Professor,  
Department of Psychology ST  
Ph.D. Brigham Young University 1998
- VETSA, MADHAVI. Instructor, Department of  
Medicine SM  
M.B.B.S. Osmania Medical College, India  
2002
- VICTOR, NOEL S. Assistant Clinical Professor,  
Department of Surgery SM  
M.D. Madras Medical College, India 1989
- VILLALOBOS, RICARDO E. Assistant Professor,  
Department of Epidemiology and Biostatistics  
PH  
M.S. Universidad de Chile, Chile 1991
- VILLANUEVA, MICHAEL. Assistant Clinical  
Professor, Department of Physician Assistant  
Sciences AH  
B.A. Brandeis University 1994
- VILJOEN, JOHN F. Clinical Professor, Department of  
Anesthesiology SM  
M.D. University of Capetown, South Africa  
1958
- VINCENT, ALIX. Assistant Clinical Professor,  
Department of Radiology SM  
M.D. Loma Linda University SM 1985
- VIPOND, BERTRAND H. Assistant Clinical  
Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1982
- VLKOLINSKY, ROMAN. Instructor, Department of  
Radiation Medicine SM  
Ph.D. Slovak Academy of Sciences 1999
- VOGEL KATHERINE. Clinical Instructor,  
Department of Clinical Laboratory Science AH  
M.A. University of Redlands 1984
- VOLLMER-SANDHOLM, MARY J. Assistant  
Professor Nursing SN  
M.S.N. University of California, Los Angeles  
2000
- VOTH, MARCUS T. Assistant Professor, Department  
of Emergency Medicine SM  
M.D. Loma Linda University SM 2001
- VYHMEISTER, EDWIN E. Emeritus Associate  
Professor, Department of Surgery SM  
M.D. University of Concepcion, Chile 1963
- WACKER, CHRISTOPHER ERIC. Assistant Professor,  
Department of Pediatric Dentistry SD  
D.D.S. Loma Linda University SD 1995
- WAGNER, DAVID K. Assistant Professor,  
Department of Emergency Medicine SM  
M.D. University of Southern California 1986
- WAGNER, ROBERT J., JR. Associate Professor,  
Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1969
- WAGNER, WILLIAM. Assistant Professor,  
Department of Pathology and Human Anatomy  
SM  
M.D. Loma Linda University SM 1944
- WALL, NATHAN R. Assistant Professor, Department  
of Basic Sciences SM  
Ph.D. Wayne State University 2000

- WALLACE, G. CARLETON. Associate Clinical Professor, Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1956
- WALLAR, P. HAROLD. Associate Clinical Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1969
- WALKER, RANDALL R. Assistant Professor, Department of Counseling and Family Sciences ST  
M.S. California State University, Fullerton 1983  
M.F.T. California State University, Fullerton 1983
- WALSH, ERIC G. Assistant Professor, Department of Family Medicine SM  
M.D. University of Miami 1997
- WALTER, MICHAEL H. Associate Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1973
- WALTER, R. BRUCE. Associate Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1973
- WALTER, ROBERT D. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1999
- WALTERS, CLIFFORD A. Associate Clinical Professor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1974
- WALTERS, JAMES W. Professor, School of Religion SR  
Ph.D. Claremont Graduate School 1979
- WALTHALL, WILLIAM E. Assistant Clinical Professor, Department of Physical Therapy AH  
M.Div. Biola University, Talbot School of Theology 1983
- WANG, HANSEN S. Assistant Clinical Professor, Department of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1970
- WANG, HUGH N. Adjunct Associate Professor, Department of Restorative Dentistry SD  
D.D.S. Indiana University School of Dentistry
- WANG, JUN. Associate Professor, Department of Pathology and Human Anatomy SM  
M.D. Wannan Medical College, China 1982
- WANG, NAN. Associate Professor, Department of Cardiovascular and Thoracic Surgery SM  
M.D. Loma Linda University SM 1983
- WANG, NING. Assistant Professor, Department of Radiation Medicine SM  
Ph.D. Shanghai Institute of Optics and Fine Mechanics 1997
- WANWIMOLRUK, SOMPON. Professor, Department of Pharmaceutical Sciences SP  
Ph.D. Flinders University, South Australia 1983
- WARD, WAYNE E. Adjunct Assistant Professor, Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1990
- WARNELL, RONALD L. Associate Professor, Department of Psychiatry SM  
M.D. Loma Linda University SM 1972
- WARNER, KIM. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM  
M.D. University of California, Los Angeles 1990
- WASEMILLER, MICHAEL. Clinical Instructor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2005
- WASHKE, DEBORAH L. Assistant Professor, Department of Emergency Medicine SM and Department of Pediatrics SM  
M.D. Loma Linda University SM 2002
- WAT, BO YING. Professor, Department of Pathology and Human Anatomy SM  
M.D. College of Medical Evangelists 1948
- WAT, LINDA IRENE. Associate Professor, Department of Anesthesiology SM  
M.D. Loma Linda University SM 1982
- WAT, PAMELA J. Assistant Professor, Department of Pathology and Human Anatomy SM; Assistant Clinical Professor, Department of Clinical Laboratory Science AH  
M.D. Loma Linda University SM 1986
- WATKINS, BARRY E. Associate Professor, Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1993
- WATKINS, GREGORY EUGENE. Associate Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1987

- WATKINS, HUBERT C. Associate Clinical Professor,  
Department of Medicine SM  
M.D. Loma Linda University SM 1962
- WATTS, KYLIE J. Assistant Research Professor,  
Department of Basic Sciences SM  
Ph.D. University of Sydney, Australia 2001
- WATSON, JAMES R. Clinical Instructor, Department  
of Orthopaedic Surgery SM  
M.D. Hahnemann Medical College 1971
- WATSON, TIMOTHY D. Assistant Clinical Professor,  
Department of Pediatrics SM  
M.D. Loma Linda University SM 2000
- WAZDATSKEY, ARDIS RUSSELL. Assistant  
Professor, Department of Allied Health Studies  
AH  
M.A. La Sierra University 1998
- WEBSTER, DEBORAH LYNN. Clinical Instructor,  
Department of Dental Hygiene SD  
B.S. Ohio State University 1988
- WEHLING, MICHELLE E. Assistant Professor,  
Department of Dental Hygiene SD  
B.S. Loma Linda University 2007
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Department of Nutrition PH  
Dr.P.H. Loma Linda University PH 2002
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Department of Pharmacotherapy and Outcomes  
Science SP  
Pharm.B. University of Connecticut 1963
- WEISSMAN, ALBERT M. Assistant Professor,  
Department of Periodontics SD  
M.S. Boston University 1969  
D.D.S. Howard University 1965
- WELCH, MARK A. Instructor, Department of  
Psychiatry SM  
D.O. Western University of Health Science  
2003
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Department of Health Information Management  
AH  
J.D. University of Southern California 1965
- WELSH, DAVID B. Assistant Clinical Professor,  
Department of Surgery SM  
M.D. Tufts University 1966
- WERGEDAL, JON E. Research Professor, Department  
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Ph.D. University of Wisconsin 1963
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Medicine SM; Associate Professor, Department of  
Family Medicine SM and Department of and  
Department of Basic Sciences SM  
M.D. University of Oklahoma 1978
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Department of Ophthalmology SM  
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1973
- WEST, J. ROBERT. Assistant Clinical Professor,  
Department of Dermatology SM  
M.D. Stanford University 1955
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Department of Surgery SM  
M.D. Loma Linda University SM 1992
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Outcomes Science SP  
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College of Pharmacy 1986
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Nutrition and Dietetics AH  
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Restorative Dentistry SD  
B.D.S. University of Otago, New Zealand  
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Environmental and Occupational Health PH and  
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M.P.H. Loma Linda University PH 2004
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Psychiatry SM  
M.D. University of Kansas School of  
Medicine 2004
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Dr.P.H. Loma Linda University 2002

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M.D. Loma Linda University SM 1947
- WIETLISBACH, CHRISTINE M. Clinical Instructor, Department of Occupational Therapy AH  
M.P.A. California State University, San Bernardino 2000
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M.D. Loma Linda University SM 1999
- WILBUR, DAVID W. Associate Professor, Department of Medicine SM  
Ph.D. University of California, Berkeley 1965
- WILCOX, R. BRUCE. Professor, Department of Biochemistry and Microbiology SM  
Ph.D. University of Utah 1962
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L.D.S. Guy's Hospital at London University, England, UK 1983
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M.D. Loma Linda University SM 1970
- WILKINS, KRISTI J. Associate Professor, Department of Dental Hygiene SD  
M.A. Loma Linda University GS 1980
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Ph.D. University of Southern California 1996
- WILL, BRIAN R. Assistant Clinical Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1985
- WILLARDSSEN, JOHN E. Assistant Clinical Professor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1997
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M.P.H. Loma Linda University PH 2000  
M.D. Montemorelos University, Mexico 1990
- WILLIAMS, LINDA. Instructor, Department of Social and Administrative Sciences SP  
B.S. Loma Linda University 1971
- WILLIAMS, HYVETH B. Adjunct Assistant Professor, School of Religion SR  
D.Min. Boston University 1998
- WILLIAMS, JERRY R. Professor, Department of Radiation Medicine SM  
D.Sc. Harvard University 1972
- WILLIAMS, PATRICIA ANN. Clinical Instructor, Department of Clinical Laboratory Science AH  
B.S. Staten Island Community College 1971
- WILLIAMS, PAUL ALLEN. Research Instructor, Department of Orthopaedic Surgery SM  
M.S. Louisiana Technical University 1993
- WILMETH, ELIZABETH P. Adjunct Assistant Professor, Department of Pharmacotherapy and Outcomes Science SP  
Pharm B. University of Texas, Austin 1988
- WILSON, APRIL E. Instructor, Department of Preventive Medicine SM  
M.D. Loma Linda University SM 2006  
M.P.H. Loma Linda University PH 2004
- WILSON, COLWICK M. Professor, Department of Counseling and Family Science ST  
M.A. University of Michigan at Ann Arbor 1997
- WILSON, DELEISE S. Assistant Professor, School of Nursing SN  
M.A. Columbia University Teachers College 1994
- WILSON, DONALD R. Adjunct Assistant Professor, Department of Pathology and Human Anatomy SM  
M.D. University of Sydney, Australia 1960
- WILSON, G. GENE. Adjunct Associate Professor, Department of Dental Educational Services, SD  
D.D.S. College of Medical Evangelists 1961
- WILSON, HILARY L. Instructor, Department of Ophthalmology SM  
M.D. University of California, San Francisco 2002
- WILSON, JOHN D. Assistant Professor, Department of Family Medicine SM  
M.D. Loma Linda University SM 2000
- WILSON, SAMUEL G. Assistant Professor, Department of Emergency Medicine SM  
M.D. Loma Linda University SM 1984

- WILSON, SEAN. Assistant Professor, Department of Basic Sciences SM  
Ph.D. University of California, Davis 1998  
M.S. University of California, Davis 1993  
B.S. University of California, Davis 1989
- WINER, MYRON S. Assistant Professor, Department of Restorative Dentistry SD  
D.D.S. University of Illinois College of Dentistry 1953
- WINKLER, MICHAEL A. Assistant Clinical Professor, Department of Radiology SM  
M.D. University of Chicago 1998
- WINSLOW, BETTY J. Professor, School of Nursing SN  
Ph.D. University of Colorado Health Sciences Center 1994
- WINSLOW, GERALD R. Professor, School of Religion SR and Department of Dental Educational Services SD  
Ph.D. Graduate Theological Union 1979
- WINSTON, KAREN A. Assistant Professor, Department of Pediatrics SM  
M.D. Michigan State University 1987
- WISE, JAMES R. Associate Professor, Department of Orthodontics SD SD and Orthodontics and Dentofacial Orthopedics Program FGS  
D.D.S. Loma Linda University SD 1967
- WITHERS, SHELLY ANNE. Assistant Professor, Department of Dental Hygiene SD  
B.S. Loma Linda University SD 2000
- WITTLAKE, WILLIAM A. Associate Professor, Department of Emergency Medicine SM and Department of Pediatrics SM  
M.D. Loma Linda University SM 1976
- WOHLMUTH, CINNA T. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM  
M.D. Loma Linda University SM 1985
- WOLCOTT, DEANE L. Associate Clinical Professor, Department of Psychiatry SM  
M.D. Loma Linda University SM 1973
- WOLF, DAVID L. Associate Professor, Department of Basic Sciences SM  
D.V.M. University of California, Davis 1999  
Ph.D. Weizmann Institute of Science, Rehovot, Israel 1985
- WOLF, KATHLEEN M. Clinical Instructor, Department of Nutrition PH  
B.A. San Diego State College 1970
- WOLFE, DAVID JACK. Assistant Professor, Department of Endodontics SD  
D.D.S. University of California, Los Angeles 1979
- WOLFRAM, KLAUS D. Associate Professor, Department of Peridontics SD  
D.D.S. Loma Linda University SD 1971
- WOLFSEN, JAMES L. Assistant Clinical Professor, Department of Radiology SM  
M.D. Loma Linda University SM 1966
- WON, ESTHER U. Assistant Clinical Professor, Department of Family Medicine SM  
M.D. Loma Linda University SM 1984
- WON, JOHN B. Clinical Instructor, Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2005
- WONG, BRIAN A. Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 2002
- WONG, DAVID T. Assistant Professor, Department of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1993
- WONG, JAN H. Professor, Department of General and Trauma Surgery SM  
M.D. Rush Medical College 1974
- WONG, KELVIN L. Instructor, Department of Family Medicine SM  
M.D. University of Pittsburgh 2005
- WONG, KENNETH H. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM  
M.D. Washington University, St. Louis 1991
- WONG, RAYMOND Y. Associate Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1979
- WONG, SAMMY S. Assistant Professor, Department of Medicine SM  
M.D. Howard University 1997
- WONG, VALARIE Y. Assistant Professor, Department of Pediatrics SM  
M.D. Baylor College of Medicine 1994
- WONGWORAWAT, AMNART A. Assistant Clinical Professor, Department of Plastic and Reconstructive Surgery SM  
M.D. Loma Linda University SM 1999

- WONGWORAWAT, M. DANIEL. Associate Professor, Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1996
- WOO, MICHAEL K. Assistant Professor, Department of Medicine SM  
M.D. Albert Einstein College of Medicine 1998
- WOOD, BEVERLY PHYLLIS. Professor, Department of Radiology SM  
M.D. University of Rochester School of Medicine 1965
- WOOD, DAVID LYMAN III. Assistant Clinical Professor, Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1980
- WOOD, MICHAEL N. Assistant Clinical Professor, Department of Cardiovascular and Thoracic Surgery SM  
M.D. Loma Linda University SM 1981
- WOOD, VIRCHEL EDGAR, JR. Professor, Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1960
- WOODHOUSE, ERNEST S. Assistant Professor, Department of Emergency Medicine SM  
M.D. Loma Linda University SM 1974
- WOODS, V. DIANE. Assistant Research Professor, Department of Health Promotion and Education PH  
Dr.P.H. Loma Linda University PH 2005
- WREN, DAVID G. Instructor, Department of Health Information Management AH  
M.H.A. Loma Linda University PH 1987
- WRESCH, ROBERT R. Assistant Clinical Professor, Department of Ophthalmology SM  
M.D. Loma Linda University SM 1969
- WRIGHT, DOLORES. Associate Professor, School of Nursing SN  
D.N.Sc. Widener University 2000
- WRIGHT, EDWIN T. Emeritus Professor, Department of Medicine SM  
M.D. Loma Linda University SM 1946
- WRIGHT, KENNETH R. Associate Professor, Department of Pathology and Human Anatomy SM  
Ph.D. Loma Linda University GS 1992
- WRIGHT, LESTER N. Adjunct Associate Professor, Department of Health Administration PH  
M.P.H. Harvard University School of Public Health 1974  
M.D. Loma Linda University SM 1969
- WROE, ANDREW. Assistant Professor, Department of Radiation Medicine SM  
Ph.D. University of Wollongong, Australia 2007
- WU, PO-CHIN JOHN. Assistant Professor, Department of Anesthesiology SM  
M.D. Texas A & M College of Medicine 2002
- WU, SIDNEY S. C. Assistant Professor, Department of Pediatrics SM and Assistant Professor, Department of Medicine SM  
M.D. Loma Linda University SM 2000
- WUCHENICH, GARY T. Assistant Clinical Professor, Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1977
- WURANGIAN-CAAN, NELIA C. Associate Librarian, University Libraries  
M.L.S. University of Western Ontario, Canada 1981
- WURSTEN, APRIL. Assistant Clinical Professor, Department of Psychiatry SM  
Ph.D. University of Arizona 1986
- WYCLIFFE, N. DAN. Associate Professor, Department of Radiology SM  
M.B.B.S. Dhaka Med, Bangladesh 1972
- XIAO, DALIAO. Assistant Research Professor, Department of Basic Sciences SM  
Ph.D. Loma Linda University 2004  
M.D. Jiangxi Agricultural University 1997
- XING, WEIRONG. Assistant Research Professor, Department of Medicine SM  
Ph.D. McGill University, Quebec, Canada 2002
- XU, HELEN X. Assistant Professor, Department of Otolaryngology and Head and Neck Surgery SM  
M.S. Zhejiang University, China 1991  
M.D. Zhejiang University, China 1986
- XU, ZHICE. Associate Research Professor, Department of Basic Sciences SM  
Ph.D. University of Cambridge, England, UK 1996



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Ph.D. Claremont Graduate School 1976
- YAMADA, JASON MASAYOSHI. Assistant  
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D.D.S. University of Southern California  
1990
- YAMADA, ROBERT K. Assistant Clinical Professor,  
Department of Family Medicine SM  
M.D. University of California, San Francisco  
1985
- YAMANAKA, JEANINE N. Assistant Clinical  
Professor, Department of Ophthalmology SM  
M.D. University of California, San Francisco  
1996
- YAMANISHI, J. FRANK. Assistant Clinical Professor,  
Department of General and Trauma Surgery SM  
M.D. Loma Linda University SM 1985
- YANEZ, GLORIA. Assistant Professor, Department of  
Pediatric Dentistry SD  
D.D.S. University of Texas Health Science  
Center, San Antonio School of Dentistry  
2003
- YANG, JOANNA JIEHONG. Clinical Instructor,  
School of Nursing SN  
M.S. Loma Linda University GS 1995
- YANNI, GEORGE S. Associate Professor, Department  
of Pediatrics SM  
M.D. Ain Shams University at Cairo, Egypt  
1981
- YEE-HAMAI, KIM. Assistant Professor, Department  
of Pediatrics SM  
M.D. Jefferson Medical College 1997
- YEGGE, STEVEN R. Assistant Clinical Professor,  
Department of Orthopaedic Surgery SM  
M.D. Loma Linda University SM 1985
- YELLON, STEVEN M. Professor, Department of  
Physiology and Pharmacology SM  
Ph.D. University of Connecticut 1981
- YEO, ELIOT M. Assistant Professor, Department of  
Restorative Dentistry SD  
D.D.S. University of Missouri 1987
- YEOMAN, LELAND R. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1968
- YHIP, SHERRIE D. Assistant Professor, Department  
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M.D. Loma Linda University SM 1982
- YONG, PAMELA A. Instructor, Department of  
Nutrition and Dietetics AH  
M.P.H. Loma Linda University PH 1989
- YOON, PATRICIA S. Assistant Professor, Department  
of Ophthalmology SM  
M.D. Loma Linda University SM 1997
- YOON, STUART S. Adjunct Assistant Professor,  
Department of Dental Educational Services SD  
D.D.S. Loma Linda University SD 1998
- YORGIN, PETER D. Associate Professor, Department  
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M.D. Emory University 1983
- YOUNG, EUGENE Y. Clinical Instructor, Department  
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D.O. Western University 1994
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Physical Therapy AH  
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Republic of China 1976
- YOUNG, LIONEL W. Professor, Department of  
Radiology SM  
M.D. Howard University 1957
- YOUNG, PETER SIU-YEE. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1988
- YOUNG, RICHARD A. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 1985
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D.M.D. Fairleigh Dickinson University 1981  
B.S. University of Southern California 1977
- YOUNG, T. LORRAINE. Assistant Clinical Professor,  
Department of Psychology ST  
Ph.D. Loma Linda University GS 2003
- YOUNG, TIMOTHY P. Assistant Professor,  
Department of Emergency Medicine SM  
M.D. Loma Linda University SM 2004
- YOW, WARREN SHIUWING. Associate Professor,  
Department of Restorative Dentistry SD  
D.M.D. Washington University 1983
- YU, JACK N. Associate Professor, Department of  
Family Medicine SM  
M.D. Boston University 1984

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M.D. State University of New York at  
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M.D. Northwestern University Medical  
Center 1990
- YUKL, ANN EKROTH J. Assistant Professor of  
Nursing SN  
M.S. Loma Linda University GS 1976
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M.D. Loma Linda University SM 2000
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M.D. New York Medical College 1998
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Neurology SM  
Ph.D. University of Pennsylvania 1994
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M.S.N. Azusa Pacific University 1998
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- ZHAO, YAN S. Assistant Professor, Department of  
Medicine SM  
M.D. Beijing Medical University, China 1993
- ZHU, YONG H. Associate Research Professor,  
Department of Neurosurgery SM  
M.D. Shanghai First Medical College, China  
1969
- ZHURAVKOVA, SVETLANA. Assistant Professor,  
Department of Restorative Dentistry SD  
D.D.S. Loma Linda University SD 2008  
D.D.S. Medical Academy, Ukraine 2002
- ZILLER, STEPHANIE. Instructor, Department of  
Pharmacotherapy and Outcomes Science SP  
Pharm.D. University of Southern California  
2009
- ZIMMERMAN, GRENITH G. Professor, Department  
of Allied Health Studies AH and Department of  
Epidemiology and Biostatistics PH  
Ph.D. University of Minnesota 1970

ZIMMERMAN, KIMBERLY R. Assistant Professor,  
Department of Emergency Medicine SM and  
Department of Pediatrics SM  
M.D. Bush Medical College 1983

ZOGRAFOS, KARA N. Adjunct Assistant Professor,  
Department of Health Promotion and Education  
PH  
Dr.P.H. Loma Linda University PH 2007

ZOUROS, ALEXANDER. Associate Professor,  
Department of Neurosurgery SM  
M.D. Dalhousie University 1996

ZUCCARELLI, ANTHONY J. Professor, Department  
of Biochemistry and Microbiology SM  
Ph.D. California Institute of Technology 1974

ZUMWALT, JANICE R. Assistant Professor, School of  
Nursing SN and Assistant Professor, Department  
of Global Health PH  
M.B.A. La Sierra University 1993

ZUPPAN, CRAIG W. Professor, Department of  
Pathology and Human Anatomy SM  
M.D. Loma Linda University SM 1980



# VI

## GENERAL INFORMATION

### **University Board and Administration**

Officers of the University Board of Trustees  
University Board of Trustees  
University Administration

### **School Administrations, Committees, and Affiliations**

School of Allied Health Professions  
School of Public Health  
School of Dentistry  
School of Medicine  
School of Nursing  
School of Pharmacy  
School of Religion  
School of Science and Technology  
Faculty of Graduate Studies

### **School Alumni Associations**

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# University Board and Administration

## OFFICERS OF THE UNIVERSITY BOARD OF TRUSTEES

Lowell C. Cooper, M.Div., M.P.H. Chair  
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Marilyn M. Herrmann, Ph.D., RN	Dean	School of Nursing
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Anthony J. Zuccarelli, Ph.D.	Dean	Faculty of Graduate Studies

\*ex officio

# School Administrations, Committees, and Affiliations

## Key to Codes

AH	School of Allied Health Professions
SD	School of Dentistry
SM	School of Medicine
SN	School of Nursing
SP	School of Pharmacy
PH	School of Public Health
SR	School of Religion
ST	School of Science and Technology
FGS	Faculty of Graduate Studies

## SCHOOL OF ALLIED HEALTH PROFESSIONS

### ADMINISTRATION—AH

#### General administration

CRAIG R. JACKSON, J.D., M.S.W., Dean  
 JOYCE W. HOPP, Dean Emerita  
 IVOR C. WOODWARD, Dean Emeritus  
 EVERETT B. LOHMAN, D.Sc., Assistant Dean, Academic Affairs  
 ARTHUR W. KROETZ, Assistant Dean, Educational Support Services  
 KENT CHOW, M.B.A., Assistant Dean, Finance  
 G. CHARLES DART, Jr., M.B.A., Director, Marketing and Retention  
 KISHA NORRIS, Director, Development  
 ARDIS E. WAZDATSKY, M.A., Director, Evaluation

#### Computer services

INTITHAR S. ELIAS, M.S., Director  
 RAJAE AREE

#### Cardiopulmonary sciences

DAVID LOPEZ, Ed.D., Department Chair, Department of Cardiopulmonary Sciences  
 EHREN B. NGO, M.S. Program Director for Bachelor of Science, Emergency Medical Care  
 LINDSEY SIMPSON, B.S., Director of Clinical Education for Bachelor of Science, Emergency Medical Care Program  
 N. LENNARD SPECHT, M.D., Medical Director for Respiratory Care Program  
 DAVID M. STANTON, M.S., Program Director for Entry-Level Bachelor of Science Program and for Certificate; for Bachelor of Science, Respiratory Care; and for Certificate, Respiratory Care  
 KATE GATTUSO, B.A., Director of Clinical Education for Bachelor of Science, Respiratory Care Program

#### Clinical laboratory science

RODNEY M. ROATH, M.B.A., Department Chair  
 KATHERINE G. DAVIS, M.S., Program Director for Bachelor of Science, Clinical Laboratory Science  
 MONIQUE K. GILBERT, B.S., Clinical Coordinator for Clinical Laboratory Science Program  
 TERI J. ROSS, M.S., Program Director for Certificate, Phlebotomy  
 JAMES M. PAPPAS, M.D., Medical Director for Clinical Laboratory Science Program  
 MARLENE M. OTA, B.S., Program Director for Certificate and for Bachelor of Science, Cytotechnology  
 DARRYL G. HEUSTIS, M.D., Medical Director for Cytotechnology Program  
 PAMELA J. WAT, M.D., Medical Co-director for Cytotechnology Program

#### Communication sciences and disorders (formerly speech-language pathology and audiology)

KEIKO KHOO, M.A., M.S., Department Chair  
 PAIGE SHAUGHNESSY, Ph.D., Program Director for Master of Science and Transitional Programs  
 KAREN MAINESS, Ph.D., Program Director for Bachelor of Science  
 JENNIFER ST. CLAIR, M.S., Coordinator for Clinical Education

#### Environmental and occupational health

SETH A. WIAFE, M.P.H., Acting Chair, Department of Environmental and Occupational Health

#### Health information management

MARILYN H. DAVIDIAN, M.A., Department Chair; Program Director for Health Information Systems and for Health Information Administration  
 DEBRA HAMADA, B.S., Program Coordinator for Certificate, Coding Specialist  
 PAULINE CALLA, B.S., Recruitment Coordinator for Health Information Administration Program

**Nutrition and dietetics**

BERT C. CONNELL, Ph.D., Department Chair and Program Director for Bachelor of Science, Nutrition and Dietetics

KENNETH I. BURKE, Ph.D., Emeritus Professor

GEORGIA W. HODGKIN, Ed.D., Associate Department Chair; Program Director for Dietetic Technology

MAXINE TAYLOR, Ed.D., Academic Coordinator of Clinical Education, Nutrition and Dietetics Program

CINDY KOSCH, M.S., RD, Nutrition and Dietetics

**Occupational therapy**

LIANE H. HEWITT, Dr.P.H., OTR/L, Department Chair; Program Director for Associate in Arts, Occupational Therapy Assistant; and Program Director for Postprofessional Master of Occupational Therapy

HEATHER JAVAHERIAN, O.T.D., OTR/L, Program Director for Doctor of Occupational Therapy

JUDITH A. PALLADINO, M.A., OTR/L, Academic Coordinator for Fieldwork Education, Occupational Therapy Program

**Physical therapy**

EDD J. ASHLEY, Ed.D., Department Chair

HOWARD W. SULZLE, Ed.D., Associate Department Chair

LAWRENCE E. CHINNOCK, Ed.D., Associate Department Chair; Program Director for Entry-Level Doctor of Physical Therapy

EVERETT B. LOHMAN III, D.Sc., PT, OCS, Program Director for Postprofessional Master of Physical Therapy, Postprofessional Doctor of Physical Therapy, Postprofessional Doctor of Science, and Postprofessional Master of Science in Orthotics and Prosthetics

JEANNINE S. MENDES, M.P.T., Program Director for Associate in Science, Physical Therapist Assistant

**Entry-level doctor of physical therapy program**

CAROL J. APPLETON, M.P.H., Assistant Program Director, Physical Therapist Assistant; Academic Coordinator of Clinical Education for Physical Therapist Assistant Program, for Progression Master of Physical Therapy Program, and for Entry-Level Doctor of Physical Therapy Program

**Physician assistant sciences**

DAVID LOPEZ, Ed.D., Interim Department Chair

BENNY HAU, M.D., Medical Director for Master of Physician Assistant, Physician Assistant Sciences

ALLAN BEDASHI, M.S., Didactic Coordinator for Master of Physician Assistant, Physician Assistant Sciences

GHINA KATRIB, M.P.A, Assistant Didactic Coordinator for Master of Physician Assistant, Physician Assistant Sciences

GERALD A. GLAVAZ, M.P.A.S., Clinical Coordinator of Clinical Education for Master of Physician Assistant, Physician Assistant Sciences

YASMIN C. CHENE, M.P.A., Assistant Professor, Associate Clinical Coordinator for Master of Physician Assistant, Physician Assistant Sciences

**Radiation technology**

LAURA L. ALIPOON, Ed.D., Department Chair

RENEE STONE, M.A.M., Program Director for Bachelor of Science, Radiation Sciences

ERMA P. EZPELETA, B.S., Program Director for Certificate, Nuclear Medicine Technology

MARK J. CLEMENTS, M.A., Associate Department Chair; Program Director for Associate in Science, Medical Radiography

MICHAEL F. IORIO, M.P.A., Program Director for Radiologist Assistant Program

STEVEN L. LEBER, B.S., Clinical Coordinator for Associate in Science, Medical Radiography Program; Program Director for Certificate in CT and MRI

MARIE M. DELANGE, B.S., Clinical Program Director for Certificate, Diagnostic Medical Sonography

CAROL A. DAVIS, M.A., Clinical Program Director for Certificate, Radiation Therapy Technology; Program Director for Medical Dosimetry

GREGORY E. WATKINS, M.D., Medical Advisor for Medical Radiography Program

GLENN A. ROUSE, M.D., Medical Director for Certificate, Diagnostic Medical Sonography Program

\_\_\_\_\_, Medical Director for Certificate, Nuclear Medicine Technology Program  
TIMOTHY SEAVEY, B.S., Program Director for Imaging Informatics

JAMES M. SLATER, M.D., Medical Director for Radiation Therapy Technology Program

TERESE R. MOSLEY, B.S., Program Coordinator for Loma Linda University Programs, Fresno, California

BRENDA PFEIFFER, M.A., Assistant Program Director for Associate in Science, Medical Radiography

**Research and statistics**

GRENNITH J. ZIMMERMAN, Ph.D., Associate Dean

NOHA S. DAHER, Dr.P.H.

LEDA DE DIOS, B.S.

ARDIS E. WAZDATSKEY, M.A.



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 Charles Dart  
 Helen Martinez  
 Grenith Zimmerman  
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 Department chairs  
 Faculty Council chair

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 Charles Dart  
 Craig Jackson  
 Helen Martinez  
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 Dean, Student Affairs\*  
 Department chairs  
 Special assistant to the chancellor—diversity

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Ken Cantos  
 John Lewis  
 Terence Tay

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 Pauline Calla  
 Yasmin Chene  
 Intithar Elias  
 Erma Ezpeleta  
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Mark Clements  
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**Library and Technology Committee**

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 Katherine G. Davis  
 Marie DeLange  
 Erma Ezpeleta  
 Liane Hewitt  
 Georgia Hodgkin  
 Heather Javaherian  
 Steven Leber  
 Everett Lohman  
 David Lopez  
 Karen Mainess  
 Jeannine Mendes  
 Ehren Ngo  
 Marlene Ota  
 Teri J. Ross  
 Paige Shaugnessy  
 David Stanton  
 Renee Stone  
 Ardis Wazdatskey

**Rank and Promotion Committee**

Georgia Hodgkin, Chair  
 Edd Ashley  
 Bertrum Connell  
 Liane Hewitt  
 Patricia Jones  
 Jerrold Petrofsky  
 Paige Shaughnessy

**Research Committee**

Grenith Zimmerman, Chair  
 Edd Ashley  
 Lee Berk  
 Marilyn Davidian  
 Nicceta Davis  
 Esther Huecker  
 Mike Iorio  
 Craig Jackson\*  
 James Goss  
 Kelly Liu  
 David Lopez  
 Karen Mainess  
 Jerrold Petrofsky  
 Louise Schneider  
 Student representative  
 University advancement grant writer/researcher

**Step-Increase Committee**

Bert Connell, Chair  
 Mark Clements (alternate)  
 Arthur Marshak  
 Karen Pendleton (alternate)

**Spiritual Life and Wholeness Committee**

Ardis Wazdatskey, Chair  
 Christy Billock  
 Terry Douglas  
 Intithar Elias  
 Monique Gilbert  
 Danelle Herra  
 Craig Jackson\*  
 Ghina Katrib  
 Helen Martinez  
 Jeannine Mendes  
 Terri Rouse  
 Lindsey Simpson  
 Renee Stone  
 David Taylor (School of Religion)  
 Maxine Taylor  
 Antonio Valenzuela  
 Karen Westphal

**Technology-Media and Learning Committee**

Arthur Kroetz, Chair  
 Cerise Bender  
 Kenneth Burke  
 Kent Chow  
 Noha Daher  
 Marilyn Davidian  
 Intithar Elias  
 Liane Hewitt  
 Georgia Hodgkin  
 Martina Karunia  
 Ghina Katrib

Keiko Khoo  
 Arthur Marshak  
 Gail Rice  
 Ernie Schwab  
 Bud Spearman  
 Grenith Zimmerman

\*ex officio

**CLINICAL FACILITIES—AH**

Unless otherwise indicated, the facility is located in the state of California.

21st Century Therapy, Raytown, MO

Abbink Physical Therapy, Westraten, The Netherlands

Able Health Care Network, Tualatin, OR

ACIC/AORC Physical Therapy, Irvine

Active Physical Therapy, Bozeman, MT

Active Physical Therapy, Paradise

Active Rehab PT-Vallejo, Vallejo

Active Therapeutics, Inc., Anchorage, AK

Adams, Valerie S., M.A., OTR, Long Beach

Advanced Radiology Medical Group, Rosemead

Advance Rehabilitation & Physical Therapy, Sun City

Advanced Care Sports Rehabilitation, Anaheim

Advanced Pain Medicine & Rehabilitation, Delray Beach, FL

Advanced Physical Therapy, Rancho Cucamonga

Advantage Therapy, Loma Linda

Adventist Health, St. Helena Hospital and Health Center, Deer Park

Advance Rehabilitation and Physical Therapy, Sun City

Adventist Health System, Feather River Hospital, Paradise

Adventist Health System, Florida Hospital Waterman, Tamares/Eustis, FL

Adventist Health System, Loma Linda University Behavioral Health Center, Loma Linda

Adventist Health System, Loma Linda University Medical Center, Loma Linda

Adventist Health System, Tennessee Christian Medical Center, Madison, TN

Adventist Health System, Walla Walla, WA

Adventist Health System, San Joaquin Community Hospital, Bakersfield

Adventist HealthCare, Inc., Shady Grove Adventist Hospital, Rockville, MD

Adventist HealthCare Mid-Atlantic (Shady Grove), Rockville, MD

Adventist HealthCare, Paradise Valley Hospital, National City

Adventist HealthCare, Simi Valley Hospital, Simi Valley

Adventist HealthCare, South Coast Medical Center, Laguna Beach

Adventist HealthCare, White Memorial, Los Angeles

Adventist Health Systems, Inc., Sunbelt, Orlando, FL

Adventist Medical Center, Glendale

Adventist Medical Center, Portland, OR

Adventist Nursing Home, Livingston, NY

- Adventist Wellness Center, Guam SDA Wellness Centers Tamuning, Guam
- Advocate Schools and Group Homes, Grand Terrace
- Affiliated Health Services, Mt. Vernon, WA
- Affiliated Physical Therapy, Inc., Blue Springs, MO
- Agoura Hills Physical Therapy, Agoura Hills
- AHM CGH, Inc., Chapman Medical Center, Orange
- Aim Hi—A Division of Orthopaedic Medical Group, San Bernardino
- Akami Physical Therapy, Inc., Honolulu, HI
- Alaska Center for Children & Adults, Fairbanks, AK
- Alexandria Hospital, Alexandria, VA
- All Med Rehabilitation Center, Bronx, NY
- All Saints Saint Mary's Medical Center, Racine, WI
- All Sports Therapy Athletic Rehabilitation, Hanford
- All Star Physical Therapy, Denver, CO
- Allcare Therapy Services, Ridgecrest
- Allentown Sports Medicine and Human Performance Center, Allentown, PA
- Alliance Imaging, Anaheim
- Alliant Health Systems, dba Alliant Medical Pavilion, Louisville, KY
- Allied Services Skilled Nursing Center, Scranton, PA
- Almaden Health and Rehab Center, San Jose
- Alpine Physical Therapy and Wellness Center, Alpine
- Alpine Special Treatment Center, Alpine
- Alta Loma Medical Group, Alta Loma
- Alta Loma School District, Alta Loma
- Alternatives to Domestic Violence (ADV), Riverside
- Alvarado Hospital Medical Center and San Diego Rehab (Tenet Health System), San Diego
- Alvarado Parkway Institute, La Mesa
- Alvord School District, Riverside
- AM Health, Riverside
- American Ambulance, Fresno
- American Ambulance and American Medical Response, Riverside
- Anberry Rehabilitation Hospital, Atwater
- Anderson Baim, PT, Inc., Modesto
- Ando and Aston Physical Therapy, Anaheim Hills
- Andrews County Hospital District, Permain Regional Medical Center, Andrews, TX
- AngMo Kio Community Hospital, Singapore
- Anleiter Physical Therapy, Gilbert, AZ
- Ann Marie Stauble/San Bernardino Scottish Rite Childhood Language Center, Grand Terrace
- Annette Levy (see Orthopedic Hospital)
- Antelope Valley Hospital Medical Center, Lancaster
- Anza Nursing and Rehabilitation, El Cajon
- Apple Valley Care Center, Apple Valley
- Apple Valley Physical Therapy, Apple Valley
- Arbor Village, Fresno
- Ardmore P.T., Inc., Ardmore, OK
- Arrowback Medical Group, Colton
- Arrowhead Orthopaedic & PT, San Bernardino
- Arrowhead Regional Medical Center, Colton
- Arroyo Grande Community Hospital (Vista Hospital System, Inc.), Arroyo Grande
- Arthritis and Orthopedic Medical Center, Los Gatos
- Asante Health System, dba Three Rivers Community Hospital, Medford, OR
- Ascent Physical Therapy, Omak, WA
- Ashland Community Hospital, Ashland, OR
- Aspen Club Sports Medicine Institute (The), Aspen, CO
- Aspire Physical Therapy, San Luis Obispo
- Associated Physical and Occupational Therapy, Kenmore, NY
- Ather Sports Injury Clinic, Castro Valley
- Athletic & Industrial Rehab, Modesto
- Athletic Rehab Center, West Covina
- Athletic Training Department, University of Nebraska, Lincoln, NE
- Atiga, Jon, M.D.
- Atiga, Roland M.D.
- ATS Physical Therapy, Las Vegas, NV
- Augusta Medical Center, Fishersville, VA
- Avalon Municipal Hospital and Clinic, Avalon
- Avista Therapy Clinic, Louisville, CO
- Back and Sports Injury PT, Inc., Denver, CO
- Back on Track, Barstow Bakersfield Memorial Hospital, Catholic HealthCare West, Central California, Bakersfield
- Ballard and Associates, Raleigh, NC
- Banner Health System, Mesa, AZ
- Banner Health Systems, Phoenix, AZ
- Banning Unified School District, Banning
- Baptist Hospital Affiliate of the Voluntary Hospital, Nashville, TN
- Baptist Montclair, a division of Baptist Health Systems, Inc., Birmingham, AL
- Barton Memorial Hospital, South Lake Tahoe
- Bauer Physical Therapy, Laguna Hills
- Bay Rehabilitation, Montebello
- Bayati, Semira M.D.
- Baylor University Medical Center, Dallas, TX
- Bear and Associates, Redlands
- Bear Valley Community Healthcare, Big Bear Lake
- Beaver Medical Clinic, Inc., Redlands
- Behavioral Medicine Center, Loma Linda University, Redlands
- Bella Vista Hospital, Mayaguez, Puerto Rico
- Bellview-Redmond Physical Therapy Center, Redmond, WA
- Bertolucci Physical Therapy and Rehabilitation, Citrus Heights
- Beverly Health Care Center, Monterey
- Beverly Hospital, Montebello
- Beverly Manor Convalescent, La Mesa
- Beverly Manor Nursing & Rehabilitation, Burbank
- BHC Canyon Ridge Hospital, Inc., Chino
- BHC Fairfax Hospital, Kirkland, WA
- Black Hills Wellness Center, Hermosa, SD
- Blood Bank of San Bernardino-Riverside Counties, San Bernardino
- Blossomland Learning Center/Berrien County Intermediate School District, Berrien Springs, MI
- Blue Jay Physical Therapy, Blue Jay
- Blue Mountain Valley PT Clinic, Milton, Freewater, OR
- Bob Nye Physical Therapy, Lompoc
- Boca Raton Rehabilitation Center, Boca Raton, Florida
- Body Rx Physical Therapy, Glendale
- Boone Hospital Center, Columbia, MO
- Borden Physical Therapy, Flagstaff, AZ
- Bothwell Regional Health Center, Sedalia, MO

- Bradley, R. Ralph, M.D., Salt Lake City, UT  
Bradley Rehab Center, Cleveland, TN  
Brea Community Hospital, Brea  
Breech Medical Center, Lebanon, MO  
Brooktrails P.T., Willits  
Brotman Medical Center (Tenet Health System),  
Culver City  
Broughton Hospital, Morgantown, NC  
Bryan LGN Medical Center, Lincoln, NE  
Burbank Airport Hilton and Convention Center,  
Burbank  
Burbank Unified School District, Burbank  
Burgard Physical Therapy, Huntington Beach  
Burger Physical Therapy and Rehabilitation Agency,  
Folsom
- Cabrini Medical Center, New York, NY  
California Pacific Medical Center, San Francisco  
California Rehab Center, Camarillo  
California School for the Deaf, Riverside  
California (State of) University, Fullerton  
California (State of) Fairview Developmental Center,  
Costa Mesa  
California (University of) Irvine Medical Center,  
Orange  
California (University of) Los Angeles Hospital, Los  
Angeles  
California Therapy Solutions, Fountain Valley  
California (University of) Los Angeles  
Neuropsychiatric, Los Angeles  
California (University of) San Diego, La Jolla  
Campbell Clinic, Memphis, TN  
Canyon Lake Physical Therapy, Canyon Lake  
Cardenas & Associates, Studio City  
Caremark Kingsridge Center for Physical Therapy,  
Dayton, OH  
Caribou Physical Therapy, Sandpoint, ID  
Carillion Health Systems, Roanoke, VA  
Caring Hands Pediatric Therapy, Winston-Salem, NC  
Carle Clinic Association, Urbana, IL  
Carlsbad Physical Therapy, Carlsbad  
Carmel Orthopedics & Sport Therapy, Carmel  
Carnahan Therapy/The Work Center, Lompoc  
Carter Physical Therapy, Covina  
Casa Colina Hospital for Rehabilitative Medicine,  
Pomona  
Cascada PT & Sports, Sedro Wooley, WA  
Cascade Healthcare Community, Inc., Bend, OR  
Cass Medical Center, Harrisonville, MO  
Castle Medical Center, Kailua, HI  
Castillo, Reuben, MD, Family Practice, Perris  
Catawba Memorial Hospital, Hickory, NC  
Catholic Healthcare West, So Cal  
Catholic Healthcare West—Central California,  
Bakersfield Memorial Hospital, Bakersfield  
Catholic Healthcare West—Central California, Mercy  
Hospital—Bakersfield, Bakersfield  
Catholic Healthcare West—Glendale, Glendale  
Memorial Hospital, Glendale  
Catholic HealthCare West—Sacramento, Mercy  
Healthcare Sacramento, Sacramento  
Catholic HealthCare West—Sacramento, Mercy  
Hospital of Folsom, Sacramento
- Catholic HealthCare West—Sacramento, Methodist  
Hospital of Sacramento, Sacramento  
Catholic Healthcare West, So Cal, Northridge  
Hospital Medical Center, Northridge  
Catholic HealthCare West—San Bernardino, St.  
Bernardine Medical Center and Community  
Hospital of San Bernardino, San Bernardino  
Catholic HealthCare West—San Gabriel, San Gabriel  
Valley Medical Center, San Gabriel  
Catholic HealthCare West—Southern California  
Hospital, Methodist Hospital—So, Arcadia  
Catholic HealthCare West—Southern California,  
Northridge Hospital Medical, Northridge  
Catholic HealthCare West—Southern California, St.  
Mary Medical Center, Long Beach  
Catholic HealthCare West/St. John's Regional, St.  
John's Regional Medical Center, S.F./Oxnard  
CCS Parkard, Torrance  
Cedars Cardiovascular, Prescott, AZ  
Cedars-Sinai Medical Center, Los Angeles  
Center for Comprehensive Rehab, Tampa, FL  
Center for Developing Kids, Pasadena  
Center for Rehab Excellence, Longview, TX  
Center for Sports & Wellness, Mission Viejo  
Center for Rehabilitative Medicine Watson Clinic,  
Lakeland, FL  
Centinela Hospital Medical Center (Tenet Health  
System), Inglewood  
Central Peninsula General Hospital, Soldotna, AK  
Central Unified School District, Fresno  
Central Washington Hospital, Wenatchee, WA  
Centre for Neuro Skills, Bakersfield  
Centre for Plastic Surgery, San Bernardino  
Centro de Desarrollo y Servicios Especializados, Inc.,  
Mayaguez, Puerto Rico  
Century City Hospital, Los Angeles  
Chancellor Health Care, Santa Rosa  
Chaparral Medical Group, Pomona  
Chaparral Physical Therapy, Barstow  
Chapin Center/Genesis Rehab Services, Springfield,  
MA  
Chapman Convalescent, Riverside  
Chapman, Susan, M.D.  
Chehalis Valley PT, Chehalis, WA  
Cherry Valley Health Care, Banning  
Child Development Institute, Woodland Hills  
Child Health Disability Prevention Program, San  
Diego  
Child Nutrition Services, Norco  
Children's Center of Riverside, Riverside  
Children's Healthcare of Atlanta at Egleston, Atlanta,  
GA  
Children's Hospital Central California (formerly  
Valley Children's Hospital), Fresno  
Children's Hospital and Health Center, San Diego  
Children's Hospital of Los Angeles at USC, Los  
Angeles  
Children's Hospital of Orange County, Orange  
Children's Medical Center, Dayton, OH  
Children's Medical Services CCS—Ventura, Ventura  
Children's Mercy Hospital, Kansas City, MO  
Children's Therapy Center, Camarillo  
Children's Therapy Center, (The) Garden Grove  
Children's Therapy Center, Las Vegas

- Child's Play Physical Therapy, Anchorage, AK  
 Chino Valley Medical Center, Chino  
 Christ Hospital (The), Cincinnati, OH  
 Citrus Valley Medical Center/Queen of Angels,  
 Covina  
 City of Hope National Medical Center, Duarte  
 Cleburne PT & Fitness Center, Cleburne, TX  
 Cleveland Community Hospital, Cleveland, TN  
 Clinicas Del Camino Real, Inc., Ojai/Oxnard  
 CMPT Associates PT, Greenville, PA  
 Coast Physical Therapy, La Jolla  
 Coastal Communities Hospital (Tenet Health System),  
 Santa Ana  
 Coastal Physical Therapy, Heritage Gardens, Loma  
 Linda  
 Coastal Physical Therapy, Valley Healthcare Center,  
 San Bernardino  
 Coastal Physical Therapy, Brookings, OR  
 Coasttherapy, Huntington Beach  
 College Hospital of Costa Mesa, Costa Mesa  
 Colorado Physical Therapy Institute, Broomfield, CO  
 Colorado River Medical Center, Needles  
 Colorado Sports and Spine Center, Colorado Springs,  
 CO  
 Colton Joint Unified School District, Colton  
 Columbia Chugach PT & Health Center, Anchorage,  
 AK  
 Columbia Rehab, Longview, WA  
 Combined Therapy Specialists, Ashland, NC  
 Commonwealth Physical Therapy, Lexington, KY  
 Community Convalescent Center, Riverside  
 Community Convalescent of San Bernardino/Premier  
 Health, Orange  
 Community Health Center of King County, Kent, WA  
 Community Hospital, Santa Rosa  
 Community Hospital of Central California, Fresno  
 Community Hospital of Chula Vista, Chula Vista  
 Community Hospital of Onaga, Onaga, KS  
 Community Hospital of Los Gatos, Los Gatos  
 Community Hospital of San Bernardino, a Catholic  
 Healthcare West facility, San Bernardino  
 Community Hospitals of Central California, Fresno  
 Community Medical Center, Clovis  
 Community Medical Center, Fresno  
 Community Medical Center, Missoula, MT  
 Community Medical Group of Riverside, Riverside  
 Community Memorial Hospital of Buena Ventura,  
 Ventura  
 Community Physical Therapy, Riverside  
 Comprehensive Cancer Center, Palm Springs  
 Comprehensive PT and Aquatic Center, Victorville  
 Comprehensive PT and Sports Medicine, Coon  
 Rapids, MN  
 Comprehensive Rehabilitation, Hendersonville, TN  
 Computerized Diagnostic Imaging Center, Riverside  
 Concentra Health Services, Carrollton, TX  
 Condry, Pilar, M.D.  
 Continental Regency Rehab Hospital, San Diego  
 Contour Aesthetic Surgery Center, Upland  
 Cook Children's Medical Center, Fort Worth, TX  
 Cook County Hospital, Chicago, IL  
 Cooper Health System, Camden, NJ  
 Cooper University Hospital, Camden, NJ  
 Cooper Wellness Program, Dallas, TX  
 Cornerstone Medical Group, San Bernardino  
 Cornerstone Therapy, Huntington Beach  
 Corona/Norco Unified School District (Child  
 Nutrition Services), Norco  
 Corona Physical Therapy, Corona  
 Corona-Temecula Orthopedic Association, Corona,  
 CA  
 Cottonwood Hospital Back Institute, Murray, UT  
 Cottrell's Sports Physical Therapy, Kappa, HI  
 County of Los Angeles-Children's Medical Center, El  
 Monte  
 County of Orange Health Care Agency, Orange  
 County of Riverside Department of Public Health,  
 Riverside  
 County of San Bernardino Department of Public  
 Health, San Bernardino  
 County of San Luis Obispo CCS, San Luis Obispo  
 County of San Mateo Health Services Agency, San  
 Mateo  
 County of Ventura-California Children's Services,  
 Ventura  
 County Villa Rehabilitation Center, Los Angeles  
 Covenant Healthcare (19 sites), Milwaukee, WI  
 Cox Health Systems, Springfield, MO  
 CPC Fairfax Hospital, Kirkland, WA  
 CPC Millwood Hospital, Arlington, TX  
 CPC Sierra Vista Hospital, Sacramento  
 CPR Comprehensive Physical Rehabilitation,  
 Lakewood/Palm, CO  
 CPR Therapy Services, Lakewood, CO  
 Crawford Long Hospital, Physical Therapy, Atlanta,  
 GA  
 Crestwood Medical Center, Huntsville, AL  
 Crofts, Kimball, M.D., Linden, UT  
 Cucamonga Unified School District, Rancho  
 Cucamonga  
 Cumberland County Hospital System, Inc., Fayette,  
 NC  
 CVE, Inc., San Francisco  
 CVPH Medical Center, Plattsburg, NY  
 Cypress Gardens, Riverside  
 Dallmeyer Physical Therapy, Santa Barbara  
 Dan Wyand PT & Associates/Northeastern Vermont  
 Regional Hospital, Lyndonville, VT  
 Daughters of Charity, Seton Medical Center, Daly  
 City  
 Davis, Beverly, M.D., Long Beach  
 Davis, Karen, M.D., Long Beach  
 Davita, Inc., Torrance  
 Deaconess Rehabilitation Institute, Spokane, WA  
 DeGuzman, Rosalie, M.D., Corona  
 DeKalb Medical Center, Decatur, GA  
 Deloitte & Touche, Costa Mesa  
 Department of the Army Community Hospital, Fort  
 Benning, GA  
 Department of the Navy, Naval Medical Center, San  
 Diego  
 DePaul Medical Center, Norfolk, VA  
 Desert Family Medical Center, Palm Springs  
 Desert Knolls Convalescent, Premier Healthcare, Inc.,  
 Victorville  
 Desert Life Rehabilitation and Care Center, Tucson,  
 AZ

- Desert Medical Group, Inc., Palm Springs  
Desert Regional Medical Center (Tenet Health System), Palm Springs  
Desert Sands Unified School District, La Quinta  
Desert Springs Therapy Center, Desert Hot Springs  
Desert Valley Hospital, Victorville  
De Soto Memorial Hospital, Arcadia  
Detroit Medical Center, Detroit, MI  
Developing Aging Solutions with Heart, dba DASH, Redlands  
Developmental Pathway for Kids, Detroit, MI  
Devonshire Care Center/Locomotion Therapy, Hemet  
Dewitt Physical Therapy, Merced  
Diamondback Physical Therapy, Gilbert, AZ  
Dimensions in Food and Nutrition, Inc., Burtonsville, MD  
Doctors Hospital Medical Center, Montclair  
Doctors Hospital of Sarasota, Sarasota, FL  
Dolphin Human Therapy, Miami, FL  
Dominican Hospital, Santa Cruz  
Dos Caminos Physical Therapy and Sports Rehab, Camarillo  
Downey Regional Medical Center, Downey  
Downey Unified School District, Downey  
Drayer Physical Therapy Institute, Hummelstow, PA  
Dr. McDougall's Right Foods/Veggie Life Magazine, Concorde  
Drs. Hayashi, Sakai, and Dahms, Thousand Oaks  
Durango Sports Club PT, Durango, CO  
Dynamic Performances Therapy, Huntsville, AL  
Dynamics Spinal Cord Rehab Center, Los Angeles
- East Jefferson General Hospital, Metairie, LA  
East Pasco Medical Center, Zephyrillus, FL  
East Valley, SELPA, Colton  
Easter Seal Children's Guild Therapy Center, Salem, OR  
Easter Seal Society, Sacramento  
Easter Seal Society of Inland Counties, San Bernardino  
Easter Seals—Central California, Fresno  
Eclipse Therapies, Inc., San Rafael  
Ed Ayub Ortho and Sports, San Diego  
Egleston's Children's Hospital at Emory University, Inc., Atlanta, GA  
Eisenhower Memorial Hospital, Rancho Mirage  
El Centro Regional Medical Center, El Centro  
El Paso Physical Therapy Services, El Paso, TX  
Elite Performance, Newport Beach  
Elkin's Park Hospital (Tenet Health System) Elkin's Park, PA  
Elks Rehabilitation Hospital, Boise, ID  
Elmhurst Memorial Hospital, Elmhurst, IL  
Ember Healthcare, Pomona  
Emerald Bay Physical Therapy, South Lake Tahoe  
Emilie Gamelin Institute, Portland, OR  
England Physical Therapy, Garden Grove  
Enloe Medical Center, Chico  
Etiwanda School District, Etiwanda  
Eureka Physical Therapy, Inc., Eureka  
Evergreen Ancillary Services, LLC, Vancouver, WA  
Evergreen Hospital Medical Center, Kirkland, WA  
Excel Physical Therapy, Walla Walla, WA
- Explorabilities, Albuquerque, NM
- Fairbanks Memorial Hospital, Fairbanks, AK  
Fairview Training Center, Physical Medicine Department, Salem, OR  
Fallbrook Hospital, Fallbrook  
Fallbrook Physical & Occupational Therapy, Fallbrook  
Fayetteville Therapy Services, Fayetteville, NC  
Feather River Rehabilitation Center, Paradise  
Felder Physical Therapy, Inc., Santa Ana  
First Healthcare Corporation, Tacoma, WA  
Fit for Life, Riverside  
Fitness Center Health Park East, Brandenton, FL  
Flagstaff Medical Center and Northern Arizona Rehab Center, Flagstaff, AZ  
Flanders Physical Therapy Portland, OR  
Florida Hospital Waterman, Tamares, FL  
Focus on Health, Newport Beach  
Focus Physical Therapy, Rancho Santa Marguerita  
Fontana Family Medical Center, Fontana  
Fontana Unified School District, Fontana  
Foothills Ortho & Sports Therapy, Loveland, CO  
Foothills Provincial General Hospital, Calgary, Alberta, Canada  
Fort Sanders Regional Medical Center, Knoxville, TN  
Fortenase and Associates, Arcadia  
Fountain Valley Regional Hospital and Medical Center, Fountain Valley  
Fox Occupational Medicine Center, San Bernardino  
Franciscan Health System—West, Tacoma, WA  
Freeman Ortho and Sports Medicine Center, Joplin, MO  
Fresno Community Hospital and Medical Center, dba California Cancer Care, Fresno  
Fresno Fire Department, Fresno  
Friends of Jefferson House, Riverside  
Function Junction Rehabilitation Center, Crescent City  
Future Rehabilitation, Santa Rosa  
Futures Rehab and Heritage Healthcare, St. Helena  
Fysiocur NV, Curacao, Netherlands
- Galen of Kansas, Overland Park, KS  
Galesburg Cottage Hospital, Galesburg, Illinois  
Gambro Healthcare, San Bernardino  
Gambro Health Care, Upland  
Garfield Medical Center (Tenet Health System), Monterey Park  
Gaspar Physical Therapy, Encinitas  
Gateway Hospital & Mental Health Center, Los Angeles  
Gateway Therapy Center, Poway  
Gateways Hospital, Los Angeles  
General Hospital, Eureka  
Genesys Regional Medical Center Health Park, Grand Blanc, MI  
Gentilly Physical Therapy & Sports Rehab, New Orleans, LA  
Geri Care, Newport Beach  
Gerontic Therapy Services, Seal Beach  
Gila Regional Medical Center PT Department, Silver City, NM  
Glendale Adventist Medical Center, Glendale

- Glendale Memorial Hospital, Catholic Healthcare West, So Cal, Glendale  
 Glendale Unified School District, Glendale  
 Global Medical Center, Montclair  
 Glynn & Giordano PT, Bakersfield  
 Good Samaritan Hospital, San Jose  
 Good Samaritan Hospital and Rehabilitation Center, Puyallup, WA  
 Goodfellow Occupational Therapy, Fresno  
 Goral, William, M.D.  
 Graciela Esquivel-Aguilar, M.D., Fresno  
 Granada Hills Community Hospital, Granada Hills  
 Great Lakes Sports Medicine & Orthopaedics, Battle Creek, MI  
 Greater Victoria Hospital Society, Victoria, British Columbia, Canada  
 Green Hospital of Scripps, La Jolla  
 Gresham Sports Care PT, Gresham, OR  
 Guam Memorial Hospital, Tamuning, Guam  
 Guam SDA Wellness Center, Tamuning, Guam  
 Guardian Healthcare Group, Modesto  
 Guardian Rehabilitation Hospital, Modesto
- H & W Therapy, Pueblo, CO  
 H & W Therapy, Soldotna, AK  
 Hairston and Daley Physical Therapy, Orange  
 Hale Makua, Kahului, HI  
 Hallmark Outpatient Surgery Center, San Bernardino  
 Hallmark Rehabilitation, Foothill Ranch  
 Hamilton Physical Therapy, Hamilton, MT  
 Hand Rehabilitation Clinic, Beverly Hills  
 Hands on Hands Rehabilitation Center, Costa Mesa  
 Hanford Community Hospital, Hanford  
 Harbor View Medical Center, Seattle, WA  
 Hardee PT/Rehab Service, Inc., Wauchula, FL  
 Hawaii State Hospital, Kaneohe, Oahu, HI  
 Hawaiian Electric Company, Honolulu, HI  
 Hawaiian Rehabilitation Services, Kailua-Kona, HI  
 HCA Healthcare-Good Samaritan, San Jose  
 Health Pro Physical Therapy, Walnut Creek  
 Health Services Agency, Modesto  
 Health South Corporation, Birmingham, AL  
 Health South Corporation, Las Vegas, NV  
 Health South Rehabilitation, Willowbrook, IL  
 Health South Western Rehabilitation Institute, Sandy, UT
- Health Alliance Hospital, Leominster, MA  
 Healthcare Partners Medical Group, Torrance  
 HealthSouth Community Re-Entry Center of South Florida, Ft. Lauderdale, FL  
 HealthSouth Community Re-Entry Center of Texas, Dallas, TX  
 HealthSouth Comprehensive Rehabilitation Unit, Birmingham, AL  
 HealthSouth Corporation-multiple sites  
 HealthSouth Dallas Rehabilitation Institute, Dallas, TX  
 HealthSouth Doctor's Hospital, Coral Gables, FL  
 HealthSouth Head Injury Rehabilitation Center, St. Louis, MO  
 HealthSouth Rehabilitation Center of Tucson, Tucson, AZ  
 HealthSouth Rehabilitation Center of Van Nuys, Van Nuys
- HealthSouth Rehabilitation Corporation, dba Sea Pines, Birmingham, AL  
 HealthSouth Sub-Acute Hospital of North Houston, Conroe, TX  
 HealthSouth Sunrise Rehabilitation Hospital, Ft. Lauderdale, FL  
 HealthSouth Treasure Coast Rehabilitation Hospital, Vero Beach, FL  
 HealthSouth, Tustin Rehabilitation, Tustin  
 Healthwin Hospital-St. Clair Darden Health Systems, South Bend, IN  
 Heart Institute of the Desert, Rancho Mirage  
 Helix Healthcare, Inc, La Mesa  
 Hemet Healthcare, Hemet  
 Hemet Unified School District, Hemet  
 Hendrick Medical Center, Abilene, TX  
 Hesperia Physical Therapy, Hesperia  
 Hi Desert Medical Center, Joshua Tree  
 High Desert Physical Therapy, Victorville  
 Highland Physical Therapy, San Bernardino  
 Hillcrest Baptist Medical Center, Waco, TX  
 Hillcrest Medical Center, Tulsa, OK  
 Hillhaven-Alta Vista, Riverside  
 Hillhaven Fair Oaks, Carmichael  
 Hoag Hospital, Newport Beach  
 Hollywood Medical Center, Hollywood, FL  
 Hollywood Physical Therapy, Los Angeles  
 Holmes Regional Nursing Home, Melbourne, FL  
 Holy Family Hospital, Spokane, WA  
 Holy Rosary Medical Center, Ontario, OR  
 Horizon Physical Therapy, Redlands  
 Hospitale Maternidade de Jundiai, San Paulo, Brazil  
 Houston Rehabilitation Institution, Houston, TX  
 Howard Memorial Hospital, Willits  
 Hudson and Walker PT, Apple Valley  
 Huguley Memorial Medical Center, Ft. Worth, TX  
 Huntington Beach Hospital & Medical Center, Huntington Beach  
 Huntington Drive Skilled Nursing Center, Arcadia  
 Huntington East Valley Hospital, Glendora  
 Huntington Memorial Hospital, Pasadena  
 Huntsville Hospital (The), Huntsville, AL  
 Huntsville Pool and Land Therapy, Huntsville, AL  
 Hurley Medical Center, Flint, MI  
 Hy-Lond Convalescent, Modesto
- Idaho Physical Therapy, Nampa, ID  
 IHC Health Services/Primary Children's Medical Center, Salt Lake City, UT  
 IHC Rehab Services of St. George, St. George, UT  
 Immanuel Medical Center, Omaha, NE  
 Imperial Valley Therapy Centers, El Centro  
 In Balance, A Woman's Health & Wellness, San Juan  
 Independent PT-Torrance, Torrance  
 Indian Health, Inc., Banning  
 English & Petersen PT, Mesa, AZ  
 Inland Empire Physical Therapy, Corona  
 Inland Hand Therapy, Rancho Cucamonga  
 Inland Heart Doctors, Corona  
 Inland Mental Health Associates, Inc., Chino  
 Inland Surgery Center, Redlands  
 Inland Temporary Homes, Loma Linda  
 Inland Urgent Care, Wildomar  
 Inland Valley Regional Medical Center, Wildomar

Innovative Health Systems, Inc., Sacramento  
 Institute for Rehabilitation and Research (The),  
 Houston, TX  
 Integris Baptist Medical Center, Oklahoma City, OK  
 Intergro Rehab Services, Huntington Beach  
 Interlink Rehabilitation, Van Nuys  
 Intermountain Health Care, Orem, UT  
 Ironwood Family Practice, Coeur d'Alene, ID  
 Island Physical Therapy Center, Anacortes, WA

Jack D. Close & Associates, Las Vegas, NV  
 Jacobs, Randy, M.D.  
 Jayne Shover Easter Seal Rehabilitation Center, Elgin,  
 IL  
 Jean Hanna Clark Rehabilitation Center, Las Vegas,  
 NV  
 Jefferson County Health Department, Louisville, KY  
 Jefferson County Public Schools, Golden, CO  
 Jennie Edmundson Hospital, Council Bluffs, IA  
 J. F. Kennedy Memorial Hospital (Tenet Health  
 System), Indio  
 Jim Thorp Rehabilitation, Oklahoma City, OK  
 John Breuer Rehab Services, Coos Bay, OR  
 Johns Hopkins Hospital, Baltimore, MD  
 Joyner Sports Medicine Institute, Division of  
 Novacare, Harrisburg, PA  
 JP Therapy and Magnolia Rehabilitation and Nursing,  
 Riverside  
 JP Therapy Villa Rehab Hospital, Riverside  
 Jump Start, Colton  
 June Weinstein and Associates, Villa Park  
 Jurupa Unified School District, Riverside

Kadlec Medical Center, Richland, WA  
 Kaiser Foundation Hospital–Baldwin Park, Baldwin  
 Park  
 Kaiser Foundation Hospital–Bellflower, Bellflower  
 Kaiser Foundation Hospital–Fontana, Fontana  
 Kaiser Foundation Hospital–Los Angeles, Los  
 Angeles  
 Kaiser Foundation Hospital–Panorama City,  
 Panorama City  
 Kaiser Foundation Hospital–Riverside, Riverside  
 Kaiser Foundation Hospital–San Diego, San Diego  
 Kaiser Foundation Hospital–Woodland Hills,  
 Woodland Hills  
 Kaiser Foundation Hospitals, Honolulu, HI  
 Kaiser Permanente Hospitals and the Permanente  
 Medical Group, Oakland  
 Kaiser Permanente, Fresno Medical Center, Fresno  
 Kaiser Permanente Medical Group–North  
 Kaiser Permanente–Southern California Region,  
 Pasadena  
 Kansas Rehabilitation Hospital, Topeka, KS  
 Kaweah Delta Healthcare District, Visalia  
 Keen Medical Group, Victorville  
 Kennebec Valley Medical Center, Augusta, ME  
 Kennewick General Hospital, Kennewick, WA  
 Kensington Physical Therapy, Inc., Gaithersburg, MD  
 Kentfield Rehabilitation Hospital, Kentfield  
 Kern Radiology, Bakersfield  
 Kern Valley Health District, Mt. Mesa  
 Kettering Medical Center, Kettering, OH  
 Keystone Vocational Services, San Francisco

Kid's Care, Phoenix, AZ  
 Kimbro Medical Center, Cleburne, TX  
 Kindred Hospital, Vencor, Ontario  
 Kindred Hospital, Rehabilitation, Brea  
 Kingman Community Hospital, Kingman, KS  
 Kingston Hospital, Kingston, NY  
 Kitsap PT and Sports Clinic, Poulsbo, WA  
 Knight Physical Therapy, Garden Grove  
 Knollwood Psychiatric Center, Riverside  
 Knox Community Hospital, Mt. Vernon, OH  
 Kodiak Island Hospital and Care Center, Kodiak, AK  
 Kona Hospital, Kealahou, HI  
 Kootenai Medical Center, Coeur d'Alene, ID  
 Kornhill Physiotherapy Centre, Quarry Bay, Hong  
 Kong  
 PMG Peat Marwick, Long Beach  
 Kruppa Physical Therapy/Rimrock Villa  
 Convalescent, Barstow  
 Kyrene Elementary School District, Tempe, AZ

L & J Telesmanic & Associate (Horizon Subacute),  
 Fresno  
 La Jolla Spine and Sport, La Jolla  
 La Palma Intercommunity Hospital, La Palma  
 La Pine Physical Therapy, La Pine, OR  
 Lake Arrowhead Physical Therapy/Mountains  
 Community Hospital, Lake Arrowhead  
 Lake Centre for Rehabilitation, Leesburg, FL  
 Lake Chelan Community Hospital, Lake Chelan, WA  
 Lake Chelan Physical Therapy, Chelan, WA  
 Lake City Orthopedic & Sports Physical Therapy,  
 Coeur d'Alene, ID  
 Lake Elsinore Unified School District, Lake Elsinore  
 Lake Forest Hospital, Lake Forest, WA  
 Lakeland Regional Health System, Berrien Center, MI  
 Lakeland Regional Health System, St. Joseph, MI  
 Lancaster Community Hospital, Lancaster  
 Lanternman Developmental Center, Pomona  
 La Palma Intercommunity Hospital, La Palma  
 Las Encinitas Hospital, Pasadena  
 Las Virgenes Unified School District, Calabasas  
 LaSalle Medical Associates, San Bernardino  
 Laurie Lewis/Therapy 4 U, San Jacinto  
 Lawrence Hospital, Bronxville, NY  
 LDS Hospital Rehabilitation Center, Salt Lake City,  
 UT  
 Learning Service Corp., Gilroy  
 LeBouheur Children's Medical Center, Memphis, TN  
 Legacy Rehabilitation Services, Portland, OR  
 Lehigh Valley Physical Therapy and Rehabilitation,  
 Walnutport, PA  
 Lester E. Cox Medical Center, Springfield, MO  
 Lewis, Bower & Associates, Claremont  
 Life Care Center of Kennewick, Kennewick, WA  
 Life Care of Corona, Corona  
 Lifecare Center of Hawaii, Hilo, HI  
 Lifespan Wellness Clinic, Fullerton  
 Lifestyle Center of America, Sulphur, OK  
 Lihue PT & Sports Rehab of T.O.R.C.H., Hilo, HI  
 Lincoln Regional Center, Lincoln, NE  
 Linda Brown and Associates, Visalia  
 Linda Valley Care Center, Loma Linda  
 Locomotion Therapy, Covina



Locomotion Therapy, Inc., 3-Way Hemet  
 Convalescent, Los Angeles  
 Loma Linda Fire Department, Loma Linda  
 Loma Linda University Behavioral Medical Center,  
 Loma Linda  
 Loma Linda University Medical Center, Loma Linda  
 Long Beach Memorial Medical Center, Long Beach  
 Long Beach WIC Program, Long Beach  
 Lorien Columbia Nursing & Rehabilitation Center,  
 Columbia, MD  
 Los Alamitos Medical Center, Los Alamitos  
 Los Angeles (County of) Children's Medical Services,  
 El Monte  
 Los Angeles (County of) University of Southern  
 California Medical Center, Los Angeles  
 Los Robles Regional Medical Center, Thousand Oaks  
 Louis A. Weiss Memorial Hospital, Chicago, IL  
 Lourdes Medical Center, Pasco, WA  
 Lutheran Community Health Services, dba Lutheran  
 Rehab, Wheat Ridge, CO  
 Lutheran Social Services of Southern California,  
 Riverside  
 Lynne K. Nishikawa, M.S., Inc., Colton  
  
 Macon Health Care, Macon, MO  
 Madera Community Hospital, Madera  
 Madonna Rehabilitation Hospital, Lincoln, NE  
 Magan Clinic, Covina  
 Magic Valley Regional Medical Center, Twin Falls, ID  
 Magnolia Physical Therapy, Huntington Beach  
 Magnolia Rehabilitation & Nursery Center, Riverside  
 Magro, Joseph, Do, San Bernardino  
 Manor Care Nursing & Rehabilitation Center, Hemet  
 Manor Care Nursing Center, Palm Desert  
 Marcus Daly Memorial Hospital, Hamilton, MT  
 Marguerite Physical Therapy Clinic, Inc., Mission  
 Viejo  
 Marian Medical Center, Santa Maria  
 Mariners Rehabilitation, Costa Mesa  
 Mariposa Women's Center, Orange  
 Marshall Hospital, Placerville  
 Martin Army Community Hospital, Ft. Benning, GA  
 Martin Luther Hospital, Anaheim  
 Masada Homes, Gardena  
 Mater Misericordiae Hospital-Mercy Hospital,  
 Merced  
 Matrix, Lodi  
 Matrix-Long Beach Sports Rehab, Long Beach  
 Maywood Health Care, Oxnard  
 Meadowbrook Rehabilitation Hospital, Tulsa, OK  
 Medford Sports Injury & Therapy Center, Medford,  
 OR  
 Medical Arts Physical Therapy, Honolulu, HI  
 Medical Center of Central Massachusetts, Worcester,  
 MA  
 Meeting Street Center, East Providence, RI  
 Memorial HealthCare, Worcester, MA  
 Memorial Hospital, Chattanooga, TN  
 Memorial Hospital, Modesto  
 Memorial Hospital of Carbondale, Carbondale, IL  
 Menifee Valley Medical Center, Sun City  
 Mental Health Association of San Mateo County,  
 Redwood City  
  
 Mental Health Association of San Mateo County, San  
 Mateo  
 Mercy Air Services, Inc., Fontana  
 Mercy Air Services, Rialto  
 Mercy Cancer Center, Merced  
 Mercy Healthcare, Sacramento  
 Mercy Hospital and Health Services, Merced  
 Mercy Hospital and Medical Center, Des Moines, IO  
 Mercy Hospital and Medical Center, San Diego  
 Mercy Hospital Catholic Healthcare West, Central  
 California, Bakersfield  
 Mercy Medical Center, Nampa, ID  
 Mercy Medical Center, Redding  
 Mercy Medical Center, Roseburg, OR  
 Methodist Hospital of Southern California, Arcadia  
 Methodist Hospitals of Memphis, Memphis, TN  
 Methodist Medical Center, Jacksonville, FL  
 Metro Ortho & Sports Therapy, Silver Spring, MD  
 Michael DeVitt Physical Therapy, Boise, ID  
 Mid Coast Hospital, Brunswick, ME  
 Mid-America Rehabilitation, Overland Park, KS  
 Middle Tennessee Medical Center, Inc.,  
 Murfreesboro, TN  
 Middleton Village Nursing and Rehabilitation Center,  
 Middleton, WI  
 MidMichigan Medical Center, Midland, MI  
 MidValley Hospital, Omak, WA  
 Midwestern State University, Wichita Falls, TX  
 Mills-Peninsula Hospitals (two sites), Burlingame  
 Mills, Dan, M.D.  
 Milpitas Physical Therapy, Milpitas  
 Mintz Therapy Services, Los Olivas  
 Mission Hospital Regional Medical Center, Mission  
 Viejo  
 Mission Orthopedic Physical Therapy, Mission Viejo  
 Missouri Rehabilitation Center, Mt. Vernon, MO  
 Mobile P.E.T. Systems, Inc., San Diego  
 Modesto Back School, Modesto  
 Mohave Physical Therapy & Sports Medicine,  
 Victorville  
 Monett Physical Therapy, Monett, MO  
 Montefiore Hospital, Bronx, NY  
 Montrose Memorial Hospital, Montrose, CO  
 Moreno Valley Physical Therapy, Moreno Valley  
 Moreno Valley Unified School District, Moreno Valley  
 Morongo Basin Ambulance, Joshua Tree  
 Morrison's Healthcare Inc., Smyrna, GA  
 Morton Plant Mease Healthcare, Clear Water, FL  
 Mount Alvernia Hospital, Singapore  
 Mount San Antonio Gardens, Pomona  
 Mount Shasta Physical Therapy, Mt. Shasta  
 Mount Washington Pediatric Hospital, Baltimore, MD  
 Mountain Land Rehabilitation, Salt Lake City, UT  
 Mountain View Child Care Center, Loma Linda  
 Mountain View Physical Center, Upland  
 Mountains Community Hospital, Lake Arrowhead  
 Murietta Valley Unified School District, Murrieta  
 Muskogee Rehabilitation & Sports Medicine,  
 Muskogee, OK  
 Myers & Associates, Mammoth Lake  
 Myopoint, San Diego  
  
 Napa County Health and Human Services, Napa  
 Napa State Hospital, Napa

- Napa Valley Physical Therapy Center, Napa  
 Nashville Sports Therapy, Hermitage, TN  
 National Center for Equine-Facilitated Therapy,  
 Woodside  
 National Guard Health Affairs, Riyadh, Saudi Arabia  
 National Medical Specialty Hospital of Redding,  
 Redding  
 Neuro Sports Rehab Associates, Fremont  
 New England Rehabilitation Hospital, Inc., Danvers,  
 MA  
 New River Wellness, Christiansburg, VA  
 Newport Language-Speech Centers, Mission Viejo  
 Nordstrom Rehabilitation Services, Palo Alto  
 North Adams Regional Hospital, North Adams  
 North American Computer College, Glendale  
 North East Georgia Health System, Inc., Gainseville,  
 GA  
 North East Oregon Physical Therapy, La Grande, OR  
 North Georgia Pediatric Therapies, Ringgold, Georgia  
 North Idaho P.T., Coeur d'Alene, ID  
 North Kansas City Hospital, North Kansas City, MO  
 North River Hand Therapy Clinics, Hikson, TN  
 North Santa Rosa Physical Therapy, Santa Rosa  
 North Western Memorial Health South Sports  
 Medicine, Chicago, IL  
 Northbay Health Care Services, Fairfield  
 Northeast Community Clinic, Alhambra  
 Northeast Oklahoma Rehabilitation Hospital, Tulsa,  
 OK  
 Northern Michigan Hospital, Petosky, MI  
 Northern Star Therapy, Limited, St. Cloud, MN  
 Northridge Hospital Medical Center, Catholic  
 Healthcare West, So Cal, Northridge  
 Northwest Country Place, Inc., McMinnville, OR  
 Northwest Hospital, Seattle, WA  
 Northwest Kidney Centers, Seattle, WA  
 Northwest Physical Therapy, Bellingham, WA  
 Northwest Physical Therapy, Mt. Vernon, WA  
 Northwest Rehab Institute, Vancouver, WA  
 Northwest Therapy and Fitness, Pontiac, MI  
 Northwoods Rehab Associates/Howard Young  
 Medical Center, Woodruff, WI  
 Norton Hospitals, Inc., Louisville, KY  
 NOTAMI Hospitals of California, Inc., San Jose  
 NOVA CARE Contract Division, Genesco, IL  
 Nutrition and Lifestyle Medical Clinic, Calimesa  
 Nutrition Consultation (Margaret K. Heath), Loma  
 Linda  
 Oaks Surgical Center, Murrieta  
 Oasis Physical Therapy, Pasco, WA  
 O'Conner Hospital-Physical Medicine, San Jose  
 Occupational Therapy Training Program, Torrance  
 Oceania, Palo Alto  
 Odessa Physical Therapy, Odessa, TX  
 Ojai Unified School District, Ojai  
 Okanogan-Douglas District Hospital, Brewster, WA  
 Old Town Physical Therapy Forrest Grove, OR  
 Ontario-Montclair School District, Ontario  
 Orange County Health Care Agency, Santa Ana  
 Orange County Therapy Services, Laguna Hills  
 Orange Unified School District, Orange  
 Options, San Diego  
 Oregon Health Sciences University, Human  
 Performance Laboratory, University Hospital,  
 Portland, OR  
 Ortho Sports Physical Therapy, Mission Viejo  
 Orthopaedic and Neurological Rehabilitation, Inc.,  
 Sacramento  
 Orthopaedic Hospital, Los Angeles  
 Orthopaedic Sports, Inc., Stillwater, MN  
 Orthopedic & Sports PT, Santa Rosa  
 Orthopedic Associates, Silver Spring, MD  
 Orthopedic Hospital, Ltd., Houston, TX  
 Orthopedic Physical Therapy Institute, Riverside  
 Orthopedic Surgery and Sports Medicine Physical, La  
 Habra  
 Osteopathic Medical Center of Texas, Ft. Worth, TX  
 OT for Kids, Belmont  
 Our Lady of Victory Home of Charity-Baker Victory  
 Services, Buffalo, NV  
 Outback Physiotherapy, Redlands  
 Outreach Therapy Consultants, Spokane, WA  
 P.O.S.T. Rehabilitation Clinic, Moreno Valley  
 PACE Therapy-Christian Heritage, Upland  
 PACE Therapy-Claremont Care Center, Pomona  
 PACE Therapy, Inc.-Heritage Garden, Loma Linda  
 PACE Therapy-Las Villas Del Norte Health  
 Professions, Escondido  
 PACE Therapy-Parkmont Care Center, Paramount  
 PACE Therapy-Rancho Encinitas, Encinitas  
 PACE Therapy-Vista Del Mar, Vista  
 PACE Therapy-Western Care Center, Pomona  
 Pacific Care Insurance Company, Cypress  
 Pacific Coast Healthcare, Encino  
 Pacific Gardens, Fresno  
 Pacific Health Education Center, Bakersfield  
 Pacific Physical Therapy, Monterey  
 Pacific Southwest Therapies, Inc., Las Vegas, NV  
 Pacific Therapies, Inc., Huntington Beach  
 Pain Management Clinic of Hawaii, Inc., Honolulu,  
 HI  
 Paliwal, Yogesh, M.D., Pomona  
 Palm Beach Medical Center, Palm Beach, FL  
 Palm Beach Medical Center, West Palm Beach, FL  
 Palm Springs Health Care, Palm Springs  
 Palm Springs Unified School District, Palm Springs  
 Palomar Pomerado Health System, San Diego  
 Paradise Valley Hospital SouthBay Rehab Center,  
 National City  
 Park Manor Rehabilitation Center, Walla Walla, WA  
 Parkridge Centre, Saskatoon, Canada  
 Parkridge Hospital, Fletcher, NC  
 Parkview Community Hospital (Soderno Marriot),  
 Riverside  
 Parkview Episcopal Medical Center, Pueblo, CO  
 Parkview Memorial Hospital, Brunswick, ME  
 Partners in Therapy, LLP, Ft. Worth, TX  
 Pasadena Department of Health WIC Program,  
 Pasadena  
 Pasadena Rehabilitation Institute, Pasadena  
 Pass Physical Therapy, Beaumont  
 Paul Chang's Rehabilitation Services, Blue Springs,  
 MO  
 Peace Arch Hospital, White Rock, British Columbia,  
 Canada

- PeaceHealth, Eugene, OR  
 Peachwood PT Sports and Spine Center, Glendora  
 Peak Performance, Chino  
 Pediatric Building Blocks, San Ramon  
 Pediatric Intervention Inc., San Jose  
 Pediatric Therapy Associates, Shrewsbury, MA  
 Pediatric Therapy Association, Plantation, FL  
 Performance Physical Therapy, Orem, UT  
 Performax PT, Littleton, CO  
 Perspective Therapy, Oceanside  
 Permian Regional Medical Center, Andrews, TX  
 Phoenix Memorial Hospital and NOVACARE,  
 Phoenix, AZ  
 PhyCor, Inc., Honolulu, HI  
 Physical Rehabilitation Center of Orange,  
 Westminster  
 Physical Therapy & Sports Rehabilitation Services,  
 Sunnyside, WA  
 Physical Therapy Associates, Worcester, MA  
 Physical Therapy Center, Rialto  
 Physical Therapy Clinic, Inc. (The), Citrus Heights  
 Physical Therapy Institute, Inc., Poway  
 Physical Therapy, Northwest, Salem, OR  
 Physical Therapy Services, Tyler, TX  
 Physical Therapy Specialists, Louisville, KY  
 Physical Therapy Sports Institute, Hemet  
 Physiotherapy Associates, Madison, TN  
 Physiotherapy Associates, Glen Burnie, MD  
 Physiotherapy Associates, Holland, MI  
 Physiotherapy Associates, Madison, TN  
 Physiotherapy Associates—Corporate Office,  
 Memphis, TN  
 Physiotherapy Associates—Northside, San Diego  
 Pinecrest Rehabilitation Hospital, (Tenet Health  
 System), Delray Beach, FL  
 Pinnacle Rehabilitation, Nashville, TN  
 Pioneer Valley Hospital, West Valley City, UT  
 Pioneers Memorial Hospital, Brawley  
 Pisgah PT & Sports Rehabilitation, Hendersonville,  
 NC  
 Pleasant Valley School District, Pleasant Valley  
 Point West Physical Therapy, Santa Rosa  
 Pollock Physical Therapy, Upland  
 Pomona Unified School District, Pomona  
 Pomona Valley Hospital, Pomona  
 Portals, Los Angeles Portercare Memorial Hospital,  
 Denver, CO  
 Portland VA Medical Center, Portland, OR  
 PPTS of Blythe, Blythe  
 Premier Healthcare, Orange  
 Premier Healthcare, San Bernardino  
 Premier Healthcare, Victorville  
 Premier Healthcare, Whittier  
 Premier Healthcare, Inc., Orange  
 Presbyterian Intercommunity Hospital, Whittier  
 Priority Rehabilitation, San Bernardino  
 Pro Rehab, St. Louis, MO  
 ProCare Physical Therapy, Redlands  
 Professional Orthopedic & Sports Care, Fontana  
 Professional Physical Therapy Association, Whittier  
 Professional Physical Therapy Services, Anchorage,  
 AK  
 Professional Therapy Associates, Inc., Strongsville,  
 OH
- Professional Therapy Systems, Chattanooga, TN  
 Progressive Rehabilitation Options, Minneapolis, MN  
 Progressive Therapy, Columbia, SC  
 Pro-Health Rehab and Sports Medicine, Lawndale  
 Providence Alaska Medical Center, Anchorage, AK  
 Providence Centralia Hospital, Centralia, WA  
 Providence Health Systems, Everett, WA  
 Providence Health Systems Southern California,  
 Burbank  
 Providence Health Systems, Los Angeles  
 Providence Health Systems Regional Rehabilitation,  
 Portland, OR  
 Providence Hospital—Chehalis and Black Hills PT,  
 Chehalis, WA  
 Providence Seattle Medical Center, Seattle, WA  
 Providence Speech & Hearing Center, Orange  
 Providence St. Peter Hospital, Olympia, WA  
 Provider Health Services & Good Samaritan,  
 Addison, TX  
 Public Health Foundation WIC Program, Irwindale
- QuadraMed, Seal Beach  
 Queen of Angels-Hollywood Presbyterian Medical  
 Center, Los Angeles  
 Queen of the Valley Hospital-Napa, Napa  
 Queen's Medical Center, Honolulu, HI
- R. J. Therapy, Long Beach  
 Radiation Therapy Medical Group, Riverside  
 Redlands Community Hospital, Redlands  
 Ralph K. Davies Medical Center, San Francisco  
 Ramona Physical Therapy, Ramona  
 Rancho Physical Therapy, Murrietta  
 Ranier Vista Care Center, Puyallup, WA  
 Rasco and Associates, Blue Jay  
 RCI Image Systems, El Segundo  
 Reading Rehabilitation Hospital, Reading, PA  
 Rebound Orthopedic & Sports Medicine, Portland,  
 OR  
 Rebound Physical Therapy, Bend, OR  
 Reche Canyon Convalescent, Colton  
 Redding Medical Center, Inc., Redding  
 Redding Physical Therapy, Redding  
 Redhawk Physical Therapy, Redding  
 Redington Fairview General Hospital, Skowhegan,  
 ME  
 Redlands Community Hospital, Redlands  
 Redlands Ortho & Sports Clinic, Redlands  
 Redlands Unified School District, Redlands  
 Redlands Yucaipa Guidance Clinic Association,  
 Redlands  
 Regency Care Center, Spokane, WA  
 Regency Care Center at Walla Walla, Walla Walla,  
 WA  
 Regional Medical Center of Orangeburg and Calhoun,  
 Orangeburg, SC  
 Rehab Associates, LLC, Hermiston, OR  
 Rehab Hospital of the Pacific, Honolulu, HI  
 Rehab Plus, Placentia  
 Rehab Specialists, Inc., Portland, OR  
 Rehab Visions, Omaha, NE  
 Rehabaccess, Decatur, AL  
 Rehabilitation and Sport Medicine Center,  
 Bradentown, FL

- Rehabilitation Dynamics, Inc., New Florence, MO  
 Rehabilitation Hospital of Nevada, Las Vegas, NV  
 Rehabilitation Hospital of Nevada, Reno, NV  
 Rehabilitation Hospital of the Pacific, Honolulu, HI  
 Rehabilitation Institute at Santa Barbara (The), Santa Barbara  
 Rehabilitation Institute of Chicago, Chicago, IL  
 Rehabilitation Institute of Orange, Santa Ana  
 Rehabilitation Institute of Santa Barbara, Santa Barbara  
 Rehabilitation Network, Salem, OR  
 Rehabilitation Providers, Monterey  
 Rehabilitation Services of Columbus, Inc., Columbus, GA  
 Rehabilitation Technology Works, San Bernardino  
 Rehability, Smyrna, TN  
 Reability Center, Harlingen, TX  
 Reability Corporation, Wharton, TX  
 Rehabnet, Inc., Tustin  
 Restorative Care Center, Seattle, WA  
 Results Rehabilitation, Inc., Coronado  
 Return to Work Center, North Quincy, MA  
 Reuben Carlos Castillo, M.D., Perris  
 Reykjavik Hospital, Iceland  
 Rialto Unified School District, Rialto  
 Richards HealthCare, Inc., Houston, TX  
 Ridgecrest Community Hospital, Ridgecrest  
 Ridgecrest Physical Therapy, Ridgecrest  
 Riverside Community Hospital, Riverside  
 Riverside County Department of Public Health, Riverside  
 Riverside County Office on Aging, Riverside  
 Riverside County Regional Medical Center, Moreno Valley  
 Riverside Physical Therapy Center, Riverside  
 Riverside Unified School District, Riverside  
 Robert F. Kennedy Medical Center, Hawthorne  
 Robert H. Ballard Rehabilitation Hospital, San Bernardino  
 Robert J. Yahne Physical Therapy Corp., Hanford  
 Robert Packer Hospital, Sayre, PA  
 Robin Irwin Physical Therapy Services, Decatur, AL  
 Rockwood Ortho and Sports PT, Portland, OR  
 Rogue Valley Manor, Medford, OR  
 Rosemary Johnson and Associates, Monrovia  
 Rosenberry PT Center for Sports Medicine and Spine, Solvang  
 Rusk Rehabilitation Center, Columbia, MO
- S.C.O.R.E., Tucson, Arizona  
 Saddleback Memorial Medical Center, Laguna Hills  
 Saddleback Unified School District, Moreno Valley  
 Saguario Pediatrics, Phoenix, AZ  
 Saini, Surinder, M.D., Fountain Valley  
 Salinas Valley Memorial Healthcare System, Salinas  
 Salinas Valley Memorial Medical Center, Salinas  
 Salle, Nadine, M.D., Honolulu, HI  
 Salt Lake City County Health Department, Salt Lake City, UT  
 Samaritan Health Services, Inc., Corvallis, OR  
 Samaritan Health System, Mesa, AZ  
 San Antonio Community Hospital, Upland  
 San Antonio Urology Medical Group, Inc., Upland  
 San Bernardino City Fire Department, San Bernardino
- San Bernardino City Unified School District, San Bernardino  
 San Bernardino County Medical Center, San Bernardino  
 San Bernardino (County of) Mental Health Department, San Bernardino  
 San Bernardino (County of) Office of Aging, San Bernardino  
 San Bernardino County Preschool Services Department, San Bernardino  
 San Bernardino (County of) Public Health Department, San Bernardino  
 San Bernardino (County of) Superintendent of Schools, Colton  
 San Diego (County of) California Children's Services, San Diego  
 San Diego Hospital Association, San Diego  
 San Gabriel Valley Medical Center, San Gabriel  
 San Gorgonio Memorial Hospital, Banning  
 San Joaquin Community Hospital (an Adventist Hospital), Bakersfield  
 San Joaquin General Hospital, Stockton  
 San Joaquin Valley Rehabilitation Hospital, Fresno  
 San Jose Medical Center, San Jose  
 San Pedro Peninsula Hospital, San Pedro  
 Sanchez, Elias, M.D., Riverside  
 Santa Ana Tustin Physical Therapy, Santa Ana  
 Santa Barbara County California Children's Center, Santa Barbara  
 Santa Monica Orthopedic Sports Medical Group, Santa Monica  
 Scottish Rite Children's Healthcare, Atlanta, GA  
 Scripps Clinic Wellness Program, La Jolla  
 Scripps Health Ornish Program, La Jolla  
 Scripps Memorial Hospital, Chula Vista  
 Scripps Memorial Hospital, Encinitas  
 Scripps Memorial Hospital, La Jolla  
 Scripps Memorial Hospital, San Diego  
 Scripps Mercy Hospital, San Diego  
 Seattle-King County Department of Public Health, Seattle, WA  
 Seattle Medical and Rehabilitation Center, Seattle, WA  
 Seattle Physical Therapy, Seattle, WA  
 Select Therapy, Inc., & Corona Meadows, Irvine  
 Sentara Bayside Hospital, Virginia Beach, VA  
 Sequoia Regional Cancer Center, Visalia  
 Seton Medical Center, Daly City  
 Shady Grove Adventist Hospital, Rockville, MD  
 Shady Grove Center for Sports Medicine & Rehabilitation, Rockville, MD  
 Shapewell, Inc., Palm Desert  
 Sharp Cabrillo Hospital, San Diego  
 Sharp Chula Vista Medical Center, San Diego  
 Sharp Coronado Hospital & Healthcare Center, San Diego  
 Sharp Grossmont Hospital, San Diego  
 Sharp Healthcare, Hospital Association, San Diego  
 Sharp Home Care, San Diego  
 Shawnee Mission Medical Center, Shawnee Mission, KS  
 Shea Health Center, San Bernardino  
 Shelley Cooper Physical Therapy, Palm Desert  
 Shoroye, Adeyinka, M.D., Pediatrics, Riverside

- Shriners Hospital for Children, Los Angeles  
 Shriners Hospital for Crippled Children, Lexington, KY  
 Shriners Hospital for Crippled Children, Northern California, Sacramento  
 Sierra Ortho & Athletic Rehabilitation, Diamond Springs  
 Sierra Pediatric Clinic, Roseville  
 Silverlake Youth Services, Yucaipa  
 Simi Valley Adventist Hospital, Simi Valley  
 Simonean Pediatric Center for Child Development, San Jose  
 Siskin Hospital for Physical Rehabilitation, Chattanooga, TN  
 Sisters of Providence in California, Burbank  
 Sisters of Providence in Washington, Olympia, WA  
 Sisters of Saint Joseph of Orange Corp., Mission Viejo  
 Sky Life Ambulance, Fresno  
 SO CA Center for Sports Medicine, Long Beach  
 Sodexo Health Care Services at Desert Regional, Palm Springs  
 Sodexo Health Care Services at Good Samaritan, Los Angeles  
 Soepronon, Fred, M.D., Loma Linda  
 Sonoma Valley Hospital, Sonoma  
 Sonora Community Hospital, Sonora  
 Sonora Physical Therapy Center, Sonora  
 South Bay Spine and Physical Therapy, Torrance  
 South Coast Medical Center, Laguna Beach  
 South County Orthopedic Specialists, Laguna Hills  
 South Haven Community Hospital, South Haven, MI  
 South Pacific Rehab Services, Encino  
 South Peninsula Hospital Homer, AK  
 South Umpqua Physical Therapy, Roseburg, OR  
 South Walton Physical Therapy & Rehabilitation, Santa Rosa Beach, FL  
 Southcentral Counseling Center Anchorage, AK  
 Southeast Rehabilitation Hospital, Dothan, AL  
 Southern Hills Medical Center, Nashville, TN  
 Southern Utah Physical Therapy, Cedar City, UT  
 Southhill Physical Therapy/Sports Rehabilitation, Spokane, WA  
 Southside Regional Medical Center, Petersburg, VA  
 Southside Rehab Services, Colonial Heights, VA  
 Southwest Palm Control & Sports Therapy, Palm Desert  
 Southwest Physical Therapy, Littleton, CO  
 Southwest Texas Methodist Hospital, San Antonio, TX  
 Speech and Language Development Center, La Mirada  
 Special Kids, Murfreesboro, TN  
 Specialized PT Center, Orange City, FL  
 Specialty Hospital of Southern California, La Mirada  
 Spectrum Health East Campus, Grand Rapids, MI  
 Spectrum MRI Imaging Center, Chino  
 Speech and Language Development Center, Buena Park  
 Spine & Sports Medicine Institute, Concord  
 Spooner Physical Therapy, Scottsdale, AZ  
 Sport and Spine Physical Therapy, San Bernardino  
 Sports & Orthopedic Physical Therapy, Inc., Minneapolis, MN  
 Sports & Orthopedic Therapy Services, Silver Spring, MD  
 Sports Care of San Francisco Physical Therapy, San Francisco  
 Sports Fit P.T., San Ramon  
 Sports Medicine and Ortho Rehab Center, Vienna, VA  
 Sports Medicine Giant, Columbus, OH  
 Sports Medicine Hawaii Ltd., Honolulu, HI  
 Sports Medicine Institute, Orange  
 Sports Medicine Institute of Sinai Samaritan Medical Center, Mequon, WI  
 Sports Orthopedics and Rehabilitation, Tamuning, Guam  
 Sports Performance, Pleasant Springdale Village, Mesa, AZ  
 Square One Rehabilitation, Kansas City, KS  
 SSM Health Care of Oklahoma, OK  
 St. Agnes Cancer Center, Fresno  
 St. Alexis Hospital and Medical Center, Cleveland, OH  
 St. Alphonsus Regional Medical Center, Boise, ID  
 St. Anthony Hospital, Oklahoma City, OK  
 St. Bernardine Medical Center/Community Hospital, San Bernardino  
 St. Charles Hospital, Port Jefferson, NY  
 St. Charles Medical Center, Bend, OR  
 St. Elizabeth Community Health Center, Lincoln, NE  
 St. Francis Healthcare Network, Honolulu, HI  
 St. Francis Medical Center, Lynwood  
 St. Francis Medical Center-West, Ewa Beach, HI  
 St. George Care & Rehab Center, St. George, UT  
 St. George Physical Therapy, Charlotte, NC  
 St. Helena Hospital and Health Center—an Adventist Hospital, Deer Park  
 St. John's Health System, Lebanon, MO  
 St. John's Hospital & Health Center, Santa Monica  
 St. John's Medical Center, Tulsa, OK  
 St. John's Mercy Hospital, Washington, MO  
 St. John's Regional Medical Center, Oxnard  
 St. Joseph Health System, Eureka  
 St. Joseph Health Systems, Santa Rosa  
 St. Joseph Hospital, Lexington, KY  
 St. Joseph Hospital of Orange, Orange  
 St. Joseph Medical Center, Burbank  
 St. Joseph Regional Medical Center, Lewiston, ID  
 St. Joseph's Hospital of Atlanta, Atlanta, GA  
 St. Joseph's Medical Center of Stockton, Stockton  
 St. Jude Medical Center, Fullerton  
 St. Louis Health Care Network, St. Louis, MO  
 St. Luke's Hospital, Kansas City, MO  
 St. Luke's Hospital, Phoenix, AZ  
 St. Luke's Rehabilitation Institute, Spokane, WA  
 St. Mary Medical Center, Apple Valley  
 St. Mary Medical Center, Catholic Healthcare West, So Cal, Long Beach  
 St. Mary Medical Center and Turning Point Rehab, Walla Walla, WA  
 St. Mary Regional Medical Center, Apple Valley  
 St. Patrick Hospital, Missoula, MT  
 St. Rose Hospital, Hayward  
 St. Vincent Information Medical Center, Little Rock, AR  
 Stanford Hospitals & Clinics, Stanford  
 Star Rehabilitation, Corona

- State of Alaska, Department of Health and Social Services, Division of Public Health, Anchorage, AK
- Stein Education Center, San Diego
- Stevens Memorial Hospital, Edmond, WA
- Stewart Rehabilitation Center, McKay Dee Hospital, Ogden, UT
- Storm Physical Therapy, Medford, OR
- Strategic Health Services, Riverside
- Straub Clinics Hospital, Lihue, HI
- Summit Medical Center, Hermitage, TN
- Summit Physical Therapy, Claremore, OK
- Sun City Cancer Care Center, Sun City
- Sun Health Corporation/Sundance, San Diego
- Sun Healthcare Group, Fresno
- Sunbelt East/Rehab Works, Orlando, FL
- Sunbelt Therapy Management Services, Ocean Springs, MS
- Sunbelt Therapy Management Services, Decatur, AL
- Sundance Corp/Sun Health Care Group, Carlsbad
- Sundance Rehab Corporation, Walla Walla, WA
- Sundance Rehabilitation, Seattle, WA
- SunDance Rehabilitation Corp., Concord
- Sundance Rehabilitation Corporation, Houston, TX
- Sunplus Home Health Services, Upland
- Sunrise Hospital and Medical Center Therapy Management, Las Vegas, NV
- Susan Jane Smyth, Eureka
- Sutter Auburn Faith Community Hospital, Auburn
- Sutter Davis Hospital, Davis
- Sutter Health Central, Sacramento
- Sutter Merced Medical Center, Merced
- Sutter Roseville Medical Center, Roseville
- Swanson Sports Training & PT, Franklin, TN
- Swedish Covenant Hospital, Chicago, IL
- Symphony Rehab Services, Inc., & Christian Heritage, Upland
- Symphony Rehabilitation Services–Willow Care Center, Hannibal, MO
- Symphony Rehabilitation, Inc., & Center Health Care, Colton
- Syncor International Corporation, Woodland Hills
- Tahlequah City Hospital, Tahlequah, OK
- Tarzana Regional Medical Center, Tarzana
- Team Physical Therapy, Alta Loma
- Team Physical Therapy, Auburn
- Telecare Corporation, Santa Maria
- Tenet California Health System, Santa Ana
- Tenet California HealthSystem, Whittier Hospital Medical Center, Whittier
- Tenet Healthcare Corporation, Daniel Freeman Memorial Hospital, Inglewood
- Tenet Healthcare Corporation, Garfield Medical Center, Monterey Park
- Tenet HealthSystem, Alvarado HMC & San Diego, San Diego
- Tenet Health System, Brotman Medical Center, Culver City
- Tenet Health System, Coastal Communities Hospital, Santa Ana
- Tenet Health System Desert, Inc., Desert Regional Medical Center, Palm Springs
- Tenet Health System, Doctors Medical Center of Modesto, Modesto
- Tenet Health System, Elkins Park Hospital, Elkins Park
- Tenet Health System, J. F. Kennedy Memorial Hospital, Indio
- Tenet Health System, Pinecrest Rehabilitation Hospital, Delray Beach
- Tenet Health System Hospitals, Inc., Monterey Park Hospital, Monterey Park
- Tenet Health System Hospitals, Inc., USC University Hospital, Los Angeles
- Tenet Health Systems, AQ, Inc., Queen of Angels–Hollywood Presbyterian Hospital, Los Angeles
- Tenet Western Division, Centinela Hospital Medical Center, Inglewood
- Tennessee Christian Medical Center—an Adventist healthcare facility, Madison, TN
- Terrebonne General Hospital, Houma, LA
- Thera TX & Lake Forest Nursing Home, Lake Forest
- Therapy Center (The), Knoxville, TN
- Therapy in Action, Tarzana
- Therapy Source PA, Boise, ID
- Therapy Specialists, San Diego
- Therasport North West, Spokane, WA
- Theratx, San Diego
- Think Physical Therapy, Santa Ana
- Thompson Physical Therapy Associates, Inc., Yuba City
- Three Rivers Area Hospital, Three Rivers, MI
- Tokos Medical Corporation, Santa Ana
- Torrance Memorial Hospital Medical Center, Torrance
- Totally Kids Speciality Healthcare, Loma Linda
- Total Fitness Physical Therapy, Honolulu, HI
- Total Rehab Care, Fullerton
- Total Rehabilitation and Conditioning, Anaheim
- Totally Kids Specialty Healthcare, Loma Linda
- Tri-Cities Physical Therapy, Kennewick, WA
- Tri-City Medical Center, Oceanside
- Tri-City Mental Health, Pomona
- Tripler Army Medical Center, Honolulu, HI
- Tuality Community Hospital, Hillsboro, OR
- Tulare District Hospital, Tulare
- Tuomey Regional Medical Center, Sumter, SC
- Turner, Natalie, Fresno
- Tustin Rehab Hospital, Tustin
- UCSF Stanford Health Services, Stanford
- UMass Memorial Hospital, Leominster, MA
- Unilab, Riverside
- United Cerebral Palsy Association of Central Arizona, Phoenix, AZ
- United Cerebral Palsy, Dallas, TX
- United Therapy Network, Inc., Colton
- Universal Health Systems, Murietta
- Universal Health Systems, Rancho Springs
- Universidad de Montemorelos, Nuevo Leon, Mexico
- University Hospital, Denver, CO
- University Medical Center, Fresno
- University Medical Center of Southern Nevada, Las Vegas
- University of California–Davis Medical Center, Davis
- University of California–Irvine, Irvine

- University of California–Los Angeles, Los Angeles  
 University of California Medical Center, Los Angeles  
 University of California, San Diego Medical Center,  
 San Diego  
 University of California-Stanford Hospital, Stanford  
 University of Connecticut Health Center, Farmington,  
 CT  
 University of Kentucky Metabolic Research Group,  
 Lexington, KY  
 Upper Valley Medical Center, Troy, OH  
 US Health Work Medical Group, Ontario  
 US Spine & Sport, San Diego  
 USC University Hospitals (Tenet Health System), Los  
 Angeles  
 Utah Valley Regional Medical Center, Provo, UT  
  
 Val Verde Unified School District, Perris  
 Valley Children's Hospital, Fresno  
 Valley Health Systems, dba Hemet Valley Hospital,  
 Hemet  
 Valley Medical Center, Renton, WA  
 Valley Physical Therapy, Alamosa, CO  
 Valley Physical Therapy and Rehabilitation, Yakima,  
 WA  
 Valley PT, Walla Walla, WA  
 Valley View Sports Medicine & Rehabilitation, Cedar  
 City, UT  
 Vancouver Children's Therapy Center, Vancouver,  
 WA  
 Vanderbilt Sports Medicine Center, Nashville, TN  
 Vanderbilt University, Nashville, TN  
 Vartabedian & Associates Designs for Wellness, Loma  
 Linda  
 Vegetarian Institute of Nutrition & Culinary Art,  
 Columbia, MD  
 Vencor-Hillhaven Corporation, Concord  
 Vencor, Inc., Puyallup, WA  
 Vencore Hospital–Ontario, Ontario  
 Ventura County Public Health, Ventura  
 Veranda Nursing & Rehab Center, Orlando, FL  
 Veritas Health Services, Inc., Chino  
 Veterans Administration Hospital–San Diego, San  
 Diego  
 Veterans Administration Medical Center, Lexington,  
 KY  
 Veterans Administration Medical Center–Long Beach,  
 Long Beach  
 Veteran Administration Medical Center, Portland, OR  
 Veterans Administration Medical Center, Salt Lake  
 City, UT  
 Veterans Administration Northern Indiana Health  
 Care, Fort Wayne, IN  
 Veterans Affairs, Palo Alto Health Care System, Palo  
 Alto  
 Veterans Affairs Medical Center, Fresno  
 Veterans Affairs Medical Center, Phoenix  
 Veterans Medical Center, Jerry L. Pettis Memorial,  
 Loma Linda  
 Victor Valley Community Hospital, Victorville  
 Virginia Baptist Hospital, Lynchburg, VA  
  
 Virginia Mason Medical Center, Seattle, WA  
 Virginia Rehab, Staunton, VA  
 Vista Hospital Systems, Inc., Arroyo Grande  
 Vitas Healthcare Corp., San Bernardino  
 VNA-Ramona, Sun City  
 Volunteer Center, Santa Cruz  
  
 Wahiawa General Hospital, Honolulu, HI  
 Walker Physical Therapy, Sun City  
 Walters Physical Therapy, Claremont  
 Warburton Hospital, Warburton, Victoria, Australia  
 Washington Hospital Center, Washington, DC  
 Washington Physical Therapy, Pasco, WA  
 Waterman Physical Therapy Services, San Bernardino  
 Way Station, Inc., Frederick, MD  
 Wayne L. Shelton, PT, Spanish Fork, UT  
 Weed Army Community Hospital, Ft. Irwin  
 Well Tone Aquatics & Physical Therapy Centers,  
 Riverside  
 Wellmont Health System, Bristol, TN  
 Wellton Health Systems, Bristol, TN  
 Wesley Woods Geriatric Hospital, Atlanta, GA  
 West Allis Memorial Hospital, Peak Performance  
 Clinic, West Allis, WI  
 West Anaheim Extended Care, Anaheim  
 West Coast Spine Restoration Center, Riverside  
 West Covina PET Medical Center, West Covina  
 West Dermatology Medical Group, Redlands  
 West Gate Convalescent Center, San Jose  
 West Tennessee Rehabilitation Center, Jackson, TN  
 Western Medical Center–Santa Ana, Santa Ana  
 Westlake Physical Therapy, Westlake Village  
 Westminster Therapeutic Residential, Westminster  
 Western Medical Center Hospital–Anaheim, Anaheim  
 Western Rehabilitation NOVA Care and Phoenix  
 Baptist Hospital Medical Center, Phoenix, AZ  
 Westside Physical Therapy Clinic, Yakima, WA  
 West-Star Physical Therapy, City of Industry  
 White Memorial Medical Center—an Adventist health  
 care facility, Los Angeles  
 Whittier Hospital Medical Center, Whittier  
 Wilcox Memorial Hospital, Lihue, HI  
 Wilcox Physical Therapy Center, Anaheim  
 William Beaumont Hospital, Troy, MI  
 Williamstown Physical Therapy, Williamstown, MA  
 Wimbledon Park Physical Therapy, Victorville  
 Winways-Enterface Environment, Orange  
 Wood River Medical Center, Sun Valley, ID  
 Worthington Foods, Inc., Worth  
  
 Xtreme Physical Therapy, Downey  
  
 Yavapai Regional Medical Center, Prescott, AZ  
 Yonemoto PT Services, Alhambra  
 Yonkers General Hospital, Yonkers, NY  
 Yuma Rehabilitation, Yuma, AZ  
  
 Zelda Billingsy, M.D., Montebello  
 Ziprick, Schlitz, Heinrich, & Cramer, Redlands

## SCHOOL OF DENTISTRY

### ADMINISTRATION—SD

CHARLES J. GOODACRE, D.D.S., M.S.D., Dean  
 RONALD J. DAILEY, Ph.D., M.A., Associate Dean for Academic Affairs  
 PAUL L. RICHARDSON, D.D.S., M.S., Associate Dean for Clinic Administration  
 W. PATRICK NAYLOR, D.D.S., M.P.H., Associate Dean for Advanced Dental Education  
 D. GRAHAM STACEY, Ph.D., M.S., M.A., Associate Dean for Student Affairs  
 JOSEPH M. CARUSO, D.D.S., Associate Dean, Strategic Initiatives and Faculty Practices  
 FRED C. KASISCHKE, D.Min., Associate Dean for Admissions, Pastoral Ministry and Service Learning  
 RONALD J. SECOR, M.P.H., Associate Dean for Financial Administration  
 KATHLEEN MOORE, M.H.I.S., Assistant Dean for Educational Support Services  
 RACHEL TERWILLEGAR, B.A., Director of Development  
 H. MAYNARD LOWRY, Ph.D., Special Gifts and Planned Giving

### COMMITTEES—SD

Academic Review  
 Admissions  
 Awards  
 Clinic Activities  
 Curriculum  
 Dental Research  
 Diversity  
 Executive  
 Faculty Council  
 Faculty Development  
 Faculty Promotions  
 Graduate  
 Nominating  
 Outcomes Assessment  
 Safety  
 Service Learning and International Affairs  
 Spiritual Life and Wholeness  
 Strategic Planning  
 Student Conduct

## SCHOOL OF MEDICINE

### ADMINISTRATION—SM

H. ROGER HADLEY, M.D., Dean and Vice President for Medical Affairs, LLUAHSC  
 LEONARD S. WERNER, M.D., Senior Associate Dean for Medical Student Education  
 DANIEL W. GIANG, M.D., Associate Dean for Graduate Medical Education  
 HENRY L. LAMBERTON, Psy.D., Associate Dean for Student Affairs  
 RODNEY D. NEAL, M.B.A., Associate Dean for Finance and Administration  
 STEPHEN A. NYIRADY, Ph.D., Associate Dean for Recruitment and Admissions  
 JAMES M. PAPPAS, M.D., Associate Dean for Quality and Patient Safety  
 RICARDO L. PEVERINI, M.D., Associate Dean for Clinical Faculty  
 LEROY E. REESE, M.D., Associate Dean for Los Angeles Programs  
 TAMARA M. SHANKEL, M.D., Associate Dean for Clinical Education  
 LAWRENCE C. SOWERS, Ph.D., Associate Dean for Basic Sciences and Translational Research  
 TAMARA L. THOMAS, M.D., Associate Dean for Faculty Development  
 DAVID G. WREN, M.H.A., Associate Dean, Faculty Practice Affairs  
 RESA L. CHASE, M.D., Assistant to the Dean for Basic Science Curriculum

M. DANIEL WONGWORAWAT, M.D., Assistant Dean for Career Advancement  
 LYNDA DANIEL, M.D., Assistant Dean for Clinical Site Recruitment  
 LENOA EDWARDS, M.A., M.P.H., Assistant Dean for Admissions  
 DWIGHT C. EVANS, M.D., Assistant Dean for Veterans Affairs  
 PENELOPE DUERKSEN-HUGHES, Ph.D., Assistant Dean for Graduate Academic and Student Affairs  
 LORETTA B. JOHNS, Ph.D., Assistant Dean for Program Development and Evaluation  
 LINDA J. MASON, M.D., Assistant Dean for Medical Staff Affairs  
 MARTIE E. PARSLEY, Ph.D., Assistant Dean for Residency Curriculum  
 TREVA C. WEBSTER, M.B.A., RN, Assistant Dean for Development  
 DAISY D. De LEON, Ph.D., Assistant to the Dean for Diversity Affairs  
 RHODES L. RIGSBY, M.D., Special Assistant to the Dean for Administration  
 MARVALEE J. HOFFMAN, Director of Records and Student Services



**COMMITTEES—SM**

Executive  
Admissions  
Curriculum  
Spiritual Life and Wholeness  
Tenure  
Academic Review

Basic Science and Translational Research Executive  
Clinical Faculty Executive  
Promotions  
Basic Science Faculty Advisory Council  
Clinical Science Faculty Advisory Council  
Dean's Administrative Council

**SCHOOL OF NURSING**

**ADMINISTRATION—SN**

MARILYN M. HERRMANN, Ph.D., RN, Dean  
ELIZABETH BOSSERT, D.N.S., Associate Dean,  
Academic Affairs and Graduate Nursing  
DYNNETTE HART, Dr.P.H., Associate Dean, Student  
Affairs, Undergraduate Nursing  
JEFF LEEPER, C.P.A., C.M.A., C.I.A., D.ABFA,  
Assistant Dean, Financial Affairs  
HEATHER KRAUSE, Director, Admissions,  
Recruitment, and Marketing  
VANETA M. CONDON, Ph.D., Learning Resource  
Laboratory  
PATRICIA S. JONES, Ph.D., Director, Office of  
International Nursing  
ZELNE L. ZAMORA, M.S.N., Coordinator, Student  
Services, Undergraduate Nursing

Arrowhead Regional Medical Center, Colton  
Asian-American Resource Center, San Bernardino

Beaver Medical Clinic, Redlands

California State University—San Bernardino  
Catholic Health Care, West, Pasadena  
Children's Hospital of LA, Los Angeles  
Children's Hospital of Orange, Orange  
Children's Hospital of San Diego, San Diego  
Choice Medical Group, Apple Valley  
Colton Joint Unified School, Bloomington  
Coram Specialty Infusion Services, Ontario  
Cornerstone Hospice, Inc, Colton  
County of Riverside Department of Community  
Health, Riverside  
County of Riverside Human Resources Wellness,  
Riverside

**COUNCILS AND COMMITTEES—SN**

**International Nursing Council**

PATRICIA S. JONES, Chair  
Selected School of Nursing faculty and Medical  
Center nursing administrators

DASH, The Other Place, Redlands  
Desert Valley Hospital, Victorville

Eisenhower Hospital, Rancho Mirage  
Etiwanda School District, Etiwanda

**Faculty Council**

Dean, Chair  
All full-time and part-time faculty  
Invitees: GFT and voluntary faculty

Fontana Family Medical Center, Fontana  
Fontana Unified School District, Fontana  
Fort Irwin—Weed Army Community Hospital, Fort  
Irwin

Glendale Adventist Medical Center, Glendale

**Graduate Faculty Council (master's and doctoral  
degree programs)**

Associate Dean, Chair  
All full-time and part-time graduate faculty

Healthsouth Corporation, Birmingham, AL  
Heartland Home Health Care, Riverside  
Hemet Unified School District, Hemet  
Heritage Gardens, Loma Linda  
Hoag Memorial Hospital Presbyterian, Newport  
Beach

**Undergraduate Faculty Council**

Associate Dean, Chair  
All full-time and part-time undergraduate faculty

Indio Emergency Medical Group, Indio  
Inland Regional Center, San Bernardino  
Inland Temporary Homes, Loma Linda  
Inland Valley Hospice, Riverside  
Inland Valley Medical Center, Wildomar  
Inland Valley Urgent Care Clinic, Wildomar

**Standing Faculty Committees**

Admissions  
Curriculum  
Diversity  
Faculty Affairs  
Rank and Tenure  
Research  
Spiritual Life and Wholeness  
Today's Nursing Technology (TNT)

JFK Memorial Hospital, Indio  
Johns Hopkins School of Nursing, Baltimore, MD  
Jose Limon, M.D., Internal Medicine, Moreno Valley  
Jurupa Unified School District, Riverside

**CLINICAL FACILITIES—SN**

ACTS, Loma Linda  
Addus HealthCare, Inc., Riverside  
Amedysis, Riverside  
American Primary Care Medical Clinic, Riverside

Kaiser Permanente—Pasadena, Pasadena  
Kaiser Permanente—Fontana, Fontana  
Kaiser Permanente—Riverside, Riverside

Kathleen Hurwitz, M.D., Murrieta  
 Keen Medical Group, Victorville  
 Kenneth K. Tye, M.D., West Covina  
 Kindred Hospital, Ontario  
 Knotts Family & Parenting Institute for Child, San Bernardino

Lake Elsinore Family Care Center, Lake Elsinore  
 Linda Valley Care Center, Loma Linda  
 Linda Valley Villa, Loma Linda  
 Loma Linda Child & Adolescent Clinic, Loma Linda  
 Loma Linda University Behavioral Medical Center, Redlands  
 Loma Linda University Children's Hospital, Loma Linda  
 Loma Linda University East Campus, Loma Linda  
 Loma Linda University Family Medical Group, Loma Linda  
 Loma Linda University Home Care Services, Loma Linda  
 Loma Linda University Medical Center Adult Day Health Services, Loma Linda  
 Loma Linda University Medical Center, Loma Linda  
 Loma Linda University Pediatrics, Loma Linda  
 Loma Linda University SAC Health System, San Bernardino  
 Loma Linda Academy, Loma Linda  
 Lone Tree Family Practice, Lone Tree, CO

Mario Carcamo, Riverside  
 Mary's Mercy Center, Inc., San Bernardino  
 Mission Family Care, Fallbrook  
 Mountains Community Hospital, Lake Arrowhead

National Institute for Healthcare Education, Riverside  
 Naval Hospital—Camp Pendleton  
 Naval Hospital—29 Palms, Twentynine Palms  
 Naval School of Health Sciences—Bethesda, MD

Odyssey Health Care, San Bernardino  
 Olusola Oyemade M.D., Inc., Rancho Cucamonga

Paradise Valley Hospital, National City  
 Parent Care Management Services, Highland  
 Parkview Adventist Medical Center, Brunswick  
 Parkview Community Hospital Medical Center, Riverside  
 Pomona Unified School District, Pomona  
 Preschool Services Department, San Bernardino

Ramona VNA & Hospice Hemet, Hemet  
 Rancho Paseo Medical Group, Banning  
 Rancho Specialty Hospital, Rancho Cucamonga  
 Reche Canyon Rehab & Health Care Inc, Colton  
 Redlands Community Hospital, Redlands  
 Redlands Unified School District, Redlands  
 Restora Home Health, Upland  
 Rialto Unified School District, Rialto  
 Riverside Center for Behavioral Medicine, Riverside  
 Riverside Community Hospital, Riverside  
 Riverside County Regional Medical Center, Moreno Valley  
 Riverside Medical Clinic, Riverside  
 Riverside/San Bernardino Indian Health, Inc., Banning  
 ROTC Department of the Army, Claremont

San Antonio Community Hospital, Upland  
 San Gorgonio Memorial Hospital, Banning  
 San Joaquin Community Hospital, Bakersfield  
 San Bernardino City Unified School District, San Bernardino  
 San Bernardino County Department of Public Health, San Bernardino  
 San Bernardino County Probation Department, San Bernardino  
 Scripps Health, San Diego  
 Sharp Healthcare, San Diego  
 Shriners Hospital for Children, Los Angeles  
 Silverlake Youth Services, Yucaipa  
 Southern California Occupational Health Services, San Bernardino  
 St. Joseph Hospital, Orange  
 St. Mary's Medical Clinic, Riverside

Talal R. Muhtaseb, M.D., San Bernardino  
 Tender Loving Care Staff Builders, Riverside  
 Tenet Health System Desert Inc., Palm Springs  
 The Palms at Loma Linda, Loma Linda  
 Tonda Bradshaw, D.O., Inc., Yucaipa  
 Totally Kids, Loma Linda

Veterans Hospital, Loma Linda  
 Vista Community Clinic, Vista  
 Visiting Nurse Association of Inland Counties, Riverside  
 Visiting Nurse Association of Southern California, Claremont

White Memorial Medical Center, Los Angeles

## SCHOOL OF PHARMACY

### ADMINISTRATION—SP

W. WILLIAM HUGHES, Ph.D., Dean  
 ERIC J. MACK, Ph.D., Associate Dean for Academic Affairs  
 NANCY E. KAWAHARA, Pharm.D., M.S.Ed., Associate Dean for Assessment and Professional Affairs  
 PAUL M. NORRIS, Pharm.D., Associate Dean for Clinical Affairs

ALAN C. CONNELLY, M.B.A., Assistant Dean for Finance  
 LINDA M. WILLIAMS, M.S., Assistant Dean for Student Affairs  
 RASHID MOSAVIN, Ph.D., Chair, Department of Pharmaceutical Sciences  
 S. REZA TAHERI, Chair, Department of Pharmacotherapy and Outcomes Science  
 ANH-VUONG N. LY, Pharm.D., Director, Drug Information Center

LORI B. MENDOZA, Pharm.D., Director of Institutional Practice, Division of Experiential Education

HYMA P. GOGINENI, Pharm.D., Director of Outpatient Practice, Division of Experiential Education

REBECCA J. GRYKA, Pharm.D., Director, Division of Therapeutics

#### **COMMITTEES—SP**

Academic Standing  
Admissions  
Curriculum  
Executive Council  
Honors and Awards  
Program Assessment  
Promotion and Tenure

#### **AFFILIATED / CLINICAL FACILITIES—SP**

Aero Apothecary  
Allergan Sales, Irvine, California  
American Lung Association  
AmerisourceBergan  
Arcadian Health Plan  
Arrowhead Regional Medical Center, Colton, California

Cardinal Health, NPS  
Caremark, Inc.  
Catholic Health Care West  
Central Valley General Hospital  
Cherokee Indian Hospital  
Children's Hospital of Orange County  
Chino Valley Medical Center, Chino  
Citrus Valley Medical Center, Covina  
City of Hope, Duarte, California  
Consumer Health Information Corporation  
Costco Wholesale Corporation  
Covidien Radiopharmacy/Mallinckrodt  
CVS Pharmacy, Inc.

Desert AIDS Project  
Desert Oasis Health Care  
Desert Regional Medical Center  
Desert Valley Hospital  
Dominguez Pharmacy

Feather River Hospital  
Florida Hospital, Maitland, FL  
Food and Drug Administration (FDA)

Gemmel Pharmacy, Ontario  
Glendale Adventist Medical Center, Glendale

Hanford Community Medical Center  
Health South Corporation, Anaheim  
Hi-Desert Medical Center, Yucca Valley

Indian Health Service (IHS), Morongo, Soboba  
Inland Empire Health Provider (IEHP)  
Inland Compounding Pharmacy, Loma Linda  
Irvine Medical Pharmacy, Irvine

Kaiser Permanente - Southern California  
K-Mart

Loma Linda University Adventist Health Sciences Center, Loma Linda  
Loma Linda University Medical Center, Loma Linda  
Loma Linda Veterans Administration Health Care System, Loma Linda  
Long Beach Memorial Medical Center, Long Beach  
Longs Drugstores

Med Specialties, Yorba Linda

National Institutes of Health (NIH), Bethesda, MD  
Naval Medical Center  
Nova Nordisk

OB Medical Supplies and Pharmacy, San Bernardino

Pomona Valley Medical Center, Pomona  
Prescription Solutions  
Professional Compounding Centers of America (PCCA), Houston, TX

Ralphs Grocery Stores - Student Agreement  
Redlands Community Hospital Pharmacy, Redlands  
Rite-Aid Corporation  
Riverside Community Hospital, Riverside  
ROI Solutions Group

Salinas Valley Memorial Health Care System  
San Geronio Memorial Hospital, Banning  
San Joaquin Community Hospital  
Selma Community Hospital  
Share Our Selves (SOS)  
Shriners Hospital for Children, Los Angeles  
Sierra View District Hospital  
Social Action Community Health System (SACHS)-  
LLU Medical Center Affiliate, San Bernardino

Target Corporation

University of Florida

Valley View Medical Center, Inc.  
Vons Corporation

Wal-Mart, Inc.  
Walgreens Corporation  
Watson Laboratories, Inc.  
White Memorial Medical Center, Los Angeles  
Womack Army Medical Center

## SCHOOL OF PUBLIC HEALTH

### ADMINISTRATION—PH

DAVID T. DYJACK, Dr.P.H, CIH, Dean  
 TRICIA PENNIECOOK, M.D., M.P.H., Associate  
 Dean for Academic Affairs  
 GORDON E. HEWES, M.B.A., Associate Dean for  
 Finance  
 RICHARD BLANCO, M.B.A., Director of Student  
 Services  
 JESSE BLISS, M.P.H., Director for Office of Public  
 Health Practice  
 RAFAEL MOLINA, M.Ed, Director of Distance  
 Learning  
 RANDALL W. D. SKORETZ, D.Min., Director for  
 Advancement  
 ELIEZE STRYDOM, Director of Admissions and  
 Academic Records  
 \_\_\_\_\_, Director of Marketing and  
 Recruitment

### DEPARTMENT CHAIRS—PH

ERIC ANDERSON, Ph.D, M.B.A., Interim Chair,  
 Health Administration  
 SYNNOVE M. F. KNUSTEN, M.D., Dr.P.H., Chair,  
 Epidemiology and Biostatistics  
 RONALD H. MATAYA, M.D., Chair, Global Health  
 NAOMI N. MODESTE, Dr.P.H., Chair, Health  
 Promotion and Education  
 SAMUEL SORET, Ph.D., Environmental and  
 Occupational Health  
 JOAN SABATE, M.D., Dr.P.H., Chair, Nutrition

### COMMITTEES—PH

Admissions Committee  
 Administrative Committee  
 Dr.P.H. Advisory Committee  
 B.S.P.H. Advisory Committee  
 Chr Operating Committee  
 Continuing Professional-Education Committee  
 Distant Campus Curricula Committee  
 Diversity Committee  
 Faculty Rank, Promotion, and Tenure Committee  
 Student Association Advisors  
 Marketing and Recruitment Committee  
 Policies and Procedures Committee  
 Scholarship Policy Committee  
 Wholeness Enhancement Committee

### Administrative Committee

David Dyjack, Chair  
 Taryn Rechenmacher, Secretary  
 Richard Blanco  
 Allan Darnell  
 Gordon Hewes  
 Synnove Knutsen  
 Renate Krause  
 Ronald Mayata  
 Naomi Modeste  
 Rafael Molina

Susanne Montgomery  
 Warren Peters  
 Joan Sabate  
 Samuel Soret  
 Elieze Strydom  
 Seth Wiafe, Faculty representative  
 Director of Marketing and Recruitment  
 Larry Beeson, IFAC representative  
 Lee Berk, IFAC representative

### Admissions Committee

Elieze Strydom, Chair  
 Anne Nicolas, Secretary  
 Dora Barilla  
 Donn Gaede  
 Naomi Modeste  
 Rafael Molina  
 Tricia Penniecook  
 Sujatha Rajaram  
 Samuel Soret  
 Serena Tonstad  
 Michelle Wien  
 Seth Wiafe  
 Loretta Wilber

### Academic Council

Rafael Molina, Chair  
 Eric Anderson  
 Juan Carlos Belliard  
 William Colwell  
 David Dyjack  
 Gary Hopkins  
 Synnove Knutsen  
 Naomi Modeste  
 Susanne Montgomery  
 Tricia Penniecook  
 Joan Sabate  
 Seth Wiafe  
 Student representative

### Awards and Traineeship Committee

\_\_\_\_\_, Chair  
 Eric Anderson  
 Kristen Blakney  
 Richard Blanco  
 Elaine Fleming  
 Donn Gaede  
 Patti Herring  
 Gordon Hewes

### CLINICAL FACILITIES—PH

Center for Health Promotion, Preventive Medicine  
 Clinic  
 Evans Hall, Loma Linda University  
 Loma Linda, CA 92350  
 909/558-4594

**AFFILIATED INSTITUTIONS—PH**

Adventist Development and Relief Agency,  
Washington, DC

Adventist University of the Philippines, Putingkahoy,  
Silang, Cavite, Philippines

American Cancer Society (Inland Empire), Riverside

Asian Health Project, T.H.E. Clinic, Los Angeles

Atlantic Union College, South Lancaster, MA

Baptist Hospital, Care Unit Chemical Dependency  
Program and Center for Health Promotion,  
Nashville, TN

California Conference of Directors of Environmental  
Health, Cameron Park

California Department of Public Health, Sacramento

California State University, Health Science

Department, San Bernardino

California State University, San Bernardino

Castle Medical Center, Kailua, HI

Centers for Disease Control and Prevention, Atlanta,  
GA

Centinela National Athletic Health Institute, Los  
Angeles

Clinica de Medicina Deportiva del Caribe, Santurce,  
Puerto Rico

Cooper Aerobic Center, In-Residence Program,  
Dallas, TX

County of Orange, Health Care Agency, Santa Ana

County of San Bernardino, Health Department, San  
Bernardino

County of San Diego, Department of Health Services,  
San Diego

Dine College, New Mexico

Drinking Driver Program Services, San Bernardino

Eisenhower Medical Center, Rancho Mirage

El Progreso del Desierto, Inc., Coachella

Foothill Aids Project, San Bernardino

General Dynamics, Ontario

Guam SDA Clinic

Health Resources and Services Administration,

Hinsdale Sanitarium and Hospital, Hinsdale, IL

Inland Empire Health Plan

Inland AIDS Project, Riverside

Institute of Stress Medicine, Denver, CO

Inter-American Division of Seventh-day Adventists,  
Miami, FL

Jerry L. Pettis Memorial Veterans Administration  
Hospital, Loma Linda

Kahili Mountain School, Kauai, HI

Kaiser Foundation Hospitals (Southern California  
Kaiser Permanente Medical Center), Fontana

Loma Linda University Medical Center East Campus,  
Loma Linda

Loma Linda University Medical Center, Loma Linda

Los Angeles County Department of Health Services,  
Los Angeles

Martin Luther King, Jr. / Charles Drew Medical  
Center, Los Angeles

Native American Coalition, Temecula

People's Choice, Inc., San Bernardino

Pomona Unified School District, Pomona

Portland Adventist Medical Center, Portland, OR

Redlands Community Hospital, Redlands

Riverside County, Department of Public Health,  
Riverside

Riverside-San Bernardino County, Indian Health, Inc.

San Bernardino County Department of  
Environmental Health Services, San Bernardino

San Bernardino County Medical Center, San  
Bernardino

San Bernardino County Public Health Department,  
San Bernardino

San Diego State University, San Diego

San Joaquin Hospital, Bakersfield

School of Public Health, Adventist University of the  
Philippines, Putingkahoy, Silang, Cavite,

Philippines

Scripps Clinic and Research Foundation, Green  
Hospital, La Jolla

Sid Richardson Cardiovascular Rehabilitation  
Institute, Methodist Hospital, Houston, TX

St. Helena Hospital and Health Center, Deer Park

State of California, Department of Public Health,  
Sacramento

Taiwan Adventist Hospital, Taipei, Taiwan

University of California Berkeley, Berkeley

University of California Center for Health Promotion,  
Riverside

University of California Los Angeles, Los Angeles

University of Hawaii, Honolulu, HI

Washington Adventist Hospital, Takoma Park, MD

Westminster Medical Group, Westminster

World Vision, International, Monrovia

## SCHOOL OF RELIGION

### ADMINISTRATION—SR

JON PAULIEN, Dean

ROY BRANSON, Associate Dean

MARK F. CARR, Theological Co-director, Center for Christian Bioethics

CARLA G. GOBER, Director, Center for Spiritual Life and Wholeness

### COMMITTEES—SR

#### Center for Christian Bioethics

Dean of School of Religion, Chair

Dean of School of Medicine, Vice chair

Dean of School of Allied Health Professions

Dean of School of Dentistry

Dean of Faculty of Graduate Studies

Dean of School of Nursing

Dean of School of Public Health

Dean of School of Pharmacy

Dean of School of Science and Technology

Chief executive officer, School of Medicine Faculty Practice Group

Representatives-at-large (2)

Theological co-director

Clinical co-director

*Ex officio officers:*

President of Loma Linda University

CEO of Loma Linda University Adventist Health Sciences Center

#### Center for Spiritual Life And Wholeness

LLUAHSC Vice President for Mission and Culture, Chair

Dean of the School of Religion, Vice chair

Director of the Center for Spiritual Life and Wholeness, Secretary

LLUAHSC Vice President for Educational Affairs

LLUAHSC Vice President for Research Affairs

LLU Assistant Vice Chancellor for Student Services

Deans

School of Allied Health Professions

School of Dentistry

School of Medicine

School of Nursing

School of Pharmacy

School of Public Health

School of Science and Technology

Faculty of Graduate Studies

Director of LLUMC Chaplaincy Department

Director of LLUMC Employee Spiritual Care

Department

Representative from the LLU School of Religion

Representative from the clinical area of medicine in a LLUAHSC health care entity

Representative from the clinical area of nursing in a LLUAHSC health care entity

Representative from the clinical area of allied health professions in a LLUAHSC health care entity

Representative(s) from the community

### M.A. in Biomedical and Clinical Ethics

Mark Carr, Chair

Ivan Blazen

Roy Branson

Debra Craig

Andy Lampkin

David Larson

Jon Paulien

Richard Rice

James Walters

Gerald Winslow

### M.A. in Clinical Ministry

Siroj Sorajjakool, Chair

Mark Carr

Carla Gober

James Greek

Johnny Ramirez

Randy Roberts

David Taylor

### M.A. in Religion and the Sciences

Richard Rice, Chair

Ivan Blazen

Ben Clausen

Ronald Carter

David Larson

James Walters

Gerald Winslow

### Rank and Tenure

Ivan Blazen, Chair

Mark Carr

Richard Rice

**SCHOOL OF SCIENCE AND TECHNOLOGY****ADMINISTRATION—ST**

BEVERLY BUCKLES, D.S.W., Dean  
 DANA CARRINGTON, Ed.S., Assistant Dean for Administration  
 MIRIAM A. DOMINGO, M.B.A., Assistant Dean for Finance  
 SUSAN A. WALTERS, M.Ed., Assistant Dean for Academic Affairs

**DEPARTMENT CHAIRS—ST**

BEVERLY BUCKLES, D.S.W., Chair, Social Work and Social Ecology  
 LEONARD BRAND, Ph.D., Chair, Earth and Biological Sciences  
 LOUIS JENKENS, Ph.D., Chair, Psychology  
 DANIEL K. KIDO, M.D., Chair, Biophysics and Bioengineering  
 COLWICK WILSON, Ph.D., Chair, Counseling and Family Sciences

**COMMITTEES—ST****Academic Standards Committee**

Kevin Nick, Chair  
 Leonard Brand  
 Curtis Fox  
 Stephen Dunbar  
 Kimberly Freeman  
 Paul Haerich  
 Louis Jenkins  
 Henry Lambertson  
 Karen Lesniak  
 Carmen Knudson-Martin  
 Froylana Miller  
 Mary Moline  
 Cheryl Simpson  
 Susan Walters  
 David Vermeersch  
 Ignatius Yacoub

**Administrative Council**

Beverly Buckles, Chair  
 Leonard Brand  
 Dana Carrington  
 Richard Davidian  
 Miriam Domingo  
 Stephen Dunbar  
 Marilyn Eggers  
 Terry Forrester  
 Kim Freeman  
 Louis Jenkins  
 Mary Moline  
 Kevin Nick  
 David Vermeersch  
 Susan Walters  
 Colwick Wilson

**Assessment**

Susan Walters, chair  
 Adam Arechiga  
 Bev Buckles  
 Leonard Brand  
 Paul Buchheim  
 Sve Dunbar  
 Ricky Escobar  
 Curtis Fox  
 Kim Freeman  
 Paul Haerich  
 Doug Huenergardt  
 Carmen Knudson-Martin  
 Froylana Miller  
 Michelle Minyard-Widmann  
 Mary Moline  
 Kevin Nick  
 Dianna Simon  
 Cheryl Simpson  
 Dave Vermeersch

**Executive Committee**

Beverly Buckles, Chair  
 Leonard Brand  
 Kim Freeman  
 Louis Jenkins  
 Mary Moline

**Institutional Review Board (IRB)**

Kelly Morton, chair  
 Curtix Fox  
 Linda Halstead  
 Rich Hartman  
 Narineh Hartoonian (graduate student)  
 Sigrid James  
 Jason Owen

**Rank and Tenure Committee**

Doug Huenergardt, Chair  
 Leonard Brand  
 Paul Buchheim  
 Ian Chand  
 Kim Freeman  
 Paul Haerich  
 Louis Jenkins  
 Synnove Knutsen  
 Mary Moline  
 Christine Neish  
 Ignatius Yacoub

**CLINICAL AFFILIATES—ST**

Albany Psychology Internship Consortium, VA  
 Albany Medical College  
 Anaheim School, Anaheim  
 Arroyo High School, San Bernardino  
 Assessment and Treatment Services Center

Bilingual Family Counseling, Ontario  
 Boys and Girls Club, Redlands

Canyon Ridge Hospital, Chino  
 Casa Pacifica Clinical Services  
 Catholic Charities Psychological Services  
 Chaffey College, Rancho Cucamonga  
 Cherokee Health System  
 Child and Family Guidance Center, Northridge  
 Child Welfare Training, Riverside  
 Children's Hospital, Los Angeles  
 Children's Hospital of Orange County  
 Community Hospice of Victor Valley, Apple Valley

Doctors Hospital of West Covina, West Covina

East Valley SELPA

Family Services Association, Riverside  
 Family Solutions Collaborative, Ontario  
 Forest Institute of Professional Psychology  
 Foster Family Network, San Bernardino

Growing Fit

Harbor-UCLA Medical Center, Los Angeles  
 Health and Human Services Department of Aging,  
 San Bernardino County, San Bernardino  
 Hesperia Unified School District, Hesperia  
 Highlander Children's Services, Riverside  
 Huntington Memorial Hospital, Pasadena

Illinois School of Professional Psychology  
 Inland Regional Center, Colton  
 Inland Temporary Homes, Loma Linda

Jerry L. Pettis Memorial VA Medical Center,  
 Loma Linda  
 JFK Memorial Hospital, Indio  
 Jurupa Unified School District, Riverside

Kaiser Permanente Hospital, Riverside  
 Kaiser Permanente Medical Care Program, Psychiatry  
 Department

Lackland Air Force Base, San Antonio, TX  
 Loma Linda University Adult Day Services, Loma  
 Linda  
 Loma Linda University Marriage and Family Therapy  
 Clinic,  
 Loma Linda University Medical Chaplain's Office,  
 Loma Linda  
 Loma Linda University Neuropsychology  
 Department, Loma Linda  
 Loma Linda University Psychiatric Medical Group,  
 Loma Linda  
 Los Angeles City Department of Child Assessment  
 Center  
 Los Angeles County Child Services  
 Los Angeles Department of Mental Health  
 Lutheran Social Services, Apple Valley

Moreno Valley Community Hospital, Moreno Valley  
 Morongo Inland Health, Banning

Oasis Counseling Center, Victorville  
 Office of Aging, Riverside  
 Office of Aging, San Bernardino  
 Ontario Montclair School District  
 Orange County Department of Child Services

Pacific Clinics Institute  
 Patton State Hospital, Highland  
 Pediatric Neuroassessment Program

Redlands Community Hospital, Redlands  
 Rim Family Services, Sky Forest  
 River Oak County Adult Protection Service  
 Riverside County Department of Mental Health,  
 Riverside  
 Riverside Department of Social Services, Riverside

SACH-Norton Mental Health Clinic,  
 San Bernardino City Unified School District,  
 San Bernardino  
 San Bernardino County Department of Behavioral  
 Health  
 San Bernardino County Department of Mental  
 Health, Colton  
 San Bernardino Department of Social Services,  
 San Bernardino  
 San Bernardino Public Defender, San Bernardino  
 San Diego Hospice and Palliative Care, San Diego  
 Santa Ana College Health and Wellness Center  
 Psychology Services, Santa Ana  
 Senior Care Network, Glendora  
 Serenity Infant Care Homes  
 Sharper Future  
 Shasta County Mental Health Services  
 Southern Arizona VA Health Care System  
 Spokane Mental Health Psychology Services  
 St. Anne's Hospice, Glendale  
 Su Casa, Artesia

University of Riverside  
 USCD VA Psychology Internship Program

VA Los Angeles Ambulatory Care Center  
 VA Sierra Nevada Health Care System  
 Verdugo Hills Hospital, Glendale  
 Veterans Affairs Hospital, Loma Linda  
 Village of Child Hope, Beaumont  
 Vitas Innovative Hospice Care, San Bernardino

Warm Springs Counseling Center, Boise, ID  
 West End Valley Counseling, Ontario  
 Western Youth Service, Fullerton  
 Wilford Hall Medical Center, Lackland Air Force Base

Youth Service Center, Riverside  
 Yucaipa Guidance, Redlands



## FACULTY OF GRADUATE STUDIES

### ADMINISTRATION—GS

ANTHONY J. ZUCCARELLI, Ph.D., Dean  
RAFAEL A. CANIZALES, Ph.D., Assistant Dean for  
Administrative Affairs

### COMMITTEES—GS

#### Graduate Council

Anthony J. Zuccarelli, Chair  
Elizabeth Bossert  
Bruce Currie  
Carlos Casiano  
Stephen Dunbar  
Curtis Fox  
Ella Haddad  
Louis Jenkins  
Everett Lohman  
Patrick Naylor  
Kevin Nick

Kerby Oberg  
Janelle Pyke  
Richard Rice  
Ignatius Yacoub  
Bruce Wilcox  
Steven Yellon  
Grenith Zimmerman

#### Rank and Tenure

Leonard Brand, Chair  
Paul Buchheim  
Beverly Buckles  
Ian Chand  
Paul Haerich  
Louis Jenkins  
Mary Moline  
Christine Neish  
Robert Teel  
Ignatius Yacoub

# 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 PROFESSIONS

### Faculty of Graduate Studies

Started in 1954 as the Graduate School, with accreditation through the University accreditation; continued through 2004; restructured as the Faculty of Graduate Studies in 2005.

### School of Allied Health 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 accredited by the National Accrediting Agency for Clinical Laboratory Sciences. Currently approved by the California Department of Public Health, Laboratory Field Services.

**COMMUNICATION SCIENCES AND DISORDERS** (formerly **SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY**): Approved by the American Speech-Language-Hearing Association June 1, 1991.

**CYTOTECHNOLOGY**: Started in 1982. Initial approval January 20, 1983, by the Commission on Accreditation of Allied Health Education Programs in collaboration with the Cytotechnology Programs Review Committee.

**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 Dietetic Technology Program is currently granted continuing accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetic 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.

**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 Public Health.

**NUCLEAR MEDICINE TECHNOLOGY**: Started in 1970. Approved by the Council on Medical Education of the American Medical Association June 23, 1973. Currently approved by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology.

**NUTRITION AND DIETETICS**: Started in 1922 as a certificate program; baccalaureate degree conferred 1932-54; M.S. in nutrition and dietetics began in 2008; 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 Dietetic 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.

**PHLEBOTOMY**: Started in 1994. Accredited / Approved April 1997 both by the California Department of Health, Laboratory Field Services and by the National Accrediting Agency for Clinical Laboratory Science (NAACLS); with continuing state approval, reaccredited April 2001 by NAACLS.

**PHYSICAL THERAPIST ASSISTANT:** Started in 1989. currently approved by the American Physical Therapy Association via the Commission on Accreditation in Physical Therapy Education (CAPTE).

**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 SCIENCES:** 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 the Physician Assistant, Inc. (ARC-PA). Accredited March 2002 by ARC-PA.

**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 (CAAHEP) in collaboration with the Committee on Accreditation for Respiratory Care (CoARC) (formerly known as Joint Review Committee for Respiratory Therapy Education [JRCRTE]).

Programs offered through the School of Allied Health Professions in conjunction with the Faculty of Graduate Studies are accredited through University accreditation.

#### **School of Dentistry**

**DOCTOR OF DENTAL SURGERY:** Started in 1953. Approved by the Commission on Dental Accreditation of the American Dental Association since May 23, 1957.

**DENTAL HYGIENE:** Started in 1959. Approved by the Commission on Dental Accreditation of the American Dental Association since September 7, 1961. Degree Completion Program began January 7, 2008.

**ENDODONTICS:** Started in 1967. Approved by the Commission on Dental Accreditation of the American Dental Association since December 1969.

**ORAL AND MAXILLOFACIAL SURGERY:** Started in 1964. Approved by the Commission on Dental Accreditation of the American Dental Association since 1967.

**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 1993.

**PERIODONTICS:** Started in 1961. Approved by the Commission on Dental Accreditation of the American Dental Association since December 1967.

**PROSTHODONTICS:** Started in 1993. Approved by the Commission on Dental Accreditation of the American Dental Association since February 1995.

Programs offered through the School of Dentistry in conjunction with the Faculty of Graduate Studies are accredited through University accreditation.

#### **School of 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.

Programs offered through the School of Medicine in conjunction with the Faculty of Graduate Studies are accredited through University accreditation.

#### **School of Nursing**

Hospital school started at Loma Linda in 1905. Hospital school added at Los Angeles in 1924. Collegiate program in nursing organized in 1948. Accredited by the National Nursing Accrediting Service December 10, 1951, with approval continuing under the National League for Nursing until 2001. 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 in 1959. School accredited by the Commission on Collegiate Nursing Education (CCNE) since 1999.

Programs offered through the School of Nursing in conjunction with the Faculty of Graduate Studies are accredited through University accreditation.

#### **School of Pharmacy**

Started in 2002. Approved by the Accreditation Council for Pharmaceutical Education since June 23, 2007.

#### **School of Public Health**

Started in 1948; reorganized in 1964. Approved by the American Public Health Association June 23, 1967. Currently accredited by the Council on Education for Public Health.

**School of Religion**

Started in 1961 as the Division of Religion; organized as School of Religion (1987-1990), Faculty of Religion (1990-2006), School of Religion 2007. Programs accredited through University accreditation.

**School of Science and Technology**

Started in 2004, combining programs established one to five decades ago. Programs accredited through the

University accreditation and/or through their professional accrediting bodies.

Programs offered through the School of Science and Technology in conjunction with the Faculty of Graduate Studies are accredited through University accreditation.

# 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 Post-secondary  
Accreditation.

All entry-level degrees are accredited by their  
respective professional accrediting associations.

In addition to WASC, the following agencies accredit  
specific University schools or programs\*:

## 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>

### CLINICAL LABORATORY SCIENCE

#### Phlebotomy Certificate

California Department of Public Health  
Laboratory Field Services  
Northern California Office  
850 Marina Bay Parkway  
Building P, 1st Floor  
Richmond, CA 94804-6403  
Phone: 510/620-3800  
Web site: www.dhs.ca.gov

#### Clinical Laboratory Science (formerly medical technology)

National Accrediting Agency for Clinical Laboratory  
Sciences (NAACLS)  
5600 North River Road, Suite 720  
Rosemont, IL 60018  
Phone: 773/714-8880  
FAX: 773/714-8886  
Web site: <www.naacls.org>  
Email: <naaclsinfo@naacls.org>

California Department of Public Health  
Laboratory Field Services  
850 Marina Bay Parkway  
Building P, 1st Floor  
Richmond, CA 94804-6403  
Phone: 510/620-3800

### 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>

### COMMUNICATION SCIENCES AND DISORDERS

#### (formerly 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>

#### 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>

### 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.**  
**Nutrition and Dietetics Program–M.S.**  
**Nutrition Care Management Online Program–M.S.**  
 Commission on Accreditation for Dietetics Education  
 (CADE) of the American Dietetic Association  
 120 South Riverside Plaza, Suite 2000  
 Chicago, IL 60606-6995  
 Phone: 312/899-0040, ext. 5400; or 800/877-1600, ext.  
 5400  
 FAX: 312/899-4817  
 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

**PHYSICIAN ASSISTANT SCIENCES**

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>

**RADIATION TECHNOLOGY**

**Medical Radiography–A.S.**  
**Radiation Therapy Technology–Certificate**  
 Joint Review Committee on Education in Radiologic  
 Technology (JRCERT)  
 20 North Wacker Drive, Suite 900  
 Chicago, IL 60606-2901  
 Phone: 312/704-5300  
 FAX: 312/704-5304  
 Web site: <www.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  
 Phone: 312/553-9355  
 FAX: 312/553-9616  
 Web site:<www.caahep.org>  
 Email: <caahep@caahep.org>

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 Public Health Radiologic  
 Health Branch  
 P.O. Box 997414, MS 7610  
 Sacramento, CA 95899-7414  
 Phone: 916/327-5106  
 FAX: 916/440-7999  
 Web site:  
 <www.cdph.ca.gov/programs/Pages/RadiologicHea  
 lthBranch.aspx>  
 Email: <RKubiak@dhs.ca.gov>

**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: <accreditation@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**

Board of Registered Nursing  
 1170 Durfee Avenue, Suite G  
 South El Monte, CA 91733  
 Phone: 626/575-7080  
 FAX: 626/575-7090  
 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>

### **SCHOOL OF PHARMACY**

Accreditation Council for Pharmacy Education  
20 North Clark Street, Suite 2500  
Chicago, IL 60602-5109  
Phone: 312/664-3575  
FAX: 312/664-4652  
Email: <info@acpe-accredit.org>

### **SCHOOL OF PUBLIC HEALTH**

Council on Education for Public Health  
800 Eye Street NW, Suite 202  
Washington, DC 20001-3710  
Phone: 202/789-1050  
FAX: 202/789-1895  
Web site: <www.ceph.org>  
Email: <jconklin@ceph.org>

### **HEALTH PROMOTION AND EDUCATION Certified Health Education Specialist (CHES)**

National Commission for Health Education  
Credentialing, Inc.  
1541 Alta Drive, Suite 303  
Whitehall, PA 18052-5642  
Phone: toll free 888/624-3248  
FAX: 800/813-0727  
Web site: <www.nchec.org>  
Email: <dherman@nchec.org>

### **ENVIRONMENTAL AND OCCUPATIONAL HEALTH**

#### **Registered Environmental Health Specialist, State of California**

Environmental Health Specialist  
Registration Program  
1616 Capital Avenue 2nd Floor  
P.O. Box 997413  
MS7404  
Sacramento, CA 95899-7413  
Phone: 916/449-5663  
FAX: 916/449-5665  
Web site: <www.dhs.ca.gov> or  
<www.dhs.cahwnet.gov>  
Email: <rehsprog@dhs.ca.gov>

### **NUTRITION**

Nutrition Commission on Accreditation for Dietetics  
Education (CADE) of the American Dietetic  
Association  
120 South Riverside Plaza, Suite 2000  
Chicago, IL 60606-6995  
Phone: 312/899-0040, ext. 5400 or 800/877-1600, ext.  
5400  
FAX: 312/899-4817  
Web site: <www.eatright.org/cade>  
Email: <education@eatright.org>

### **SCHOOL OF SCIENCE AND TECHNOLOGY**

#### **COUNSELING AND FAMILY SCIENCES**

##### **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>

#### **PUPIL PERSONNEL SERVICES CREDENTIAL**

California Commission on Teacher Credentialing  
(CTC)  
California State Department of Education

#### **PSYCHOLOGY**

American Psychological Association  
750 First Street NE  
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, VA 22314-3457  
Phone: 703/683-8080  
FAX: 703/683-8099  
Web site: <www.cswe.org>  
Email: <info@cswe.org>

# Alumni Associations

## SCHOOL OF DENTISTRY

Graduates of the School of Dentistry organized the Alumni Association in 1957. Membership is extended to those who have earned degrees at this school. Student membership is extended to students of the school.

The primary purposes of the association are to promote the interests of the school, to secure unity among alumni, to foster alumni attachment to alma mater, to enlist members as continuing participants in the association and as active participants in Christian activities and interests, to aid members in attaining to the highest ethical and scientific standards in the practice of their profession, and to aid in general charitable and educational purposes. Major interests of the association include:

1. Hosting the Alumni-Student Convention, including continuing education programs, class reunions, and spiritual events.
2. Advancing the Century Club. Members include alumni and others of the dental profession who contribute a qualifying amount annually to promote and support interests of the alumni and the School.
3. Preparing and distributing alumni and School news to faculty, staff, students, donors, and alumni via the biannual *Dentistry Journal*, the monthly *Dentalgram*, and continuous electronic media such as the Internet and email communications.

The School of Dentistry Alumni Association has made an ongoing commitment to students at the school by supporting a student loan fund and a scholarship endowment fund, both of which are administered by the University.

## SCHOOL OF MEDICINE

Graduates of the School of Medicine organized their Alumni Association in 1915 when only two classes totaling eighteen members had been graduated, and the organization has functioned continuously since that time. Membership is extended to alumni who have graduated with the Doctor of Medicine degree from this University and to graduates of the American Medical Missionary College, operated by Seventh-day Adventists in Battle Creek, Michigan, from 1895 to 1910. Associate membership is extended to students of the School of Medicine, and affiliate membership is extended to faculty who have earned degrees from other institutions. During the 1986-1987 school year, membership was extended to the basic science faculty.

### Statement of mission and purpose

The Alumni Association of the School of Medicine of Loma Linda University is a nonprofit organization composed both of alumni and affiliate members. The association is organized to support the school, to promote excellence in worldwide health care, and to serve its members in the following ways:

1. **EDUCATION**—To encourage continuing education among its members by organizing and offering graduate education and related programs at the Annual Postgraduate Convention and at other health care seminars.
2. **COMMUNICATION**—To publish newsworthy, factual information about alumni and developments at the School of Medicine in the alumni journal, in the annual directory, and in journals of organizations under the umbrella of the association.
3. **HEALTH CARE**—To foster improved health care and preventive medicine throughout the world by conducting postgraduate seminars, demonstrations, and people-to-people, health care interactions with Christian concern and compassion.
4. **PHILANTHROPY**—To encourage the contribution of funds for the support of undergraduate and graduate education at the school, including funds for student loans, research, and professorial chair endowments; and funds to provide for improvement in the school's physical plant. To encourage donations of money, equipment, and supplies for educational centers and health care facilities in areas of need worldwide.
5. **MEDICAL RESEARCH**—To support medical research among the faculty and students of the school, thereby enhancing the association's ability to respond to the needs of its alumni and to advance medical knowledge.
6. **FRATERNITY**—To promote and provide gatherings, in an atmosphere of Christian and professional friendship, which foster unity and advance the foregoing objectives.

## SCHOOL OF NURSING

The Loma Linda University School of Nursing Alumni Association (LLUSNAA) has an office in West Hall. A board of officers and directors carries out the goals and ongoing activities of the association. At the time of graduation, new graduates are



welcomed into the association. Associate membership may be extended to graduates of other accredited schools who are members of the profession in good standing and who share the interests, ideals, and purposes of the alumni association.

**Purpose**

The purpose of the LLUSNAA is to foster alumni unity, mobilize their support, and assist in an organized fashion to encourage continued interest in and commitment to the programs of the School of Nursing. The association promotes the missions of the Seventh-day Adventist Church, the School of

Nursing, and the University. The goals of the association are to:

1. Promote communication among alumni of the School of Nursing and nursing majors in programs in conjunction with the Faculty of Graduate Studies.
2. Foster the advancement of education and science within the programs of the School of Nursing.
3. Support alumni nurses in mission programs at home and abroad.

## To Communicate with LLU

**MAIL:**

Loma Linda University  
11060 Anderson Street  
Loma Linda, CA 92350

**PHONE:**

Switchboard: 909/558-1000, 909/558-4300  
Area code: 909/

**WORLDWIDE WEB:**

<www.llu.edu>

For information about LLU: 1/800/422-4LLU  
Dialing from Canada: 1/800/548-7114

Phone:			Fax:	
Off-campus	On-campus		Off-campus	On-campus
558-4540	44540	Chancellor	558-0242	80242
558-4787	44787	Diversity	558-0140	80140
558-4510	44510	Student Affairs Student welfare, housing, visas	558-4879	44879
558-4955	44955	International Student Services	558-4879	44879
558-4520	44520	Student Finance	558-7904	87904
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
558-6050	66050	Student Assistance Program Spiritual Counseling	558-6051	66051
558-8348	88348	Campus Chaplain/Campus Ministries	558-0347	80347
558-4570	44570	University Church	558-4186	44186
809-1049	44270	Campus Hill Church	796-1992	
558-9200	39200	LLU Behavioral Medicine Center	558-9243	39243
<b>Faculty of Graduate Studies</b>				
558-1800	81800	Admissions	558-4528	44528
558-9485	83374	Dean	558-0908	80908

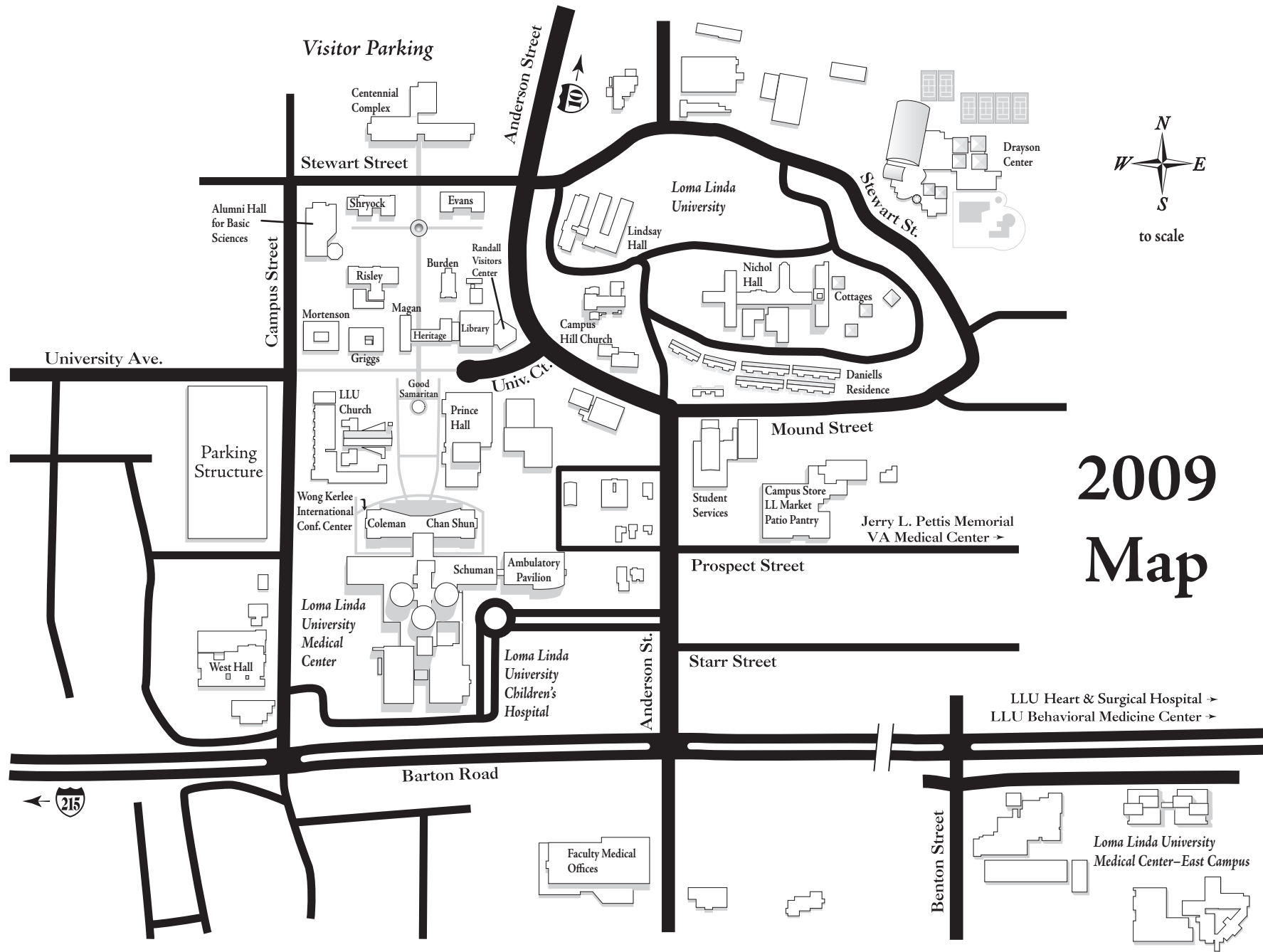
### The Schools

<b>Allied Health Professions</b>				
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
558-4998	44998	Communication Sciences and Disorders (formerly Speech-Language Pathology/Audiology)	558-4291	44291 attn. SPPA
558-4976	44976	Health Information Management	558-0404	80404 attn. HLIN
558-7389	87389	Health Science (B.S., Japan only)	558-0982	80982 attn. HSCI
558-4593	44593	Nutrition and Dietetics	558-4291	44291 attn. DTCS
558-4628	44628	Occupational Therapy	558-0239	80239 attn. OCTH
558-4948	44948	Occupational Therapy Assistant	558-0239	80239 attn. OCTA
558-4632	44632	Physical Therapy	558-0459	80459 attn. PHTH
558-4634	44634	Physical Therapist Assistant	558-0459	80459 attn. PTA
558-7295	87295	Physician Assistant Sciences	558-0495	80495 attn. PAST

558-4931	44931	Radiation Technology	558-4291	44291 attn. RTCH
558-4998	47224	Speech-Language Pathology Assistant	558-4291	44291 attn. SLPA
<b>Dentistry</b>				
558-4222	44222	Dentistry		
558-4621	44621	Admissions	558-0195	80195
558-4683	44683	Dean	558-0483	80483
558-8624	88624	Advanced Dental Education Programs	558-0122	80122
558-4621	44621	Dentistry Program	558-0195	80195
558-4631	44631	Dental Hygiene Program	558-0313	80313
558-4669	44669	International Dentist Program	558-0133	80133
558-4790	44790	SD Student Affairs	558-4790	44790
558-4601	44601	SD Academic Affairs	558-0730	80730
<b>Medicine</b>				
558-4462	44462	Medicine	558-4146	44146
558-4467	44467	Admissions	558-0359	80359
558-4481	44481	Dean	558-4146	44146
<b>Nursing</b>				
558-1000	44360	Nursing	558-4134	44134
558-4923	44923	Admissions	558-0175	80175
558-4517	44517	Dean	558-0225	80225
558-8061	88061	Graduate	558-0719	80719
558-8060	88060	Undergraduate	558-0643	80643
558-7122	87122	International Nursing	558-0224	80224
<b>Pharmacy</b>				
558-1300	41300	Pharmacy	558-4859	44859
558-1300	41300	Admissions	558-4859	44859
558-4745	44745	Dean	558-7973	87973
<b>Public Health</b>				
558-4546	44546	Public Health	558-4087	44087
558-4918	44918	Addiction Medicine Fellowship	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	558-0326	80326 attn. EPDM/STAT
558-4902	44902	Global Health	558-0389	80389 attn. GLBH
558-4573	44573	Health Policy and Management	558-0469	80469 attn. HADM
558-4741	44741	Health Promotion and Education	558-0471	80471 attn. HPRO
558-4575	44741	Maternal and Child Health	558-0471	
558-4598	44598	Nutrition	558-4095	44095 attn. NUTR
558-4918	44918	Occupational Medicine Residency Program	558-4087	44087
558-4918	44918	Preventive Medicine Residency Program	558-4087	44087 attn. PMR
<b>Religion</b>				
651-5952	15952	Admissions and Academic Records	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
558-7786	87786	Center for Spiritual Life and Wholeness	558-7988	87988
558-8433	88433	Clinical Ministry	558-4856	44856
558-8433	88433	Religion and the Sciences	558-4856	44856
5584536	44536	Division of Humanities	558-4856	44856

<b>Science and Technology</b>				
558-1900	41900	Admissions and Records	558-7967	87967
558-4528	44528	Dean	558-0441	80441
		Web site	Email	
<b>Student Services</b>	<www.llu.edu/central/ssweb/index.page>			
<b>University Records</b>			<registrar@univ.llu.edu>	
<b>Faculty of Graduate Studies</b>	<www.llu.edu/science-technology/grad/index.page>		<azuccarelli@llu.edu>	
<b>Admissions</b>	<www.llu.edu/science-technology/grad/index.page>		<admissions.gs@llu.edu>	
<b>The Schools</b>				
<b>Allied Health Professions</b>	<www.llu.edu/allied-health/>			
Admissions			<admissions@sahp.llu.edu> attn. Admissions	
Cardiopulmonary Sciences			<admissions@sahp.llu.edu> attn. CPSC	
Clinical Laboratory Science			<clin.sahp@llu.edu> attn. CLSC	
Communication Sciences and Disorders			<admissions@sahp.llu.edu> attn. SPPA	
Health Information Management			<admissions@sahp.llu.edu> attn. HLIN	
Nutrition and Dietetics			<nutrition@llu.edu> attn. DTCS	
Occupational Therapy			<admissions@sahp.llu.edu> attn. OCH	
Physical Therapy			<admissions@sahp.llu.edu> attn. PHTH	
Physical Therapy Assistant			<admissions@sahp.llu.edu> attn. PTA	
Physician Assistant Sciences			<admissions@sahp.llu.edu> attn. PAST	
Radiation Technology			<admissions@sahp.llu.edu> attn. RTCH	
<b>Dentistry</b>				
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Anesthesiology	<www.llu.edu/dentistry/anesthesia/graduateprogram.page>		<advanceddentaledu@llu.edu>	
Endodontics	<www.llu.edu/dentistry/endo/graduateprogram.page>		<advanceddentaledu@llu.edu>	
Implant Dentistry	<www.llu.edu/dentistry/implant/graduateprogram.page>		<advanceddentaledu@llu.edu>	
Oral and Maxillofacial Dentistry	<www.llu.edu/dentistry/oms/graduateprogram.page>		<advanceddentaledu@llu.edu>	
Orthodontics	<www.llu.edu/dentistry/ortho/graduateprogram.page>		<advanceddentaledu@llu.edu>	
Pediatric Dentistry	<www.llu.edu/dentistry/pediatrics/graduateprogram.page>		<advanceddentaledu@llu.edu>	
Periodontics	<www.llu.edu/dentistry/perio/graduateprogram.page>		<advanceddentaledu@llu.edu>	
Prosthodontics	<www.llu.edu/dentistry/prostho/graduateprogram.page>		<advanceddentaledu@llu.edu>	
<b>Medicine</b>	<www.llu.edu/medicine/>		<ledwards@llu.edu>	
<b>Nursing</b>	<www.llu.edu/nursing/>		<admissions_sn@sn.llu.edu>	
<b>Pharmacy</b>	<www.llu.edu/pharmacy/>			
Admissions			<admissions.sp@llu.edu>	
<b>Public Health</b>	<www.llu.edu/public-health/>			
Admissions and Academic Records	<www.llu.edu/public-health/>		<admissions.sph@llu.edu>	
Distance Learning			<distancelearning@llu.edu>	
Environmental and Occupational Health	<www.llu.edu/public-health/envh/index.page>		<envhdept@llu.edu>	
Epidemiology and Biostatistics	<www.llu.edu/public-health/epibio/index.page>		<epibiodept@llu.edu>	
Global Health	<www.llu.edu/public-health/glbh/index.page>		<globalhealthdept@llu.edu>	
Health Policy and Management	<www.llu.edu/public-health/hadm/index.page>		<hadmdept@llu.edu>	
Health Promotion and Education	<www.llu.edu/public-health/hpro/index.page>		<dmwatson@llu.edu>	
Nutrition	<www.llu.edu/public-health/nutrition/index.page>		<nutritiondept@llu.edu>	
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Recruitment and Marketing	<www.llu.edu/public-health/>		<sphinfo@llu.edu>	

<b>Religion</b>	< <a href="http://www.llu.edu/religion/index.page">www.llu.edu/religion/index.page</a> >	
Program Director of M.A. in Biomedical and Clinical Ethics	< <a href="http://www.llu.edu/religion/ethics.page">www.llu.edu/religion/ethics.page</a> >	< <a href="mailto:mcarr@llu.edu">mcarr@llu.edu</a> >
Program Director of M.A. in Clinical Ministry	< <a href="http://www.llu.edu/religion/clinical-ministry.page">www.llu.edu/religion/clinical-ministry.page</a> >	< <a href="mailto:ssorajakool@llu.edu">ssorajakool@llu.edu</a> >
Program Director of M.A. in Religion and the Sciences	< <a href="http://www.llu.edu/religion/ma-religion-sciences.page">www.llu.edu/religion/ma-religion-sciences.page</a> >	< <a href="mailto:rrice@llu.edu">rrice@llu.edu</a> >
Center for Christian Bioethics	< <a href="http://www.llu.edu/central/bioethics/index.page">www.llu.edu/central/bioethics/index.page</a> >	< <a href="mailto:bioethics@llu.edu">bioethics@llu.edu</a> >
Center for Spiritual Life and Wholeness	< <a href="http://www.llu.edu/wholeness/">www.llu.edu/wholeness/</a> >	< <a href="mailto:innerweave@llu.edu">innerweave@llu.edu</a> >
Chair, Division of Humanities		< <a href="mailto:jwalters@llu.edu">jwalters@llu.edu</a> >
<b>Science and Technology</b>	< <a href="http://www.llu.edu/science-technology/">www.llu.edu/science-technology/</a> >	< <a href="mailto:admissions.sst@llu.edu">admissions.sst@llu.edu</a> >



Visitor Parking

Stewart Street

Alumni Hall  
for Basic  
Sciences

Campus Street

Centennial  
Complex

Shryock

Evans

Risley

Burden

Randall  
Visitors  
Center

Mortenson

Magan

Heritage

Library

Griggs

Good  
Samaritan

Prince  
Hall

Wong Kerlee  
International  
Conf. Center

Coleman

Chan Shun

Schuman

Ambulatory  
Pavilion

Loma Linda  
University  
Medical  
Center

Parking  
Structure

West Hall

Loma Linda  
University  
Children's  
Hospital

Faculty Medical  
Offices

Barton Road

Loma Linda  
University

Lindsay  
Hall

Nichol  
Hall

Cottages

Daniels  
Residence

Mound Street

Student  
Services

Campus Store  
LL Market  
Patio Pantry

Jerry L. Pettis Memorial  
VA Medical Center →

Prospect Street

Starr Street

LLU Heart & Surgical Hospital →  
LLU Behavioral Medicine Center →

Loma Linda University  
Medical Center—East Campus

Benton Street



to scale

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