

Catalog of
**Loma Linda
University**
2010–2011

This is a one-year Catalog,
effective beginning Summer Quarter 2010.



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.

Table of Contents

Introduction

President's Welcome	3
Programs, Degrees, and Certificates	4
Distance Learning Programs Offered at Loma Linda University	7
Accreditation Overview	7
Affirmative Action	8
Accommodation for Disability	9
Nondiscrimination Policy	9
The Academic Calendar	10

About the University

Vision and Mission	19
University Philosophy	20
Core Values	20
Student Learning Outcomes	20
University Mace, Coat of Arms, and Seal	21
University Foundations	22
A Unique University	23
Spiritual Life	23
Learning Environment	24
Admission Policies and Information	27
Division of General Studies	34
Student Life	40
Academic Policies and Information	50
Financial Policies and Information	57

About the Schools

School of Allied Health Professions

Dean's Welcome	66
School Foundations	67
Mission and Goals	67
General Regulations	68
Student Life	70
Academic Policies and Information	71
Allied Health Studies	73
Financial Policies and Information	76
Programs, Degrees, and Certificates Offered	
Clinical Laboratory Science—AH	87
Coding Specialist—AH	93
Cardiac Electrophysiology Technology	95
Communication Sciences and Disorders—AH	97
Cytotechnology—AH	108
Diagnostic Medical Sonography—AH	113
Dietetic Technology—AH	115
Emergency Medical Care—AH	119

Health Care Administration—AH	122
Health Information Administration—AH	124
Health Professions Education—AH	132
Medical Dosimetry—AH	133
Medical Radiography—AH	136
Nuclear Medicine Technology—AH	139
Nutrition and Dietetics—AH	141
Occupational Therapy—AH	150
Orthotics and Prosthetics—AH	158
Physical Therapist Assistant—AH	159
Physical Therapy—AH	164
Physician Assistant—AH	173
Radiation Sciences—AH	177
Radiation Therapy Technology—AH	182
Radiologist Assistant—AH	183
Rehabilitation Science—AH	186
Respiratory Care—AH	189
School Certificates	198
Computed Tomography (CT)—AH	198
Imaging Informatics—AH	200
Dietary Management	201
Magnetic Resonance Imaging (MRI)—AH	202
Phlebotomy—AH	204
Radiography Advanced Placement—AH	205

School of Dentistry

Dean's Welcome	209
School Foundations	210
Our Mission	211
Vision	211
Core Values	211
General Information	212
Student Life	225
Academic Information	227
Financial Information	240
Programs, Degrees, and Certificates Offered	
Dentistry, General—SD	247
Dental Hygiene—SD	266
Dentistry, International Dentist Program—SD	274
Postdoctoral Programs	277
Dental Anesthesiology, Advanced—SD	277
Endodontics, Advanced—SD	279

Implant Dentistry, Advanced—SD	280	<i>School of Pharmacy</i>	
Oral and Maxillofacial Surgery, Advanced—SD	283	Dean's Welcome	418
Orthodontics and Dentofacial Orthopedics, Advanced—SD	285	School Foundations	419
Pediatric Dentistry, Advanced—SD	287	Mission, Goals, and Values	419
Periodontics, Advanced—SD	289	General Regulations	420
Prosthodontics, Advanced—SD	291	Student Life	425
Dual Major Option	293	Financial Information	436
Master of Science in Dentistry (M.S.D.) Degree, Advanced—SD	295	Program/Degree Offered Pharmacy—SP	438
Master of Science (M.S.) Degree, Advanced—SD	297		
<i>School of Medicine</i>		<i>School of Public Health</i>	
Dean's Welcome	299	Dean's Welcome	444
School Foundations	300	Mission, Goals, and Values	445
General Regulations	300	School Foundations	445
Application and Admissions	301	General Regulations	446
Student Life	304	Learning Environment	446
Curriculum	305	Application and Admissions	453
Academic Information	306	Academic Policies and Regulations	454
Research Centers	312	Financial Information	471
Financial Information	313	Programs, Degrees, and Certificates Offered	
Programs, Degrees, and Certificates Offered		Biostatistics—PH	474
Anatomy—SM	317	Environmental and Occupational Health—PH	477
Biochemistry—SM	321	Epidemiology—PH	481
Medical Scientist—SM	325	Global Health—PH	494
Biomedical Sciences—SM	327	Health Care Administration—PH	502
Medicine—SM	328	Health Education—PH	505
Microbiology and Molecular Genetics—SM	356	Health Geographics and Biomedical Data Management—PH	510
Pharmacology—SM	360	Health Policy and Leadership—PH	513
Physiology—SM	364	Lifestyle Medicine—PH	520
		Maternal and Child Health—PH	522
		Nutrition—PH	524
		Preventive Care—PH	531
		Public Health Practice—PH	534
		<i>Certificates</i>	
<i>School of Nursing</i>		Biostatistics—PH	538
Dean's Welcome	371	Emergency Preparedness and Response—PH	539
School Foundations	372	Epidemiology—PH	540
Our Mission	372	Epidemiology Research Methods—PH	542
Learning Outcomes	372	Health Geoinformatics—PH	543
Philosophy	373	Lifestyle Interventions—PH	546
General Regulations	374	Maternal and Child Health—PH	547
Application and Admission	374	Tobacco Control Methods—PH	548
Student Life	377		
Academic Policies and Practices	378		
Financial Information	383		
Programs, Degrees, and Certificates Offered			
Nursing—SN	386		

School of Religion

Dean's Welcome 551
School Foundations 552
General Regulations 552
Application and Admissions 552
Financial Information 553
Programs, Degrees, and Certificates Offered
 Bioethics—SR 554
 Clinical Ministry—SR 556
 Religion and the Sciences—SR 559
Division of Humanities—Humanities
Program 561

School of Science and Technology

Dean's Welcome 564
School Foundations 565
Application and Admissions 565
Student Life 574
Academic Information 574
Financial Information 575
Programs, Degrees, and Certificates Offered
 Biology—ST 576
 Case Management—ST 581
 Child Life Specialist—ST 582
 Clinical Mediation—ST 585
 Counseling—ST 587
 Criminal Justice—ST 591
 Drug and Alcohol Counseling—ST 595
 Earth Science—ST 597
 Environmental Sciences—ST 601
 Family Counseling—ST 607
 Family Life Education—ST 608
 Family Studies—ST 610
 Geology—ST 617
 Gerontology—ST 625
 Marital and Family Therapy, M.S.—ST 629
 Marital and Family Therapy, Ph.D.,
 D.M.F.T.—ST 637
 Natural Sciences—ST 648
Program Evaluation and
 Research—ST 650
Psychology—ST 652
School Counseling—ST 658
Social Policy and Social Research—ST 662
Social Work—ST 665
Social Work, Clinical—ST 673
Spanish Studies for Health Care
 Professionals—ST 677

Faculty of Graduate Studies

Dean's Welcome 680
Foundations of Graduate Study 681
General Regulations 681
Student Life 682
Academic Information 682
Financial Information 682
Graduate Degrees Overseen by the Faculty of
Graduate Studies 683

The Combined Degrees Programs of the
University 684

The Courses

Course Prefixes 716
Allied Health—Conjoint 718
Anatomy 730
Anesthesiology 733
Anthropology 734
Art Appreciation and History 735
Biochemistry 735
Biology 737
Biophysics and Bioengineering 740
Cardiac Electrophysiology Technology 740
Cell and Molecular Biology 743
Child Life Specialist 744
Chinese 745
Clinical Laboratory Science 746
Clinical Social Work 750
Coding Specialist 752
Communication 754
Communication Sciences and Disorders 754
Composition 758
Counseling 758
Criminal Justice 761
Cytotechnology 762
Dental Educational Services 764
Dental Hygiene 765
Dermatology 770
Dietetic Technology 770
Dietetics 772
Earth System Science 777
Emergency Medical Care 777
Emergency Medicine 780
Endodontics 780
English 781
English as a Second Language 782
Environmental Health 782
Environmental Sciences 788

Epidemiology	789	Pediatric Dentistry	886
Family Medicine	794	Pediatrics	887
Family Studies	794	Periodontics	887
Geology	797	Pharmaceutical Sciences	889
Gerontology	801	Pharmacology	891
Global Health	802	Pharmacy Conjoint	893
Graduate Dentistry	808	Pharmacy Practice—Drug Information	894
Graduate Studies—Conjoint	809	Pharmacy Practice—Experiential Education	894
Gynecology and Obstetrics	809	Pharmacy Practice—Pharmaceutical Care	897
Health Administration	809	Pharmacy Practice—Therapeutics	898
Health Care Administration	815	Pharmacy—Social and Administrative Sciences	901
Health Information Administration	817	Philosophy	902
Health Information Executive Certificate	820	Physical Education Activity	902
Health Promotion and Education	821	Physical Therapist Assistant	902
Humanities	830	Physical Therapy	905
Implant Dentistry	830	Physical Therapy—Progression Master’s	914
Integrated Biomedical Graduate Studies	832	Physicians Assistant	915
Interdisciplinary Studies	833	Physiology	920
International Dentist Program—Clinics	834	Preventive Medicine	924
International Dentist Program—General	834	Prosthodontics	924
International Dentist Program—Oral Pathology	834	Psychiatry	926
International Dentist Program—Periodontics and Pediatric Dentistry	835	Psychology	926
International Dentist Program—Restorative	835	Public Administration	937
Marital and Family Therapy	836	Public Health—Conjoint	938
Marriage and Family	841	Radiation Medicine	939
Medical Education Services	847	Radiation Technology	939
Medicine	848	Radiation Technology—Imaging Informatics	940
Medicine—Conjoint	848	Radiation Technology—Medical Dosimetry	942
Microbiology	852	Radiation Technology—Medical Radiography	943
Music History and Literature	854	Radiation Technology—Medical Sonography	947
Natural Sciences	854	Radiation Technology—Nuclear Medicine	949
Neurology	856	Radiation Technology—Radiation Sciences	950
Neurosurgery	856	Radiation Technology—Radiation Therapy	951
Nursing	856	Radiation Technology—Radiologist Assistant	953
Nursing Bridge	866	Radiation Technology—Special Imaging	955
Nutrition	867	Radiologic Technology Advanced Placement	957
Occupational Therapy	872	Radiology	957
Occupational Therapy Assistant	877	Reading	958
Ophthalmology	879	Rehabilitation Science	958
Oral and Maxillofacial Surgery	879	Religion—Ethical Studies	958
Oral Diagnosis, Radiology, and Pathology	881	Religion—General Studies	961
Oral Pathology	883	Religion—Relational Studies	961
Orthodontics	883	Religion—Theological Studies	964
Orthopaedic Surgery	885	Respiratory Therapy	967
Orthotics and Prosthetics	885	Restorative Dentistry	973
Otolaryngology	885	School of Dentistry—Clinical	975
Pathology	885	School of Dentistry—Conjoint	976

Science and Technology—Conjoint	976
Social Policy	977
Social Work	979
Sociology	987
Spanish	988
Statistics	989
Surgery	994
Urology	995
Writing	995

The Faculty999

General Information

University Board and Administration	1125
School Administrations, Committees, and Affiliations	1126
Accreditation Status	1142
Accrediting Agencies	1144
Alumni Associations	1149
To communicate with LLU	1150
Maps and Legends	1156
Index	1157

I

Introduction

President's Welcome
Programs, Degrees, and Certificates
Accreditation Overview
Affirmative Action
Accommodation for Disability
Nondiscrimination Policy
The Academic Calendar 2010–2011

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. 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 emphasize what we call mission-focused learning. This means that what we offer centers on more 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.

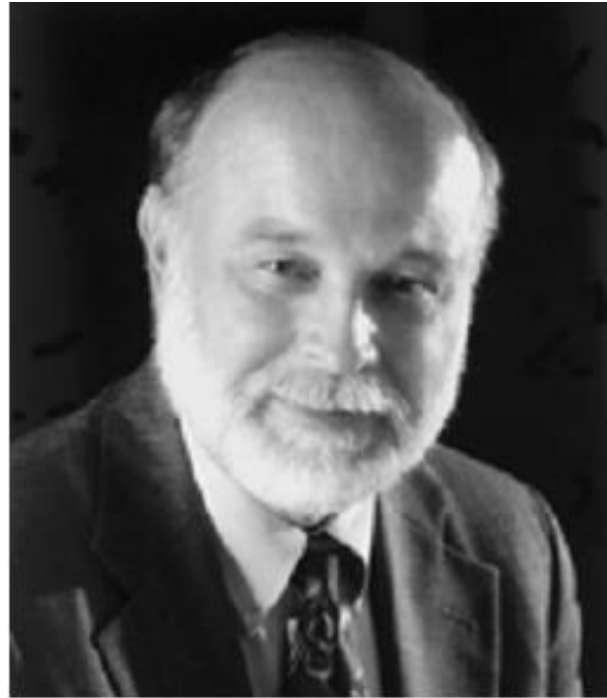
You also will find an incredible mixture of cultural diversity on our campus. Revel in our differences, and use each exposure to help you understand the issues that separate us. With understanding comes acceptance. And with acceptance come peace and fellowship. So use your time at Loma Linda to seek 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 42,000 alumni.

Cordially yours,

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

Email: <wascsr@wascsenior.org>

WASC is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Commission on Recognition of Postsecondary Accreditation.

In addition to WASC, the following 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:

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| AH | Allied Health Professions | SP | Pharmacy |
| PH | Public Health | SR | Religion |
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2010

Summer Sessions 2010

MAY		
3-14	SM	Freshman final examinations
17-28	SM	Sophomore final examinations
24-June 15	SD	Registration for didactic remediation session
28	SD	Dental Hygiene Pinning Ceremony
	SM	Consecration and Hooding Ceremony
	SP	Hooding Ceremony
29	SM, SP, SD	Baccalaureate service
30	SM, SP, SD	Conferring of Degrees
31	U	Memorial Day
JUNE		
1	SM	Registration for Summer Quarter begins-third year
9	SM	Registration for Summer Quarter begins-fourth year
7-11	SP	Final examinations
9-12	SD	Final examinations
10-July 5	SD	National Board Dental Examination, Part I
10	AH, SN, PH, SR, ST	Focus on Graduates vesper service
11	SD	Dental Board of California Law and Ethics Examination
11	U	Spring Quarter ends
12	AH, SN, SP, PH, SR, ST	Baccalaureate service
13	ST, SR, SN, AH, PH	Conferring of Degrees
11-July 3	SD	Predoctoral and Dental Hygiene didactic remediation session
11-15	SD	Western Regional Examination Board
12	SD	Predoctoral and Dental Hygiene Program
	SD	Spring Quarter ends
	SD	Advanced Dental Education Programs didactic Spring Quarter ends
13	AH, SN, PH, SR, ST	Focus on Graduates vesper service)
13	AH, SN, PH, SR, ST	Baccalaureate service
14	AH, PH, SN, SR, ST	Conferring of Degrees
16	U	Grades due from faculty
	SD	D1 comprehensive examination

16	SD	D2 National Board Dental Examination qualifying examination
16–July 7	SD	Predoctoral and Dental Hygiene Program summer recess
17	SD	Instruction begins for didactic remediation session
20	U	Summer Quarter begins
22–Aug 7	SN	Summer-only Ph.D. degree Nursing Program
22	U	Summer Quarter begin date
23–25	SM	Junior orientation
28	SD	Advanced Dental Education Orthodontics Program term begins
	SM	Junior Summer Quarter begins
30	SD	Advanced Dental Education Programs orientation, Advanced Dental Education Program in Orthodontics term begins
JULY		
1	SD	Advanced Dental Education orientation and instruction begins
4–5	U	Fourth of July holiday
6	SD	Predoctoral and Dental Hygiene instruction begins
7	SM	Senior orientation/Summer Quarter begins
11–13	SD	"Careers in Dentistry" seminar
12	SM	Registration for Summer Quarter begins-first year
26	SM	Registration for Summer Quarter begins-second year
AUGUST		
3	U	Summer Quarter ends
5	SD	D4 restorative simulated board examination
5–6	SM	Freshman orientation
9	SM	Freshman Summer Quarter begins
16	SP	PY4 APPE begins
23	SM	Sophomore Summer Quarter begins
26	SD	UIC NBII mock board

Post-Summer Sessions 2010

SEPTEMBER		
6	U	Labor Day recess
4	U	Summer Quarter ends
13–16	SD	Final examinations
16	SD	Advanced Dental Education didactic Summer Quarter ends Predoctoral and Dental Hygiene Summer Quarter ends

17	SD	Advanced Dental Education in Orthodontics and Endodontics programs ends, (second year only)
	SD	Advanced Dental Education Programs clinical Summer Quarter ends, End of term for specific programs
17-16	SD	Predoctoral and Dental Hygiene Summer Quarter recess
19-28	SD	Predoctoral and Dental Hygiene Program summer recess
20-24	SP	PY1 orientation
23	U	Faculty colloquium
24	SD	Advanced Dental Education clinical Summer Quarter ends
24-26	SM	Pine Springs Ranch retreat
27	U	Fall Quarter begins

Fall Quarter 2010

26	SD	Advanced Dental Education Program in Endodontics ends (third year only)
27	SD, SP	Instruction begins
OCTOBER		
4	SM	Junior Fall Quarter begins
24	SD	California Dental Hygienists' Association examination
27-28	SD	D3 restorative simulated board examination
NOVEMBER		
1-4	SD	D4 restorative simulated board examination
4	SP	White coat ceremony
24-26	U	Thanksgiving recess
DECEMBER		
13-16	SD	Final examinations
13-17	SP	Final examinations
16	SD	Predoctoral and Dental Hygiene Autumn Quarter ends
17	U	Fall Quarter ends
17	SD	Advanced Dental Education didactic Autumn Quarter ends
17-Jan 3	SD	Predoctoral and Dental Hygiene Autumn Quarter recess
16-Jan 3	SD	National Board Dental Examination, Part II
18	U	Fall Quarter ends
18-Jan 2	U	Christmas recess
31	SD	Advanced Dental Education clinical Autumn Quarter ends

2011**JANUARY**

3	U	Winter Quarter begins
	SP	Instruction begins
4	SD	Instruction for ALL programs begins, except as indicated on calendar
10	SM	Junior Winter Quarter begins
13	U	Health and faith forum
17	U	Martin Luther King, Jr., Day
24–26	SD	D4 Western Regional Examination Board qualifying examination
30	SD	Clinic with a Heart

FEBRUARY

10–14	SD	51st annual alumni-student convention
11	SD	Student dedication service
18	SM	Family Day and Freshman dedication service
21	U	Presidents' Day holiday

MARCH

14–17	SD	Final examinations
14–18	SP	Final examinations
14-April 8	SD	National Board Dental Hygiene Examination
17	SD	Predocutorial and Dental Hygiene Winter Quarter ends
	SM	Senior match day
18	U	Winter Quarter ends
18	SD	Advanced Dental Education didactic Winter Quarter ends
18–27	SD	Predocutorial and Dental Hygiene Winter Quarter recess
19–23	SD	Western Regional Examination Board
19–27	U	Spring recess
25	SD	Advanced Dental Education clinical Winter Quarter ends
28	U	Spring Quarter begins
	SD, SP	Instruction begins
29	SD	IDP graduation banquet

APRIL

4	SD	D3 restorative simulated board examination
	SM	Junior Spring Quarter begins

MAY

19	SD	D4 graduation banquet
27	SD	Awards chapel
	SM	Consecration and Hooding Ceremony
	SP	Hooding Ceremony

28	SD	Dental Hygiene Pinning Ceremony
	SM, SP, SD	Baccalaureate services
29	SM,SP, SD	Conferring of Degrees
30	U	Memorial Day
	JUNE	
6-9	SD	Final examinations
6-10	SP	Final examinations
9	SD	Predoctoral and Dental Hygiene Spring Quarter ends
10-July 4	SD	Predoctoral and Dental Hygiene Spring Quarter recess
10	SD	Advanced Dental Education didactic Spring Quarter ends
	SD	D1 comprehensive examination (required)
	SD	D2 National Board Dental Examination, Part I
10	U	Spring Quarter ends
10	U	Focus on Graduates vesper service
11	AH, SN, ST	Baccalaureate services
12	AH, SN, ST	Conferring of Degrees
20	U	Summer Quarter begins
30	SD	Advanced Dental Education clinical Spring Quarter ends
	JULY	
5	U	Independence Day recess
	SEPTEMBER	
2	U	Summer Quarter ends
5	U	Labor Day
22	U	Faculty colloquium
26	U	Fall Quarter begins

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, atti-

tudes, 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 mission, 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 (LLUHSH), 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 The institution was named 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) is a Loma Linda University program housed in

the Global Health Institute program that exemplifies the University's legacy and its commitment to global service. It provides inspiring and life-changing global service opportunities for students while focusing on assisting areas of need. SIMS coordinates monthly group trips to Mexico and several yearly group trips to other sites, such as the Amazon, South America, and Africa. In addition, SIMS assists individual students with mission electives and service-learning placements at almost fifty partner mission hospitals and clinics spread around the world. The mission of SIMS 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 commitment. More information is available by calling the SIMS office at 909/558-8089, accessing the SIMS Web site at <www.llu.edu/central/sims/index.page>, or visiting the SIMS office at Nelson House located at 11226 Campus Street.

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>.

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 three major library resources on campus support the University's academic programs:

- the Del E. Webb Memorial Library,
- 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 2009, the Library had a total collection of 405,281 books and bound journals; 244,941 print and electronic books; and 10,894 currently received print and electronic journal titles.

For more detailed information, consult <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, digital books, and journal collections; end-user training programs; interlibrary loans; photocopy 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 access to all campus library collections. In addition to the collections of the Del E. Webb Memorial, there are nursing skills laboratory, 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 coun-

ties. 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>. Application to a degree or certificate program is to be submitted online at <www.llu.edu/central/apply/index.page>. Exception: Some Loma

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> or the school of choice, using the address listed on <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>, 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 reentry. 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 reapplicant is within a year of his/her time limit at the time of reapplication, or if the time limit has expired and the reapplicant is requesting readmission 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 level. Transfer credit is defined as credit completed at another U.S.A. college or university accredited by a regional associa-

tion, 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 in 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 school 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 obtained 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 his/her 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> 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> 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. The student should contact his/her advisor regarding 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 a student's program allows 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-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

International students 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 advisor 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 advisor 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.

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.

Descriptions for general education courses are available in Section IV—The Courses—of this CATALOG.

Domain 1: Religion and Humanities (28–32 quarter units)

HUMANITIES

ARTA 205 The Language of Art (2–4)
 CHIN 105 Chinese Civilization (4)
 CHIN 106 China Today—Its Language and Culture (4)
 CHIN 111 Mandarin I (4)
 CHIN 112 Mandarin II (4)
 CHIN 205 Immersion Language and Culture Program (4)
 CHIN 206 Health Care-Service Learning in a Chinese Context (2, 4)
 CHIN 305 Mandarin for Health Care Professionals (2, 4)
 CMSD 217 Beginning Sign Language (3)
 DNHY 408 Professional Ethics (2)
 DNHY 409 Jurisprudence (2)
 ENGL 206 Introduction to Literature (4)
 ENGL 246 Literary Forms and Ideas (4)
 ENGL 478 Theory and Applications of Linguistics (3)
 HUMN 404 Survey of Health Care Narrative (2)
 MUHL 205 Introduction to Music (4)
 SPAN 101 Elementary Spanish I (2, 4)
 SPAN 102 Elementary Spanish II (4)
 SPAN 103 Elementary Spanish III (4)
 SPAN 118 Spanish Literature I (4)
 SPAN 119 Spain: Culture and Civilization (4)
 SPAN 122 Tradition and Paradox of Latin American Women (4)
 SPAN 123 Practicum in Spanish I (4)
 SPAN 128 Practicum in Spanish II (4)
 SPAN 130 Practicum in Medical Spanish IV (4)
 SPAN 201 Intermediate Spanish I (4)
 SPAN 202 Intermediate Spanish II (4)
 SPAN 203 Intermediate Spanish III (4)
 SPAN 301 Advanced Medical Spanish I (4)
 SPAN 401 Advanced Spanish Composition I (4)

RELIGION

RELE 447 Religion and Society (2–4)
 RELE 455 Christian Understanding of Sexuality (2, 3)
 RELE 456 Personal and Professional Ethics (2, 3)
 RELE 457 Christian Ethics and Health Care (2, 3)
 RELR 404 Christian Service (1, 2)

RELR 408 Christian Perspectives on Marriage and the Family (2, 3)
 RELR 409 Christian Perspectives on Death and Dying (2, 3)
 RELR 415 Christian Theology and Popular Culture (2, 3).
 RELR 427 Crisis Counseling (2, 3)
 RELR 429 Cultural Issues in Religion (2, 3)
 RELR 448 Church and Community Leadership (2, 3)
 RELR 475 Art of Integrative Care (2, 3)
 RELT 404 New Testament Writings (2, 3)
 RELT 406 Adventist Beliefs and Life (2, 3)
 RELT 415 Philosophy of Religion (2, 3)
 RELT 416 God and Human Suffering (2, 3)
 RELT 423 Loma Linda Perspectives (2–3) (meets religion requirement)
 RELT 425 Contemporary Religious Issues (2, 3)
 RELT 426 Jesus (2, 3)
 RELT 436 Adventist Heritage and Health (2, 3)
 RELT 437 Current Issues in Adventism (2, 3)
 RELT 440 World Religions (2, 3)
 RELT 444 Christian Mission (2, 3)
 RELT 447 Cross-cultural Ministry (2, 3)
 RELT 464 Paul's Message in Romans (2, 3)
 RELT 464 Paul's Message in Romans (2–3)
 RELT 474 Love and Sex in the Bible (2, 3)
 RELT 475 Spirituality and the Contemporary Christian (2, 3)
 RELT 476 The Bible and Ethics (2, 3)

Domain 2: Scientific Inquiry and Analysis (24–32 quarter units)

NATURAL SCIENCES

AHCJ 235 Essentials of Human Anatomy and Physiology (4)
 AHCJ 235L Essentials of Human Anatomy and Physiology Laboratory (1)
 AHCJ 241 Microbiology (2.5)
 AHCJ 242 Microbiology (2.5)
 AHCJ 250 Anatomy and Physiology (4)
 AHCJ 251 Anatomy and Physiology (4)
 AHCJ 351 Statistics for the Health Professions (3)
 AHCJ 402 Pathology I (4)
 AHCJ 403 Pathology II (3, 4)
 AHCJ 418 Physiology I (4)
 AHCJ 471 Statistics and Research for Health Professionals I (3)

AHCJ 472 Statistics and Research for Health Professionals II (3)
 BCHM 306 Introduction to Organic and Biochemistry (6)
 CMSD 304 Hearing Science (4)
 CMSD 376 Anatomy of Speech and Hearing Mechanism (4)
 DNHY 390 Introductory Statistics (2)
 ENVH 414 Introduction to Environmental Health (3)
 EPDM 414 Introduction to Epidemiology (3)
 STAT 414 Introduction to Biostatistics I (3)
 STAT 415 Computer Applications in Biostatistics (1)
 STAT 464 Survey and Advanced Research Methods (4)

SOCIAL SCIENCES

AHCJ 305 Infectious Disease and the Health Care Provider (1)
 AHCJ 324 Psychosocial Models and Interventions (2)
 AHCJ 328 Wholeness Portfolio I (1)
 AHCJ 331 Human Resource Management (3)
 AHCJ 407 Financial Management (2)
 AHCJ 408 Health Care Management (4)
 AHCJ 415 Educational Psychology for Health Professionals (3)
 AHCJ 421 Psychology of Physical Disability (2)
 AHCJ 461 Research Methods (2)
 AHCJ 498 Wholeness Portfolio II (1)
 ANTH 304 Biological Anthropology (4) (meets diversity requirement)
 ANTH 306 Language and Culture (4) (meets diversity requirement)
 ANTH 315 Cultural Anthropology (4) (meets diversity requirement)
 ANTH 316 Archaeology (4)
 ANTH 436 Cultural Contexts of Religion (4) (meets diversity requirement)
 ANTH 448 Medical Anthropology (4) (meets diversity requirement)
 CMSD 377 Bilingualism and Biculturalism I (2)
 DNHY 414 Personal Finance (2)
 ENVH 422 Principles of Geographic Information Systems (4)
 HPRO 431 Psychology and Sociology of Sport (3)

PHCJ 401 Essentials of Public Health (4)
 PSYC 226 Life-Span Development (4)

Domain 3: Communication (9–13 quarter units)

AHCJ 177 Professional Literacy for Non-native Readers (3)
 AHCJ 308 Professional Communications (1–2)
 AHCJ 311 Medical Terminology (2)
 AHCJ 405 Dynamics of Learning and Teaching (2)
 AHCJ 409 Adult Learning Styles (3)
 AHCJ 426 Introduction to Computer Applications (2)
 AHCJ 432 Database Management I (2)
 AHCJ 433 Database Management II (2)
 AHCJ 464 Group Process and Dynamics (3)
 AHCJ 465 Seminars in Leadership (2)
 DNHY 499 Research Writing (2)
 ENGL 300 Research Writing for Health Care Professionals (2)
 RDNG 277 Advanced Reading Techniques—Able III (2)
 STAT 439 Fundamentals of Microcomputer Usage (1)
 WRIT 324 Writing for Health Care Professionals (2)

Domain 4: Health and Wellness (2–6 quarter units)

DTCS 301 Human Nutrition (3)
 DTCS 311 Human and Clinical Nutrition for Nursing (4)
 DTCS 312 Clinical Nutrition for Nursing (2)
 HPRO 414 Personal Health and Fitness (4)
 HPRO 415 Consumer Health (3)
 HPRO 416 Health through the Life Span (4)
 NUTR 474 Nutrition and Fitness (3)
 PEAC 110 Independent Activities (.5, 1)

Domain 5: Electives

Electives from Domains 1–4 may be selected to complete the general education minimum requirements of 68 quarter 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 26 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> 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 GE 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 non-academic 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 prin-

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.

THE 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 (<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 will 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. A 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 per quarter for the student plus one of the amounts below for dependents is charged for extension/continuation coverage:

- One dependent (spouse or child) of a covered student—\$420 per quarter
- Two or more dependents—\$840 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 for generic drugs and \$30 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 copayment for generic products or a \$40 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 maximum deductible per individual per fiscal plan year.

*The copayment when a name brand is pur-

chased 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 Student Counseling Program

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 noon., 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>.

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 provost 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>. 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 pro-

gram 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 ex-

aminations 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. 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	<p>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.</p>	<p>form prior to the date when this 20 percent of the course is completed.</p> <p>A student may withdraw only once from a named cognate course that s/he is failing at the time of withdrawal.</p>
			UW
	S/N	none	<p>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.</p>
			I
	U/N	none	<p>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.</p>
	CR	none	<p>Credit for Credit by Examination. Counted toward graduation/units earned but not units attempted. Such credit cannot be counted for financial aid purposes.</p>
	NC	none	<p>No credit for Credit by Examination. Does not count for any purpose.</p>
	W	<p>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.</p> <p>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.</p> <p>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</p>	<p>By use of the petition form—available online at <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.</p> <p>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</p>
			IP

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 <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>. 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 processing of the Total Withdrawal form for the old program and the student's 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; how-

ever, 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>.

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 provost and can be granted only by the provost. If a candidate has not satisfactorily fulfilled all requirements, the University reserves the right to prohibit participation in commencement exercises.

DIPLOMA

When the profession is named in the degree title, or when the degree is indicated by the school name, no other designation is included on the official diploma issued to the graduate. When the profession or major is not named in the degree title, the profession or specialization is also indicated on the official diploma.

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 be settled before enrollment will be allowed or services offered. 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. Please refer to the Student Account Disclosure statement for additional student account financial information (<www.llu.edu/assets/central/ssweb/studentfinance/document/disclosure.pdf>).

STUDENT FEES

Enrollment 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 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.

Other fees

Late registration fee	\$50
Late payment fee	\$50
Returned check fee	\$25
Lost withdrawal check reissue fee	\$15
Returned direct deposit fee	\$15

GENERAL PRACTICES

Tuition payments/refunds

Students who have not paid the balance due for registration, or who have not been awarded financial aid sufficient to cover the balance—will be charged a \$50 late payment fee. Tuition and fees are due and payable in full to complete registration each term. If a student withdraws from a per-unit course or program, or from a block program 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>).

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. Students may also request that monthly statements be sent to a parent or sponsor.

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 obtaining access to University services;
- before marching for graduation;
- 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.

All University registration holds must be cleared before quarterly financial clearance can be granted.

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 returned item fee

assessed. Payments are accepted in person at Student Finance, by mail, through the Student Service Center drop box, and online at <www.llu.edu/central/ssweb/studentfinance/index.page>. Account refunds, resulting from financial aid, tuition refunds, or other payments may be credited back to any bankcard used, to the extent of the card payment made, before a refund check or direct deposit will be issued.

Please note that student identification cards are required for enrolled students to obtain service at the Student Service Center. (LLUAHSC employees may present their employee ID cards in lieu of student ID).

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 is 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>.

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 call International Student and Scholar Services at 909/558-4955.

HEALTH SERVICE

A student enrolled in a certificate or degree program is automatically covered by the Student Health Plan provisions. Nondegree students taking more than four units are also covered by the plan. 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 up to and including 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 to both 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 2010-2011 academic year (Summer Quarter through Spring Quarter), the student must complete a FAFSA. FAFSA applications are available online at <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 office 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 <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/.

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

Dean's Welcome

School Foundations

Mission and Goals

Mission

Goals

Evaluation of mission and goals—Portfolio-development practicum

General Regulations

Admissions policies and information

Application and acceptance

Where to write

Apply early

Application review process

Procedure

Online application

Applicant's records

Entrance requirements

Subject/diploma requirements

Grade requirement

Transcripts

Academic probation

Student Life

Professional standards

Academic Policies and Information

Academic residence

Graduation ceremonies

Scholastic standing

Repeating a course

Promotion and probation

Standard of student progress (time framework)

Allied Health Studies

Faculty

Adjunct Faculty

Advisory Committee

Extended-Campus Programs

Learning Resource / CPCER (Center for Prehospital Care, Education, and Research)

CPCER information

CPCER courses and programs

Life support education (LSE)—CPR, ACLS, PALS, neonatal resuscitation, and AED courses

Financial Policies and Information

General financial practices

Schedule of charges/Tuition by program

Supplies

Miscellaneous expenses

Awards and scholarships

Additional requirements

Programs and certificates

Clinical Laboratory Science

Coding Specialist

Communication Sciences and Disorders

Cytotechnology

Diagnostic and Medical Sonography

Dietetic Technology

Emergency Medical Care

Health Care Administration

Health Information Administration

Medical Dosimetry

Medical Radiography

Nuclear Medicine Technology

Nutrition and Dietetics

Occupational Therapy

Physical Therapist Assistant

Physical Therapy

Orthotics and Prosthetics

Physician Assistant

Radiation Sciences

Radiation Therapy Technology

Radiologist Assistant

Rehabilitation Science

Respiratory Care

School certificates

Computed Tomography

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.

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 inter-professional 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 recommenda-

tion 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>. (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 any of the 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 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 de-

termined 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 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 once.

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 Suzaki
 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 Emergency Medical Care Program, 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 Bachelor of Science degree Emergency Medical Care (EMC) 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 Loma Linda University students and to Loma Linda University Medical Center employees, and is 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 eligi-

bility 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	Rescheduling fee
\$25	Retesting fee, if test is failed
\$25	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 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

HEALTH ADMINISTRATION—BACHELOR OF SCIENCE

Year	Units	Tuition	Status
1	63	\$29,799	

**HEALTH PROFESSIONS EDUCATION
MASTER OF SCIENCE**

Year	Units	Tuition	Status
1	Units may vary.		
2	Units may vary.		

Cardiopulmonary Science

**EMERGENCY MEDICAL CARE—
PROGRESSION BACHELOR OF SCIENCE**

Year	Units	Tuition	Status
1	41	\$19,393	
2	37	\$17,501	

**CPCER—Center for Prehospital Care,
Education, and Research**

For contact information regarding CPCER certificate program and tuition, see LEARNING

RESOURCE/RESEARCH CENTER—Center for Pre-hospital Care, Education, and Research (CPCER)

RESPIRATORY CARE—BACHELOR OF SCIENCE

Year	Units	Tuition	Status
1	58	\$25,069	
2	71	\$27,907	

RESPIRATORY CARE—CERTIFICATE

Year	Units	Tuition	Status
1	50	\$21,285	
2	45	\$17,028	

**RESPIRATORY CARE—POSTPROFESSIONAL
BACHELOR OF SCIENCE**

Year	Units	Tuition	Status
New	55	\$26,015	
Cont	10	\$4,730	

Clinical Laboratory Science

PHLEBOTOMY—CERTIFICATE

Year	Units	Tuition	Status
	5	\$1,775	

CYTOTECHNOLOGY—BACHELOR OF SCIENCE

Year	Units	Tuition	Status
1	56	\$26,488	
2	45	\$21,285	

CYTOTECHNOLOGY—CERTIFICATE

Year	Units	Tuition	Status
1	56	\$26,488	
2	12	\$5,676	

**CLINICAL LABORATORY SCIENCE—
BACHELOR OF SCIENCE**

Year	Units	Tuition	Status
1	63	\$29,799	
2	63	\$29,799	Track A, B, C

Communication Sciences and Disorders

COMMUNICATION SCIENCES AND DISORDERS—BACHELOR OF SCIENCE

Year	Units	Tuition	Status
1	47–60	\$22,231–\$28,380	
2	38–63	\$17,974–\$29,799	

COMMUNICATION SCIENCES AND DISORDERS—MASTER OF SCIENCE TRANSITIONAL PROGRAM

Year	Units	Tuition	Status
1	47	\$22,231	
2	33	\$19,503	
3	28–76	\$16,548–\$28,368	

COMMUNICATION SCIENCES AND DISORDERS—MASTER OF SCIENCE

Year	Units	Tuition	Status
1	32	\$18,912	
2	28–76	\$16,548–\$28,368	

Health Information Management

HEALTH INFORMATION ADMINISTRATION—BACHELOR OF SCIENCE

Year	Units	Tuition	Status
1	54	\$25,542	
2	47	\$22,231	
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	\$2,310	
2	16	\$3,696	
3	6	\$1,386	

Nutrition and Dietetics

DIETETIC TECHNOLOGY—ASSOCIATE OF SCIENCE

Year	Units	Tuition	Status
1	45	\$15,975	
2	8	\$2,130	

NUTRITION AND DIETETICS—BACHELOR OF SCIENCE

Year	Units	Tuition	Status
1	53	\$25,069	
2	59	\$22,231	

NUTRITION AND DIETETICS—MASTER OF SCIENCE (COMBINES B.S./RD AND M.S. PROGRAM)

Year	Units	Tuition	Status
1	51	\$24,123	
2	58	\$24,596	
3	41–49	\$20,685–\$25,413	

NUTRITION AND DIETETICS—MASTER OF SCIENCE (DIDACTIC PROGRAM)

Year	Units	Tuition	Status
1	39	\$23,049	
2	46	\$20,094	

**NUTRITION CARE MANAGEMENT—
MASTER OF SCIENCE**

Year	Units	Tuition	Status
1	18	\$10,638	
2	24	\$14,184	
3	6	\$3,546	

Occupational Therapy

**OCCUPATIONAL THERAPY ASSISTANT—
ASSOCIATE OF ARTS**

Program is current inactive for 2009–2010.

**MASTER OF OCCUPATIONAL THERAPY—
ENTRY LEVEL**

Year	Units	Tuition	Status
1	68	\$32,164	
2	53	\$22,231	
3	36	\$17,730	

**MASTER OF OCCUPATIONAL THERAPY—
TRACK**

Year	Units	Tuition	Status
1	64	\$30,272	
2	51	\$21,285	
3	36	\$17,730	

**PROGRESSION—MASTER OF
OCCUPATIONAL THERAPY**

(Applies only to graduate LLU OTA students)

Year	Units	Tuition	Status
1	63	\$29,799	
2	53	\$22,231	
3	36	\$17,730	

**POSTPROFESSIONAL—MASTER OF
OCCUPATIONAL THERAPY**

Units and tuition vary.

Year	Units	Tuition	Status
1	29	\$17,139	
2	16	\$9,456	

DOCTOR OF OCCUPATIONAL THERAPY

Units and tuition vary.

Year	Units	Tuition	Status
1	23	\$13,593	
2	24	\$14,184	
3	11	\$6,501	

Physical Therapy

**PHYSICAL THERAPIST ASSISTANT—
ASSOCIATE OF SCIENCE**

Year	Units	Tuition	Status
1	60	\$20,235	regular
2	12	\$2,130	regular

**PHYSICAL THERAPIST ASSISTANT—
ASSOCIATE OF 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	No longer accepting students.		
3	9	\$4,050	

**POSTPROFESSIONAL—MASTER OF
PHYSICAL THERAPY**

Year	Units	Tuition	Status
1	33	\$17,688	
2	12	\$6,432	

**ENTRY LEVEL—DOCTOR OF PHYSICAL
THERAPY**

Year	Units	Tuition	Status
1	74	\$36,704	
2	64.5	\$31,992	
3	28.5	\$14,136	

POSTPROFESSIONAL—DOCTOR OF PHYSICAL THERAPY

Year	Units	Tuition	Status
1	36	\$19,296	
2	9	\$4,824	

POSTPROFESSIONAL—DOCTOR OF SCIENCE

Year	Units	Tuition	Status
1	33	\$17,688	
2	39	\$20,904	
3	12	\$6,432	

PROGRESSION—DOCTOR OF PHYSICAL THERAPY

Year	Units	Tuition	Status
1	74	\$36,704	
2	64.5	\$31,992	
3	28.5	\$14,136	

POSTPROFESSIONAL MASTER OF SCIENCE—ORTHOTICS AND PROSTHETICS

Year	Units	Tuition	Status
1	33	\$17,688	
2	12	\$6,432	

Physician Assistant Sciences**PHYSICIAN ASSISTANT—MASTER OF PHYSICIAN ASSISTANT**

Year	Units	Tuition	Status
1	55	\$32,505	
2	59	\$34,869	
3	8	\$4,728	

Radiation Technology**MEDICAL RADIOGRAPHY—ASSOCIATE OF SCIENCE**

Year	Units	Tuition	Status
New	48	\$13,135	
Cont	56	\$8,165	

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	45	\$15,957	
Cont	21	\$1,773	

DIAGNOSTIC MEDICAL SONOGRAPHY—CERTIFICATE

Year	Units	Tuition	Status
New	48	\$10,638	Track 1 General/ Vascular
Cont 1	57	\$9,456	Track 1
Cont 2	14	\$2,955	Track 1
New	50	\$11,229	Track 2 Cardiac
Cont	14	\$1,773	Track 2

MEDICAL DOSIMETRY—CERTIFICATE

Year	Units	Tuition	Status
New	52	\$17,730	Track A Physics
Cont	27	\$5,910	Track A
New	45	\$11,820	Track B Rad. Therapist
Cont	15	\$4,137	Track B

NUCLEAR MEDICINE TECHNOLOGY—CERTIFICATE

Year	Units	Tuition	Status
New	45	\$8,865	
Cont	15	\$2,955	

SPECIAL IMAGING TECHNOLOGY (CT & MRI)—CERTIFICATE

Year	Units	Tuition	Status
New	42	\$10,638	

**SPECIAL IMAGING TECHNOLOGY:
CERTIFICATE IN COMPUTED
TOMOGRAPHY (CT)**

Year	Units	Tuition	Status
New	26	\$5,910	

**SPECIAL IMAGING TECHNOLOGY:
CERTIFICATE IN MAGNETIC RESONANCE
IMAGING (MRI)**

Year	Units	Tuition	Status
New	28	\$7,092	

**RADIATION SCIENCES—MASTER OF
SCIENCE**

Year	Units	Tuition	Status
1	18	\$10,638	
2	24	\$14,184	
3	7	\$4,137	

IMAGING INFORMATICS—CERTIFICATE

Year	Units	Tuition	Status
1	18	\$8,514	
2	6	\$2,838	

**RADIOLOGIST ASSISTANT—MASTER OF
SCIENCE (ENTERING WITH A.A./A.S.)**

Year	Units	Tuition	Status
1	52–54	\$24,596–\$25,542	
2	49	\$23,640	
3	47	\$17,139	

**RADIOLOGIST ASSISTANT—MASTER OF
SCIENCE (ENTERING WITH B.S./B.A.)**

Year	Units	Tuition	Status
1	49	\$23,640	
2	47	\$17,139	

**CARDIAC ELECTROPHYSIOLOGY—
CERTIFICATE**

Year	Units	Tuition	Status
1	44.5	\$15,797.50	
2	8	\$2,840	

**CARDIAC ELECTROPHYSIOLOGY—
ASSOCIATE OF SCIENCE**

Year	Units	Tuition	Status
1	47.5	\$16,862.50	
2	10	\$3,550	

NOTE: Tuition excludes enrollment fee.

Supplies

Estimated annual expense of \$600–\$1,500 for supplies (textbooks, professional apparel, materials), depending on program and year of study.

Special Tuition Charges

\$50	CMSD 589 Remediation/Advance Directed Teacher, CMSD 599 Remediation/Externship
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Remediation Clinic: Students who do not complete the required skill set within one quarter of assigned clinical experiences may need to register for additional clinical work. In this case, registration for remediation clinic is required for a minimum of 1 unit at the regular tuition rate.

Special Charges

\$60	Application
\$30	Reapplication
\$100	Acceptance deposit, nonrefundable (applied on tuition)
\$200	Acceptance deposit for CMSD M.S. and TM, nonrefundable
\$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 gives a postdated check at registration
- \$200 Application fee for PPM.P.T.

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

ON- AND OFF-CAMPUS STUDENT HOUSING

Students may go to <www.llu.edu/central/housing/index.page> for housing information and a housing application form.

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 from the Emergency Medical Care B.S. degree and the Respiratory Care B.S. degree programs 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 case presentations, as well as 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
 Paul C. Herrmann
 Ronald H. Hillock
 J. Kapua Hollands
 Ronald S. Johnson
 Susie M. Johnson
 Jasmine H. Kaloshian
 Tuyhoa T. Le
 John E. Lewis
 Glenis D. Linas
 Wagih E. Mikhail
 Thuan H. Nguyen
 James M. Pappas
 Shashank Patel
 Rodney M. Roath
 Teri J. Ross
 Mojgan Sassounian
 Stuart B. Schneider
 Linda J. Shain
 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 customer and patient education.

THE PROGRAM

The Clinical Laboratory Science Program is a two-year professional program that includes clinical training and 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; Web site: 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/

PROFESSIONAL CERTIFICATION AND LICENSURE

Completion of the required sequence of academic course work and directed professional experience prepares the graduate to take the certifying examination of the ASCP Board of Certification and obtain licensure by the state of California. Information regarding the examination can be obtained from the program director.

In 1999, the program name was changed from medical technology to clinical laboratory science.

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 inter-professional 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.

STUDENT 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 leadership and administrative skills in laboratory practice and the community, 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.

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 examination offered by the ASCP Board of Certification and other entities approved by the state of California. The bachelor's degree in clinical laboratory science is granted independently 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>.

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- 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>.

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 quar-

ter/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 309	Quantitative Analysis (Chemical)	4.0
Totals		8.0

AUTUMN QUARTER

UNITS

AHCJ 328	Wholeness Portfolio I	Course spans entire academic year.	1.0
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AHCJ 418	Physiology I	4.0
CLSM 307	Medical Parasitology	3.0
CLSM 321	Hematology I	4.0
CLSM 325	Clinical Immunology	3.0
CLSM 331	Biochemistry	5.0
Totals		20.0

WINTER QUARTER**UNITS**

CLSM 322	Hematology II	4.0
CLSM 327	Clinical and Pathogenic Microbiology I	5.0
CLSM 332	Clinical Chemistry I	4.0
CLSM 341	Immunoematology I	3.0
RELE 457	Christian Ethics and Health Care	2.0
Totals		18.0

SPRING QUARTER**UNITS**

CLSM 303	Urine and Body Fluid Analysis I	1.0
CLSM 328	Clinical and Pathogenic Microbiology II	5.0
CLSM 333	Clinical Chemistry II	4.0
CLSM 342	Immunoematology II	3.0
CLSM 396	CLS Junior Seminar	2.0
RELT 423	Loma Linda Perspectives	2.0
Totals		17.0

SENIOR YEAR, POST-SUMMER SESSION

Clinical practicum begins concurrently; see section below.

UNITS

CLSM 435	Immunoassay and Molecular Diagnostic Techniques	3.0
Totals		3.0

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 immuno-hematology.	6.0
CLSM 413	Diagnostic Microbiology (6)	Corequisites	9.0
CLSM 442	Immuno-hematology III (3)		
Totals			15.0

SENIOR YEAR CLINICAL PRACTICUM**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
Overall Totals			126.0

Coding Specialist—AH

(Certificate)

DEBRA HAMADA, Program Coordinator

FACULTYTerri L. Rouse
Diana Medal**ADVISORY COMMITTEE**Barbara Pinkowitz, Chair
Susan Armstrong
Angela Barker
Evelia Campos
Carel Hanson
Diana MedalBeverly Miller
Tanya McCandish
Diana McWaid-Harrah
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 quarters in length. Classes meet one night a week. The last two quarters of the program consist of an internship-like laboratory experience—HLCS 961, 962 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.

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
- Introduction to computer applications

COREQUISITE

- Essentials of human diseases

SPECIAL COURSE WORK/CREDIT

Credit for life experience may be offered through waiver or equivalency examination.

REQUIRED		UNITS
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
Overall Totals		30.0

A minimum grade of C (2.0) is required for all courses in the program.

Cardiac Electrophysiology Technology—AH

(A.S., Certificate)

CYNTHIA A. MALINOWSKI, Program Director

FACULTY

Alan Alipoon
Joseph A. Giron
Cynthia Malinowski

Electrophysiology is a subspecialty of cardiology that focuses on treating heart rhythm abnormalities. The cardiac electrophysiology technologist will assist the cardiologist during invasive procedures, including diagnostic electrophysiology studies, arrhythmia mapping, catheter ablation for supraventricular and ventricular tachycardias; and for pacemaker, implantable cardioverter defibrillator (ICD), and cardiac resynchronization therapy device implantations.

THE PROGRAM

Students will learn to utilize diverse equipment, including cardiac mapping. Students will complete approximately 880 clinical hours by rotating to varying clinical sites while in the program.

Both the A.S. degree and the certificate programs are twelve months in duration. The A.S. degree is face-to-face, with some online course work; while the certificate program is primarily online, with a few face-to-face visits to the Loma Linda campus.

ACCREDITATION

The A.S. degree and certificate programs are approved by the Board of Trustees of Loma Linda University.

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; Web: <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.

STUDENT LEARNING OUTCOMES

Upon completion of the program, the graduate should be qualified to:

1. Demonstrate clinical competence.
2. Communicate effectively.
3. Develop critical thinking and problem-solving skills.
4. Demonstrate the values and attitudes of an entry-level cardiac electrophysiology technologist.

ADMISSION

Minimum G.P.A. is 2.4. Prerequisites (listed below) should be completed.

PREREQUISITE

Religion: 4 units per year of attendance at a Seventh-day Adventist college or university
 High school algebra or intermediate algebra in college
 Anatomy and physiology
 Introductory chemistry
 Introductory physics or high school physics
 Choose one from the following: general psychology, general sociology, cultural anthropology
 English composition, complete sequence
 Introduction to computers, college or high school
 Electives to meet the minimum total requirement of 34 quarter (51 semester) units

AUTUMN QUARTER		CERT.	A.S.
AHCJ 326	Fundamentals of Health Care		2.0
AHCJ 328	Wholeness Portfolio I		1.0
CEPT 245	Cardiovascular Anatomy and Physiology	3.0	3.0
CEPT 248	Cardiovascular Patient Assessment	2.0	2.0
CEPT 251	Cardiac Electrophysiology and Rhythm Recognition I	2.0	2.0
CEPT 258	Fundamentals of Biomedical Science	2.0	2.0
CEPT 261	Cardiac Electrophysiology Science I	3.0	3.0
CEPT 275	Cardiovascular Pharmacology	3.0	3.0
CEPT 321	Cardiac Electrophysiology Clinical Practicum I	0.5	0.5
Totals		15.5	18.5

WINTER QUARTER		CERT.	A.S.
AHCJ 305	Infectious Disease and the Health Care Provider	1.0	1.0
AHCJ 402	Pathology I	4.0	4.0
CEPT 252	Cardiac Electrophysiology and Rhythm Recognition II	2.0	2.0
CEPT 262	Cardiac Electrophysiology Science II	3.0	3.0
CEPT 271	Cardiology Diseases and Therapeutics I	2.0	2.0
CEPT 281	Cardiac Electrophysiology Procedures I	3.0	3.0
CEPT 322	Cardiac Electrophysiology Clinical Practicum II	1.5	1.5
Totals		16.5	16.5

SPRING QUARTER		CERT.	A.S.
CEPT 263	Cardiac Electrophysiology Science III	3.0	3.0
CEPT 272	Cardiology Diseases and Therapeutics II	2.0	2.0
CEPT 282	Cardiac Electrophysiology Procedures II	3.0	3.0
CEPT 285	Cardiology	3.0	3.0
CEPT 323	Cardiac Electrophysiology Clinical Practicum III	1.5	1.5
Totals		12.5	12.5

SUMMER QUARTER		CERT.	A.S.
CEPT 324	Cardiac Electrophysiology Clinical Practicum IV	2.0	2.0
CEPT 345	Case Studies in Cardiac Electrophysiology	2.0	2.0

CEPT 348	Cardiac Electrophysiology Seminar	3.0	3.0
REL_ 4__	Upper Division Religion	2.0	2.0
RELE 457	Christian Ethics and Health Care		2.0
		Totals	11.0
		Overall Totals	58.5

CERTIFICATION

Upon completion of the program, students will be eligible for certification from the International Board of Heart Rhythm Examiners (IBHRE).

Communication Sciences and Disorders—AH

(formerly Speech-Language Pathology and Audiology)

(B.S., Transitional M.S., M.S.)

KEIKO KHOO, Department Chair
 PAIGE SHAUGHNESSY, Program Director for
 Master of Science and Transitional Programs
 KAREN MAINESS, Program Director for Bachelor
 of Science
 JENNIFER ST. CLAIR, Coordinator for Clinical
 Education
 BRIAN SHARP, Coordinator for Externship
 Placement

FACULTY

Terry D. Douglas
 Keiko I. Khoo
 Karen J. Mainess
 Jennifer St. Clair
 Brian D. Sharp
 Paige Shaughnessy
 Jean B. Lowry, Professor Emeritus

The Department of Communication Sciences and Disorders prepares students for careers in the profession of speech-language pathology or audiology. Speech-language pathologists (SLPs) evaluate and treat children and adults who have communication, swallowing, and/or cognitive 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. The Department of Communication Sciences and Disorders prepares students for careers in the profession of speech-language pathology or audiology.

OPPORTUNITIES

The entry level for speech-language pathology is the master’s degree. The entry level for audiology is the doctoral degree (Au.D.). 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, research institutes, and private practice. These environments allow for considerable flexibility. There is ample opportunity for employment. The Department of Communication Sciences and Disorders does not have a doctoral program in audiology.

Employment opportunities for the speech-language pathology assistant (SLPA) include working under the supervision of a speech-language pathologist in schools, private clinics, hospitals, or skilled nursing facilities. Students in the Bachelor of Science degree program may work towards

meeting eligibility requirements for registration in the state of California as speech-language pathology assistants.

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 participate in many activities sponsored by the local chapter. Information about NSSLHA can be found at <www.nsslha.org/nsslha>. Students are also encouraged to become student members of the California Speech-Language-Hearing Association (CSHA).

COMMUNICATION SCIENCES AND DISORDERS—B.S.

The program leading to the Bachelor of Science degree in communication sciences and disorders begins with the Autumn Quarter of the junior year. The freshman and sophomore years, which are taken at an accredited college or university prior to coming to Loma Linda University, provide the fundamentals of a liberal education. The emphasis in the junior and senior years is on preprofessional courses and may include 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 CMSD 267 SLPA 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

Students who graduate with a Bachelor of Science degree in communication sciences and disorders will meet the following University outcomes:

1. Understand and apply Loma Linda University's philosophy of wholeness to their

personal and professional lives.

2. Understand the importance of integrating LLU's Christ-centered values into their personal and professional lives.
3. Demonstrate critical thinking.
4. Develop a commitment to discovery and life-long learning.
5. Demonstrate effective oral and written communication skills.
6. Demonstrate effective use of technology appropriate for the degree level and discipline.
7. Understand the importance of embracing and serving a diverse world.
8. Demonstrate the importance of collaborating with others within and across disciplines.

Also, students will meet the following discipline-specific outcomes:

1. Demonstrate knowledge of basic human communication processes.
2. Demonstrate introductory knowledge of the major types of human communication disorders and swallowing disorders.
3. Demonstrate introductory knowledge of assessment and intervention procedures for the major types of human communication disorders and swallowing disorders.
4. Demonstrate a commitment to ethical and compassionate service.

Admission to the Bachelor of Science degree program

PREREQUISITE

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 a Seventh-day Adventist university before graduation*

A minimum of 20 quarter units if the student is required to take 8 units of religion from Loma Linda University before graduation*

Humanities 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 quarter 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

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

At Loma Linda University, the student enters the bachelor's degree 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 credits needed to graduate. Some students may need to complete additional academic course work in general education while enrolled at this University in order to meet graduation requirements.

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/apply/>. Online applications open October 1. Applications for the Bachelor of Science degree close June 30.

Minimum grade required for graduation

A minimum grade of C (2.0) is required for a course to count towards graduation. Specific religion courses offered at Loma Linda University are required for graduation. The program advisor assists students in determining how and when to take the required religion courses.

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.

Portfolio practicum

Undergraduate students in the School of Allied Health Professions develop a portfolio during the junior and senior years. Students register for Portfolio Practicum I (AHCJ 328) during the junior year and Portfolio Practicum II (AHCJ 498) during the senior year. The purpose of the portfolio is to allow students to demonstrate their work towards achieving the outcomes set forth by the University. These outcomes were developed to aid the student in achieving personal and professional balance in the spiritual, intellectual, social/emotional, and physical domains.

CLEP

CLEP tests must be taken within one quarter of receiving the degree compliance report; otherwise, the course must be repeated.

Student progress review

Each student's progress in the bachelor's degree program is reviewed quarterly. Students are provided written feedback with recommendations for remediation if there are concerns about academic or clinical performance.

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 registration 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 in their last undergraduate quarter of study (Spring Quarter of the senior year). Further information about SLPA registration can be obtained on the Web at <www.slpab.ca.gov>. Select "Applicants," then "SLP Assistants."

COMMUNICATION SCIENCES AND DISORDERS— TRANSITIONAL M.S.

The Master of Science-Transitional Program in communication sciences and disorders 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 who meets minimum admissions requirements 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. Individuals who are admitted to the transitional program do not need to reapply to the master's degree program.

The transitional 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-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

Students who complete the Master of Science-Transitional Program will meet the following University outcomes:

1. Understand and apply Loma Linda University's philosophy of wholeness to their personal and professional lives.
2. Understand the importance of integrating Loma Linda University's Christ-centered values into their personal and professional lives.
3. Demonstrate critical thinking.
4. Develop a commitment to discovery and life-long learning.
5. Demonstrate effective oral and written communication skills.
6. Demonstrate effective use of technology appropriate for the degree level and discipline.
7. Understand the importance of embracing and serving a diverse world.
8. Demonstrate the importance of collaborating with others within and across disciplines.

Also, students will meet the following discipline-specific outcomes:

1. Demonstrate knowledge of basic human communication processes.
2. Demonstrate knowledge of the major types of human communication disorders and swallowing disorders.
3. Demonstrate knowledge of the principles and methods of prevention, assessment, and intervention for people with communication and swallowing disorders.
4. Demonstrate skills in prevention, assessment, and intervention for people with communication and swallowing disorders.
5. Demonstrate knowledge of processes used in research and the integration of research principles into evidence-based clinical practice.
6. Demonstrate skill in using sound scientific principles to conduct research.
7. Demonstrate a commitment to ethical and compassionate service.

Admission

The admissions committee considers the following qualifications in making admission decisions: personal statement, overall G.P.A., last two years' G.P.A., professional potential, 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 applicants who: (1) submit a literate personal statement that includes a statement of professional motivation and reasons for selecting Loma Linda University; (2) submit three letters of positive recommendation; (3) demonstrate professional potential; (4) have no undergraduate deficiencies; and (5) meet the scholarship and requirements for admission to the graduate program, with a minimum G.P.A. of 3.0–3.3 preferred. Students admitted to the transitional program must maintain a 3.5 G.P.A. during the first year of study in order to enroll in graduate-level courses.

Alternate status. When the class is full or when the application is being held for spring grades, alternate status may be given to applicants who qualify for regular admission..

Denial of admission. Admission may be denied for a variety of reasons, including: illiterate personal statement; recommendation letters that cite significant reservations; or low G.P.A.. Admission is unlikely if the last two years' G.P.A. is below 3.3.

Application

Online applications open October 1. Applications close March 1.

The application for the Master of Science-Transitional Program in communication sciences and disorders is available online at <www.llu.edu>. 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>.

Applications and all supporting information (transcripts, letters of recommendation, etc.) should be submitted by March 1 to be included in the first round of selection. Later applications will be considered only as space is available.

Degree requirements

Students who have been accepted into the Master of Science-Transitional Program are already recognized as academic achievers.

Expectations of these students are high. Candidates for the master's degree are expected to:

1. Meet academic and professional standards of excellence.
2. Exhibit the highest quality of work in the classroom and the clinic, and as a graduate assistant.
3. Demonstrate excellence in follow through, completing all assignments and commitments in the agreed-upon time frame.
4. Show initiative and support for volunteer and extracurricular professional/student organizations.
5. Exhibit interaction and personal qualities consistent with professionalism.

In addition, degree requirements include:

1. A minimum of one quarter in residence as a graduate student;
2. A minimum grade average for graduate work of B (3.0)—with no course grade below C (2.0)—on all work for the master's degree, as well as a minimum G.P.A. of 3.3 in the undergraduate course work as a prerequisite to enrollment in 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. Completion of the California Basic Education Skills Test (CBEST) requirement;

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 pass the California Basic Education Skills Test (CBEST). The CBEST must be passed 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 and 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.cbtest.nesino.com>.

Clinical practicum

Students in the Master of Science-Transitional Program in communication sciences and disorders begin clinical practicum during the Summer Quarter following the first year.

Student progress review

Each student's progress in the graduate 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 500- and 600-level graduate courses. Written feedback is provided, along with recommendations for remediation, if needed.

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 critical thinking and independence. The clinical services of the Department of Communication Sciences and Disorders, Loma Linda University Medical Center, and affiliated practicum sites pro-

vide 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 required graduate-level courses, supervised clinical practice, and comprehensive examinations.

Acceptable undergraduate preparation includes a bachelor’s degree in speech-language pathology or in communicative disorders. Undergraduate prerequisite course work completed at an institution other than Loma Linda University by applicants who have a bachelor’s degree in a field other than speech-language pathology or communication disorders is considered on an individual basis. CBEST scores are required prior to admission or within the first quarter of study (see Program of Study below).

Student learning outcomes

Students who graduate with a Master of Science degree in communication sciences and disorders will meet the following University outcomes:

1. Understand and apply Loma Linda University’s philosophy of wholeness to their personal and professional lives.
2. Understand the importance of integrating Loma Linda University’s Christ-centered

values into their personal and professional lives.

3. Demonstrate critical thinking.
4. Develop a commitment to discovery and life-long learning.
5. Demonstrate effective oral and written communication skills.
6. Demonstrate effective use of technology appropriate for the degree level and discipline.
7. Understand the importance of embracing and serving a diverse world.
8. Demonstrate the importance of collaborating with others within and across disciplines.

Also, students will meet the following discipline-specific outcomes:

1. Demonstrate knowledge of basic human communication processes.
2. Demonstrate knowledge of the major types of human communication disorders and swallowing disorders.
3. Demonstrate knowledge of the principles and methods of prevention, assessment, and intervention for people with communication and swallowing disorders.
4. Demonstrate skills in prevention, assessment, and intervention for people with communication and swallowing disorders.
5. Demonstrate knowledge of processes used in research and the integration of research principles into evidence-based clinical practice.
6. Demonstrate skill in using sound scientific principles to conduct research.
7. Demonstrate a commitment to ethical and compassionate service.

Admission

The admissions committee considers the following qualifications in making admission decisions: personal statement, overall G.P.A., major G.P.A., professional potential, and letters of recommendation. Admission decisions fit into one of three categories: regular admission, alternate status, and denial of admission.

Regular admission. Admission is granted to applicants who (1) submit a literate personal statement that includes a statement of professional motivation and reasons for selecting Loma Linda

University; (2) submit three letters of positive recommendation; (3) demonstrate professional potential; (4) have no undergraduate deficiencies; and (5) meet the scholarship requirements (minimum overall G.P.A. of 3.0, minimum major G.P.A. of 3.3).

Alternate status. When the class is full or when the application is being held for spring grades, alternate status may be given to applicants who qualify for regular admission.

Denial of admission. Admission may be denied for a variety of reasons, including: illiterate personal statement; recommendation letters that cite significant reservations; or low G.P.A.. Admission is unlikely if the major G.P.A. is below 3.3.

Application

Online applications open October 1. Applications close February 1.

The application for the Master of Science degree in communication sciences and disorders is available online at <www.llu.edu>. Official transcripts of all academic records from colleges, universities, and professional or technical schools must be provided. Complete instructions are available at <www.llu.edu/apply>.

Applications and all supporting information (transcripts, letters of recommendation, etc.) must be submitted by February 1 to be included in the first round of selection. Later applications will be considered only as space is available.

Applications received after February 1 are reviewed in the order received. Typically, the class fills by the February 1 deadline. Qualified late applicants may be placed on the "alternates list."

Degree requirements

Students who have been accepted into the Master of Science Program are already recognized as academic achievers.

Expectations of these students are high. Candidates for the master's degree are expected to:

1. Meet academic and professional standards of excellence.
2. Exhibit the highest quality of work in the classroom and the clinic, and as a graduate assistant.

3. Demonstrate excellence in follow through, completing all assignments and commitments in the agreed-upon time frame.
4. Show initiative and support for volunteer and extracurricular professional/student organizations.
5. Exhibit interaction and personal qualities consistent with professionalism;

In addition, degree requirements include:

1. A minimum of one quarter in residence as a graduate student;
2. A minimum grade average for graduate work of B (3.0)—with no course grade below C (2.0)—on all work for the master's degree;
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 supervised clinical practice, including 25 clock hours of observation (375 clock hours of direct client/patient contact, with 325 of these hours being completed at the graduate level);
6. Completion of written comprehensive examinations (Winter Quarter of the third year);
7. Completion of the California Basis Education Skills Test (CBEST) requirement;
8. Completion of the graduate portfolio.

California Basis Educational Skills Test (CBEST)

The California Commission of Teacher Credentialing requires that all students in the credential program pass the CBEST. The CBEST must be passed 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>.

Clinical practicum

Students in the Master of Science Program in communication sciences and disorders 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 and advanced directed teaching are completed during the second year.

Comprehensive examinations

The comprehensive examination (administered within the department) is a culmination event in the graduation program and is designed to evaluate students' broad-based knowledge across the disorders.

Comprehensive examinations allow students, in essay format, to demonstrate their ability to synthesize and apply what has been learned. Students who have demonstrated satisfactory performance in course work and clinical placements at the end of the first year of graduate study are given approval to take the comprehensive examination in the Winter Quarter of the second year.

The comprehensive examinations are designed to elicit a broad, integrative sample of the student's knowledge and are not intended to be a test of content for every class. Comprehensive examinations are written in two sections (three hours each). Each section contains questions that require students to integrate information from all the areas of the discipline. All comprehensive examinations are reviewed and discussed by the faculty, as a group.

Praxis examination

The Praxis examination (administered by a national testing service) is designed to evaluate students' broad-based knowledge across the disorders and is required for ASHA Certification, for the California license, and for the California school credential. It is a nationally standardized and publicly administered test.

The Praxis may be taken any time during the graduate program; however, ASHA recommends that it be taken during the clinical fellowship experience. A passing score of 600 must be achieved, and the test may be taken multiple times. Information about the Praxis examination may be obtained by going to: <www.ets.org/praxis>.

Remediation

Clinical fellows who graduated from Loma Linda University who do not achieve a passing score on the Praxis examination may take any courses and/or seminars offered by the department, free of charge, in order to refresh knowledge or remediate areas of concern.

Graduate students who demonstrate unsatisfactory performance in CMSD 588 Directed Teaching) or CMSD 597 Externship will be required to repeat the clinical experience and to register for CMSD 589 and/or 599, respectively.

Student progress review

Each student's progress in the Master of Science Program in communication sciences and disorders is reviewed quarterly. Written feedback is provided, along with recommendations for remediation, if needed.

MAJOR	TRANS.		
	B.S.	M.S.	M.S.
CMSD 276 Communication across the Lifespan	4.0	4.0	
CMSD 284 Introduction to Speech-Language Pathology and Audiology	3.0		
CMSD 304 Hearing Science	4.0		
CMSD 314 Language Analysis for Speech-Language Pathology	4.0	4.0	

CMSD 317	Acoustic and Physiological Phonetics	2.0	2.0		
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 424	Adult Language Pathology		4.0		
CMSD 444	Organic Speech Disorders		4.0		
CMSD 454	Hearing Problems and Basic Audiometry		4.0		
CMSD 477	Bilingualism and Biculturalism II	2.0	2.0		
CMSD 485	Clinical Methods in Speech-Language Pathology		4.0		
CMSD 486	Diagnostic Methods in Speech-Language Pathology		4.0		
CMSD 217	Beginning Sign Language (3.0)				
CMSD 377	Bilingualism and Biculturalism I (2.0)				
CMSD 424	Adult Language Pathology (4.0)				
CMSD 426	Behavior Management Applications with Special Populations (2.0)				
CMSD 434	Disorders of Fluency (2.0)				
CMSD 435	Voice Disorders (2.0)				
CMSD 444	Organic Speech Disorders (4.0)	Choose required units from this list	32.0	—	—
CMSD 445	Techniques for ESL and Accent Modification (2.0)				
CMSD 454	Hearing Problems and Basic Audiometry (4.0)				
CMSD 467	Speech-Language Pathology and Audiology Practicum (1.0–4.0)				
CMSD 485	Clinical Methods in Speech-Language Pathology (4.0)				
CMSD 486	Diagnostic Methods in Speech-Language Pathology (4.0)				
Totals			66.0	47.0	—

COGNATES			TRANS.		
			B.S.	M.S.	M.S.
AHCJ 305	Infectious Disease and the Health Care Provider	Can be taken Junior or Senior year	1.0		
AHCJ 328	Wholeness Portfolio I		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		

PSYC 305	Psychological Foundations of Education		4.0		
PSYC 404	Psychological Tests and Measurements		3.0		
PSYC 460	The Exceptional Individual		3.0		
PSYC 479	Human Neuropsychology		4.0		
REL_ 4__	Upper Division Religion		2.0		
RELE 4__	Upper Division Ethics		2.0		
RELR 4__	Upper Division Relational		2.0		
RELT 406	Adventist Beliefs and Life (2.0)	Choose one course	2.0–3.0	—	—
RELT 423	Loma Linda Perspectives (2.0)				
RELT 436	Adventist Heritage and Health (2.0)				
RELT 437	Current Issues in Adventism (2.0)				
Totals			31.0–32.0	—	—

GRADUATE FIRST YEAR		TRANS.		
		B.S.	M.S.	M.S.
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 554	Swallowing Disorders		3.0	3.0
CMSD 567	Clinical Practice in Speech-Language Pathology and Audiology, Advanced (1.0–6.0)		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 685	Seminar: Stuttering		3.0	3.0
CMSD 688	Seminar: Articulation		3.0	3.0
Totals		—	32.0	32.0

GRADUATE SECOND YEAR		TRANS.		
		B.S.	M.S.	M.S.
CMSD 512	Graduate Portfolio II		1.0	1.0
CMSD 535	Voice Disorders		3.0	3.0
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)		0.0–3.0	0.0–3.0
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 687	Seminar: Open Seminar (1.0–3.0)	1.0–6.0	1.0–6.0
CMSD 697	Research (1.0–4.0)	1.0	1.0
CMSD 699	Directed Study (1.0–3.0)	1.0–3.0	1.0–3.0
REL_ 5__	Graduate-level Religion	3.0	3.0
Totals		—	39.0–49.0
Overall Totals		192.0	120.0
			73.0

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

Darryl G. Heustis
 Claro Y. Masangcay
 Marlene M. Ota
 Margaret A. Tavares
 Pamela J. Wat

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.

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 inter-professional 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.

STUDENT 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.
6. Detect, differentiate between, and diagnose presence and absence of disease in gynecologic and nongynecologic samples.
7. Follow laboratory procedures for preparation, acceptance and rejection of specimens, problem solving, and implementation of new procedures.
8. Use contemporary and uniform diagnostic terminology in reporting laboratory results.
9. Judge the results of quality assurance measures and institute proper procedures to maintain accuracy and precision.
10. Evaluate current and new techniques, instruments, and procedures in terms of their clinical and diagnostic usefulness and practicality.
11. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel, other health care professionals, and the public.
12. Recognize, encourage, and act upon the individual's need for continuing education as a function of growth and maintenance of professional competence.
13. Apply sound principles of management and supervision.
14. Understand and apply sound principles of scientific research.

PROGRAM OBJECTIVES

The primary objectives of cytologic education are to prepare individuals to perform with competency in the following areas:

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.

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 98 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		CERT.	B.S.
CLSC 341	Female Genital Cytology	6.0	6.0
Totals		6.0	6.0
AUTUMN QUARTER		CERT.	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
WINTER QUARTER		CERT.	B.S.
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	5.0
CLSC 371	Cytopreparation Techniques	1.0	1.0
RELE 457	Christian Ethics and Health Care	2.0	2.0
Totals		16.0	18.0

SPRING QUARTER

		CERT.	B.S.
AHCJ 403	Pathology II	4.0	4.0
CLSC 361	Body Cavity and Miscellaneous Secretions Cytology	5.0	3.0
CLSC 363	Bone Biopsy Cytology	1.0	1.0
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
Totals		19.0	17.0

SUMMER QUARTER

		CERT.	B.S.
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

SENIOR YEAR, AUTUMN QUARTER

		CERT.	B.S.
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

WINTER QUARTER

		CERT.	B.S.
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		—	12.0
Overall Totals		68.0	101.0

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
 SHELIA WILSON, Clinical Coordinator
 RUDY CHAI, Associate Clinical Coordinator

FACULTY

Laura L. Alipoon
 Ramseh Bansal
 Rudy Chai
 Marie M. DeLange
 Diane Graham-Kotlarchyk
 Brenda S. Holden
 Barbara S. Holshouser
 Diana Papa
 Marvyn Peralta
 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 eligibility to take the RVT examination. 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 RDMS)

Track 2 is a twelve-month program leading to proficiency in diagnostic imaging of cardiac function and disease processes. Graduates are eligible to take RDCS examinations.

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		1-YR. CARDIAC RDCS	2-YR. CERT. RDMS, RVT
EMMC 315	Cardiology	3.0	
RELE 457	Christian Ethics and Health Care (2.0-3.0)	2.0	
RELT 423	Loma Linda Perspectives		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 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
RTMS 384	Topics in Medical Sonography IV		1.0
RTMS 385	Topics in Medical Sonography V	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	65.0 119.0
		Overall Totals	65.0 119.0

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

FACULTY

Kenneth Burke
Bertrum C. Connell
P. Cory Gheen
Georgia W. Hodgkin
Martina I. Karunia
Cindy L. Kosch
JeJe Noval
Louise E. Schneider
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Priscilla Escritor
Lorraine W. Fisher
Alyson Foote
Danetta Frost
Wanda Grant
Dorothy Gibson
Tracy Granbury
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
Leann Onasch
Leh C. Ota
Heba Peters

Elizabeth Quigley
 Sue Razor
 Inherla H. Rivera
 Jean Sellars
 Frances Suen
 Terri Taylor
 Maryellen Westerberg
 Linda J. Whiting
 Pamela Yong

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 Rupa Bajwa
 Betsy Cline
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 David Dyjack
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 Gayle Hoxter
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 Takkin Lo
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 Snorri Olafsson
 Jerome Rafoth
 Sue Razor
 Patty Watts
 Ralph Watts
 Maryellen Westerberg
 Grenith J. Zimmerman

*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 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

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 technician.

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 A.S. 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.

Program goals

The goals of the program are to:

1. Prepare graduates to be competent entry-level dietetic technicians.
2. 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.
3. Develop a career ladder for nutrition education at Loma Linda University.

Student learning outcomes

Upon completion of the program, graduates should:

1. Understand and apply the University philosophy of wholeness in their personal and professional lives.
2. Understand the importance of integrating the University'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 requirement of 49 quarter units

SOPHOMORE YEAR

		CERT.	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	
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
DTCS 445	Nutrition Care Management		4.0
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
Overall Totals		52.0	52.0

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 technician.

REGISTERED DIETITIAN (R.D.)

To enter the bachelor's degree program to become a registered dietitian, the student must complete all remaining prerequisites for the bachelor's degree program as indicated in the Nutrition and Dietetics Program. The dietetic technician, registered (DTR), should also complete one year of practice before applying to the bachelor's degree program.

Emergency Medical Care—AH

(B.S.)

EHREN NGO, Program Director

FACULTY

Allen Bedashi
 Noha Daher
 James Goss
 David Lopez
 Ehren Ngo
 Lindsey Simpson
 Grenith Zimmerman

CLINICAL ADJUNCT FACULTY

Robbi Dunn
 Jim Holbrook
 Michael Homeyer
 Traci Marin
 Michael Osur

ADVISORY COMMITTEE

Gail Dodge
 Robbi Dunn
 Mark Hartwig
 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.

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, eco-

nomics, 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

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 (EMC) Program faculty uses distance education technology to

facilitate teaching of course work. This technology requires that all prospective students applying for admission to the program have access to a computer with Internet capabilities by the time they actually begin the program. The 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.

JUNIOR YEAR

UNITS

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	Theories of Emergency Medical Services I	2.0
EMMC 332	Theories of Emergency Medical Services II	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
Totals		38.0

SENIOR YEAR

UNITS

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
Totals		39.0
Overall Totals		77.0

Health Care Administration—AH

(B.S.)

KARLA LAVIN WILLIAMS, Program Director

FACULTY

S. Eric Anderson
 Dora Barilla
 David L. Holt
 Brad A. Jamison
 William Kim
 Karla Lavin Williams
 Dave Lawrence
 Renee Stone
 Steve Serrao
 Grenith Zimmerman

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.

PROGRAM OUTCOMES

Upon completion of the B.S. degree, the graduate should be able to demonstrate the following competencies:

1. Apply health care management concepts and theory to decision making, operations management, information systems, economics, and health care administration.
2. Apply advanced skills in communicating with public, staff, and constituencies.
3. Apply health care law to policy and procedure development.
4. Demonstrate advanced knowledge and skill in managing human resources and providing effective resolution strategies.

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.

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).

MAJOR		UNITS
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 4.0
AHCJ 331	Human Resource Management (3)	Choose one course 3.0–4.0
HCAD 374	Health Care Human Resources (4)	
Totals		53.0–54.0

RELIGION		UNITS
RELE 4__	Upper Division Ethics	2.0
RELR 4__	Upper Division Relational	2.0

RELT 406	Adventist Beliefs and Life (2)	Choose one course	2.0–3.0
RELT 423	Loma Linda Perspectives (2)		
RELT 436	Adventist Heritage and Health (2)		
RELT 437	Current Issues in Adventism (2)		
Totals			6.0–7.0
Overall Totals			59.0–61.0

Health Information Administration—AH

(PB certificate, Executive certificate, HIT-Progression, B.S.)

MARILYN H. DAVIDIAN, Program Director
 PAULINE CALLA, Clinical Coordinator,
 Recruitment Coordinator
 DEBRA L. HAMADA, Program Director,
 Executive Certificate Program

Barbara Pinkowitz
 Brenda Taylor

* ex officio

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 Margaret Jackson
 Arthur Kroetz
 Kristin Krug-Schmidt
 Beena Nair

Health 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

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—concurrent with 1st quarter

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—EXECUTIVE CERTIFICATE

The management of health care records provides a basis for patient care, quality improvement, legal defense, reimbursement, risk management, accreditation, planning, and decision making.

Health information management has assumed increased importance with passage of the American Recovery and Reinvestment Act of 2009 and the emphasis on electronic health records, health care privacy, and quality patient care. The executive certificate program is designed for the person who has management experience in a field related to health information management, such as information technology, information systems, computer science, business administration, and health management.

The health information manager designs, develops, and maintains systems for storage, retrieval, and dissemination of information in accordance with federal, state, and local statutes and regulations. The experienced health information manager takes an active role in strategic planning with health administrators for enterprise health information systems and their implementation.

Opportunities

Health information managers are employed in a wide variety of health settings, including acute care, outpatient care, long-term care, research facilities, software development companies, government agencies, rehabilitation facilities, consulting firms, and others. There is a high demand for health information managers with professional experience.

Credentialing examination

Graduates are eligible to sit for the registered health information administrator (RHIA) credentialing examination offered by the American Health Information Management Association.

Student learning outcomes

Upon completion of the program, the graduate will be qualified to:

1. Understand and apply the laws of patient record confidentiality, privacy, and compliance.
2. Demonstrate knowledge of health information technology and systems.
3. Demonstrate and apply knowledge of the principles of personnel management.
4. Develop a financial plan for a health information management department.
5. Demonstrate mastery of the principles of health information management.
6. Demonstrate mastery of the health information management curriculum.

Admission

To be eligible for admission, the applicant must have completed a baccalaureate degree in a field related to health information management, such as business administration, health administration, computer science, information systems, or a health field. In addition, a minimum of five years of management experience is required. Management experience must reflect engagement of all basic management functions: planning, organizing, leading, and controlling. Resources being managed need not be exclusively manpower; project management is acceptable. A minimum G.P.A. of 2.5 is required. Applicants must complete the online application; and submit official transcripts, a current resume, and three letters of recommendation. Telephone or technology-mediated interviews will be conducted as part of the admission process.

Eligible baccalaureate degrees requiring no additional preadmission requirements include baccalaureate degrees issued by regionally accredited schools of allied health professions, medicine, dentistry, nursing, public health or other equivalent colleges and universities dedicated to educating the health care work force.

Nonhealth care baccalaureate degrees, such as degrees in general business management and human resource management, lack the preprogram volunteer experience. Applicants whose degrees fall into this category will be required to complete 120 hours of volunteer work under the direction

of credentialed health information professionals. The objectives of the volunteer experience will be equivalent to the objectives of the senior internship in the traditional baccalaureate program in health information administration. Volunteer sites will be arranged and approved by the program director.

REQUIRED		UNITS
AHCJ 325	U. S. Health Care-Delivery System	2.0
HLCS 238	Essentials of Human Diseases	3.0
HLEC 411	Health Record Management	3.0
HLEC 412	Management and Leadership in Health Information Management	3.0
HLEC 423	Clinical Coding and Classification Systems	3.0
HLEC 434	Health Systems Management for Executives	4.0
HLEC 444	Seminar in Health Information Management	3.0
HLIN 407	Financial Management for Health Information Management	2.0
HLIN 441	Legal Aspects of Health Information Administration	4.0
HLIN 444	Corporate Compliance in Health Care	3.0
HLIN 451	Quality Improvement in Health Care	3.0
HLIN 475	Research Methods in Health Information Management	3.0
HLIN 483	Long-Term and Alternative Delivery Systems in Health Care	4.0
RELE 457	Christian Ethics and Health Care	2.0
		Totals 42.0
		Overall Totals 42.0

A Loma Linda University G.P.A. of 2.5 must be maintained throughout the program.

A minimum grade of C (2.0) is required for all courses in the program.

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		CERT.	B.S.
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
		Totals	55.0

SENIOR YEAR

		CERT.	B.S.
AHCJ 432	Database Management I	2.0	2.0
AHCJ 433	Database Management II	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	46.0
		Overall Totals	101.0

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

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.
 General education requirements of Domains I through IV; see Division of General Studies, Section II of this Catalog.

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 I	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

REQUIRED TO BE TAKEN THROUGH LLU			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
Overall Totals			101.0

Health Professions Education—AH

(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		CERT.	M.S.
AHCJ 506	Educational Evaluation and Clinical Assessment	3.0	3.0
AHCJ 509	Teaching and Learning Styles	3.0	3.0
AHCJ 556	Administration in Higher Education	3.0	3.0
HPRO 543	Writing for Health Professionals	3.0	3.0
RELE 5__	Graduate-level Ethics	3.0	3.0
AHCJ 515	Curriculum Development in Higher Education (3.0)	Choose one course	3.0
NRSG 546	Curriculum Development in Higher Education (3.0)		
Totals		18.0	18.0

DOMAIN I ELECTIVES

Teaching, learning, assessment, and evaluation

		CERT.	M.S.
AHCJ 564	Collaborative Learning in Higher Education (3.0)	Chosen in consultation with program director	6.0–24.0
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)		
PHIL 616	Seminar in the Philosophy of Science (2.0)		
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		0.0–9.0	6.0–24.0

DOMAIN II ELECTIVES

Leadership electives

		CERT.	M.S.
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)		
HADM 583	Orientation for Leadership III: Setting a New Direction (4.0)		
PSYC 544	Foundations of Learning and Behavior (4.0)		
PSYC 566	Cross-Cultural Psychology (2.0)		
PSYC 581	Psychological Treatment I: Behavioral and Cognitive Therapies (2.0)		
RELE 524	Bioethics and Society (3.0)		
RELE 525	Ethics for Scientists (3.0)		
RELR 575	Art of Integrative Care (3.0)		
RELR 584	Culture, Psychology, and Religion (3.0)		
Totals		0.0–9.0	6.0–24.0
Overall Totals		27.0	48.0

Classes, in addition to those listed, may be chosen in consultation with program director

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 certificate in medical dosimetry (CMD) board examination.

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.

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 student's 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 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. 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.S.	RAD.
		PHYSICS TRACK	THERAPY TRACK
FIRST YEAR			
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	
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	
RTTH 381	Topics in Radiation Therapy I		1.0
Totals		54.0	47.0
SECOND YEAR			
RELE 457	Christian Ethics and Health Care	2.0	2.0
RTMD 302	Treatment Planning II	2.0	2.0
RTMD 305	Special Topics	2.0	2.0
RTMD 314	Quality Assurance, with Laboratory		2.0
RTMD 964	Practicum	8.0	
RTMD 965	Practicum	8.0	
RTMD 974	Practicum		10.0
Totals		22.0	18.0
Overall Totals		76.0	65.0

Students who have already taken these classes will be required to retake them under another number.

Medical Radiography—AH

(A.S. oncampus and Saudi Arabia)

MARK J. CLEMENTS, Program Director
 BRENDA PFEIFFER, Assistant Program Director
 STEVEN L. LEBER, Clinical Coordinator
 GREGORY E. WATKINS, Medical Advisor

FACULTY

Laura L. Alipoon
 Mark J. Clements
 Michael F. Iorio
 Arthur W. Kroetz
 Brigit C. Lara
 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.

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.

STUDENT LEARNING OUTCOMES

1. Demonstrate understanding of and integrate the University's philosophy of wholeness in their personal and professional lives.
2. Demonstrate clinical competence.
3. Communicate effectively.
4. Develop critical-thinking and problem-solving skills.
5. Demonstrate the values and attitudes of an entry-level radiographer.

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

Observation experience

A minimum of twelve hours of observation in a radiology department is required. Contact the department to obtain the appropriate form.

SOPHOMORE YEAR, AUTUMN QUARTER		ON CAMPUS	SAUDI ARABIA
AHCJ 326	Fundamentals of Health Care	2.0	
AHCJ 328	Wholeness Portfolio I	1.0	1.0
REL_ 4__	Upper Division Religion	2.0	2.0
RTMR 202	Orientation Laboratory	1.0	1.0
RTMR 224	Legal Issues in Medical Radiography	1.0	1.0
RTMR 246	Professional Communications	2.0	2.0
RTMR 253	Medical Radiography Procedures I	2.0	2.0
RTMR 253L	Medical Radiography Procedures Laboratory I	1.0	1.0
RTMR 285	Principles of Radiography I	3.0	3.0
Totals		15.0	13.0

WINTER QUARTER		ON CAMPUS	SAUDI ARABIA
RTMR 221	Radiologic Patient Care	2.0	2.0
RTMR 254	Medical Radiography Procedures II	2.0	2.0
RTMR 254L	Medical Radiography Procedures Laboratory II	1.0	1.0
RTMR 284	Radiation Protection and Biology	2.0	2.0
RTMR 286	Principles of Radiography II	4.0	4.0
RTMR 371	Medical Radiography Affiliation I	5.0	5.0
Totals		16.0	16.0

SPRING QUARTER		ON CAMPUS	SAUDI ARABIA
RTMR 255	Medical Radiography Procedures III	2.0	2.0
RTMR 255L	Medical Radiography Procedures Laboratory III	1.0	1.0
RTMR 283	Radiologic Physics	3.0	3.0
RTMR 287	Principles of Radiography III	2.0	2.0
RTMR 372	Medical Radiography Affiliation II	7.0	7.0
Totals		15.0	15.0

CLINICAL YEAR, SUMMER QUARTER		ON CAMPUS	SAUDI ARABIA
RTMR 373	Medical Radiography Affiliation III	12.0	12.0
Totals		12.0	12.0

AUTUMN QUARTER		ON CAMPUS	SAUDI ARABIA
REL_ 4__	Upper Division Religion	2.0	2.0
RTMR 345	Radiologic Pathology	2.0	2.0
RTMR 374	Medical Radiography Affiliation IV	10.0	10.0
RTSI 367	Cross-sectional Radiographic Anatomy	2.0	2.0
Totals		16.0	16.0

WINTER QUARTER		ON CAMPUS	SAUDI ARABIA
RTMR 321	Radiographic Image Evaluation	2.0	2.0
RTMR 342	Computer Applications in Radiology	1.0	1.0
RTMR 375	Medical Radiography Affiliation V	10.0	10.0
RTSI 369	CT Physics	2.0	2.0
Totals		15.0	15.0

SPRING QUARTER		ON CAMPUS	SAUDI ARABIA
RTMR 363	Comprehensive Review	1.0	1.0
RTMR 386	Medical Radiography Affiliation VI	10.0	10.0
RTSI 364	Patient Care in Special Imaging	2.0	2.0
Totals		13.0	13.0
Overall Totals		102.0	100.0

Certain aspects of the curriculum require individual scheduling. Time arrangements may be subject to change. Entrance to the clinical year is contingent upon completion of all prior requirements.

A minimum grade of C+ (2.5) 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).

APPLICATION ELIGIBILITY

To be eligible for admissions to the certificate program in nuclear medicine, 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

The three following certifications must be completed prior to entering the program:

1. CPR certification (adult, child) (offered by Loma Linda University Life Support Education)
2. Venipuncture (offered by Loma Linda University Medical Center Staff Development)
3. ECG/EKG interpretation (offered by Loma Linda University 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
Overall Totals		60.0

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; online M.S. in Nutrition Care Management)

CINDY L. KOSCH, Coordinated 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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*ex officio

Dietetics, a vital profession in the field of health promotion and medical nutrition therapy, focuses on the science of nutrition, the art of food presentation, 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 artistic presentation of food 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, on which basis one can become a registered dietitian. The student obtains the credential in dietetics 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 comprises 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 the 2010–2011 academic year. In certain circumstances, admission to the program will be granted after one year of prerequisite work in the humanities, social sciences, and communication domains. The second year will focus on Loma Linda University campus courses in the sciences, including anatomy and physiology, chemistry, and microbiology. Continuation in the program for the third year will require maintenance of a G.P.A. of at least a 3.0.

The seven-quarter professional program 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 an 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 the 2010–2011 academic year. In certain circumstances, admission to the program will be granted after one year of prerequisite work in the humanities, social sciences, and communication domains. The second year will focus on Loma Linda University campus courses in the sciences, including anatomy and physiology, chemistry, and microbiology. Continuation in the program for the third year will require maintenance of a G.P.A. of at least 3.0. The prerequisite requirements are identical to those for the B.S. degree.

The eleven-quarter professional program includes theory, laboratory, research, and clinical experiences. At the end of the junior year, 400 hours of supervised professional practice experiences are scheduled, with another 400 hours in medical nutrition therapy scheduled during the last year of the program. Students participate as active members of the nutrition care team in multiple clinical settings and 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 G.P.A. of 3.0 or above 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>; 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 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

College-level mathematics or equivalent

Anatomy and physiology with laboratory, complete sequence

Introductory chemistry with laboratory, complete sequence; or general chemistry with laboratory (two quarters or 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).

JUNIOR YEAR		B.S.	B.S./M.S.	M.S.
AHCJ 305	Infectious Disease and the Health Care Provider	1.0	1.0	1.0
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	
REL_ 4__	Upper Division Religion		2.0–3.0	
RELT 436	Adventist Heritage and Health	3.0	3.0	
Totals		53.0	51.0–52.0	1.0

SENIOR YEAR		B.S.	B.S./M.S.	M.S.
AHCJ 407	Financial Management	2.0		
AHCJ 448	Human Resource Management		3.0	
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 405	Senior Seminar	1.0		
DTCS 426	Food Systems Management Affiliation		6.0	
DTCS 427	Community Nutrition Affiliation		6.0	
DTCS 442	Nutrition Counseling	3.0		
DTCS 445	Nutrition Care Management	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	
NUTR 504	Nutritional Metabolism		5.0	
NUTR 526	Nutrition Counseling and Education		2.0	
REL_ 4__	Upper Division Religion	2.0–3.0		
RELE 457	Christian Ethics and Health Care	3.0	3.0	
STAT 509	General Statistics		4.0	
Totals		59.0–60.0	42.0	—

GRADUATE PROGRAM		B.S.	B.S./M.S.	M.S.
DTCS 506	Professional Seminar in Nutrition and Dietetics		1.0	1.0
DTCS 526	Pharmacology in Medical Nutrition Therapy		2.0	2.0
DTCS 545	Nutrition Care Management			3.0
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
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 519	Phytochemicals	2.0		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 524	Bioethics and Society			3.0
STAT 509	General Statistics			4.0
Totals		—	38.0	53.0

AFFILIATION

Affiliation units do not count toward minimum graduate units required for the degree.

		B.S.	B.S./M.S.	M.S.
DTCS 578	Clinical Nutrition Affiliation (3.0–12.0)		12.0	12.0
DTCS 595	Nutrition and Dietetics Graduate Practicum			12.0
Totals		—	—	—
Overall Totals		112.0–113.0	131.0–132.0	54.0

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 multi-departmental 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.

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:

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 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
- Practice downloading and posting information from Blackboard
- Discussion of log-in issues

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

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 548	Human Resource Management in the Health Care Environment	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

SECOND YEAR, SUMMER QUARTER

UNITS

DTCS 525	Nutrition Care Marketing	3.0
HADM 604	Health Systems Strategic Planning	3.0
Totals		6.0

AUTUMN QUARTER

UNITS

AHCJ 566	Theoretical Foundations of Leadership	3.0
AHCJ 579	Instructional Effectiveness	3.0
Totals		6.0

WINTER QUARTER**UNITS**

DTCS 536	Health Care Financial Management	3.0
HADM 601	Health Systems-Operations Management	3.0
Totals		6.0

SPRING QUARTER**UNITS**

DTCS 696	Nutrition Care-Management Project	6.0
Totals		6.0

THIRD YEAR, SUMMER QUARTER**UNITS**

DTCS 505	Graduate Seminar—Portfolio	3.0
DTCS 579	Capstone Course in Nutrition Care Management	3.0
Totals		6.0
Overall Totals		48.0

Occupational Therapy—AH

(Entry-Level M.O.T., Postprofessional M.O.T., O.T.D.)

LIANE H. HEWITT, Department Chair; Program Director for Entry-Level Master of Occupational Therapy and for 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

FACULTY

Beth Aune-Nelson
L. Christine Billock
Joyce A. Cabrera
Sheryl L. Clemons
Noha S. Daher
Michael K. Davis
Deborah Enix
Bonnie J. Forrester
Luella M. Grangaard
Kathryn I. Gunderson
Liane H. Hewitt
Joyce W. Hopp
Shu-Chuan Hsu
Esther M. Huecker
Heather A. Javaherian
Bradford D. Martin
Danielle J. Meglio

Janette L. Morey
Laurie E. Nelson
Harold T. Neuendorff
Nancy Olsen
Judith A. Palladino
Sharon L. Pavlovich
Karen M. Pendleton
Arezou Salamat
Ernest R. Schwab
Diana Su-Erickson
Heather J. Thomas
Donna G. Thorpe
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>.

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 South Summit Avenue, Suite 100, Gaithersburg, MD 20877-4150; telephone: 301/990-7979, Web site: <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>. 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>; telephone: 800/729-2682. The state association address is: Occupational Therapy Association of California, P.O. Box 276567, Sacramento, CA 95827-6567. Web site: <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 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; MMR, TDAP, and hepatitis B series; and titer for varicella 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.

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 clients' 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.

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

Work experience

A minimum of forty hours of documented observation in an occupational therapy setting is

PROGRAM OF INSTRUCTION

(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

required before application will be considered for 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

Human growth and development (developmental psychology)

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 occupational therapy setting is required before application will be considered for admission.

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

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 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	4.0	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	13.0

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
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	Professional Transition	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
Overall Totals		157.0	149.0

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).

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.

MAJOR		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	Professional Transition	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

COGNATES		UNITS
AHCJ 509	Teaching and Learning Styles	3.0
AHCJ 511	Biostatistics I	3.0
AHCJ 591	Research I	3.0
AHCJ 592	Research II	3.0
REL_ 5__	Graduate-level Religion	3.0
Totals		15.0

ELECTIVES		UNITS
_____	Elective	12.0
Totals		12.0
Overall Totals		45.0

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 to engage in innovative research and programming.

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 I	4.0
OCTH 625	Professional Rotation III	4.0
OCTH 627	Professional Publication and Dissemination	5.0
Totals		43.0

COGNATES		UNITS
AHCJ 605	Critical Analysis of Scientific Literature	3.0
HPRO 509	Principles of Health Behavior	3.0
RELE 524	Bioethics and Society	3.0
RELR 535	Spirituality and Mental Health	3.0
RELT 539	Christian Understanding of God and Humanity	3.0
Totals		15.0
Overall Totals		58.0

Orthotics and Prosthetics—AH

(Postprofessional M.S.)

ADMISSION

To be eligible for admission, the applicant must have earned a baccalaureate degree (or higher) in orthotics and prosthetics, or a baccalaureate degree in any major and an orthotics or prosthetics certificate degree from an accredited NCOPE 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
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 575	Art of Integrative Care	3.0
		Totals 45.0
		Overall Totals 45.0

Physical Therapist Assistant—AH

(A.S.)

JEANNINE STUART MENDES, Program Director
 CAROL J. APPLETON, Assistant Program
 Director; Academic Coordinator of Clinical
 Education

Henry Garcia
 Susan M. Huffaker
 Jeannine Stuart Mendes
 Steven D. Newton
 Ronald M. Rea

FACULTY

Carol J. Appleton
 Bruce D. Bradley
 Lawrence E. Chinnock

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, the Doctor of Physical Therapy, and the 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>.

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 lifelong spiritual growth.

PROGRAM MISSION

The Physical Therapist Assistant 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 with balanced intellectual development, social skills, competent practice, and spiritual connection.

PROGRAM GOALS

In order to achieve the Physical Therapist Assistant (PTA) Program mission, the program goals aim 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 Physical Therapist Assistant (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 techni-

cal 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 that 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.

STUDENT LEARNING OUTCOMES

The mission of the Physical Therapist Assistant Program is to graduate physical therapist assistants with balanced intellectual development, 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

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 of work or volunteer observation in an inpatient physical therapy setting and twenty hours in an outpatient physical therapy setting, plus an additional forty hours in either an inpatient or an outpatient physical therapy setting—for a total of eighty hours—are required.

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
Totals		16.0

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
Totals		16.0

WINTER QUARTER		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

SPRING QUARTER		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

SUMMER QUARTER		UNITS
PTAS 294	Physical Therapist Assistant Affiliation II	6.0
PTAS 295	Physical Therapist Assistant Affiliation III	6.0
Totals		12.0
Overall Totals		72.0

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
 HOWARD SULZLE, Associate 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, and Postprofessional Master of Science in Orthotics and Prosthetics
 THERESA JOSEPH, Academic Coordinator of Clinical Education for Entry-Level Doctor of Physical Therapy Program

FACULTY

Carol J. Appleton
 Lee S. Berk
 Bruce D. Bradley
 Bertha Carlo-Poni
 Lawrence E. Chinnock
 Mei Lee Chiu
 Tim K. Cordett
 Nicceta Davis
 Christine Eddow
 Intithar S. Elias
 Bonnie J. Forrester
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 Joseph Godges
 Ronald A. Hershey
 Patricia A. Hokama
 Joyce W. Hopp
 Susan M. Huffaker
 Eric G. Johnson
 Theresa Joseph
 Robert F. Landel
 Everett B. Lohman III
 Helen H. Marshak
 Bradford D. Martin
 Jeannine Stuart Mendes
 Steven D. Newton
 Melvin A. Orser
 Jerrold S. Petrofsky

Ronald M. Rea
 Gail T. Rice
 Ernest R. Schwab
 Howard W. Sulzle
 R. Wesley Swen
 James M. Syms
 Desmyrna R. Taylor
 Donna G. Thorpe
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 Christine Wilson
 Lily L. Young
 Grenith J. Zimmerman

ADVISORY COMMITTEE

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 Dennis Canig
 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
- Entry-level Doctor of Physical Therapy
- Postprofessional Doctor of Physical Therapy
- Postprofessional Doctor of Science

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 entry-level D.P.T. degree requirements 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— POSTPROFESSIONAL M.P.T.

Admission

To be eligible for admission, the applicant must have earned a bachelor's degree in physical ther-

apy 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) 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 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.

MAJOR		UNITS
PHTH 529	Pathokinesiology of Gait	3.0
PHTH 531	Soft-Tissue Mobilization	3.0
PHTH 545	Orthopaedic Interventions: Mobilization of Peripheral Nerves & Diathroidal 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 or who have an associate degree in the field of 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 the Summer Quarter, an eleven-week affiliation during the Winter Quarter, and one ten-week affiliation during the 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.

Student learning outcomes

Upon completion of the program, graduates should be qualified to demonstrate:

- 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 among 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.

Note: Grades of C- and below are not transferable for credit.

DOMAIN 1: RELIGION AND HUMANITIES (24 quarter/16 semester units, minimum)

Humanities (12 quarter/8 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 a Seventh-day Adventist college or university is required to have taken 4 quarter units of religion from an Adventist institution for each full year of attendance at an Adventist college or university. Up to 12 quarter units may apply towards the 28 units 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 24 quarter/16 semester units in Domain 1: Humanities and Religion.

Note: Physical therapist assistants who enter the program in June 2010 or June 2011 must have a minimum of 20 quarter/14 semester units in Domain I. A maximum of 8 quarter units of religion credit may count towards the 20 quarter units required. Physical therapist assistants entering in June 2012 and beyond must have a minimum of 24 quarter/16 semester units in Domain I. A maximum of 12 quarter units of religion credit may count towards the 24 quarter units required.

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)

**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 (12 quarter /8 semester units, minimum)

The study of social sciences must include at least one upper division course:

**General psychology

**Human growth and development

Note: Physical therapist assistants who enter the program in June 2010 or June 2011 must have a minimum of 9 quarter/6 semester credits in the Social Sciences area. Physical therapist assistants entering in June 2012 and beyond must have a minimum of 12 quarter/8 semester credits in the Social Sciences area.

**DOMAIN 3: COMMUNICATION
(9 quarter/6 semester units, minimum)**

Freshman composition, complete sequence (must meet transfer requirements to four-year college or university)

**One course in basic communication skills (speech)

**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

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.

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.

FIRST YEAR, SUMMER QUARTER**UNITS**

AHCJ 311	Medical Terminology	2.0
AHCJ 510	Anatomy	9.0
PHTH 510	Kinesiology	3.0
PHTH 514	Manual Muscle Testing	3.0
RELR 709	Christian Perspectives on Death and Dying	2.0
Totals		19.0

AUTUMN QUARTER**UNITS**

AHCJ 305	Infectious Disease and the Health Care Provider	1.0
AHCJ 560	Physiology	4.0
AHCJ 561	Neuroscience I: Neuroanatomy	4.0
AHCJ 721	Wholeness Portfolio I	1.0
PHTH 509	Physical Therapy Modalities	3.0
PHTH 513	Therapeutic Procedures	3.0
PHTH 563	Scientific Inquiry I	2.0
RELT 718	Adventist Heritage and Health	2.0
Totals		20.0

WINTER QUARTER**UNITS**

AHCJ 538	Histology	3.0
AHCJ 542	Pathology I	4.0
AHCJ 562	Neuroscience II: Neurophysiology	3.0
PHTH 508	PT Communication and Documentation	2.0
PHTH 528	Therapeutic Exercise I	3.0
PHTH 532	Biostatistics I	2.0
PHTH 557	Lifespan Studies I: Infant through Adolescent	3.0
Totals		20.0

SPRING QUARTER**UNITS**

AHCJ 543	Pathology II	3.0
AHCJ 563	Neuroscience III: Clinical Neurology	2.0
PHTH 506	Exercise Physiology	3.0
PHTH 519	Locomotion Studies	3.0
PHTH 527	Scientific Foundations for Therapeutic Exercise	2.0
PHTH 533	Biostatistics II	2.0
PHTH 571	Physical Therapy Practicum I	1.0
Totals		16.0

SECOND YEAR, SUMMER QUARTER**UNITS**

PHTH 511	Clinical Orthopaedics	2.0
PHTH 512	Clinical Psychiatry	2.0
PHTH 564	Scientific Inquiry II	2.0
PHTH 575	Orthopaedics IV	1.0
RELT 714	Comparative Religious Experiences	2.0
Totals		9.0

AUTUMN QUARTER		UNITS
AHCJ 516	Clinical Imaging	3.0
AHCJ 524	Pharmacology	2.0
AHCJ 722	Wholeness Portfolio II	1.0
PHTH 501	Neurology I	2.0
PHTH 521	Orthopaedics I	3.0
PHTH 525	General Medicine	3.0
PHTH 530	Therapeutic Exercise II	3.0
PHTH 572	Physical Therapy Practicum II	1.5
Totals		18.5
WINTER QUARTER		UNITS
PHTH 502	Neurology II	3.0
PHTH 518	Aspects of Health Promotion	2.0
PHTH 522	Orthopaedics II	3.0
PHTH 526	Cardiopulmonary	3.0
PHTH 534	Soft-Tissue Techniques	2.0
PHTH 558	Lifespan Studies II: Developmental Disabilities	3.0
RELE 524	Bioethics and Society	3.0
Totals		19.0
SPRING QUARTER		UNITS
PHTH 503	Neurology III	3.0
PHTH 517	Movement Science	2.0
PHTH 523	Orthopaedics III	3.0
PHTH 524	Hand Rehabilitation for the Physical Therapist	2.0
PHTH 555	Differential Diagnosis	2.0
PHTH 559	Lifespan Studies III: Geriatrics	2.0
PHTH 561	Physical Therapy Administration	4.0
Totals		18.0
THIRD YEAR, SUMMER QUARTER		UNITS
PHTH 573	Physical Therapy Practicum III	1.5
PHTH 701A	Physical Therapy Affiliation IA	4.0
Totals		5.5
AUTUMN QUARTER		UNITS
PHTH 701B	Physical Therapy Affiliation IB	1.0
PHTH 731	Advanced Orthopaedic Studies	4.0
PHTH 732	Advanced Neurologic Studies	4.0
PHTH 733	Advanced General Medicine Studies	4.0
Totals		13.0
WINTER QUARTER		UNITS
PHTH 702	Physical Therapy Affiliation II	5.0
Totals		5.0
SPRING QUARTER		UNITS
PHTH 703	Physical Therapy Affiliation III	5.0
Totals		5.0
Overall Totals		168.0

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 may be 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.]).

Student learning outcomes

In addition to the stated institutional learning outcomes, the PP-DPT program 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.

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.]).

Student learning outcomes

In addition to the stated institutional learning outcomes, the D.Sc. degree 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.

FIRST YEAR		POST-PROF.	D.P.T.	D.SC.
_____	Elective		12.0	6.0
AHCJ 507	Pharmacology in Rehabilitation		3.0	3.0
AHCJ 516	Clinical Imaging		3.0	3.0
AHCJ 518	Advanced Physiology I: Neurobiology		3.0	3.0
AHCJ 527	Medical Screening for Rehabilitation Professionals		3.0	3.0
AHCJ 551	Professional Systems in Management I		3.0	3.0
AHCJ 605	Critical Analysis of Scientific Literature		3.0	3.0
PHTH 541	Advanced Clinical Practice I		3.0	3.0
PHTH 542	Advanced Clinical Practice II		3.0	3.0
PHTH 543	Advanced Clinical Practice III		3.0	3.0
PHTH 629	Lower-Quarter Biomechanical Relationships		3.0	3.0
RELR 525	Health Care and the Dynamics of Christian Leadership		3.0	3.0
		Totals	45.0	39.0

SECOND YEAR		POST-PROF.	D.P.T.	D.SC.
_____	Elective			3.0
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 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
		Totals	—	33.0

THIRD YEAR		POST-PROF.	D.P.T.	D.SC.
PHTH 537	Research and Statistics III—Data Collection			3.0
PHTH 538	Research and Statistics IV			3.0
PHTH 697	Research and Statistics V—Preliminary Dissertation			3.0
RELT 557	Theology of Human Suffering			3.0
		Totals	—	12.0
		Overall Totals	45.0	84.0

Physician Assistant—AH

(M.P.A.)

PHYSICIAN ASSISTANT SCIENCES

DAVID LOPEZ, Ed.D., Interim Department Chair

YASMIN CHENE, D.H.Sc., Co-Chair, Associate
Clinical Coordinator

BENNY HAU, M.D., Medical Director

CHRISTY ESKES, M.P.A., Program Director and
Didactic Coordinator

GHINA KATRIB, M.P.A., Assistant Didactic
Coordinator

GERALD A. GLAVAZ, M.P.A.S., Clinical
Coordinator of Clinical Education

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Gerald A. Glavaz

Benny Hau

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Christy L. Eskes

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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 special-

ty 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

A baccalaureate degree from an accredited institution, completed by December 31 of the year applying

A minimum of 2,000 hours of direct patient-care experience

College-level prerequisite courses include the following:

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 or equivalent
General sociology or equivalent

or

Cultural anthropology or equivalent
College algebra or equivalent
English, one year or equivalent

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 submitted through CASPA at <www.caspaonline.org>

Three letters of recommendation—one from a practicing M.D., D.O., or P.A.

Documented patient care experience

Note: Grades below C are not accepted for credit.

How to apply

Applications are accepted between June 1 and November 1. Applications must be made through the Central Application Service for Physician Assistants (CASPA). This service is available at <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 a regionally 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

Roxie J. Williams
Molly Stevenson Kurth
909/558-7295
<pa@llu.edu>

or visit the SAHP Web site at <www.llu.edu/allied-health/sahp/pa/index.page>.

FIRST YEAR, AUTUMN QUARTER

			UNITS
AHCJ 519	Graduate Wholeness Portfolio	In progress through spring quarter	1.0
PAST 518	Anatomy and Physiology I		3.0
PAST 547	Basic Medical Science		2.0
PAST 548	Diagnostic Methods		2.0
PAST 558	Psychiatry for Physician Assistants		3.0
PAST 564	Research for Physician Assistants I		3.0
RELE 505	Clinical Ethics		3.0
Totals			17.0

WINTER QUARTER

			UNITS
PAST 519	Anatomy and Physiology II		3.0
PAST 541	Clinical Medicine for Physician Assistants I		5.0
PAST 544	Pharmacology for Physician Assistants I		3.0
PAST 551	Pathology for Physician Assistants I		4.0
PAST 561	Physical Diagnosis I		3.0
PAST 565	Research for Physician Assistants II		3.0
Totals			21.0

SPRING QUARTER

			UNITS
PAST 542	Clinical Medicine for Physician Assistants II		5.0
PAST 545	Pharmacology for Physician Assistants II		3.0
PAST 552	Pathology for Physician Assistants II		3.0
PAST 556	Preventive Medicine and Health Promotion		2.0
PAST 562	Physical Diagnosis II		3.0
SPAN 101	Elementary Spanish I		3.0
Totals			19.0

SUMMER QUARTER		UNITS
PAST 504	Primary Care Pediatrics	2.0
PAST 505	Women's Health Care	2.0
PAST 543	Clinical Medicine for PAs, III	3.0
PAST 554	Clinical Skills for Physician Assistants	5.0
PAST 563	Physical Diagnosis III	3.0
SPAN 123	Practicum in Spanish I	4.0
Totals		19.0

SECOND YEAR, AUTUMN QUARTER		UNITS
PAST 516	Physician Assistant Professional Issues	In progress through spring quarter 2.0
PAST 701	Rotation I	4.0
PAST 702	Rotation II	4.0
PAST 703	Rotation III	4.0
Totals		14.0

WINTER QUARTER		UNITS
PAST 704	Rotation IV	4.0
PAST 705	Rotation V	4.0
PAST 706	Rotation VI	4.0
Totals		12.0

SPRING QUARTER		Units
PAST 707	Rotation VII	4.0
PAST 708	Rotation VIII	4.0
PAST 709	Rotation IX	4.0
Totals		12.0

SUMMER QUARTER		UNITS
PAST 710	Rotation X	4.0
PAST 711	Rotation XI	4.0
PAST 712	Rotation XII	4.0
Totals		12.0
Overall Totals		126.0

Twelve four-week clinical rotations, including: Family Medicine I and II, Internal Medicine I and II, Pediatrics I and II, Obstetrics/Gynecology, General Surgery, Emergency Medicine, Behavioral Medicine, and two electives

Radiation Sciences—AH

(B.S., M.S.)

RENEE N. STONE, M.A.M., RT (R)(M), Associate Chair, Department of Radiation Technology; Program Director

BRIGIT LARA, M.A.M., RT(R), Assistant Program Director

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
 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, and teaching. The program has a minor in health care administration imbedded into the core course work. Upon completion of the B.S. degree requirements,

students will graduate with a specialized area of emphasis and a health care administration minor.

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 degree 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. Both courses are prerequisite courses and must be completed prior to starting the program.

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 B.S. degree 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 of 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
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 2.0–3.0
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		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 6.0
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	Communication and Education in Imaging Informatics	3.0
Totals		14.0
Overall Totals		60.0–81.0

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:

- Diagnostic sonography (37 units)
- Nuclear medicine technology (18 units)
- Special imaging technology (18 units)
- Radiation therapy technology (28 units)

Acceptance into these specialties is separate from acceptance into the B.S. degree 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 degree 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 degree Radiation Sciences Program is an online program open to qualified applicants.

Mission statement

The mission of the Master of Science degree 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 a bachelor's degree with a minimum G.P.A. 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 G.P.A. 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. degree will help achieve them
- Telephone interview (to be scheduled after application has been submitted)

COREQUISITE*

Statistics

Research methods

* corequisites must be completed within five years of application, or if accepted, by the end of the first summer term.

Program design

The program is twenty-four months or eight quarters in length. Approximately two weeks prior to the beginning of school in the first Autumn Quarter, students will come to the campus for three to five days for orientation. Subsequently, all courses will be totally online until the week prior to graduation, when the students will again come to the 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.

REQUIRED

UNITS

AHCJ 549	Professional Responsibility in Allied Health Professions	3.0
AHCJ 550	Organizational Theory	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 588	Fundamentals of Human Resource Management	3.0
AHCJ 589	Strategic Planning in Health Care Organizations	3.0
AHCJ 595	Research and Statistics Concepts and Methods: Intermediate	3.0
RELT 539	Christian Understanding of God and Humanity	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

Overall Totals 51.0

Radiation Therapy Technology—AH

(Certificate)

CAROL DAVIS, Clinical Program Director,
Certificate

RADIATION THERAPY TECHNOLOGY—CERTIFICATE

The fifteen-month certificate program is offered 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 covers forty hours per week and follows the main University calendar.

Program outcomes

1. Comprehend treatment charts and other data such as treatment plans and DRRs, 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
 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
 General psychology

OBSERVATION EXPERIENCE REQUIRED

A minimum of forty hours of work observation in a radiation therapy department is required.

REQUIRED		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
Overall Totals		69.0

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, students must be on campus one week in the Autumn Quarter, 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.

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.
4. Completed statistics within the past five years.
5. Completed research methods within the past five years.
6. Are within 12 quarter units of completing all general education requirements. **

** A.S. to master's degree Track #1

TWO TRACKS FOR ENTRANCE

Students enter the M.S. degree program two different ways. Track 1 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 radiology assistant curriculum in their second year and will be lock step with the Track 2 radiology 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 2 allows students to enter with a bachelor's degree and begin their radiology 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		A.S. TO M.S.	PRIOR B.S.
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	
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		51.0	—

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

FIRST YEAR, AUTUMN QUARTER		A.S. TO M.S.	PRIOR B.S.
RELT 423	Loma Linda Perspectives	2.0–3.0	
Totals		2.0–3.0	—
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	3.0
RTRA 424	Medical-Legal 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	12.0
Overall Totals		146.0–147.0	94.0

Rehabilitation Science—AH

(Ph.D.)

GRENGTH 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.
- Minimum G.P.A. of 3.0 in academic and professional course work.

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 vita, including work history, formal education, continuing education, licensure or certification, professional or-

ganizations, 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 academic 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.

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
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 515	Curriculum Development in Higher Education (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 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	Bioethics and Society (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 535	Spirituality and Mental Health (3)		
RELR 536	Spirituality and Everyday Life (3)		
RELT 557	Theology of Human Suffering (3)	3 unit minimum	3.0
RELT 563	Health Care, 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
		Overall Totals	69.0–70.0

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, Chair, Department of
Cardiopulmonary Sciences; Director,
Postprofessional B.S. Program

DAVID M. STANTON, Program Director for
Certificate and Entry-Level B.S.

KATHERINE GATTUSO, Director of Clinical
Education, B.S.

RICHARD D. NELSON, Program Director, Saudi
Arabia 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
 Jeffrey Caliva
 Mohamed M. Elhanafy
 Beth Elliot
 Michael Hagelantz
 Tony (Pauline) Hilton
 Linda Houston-Feenstra
 Leo M. Langga
 Michael Lum
 Traci L. Marin
 Richard D. Nelson
 Ehren Ngo
 Curtis Powell
 Mark S. Rogers
 Douglas Roth
 Loreen K. Scott
 Lindsey Simpson
 Marco Soto
 Thomas W. Taylor, Jr.
 Michael Terry
 Carter Tong

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 increas-

ing 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 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 CoARC can be directed to 1248 Harwood Road, Bedford, TX 76021-4244; telephone, 817/283-2835; or Web site, <www.coarc.com>. The Respiratory Care Program at Loma Linda University is CoARC accredited.

Graduates of CoARC-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> or <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 is currently 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 West 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 two to RSTH 496)

Written Registered Respiratory Therapist-Self Assessment Examination \$40.00 (applied year two 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 second program is for students who have an Associate in Science degree in respiratory care from a CoARC-accredited respiratory care program and who wish to earn a 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 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.

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.
4. Pass the NBRC Written Registered Respiratory Therapist-Self Assessment Examination (WRRT-SAE). Required for on-time graduation.

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 physiol-

ogy 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—12 quarter (8 semester) units minimum with required course work of introductory or general psychology, and cultural anthropology or an approved course dealing with cultural diversity. An additional course meeting the Social Sciences unit requirement may be selected from the following: sociology (recommended), political science, economics, or geography.

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

		CERT.	B.S.
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

		CERT.	B.S.
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		CERT.	B.S.
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		CERT.	B.S.
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

SENIOR YEAR, AUTUMN QUARTER		CERT.	B.S.
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	—

AUTUMN QUARTER		CERT.	B.S.
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

WINTER QUARTER		CERT.	B.S.
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

SPRING QUARTER		CERT.	B.S.
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		CERT.	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	—
Overall Totals		81.0	112.0

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 CoARC-accredited respiratory care program and who wish to earn a Bachelor of Science degree in respiratory care.

The two-year, upper division program leading to the Bachelor of Science degree is a sequence of professional course work intended to prepare respiratory care practitioners 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.

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 man-

agement of patients with cardiopulmonary-related disorders; and who uphold the standards of the mission and goals of the School of Allied Health Professions.

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.

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 CoARC-approved or provisionally approved, or CoARC-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 of 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
Totals		11.0

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
Totals		18.0

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
Overall Totals		58.0

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 Re-

cords 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.

Computed Tomography (CT)—AH

(School Certificate)

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 forty hours per week, which includes didactic and clinical experience. Clinical experience includes four 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.
- Demonstrates strong academic performance in science and related courses.
- Is detail oriented, able to work under pres-

sure, and demonstrates 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 G.P.A. of 2.5 maintained in all didactic and clinical course work; as well as completion of all clinical requirements and class work, including assignments, quizzes, and examinations.

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:

1. Work experience or training background
2. Recommendations
3. Academic background
4. 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
RTSI 362	MRI Physics II		2.0
RTSI 365	MRI Patient Care and Procedures		2.0
RTSI 973	Special Imaging (CT/MRI) Affiliation III		10.0
Totals		—	14.0
Overall Totals		26.0	42.0

Imaging Informatics—AH

(School Certificate, online)

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 they must 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 eight 3-unit courses totaling 24 quarter units. The student will utilize

text, video, PowerPoint, and other interactive on-line 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 counts for two points of the seven required to qualify for the American Board of Imaging Informatics Examination. (See <www.ABII.org>.).

PROGRAM OF INSTRUCTION

The program of instruction outlined below is for students applying for the 2010–2011 academic year.

Program start dates are Fall Quarter or *Spring Quarter.

*Spring Quarter start dates require approval by the program director.

REQUIRED		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	Communication and Education in Imaging Informatics	3.0
Totals		12.0
Overall Totals		12.0

Dietary Management—AH

(School Certificate)

The dietary managers certification course is designed for the extended care dietary manager who needs Dietary Managers Association certification as required by law. This is an on-line program with three didactic components including—management, sanitation, and clinical nutrition providing 150 hours of didactic instruction. A supervised practice component of 150 hours is also part of the program. The course is approved by the Dietary Management Association.

Certified dietary managers are nationally recognized experts at managing dietary operations. They are trained to manage menus, food purchasing, and food preparation; and to apply nutrition principles, document nutrition information, ensure food safety, manage work teams, and provide leadership in the department.

CERTIFICATION GOALS

1. Provide formal education and training for the dietary manager to qualify the graduate to take the certification examination of the Dietary Managers Association.
2. Develop professional competency and leadership skills to serve as director of a dietary department in health care organizations.
3. Provide continuing professional education for the dietary manager.

STUDENT LEARNING OUTCOMES

1. Recognizes legal, professional requirements and qualifies as a certified dietary manager.

2. Demonstrates competency as an effective dietary manager.
3. Serves as a leader in his/her role in the dietary department.
4. Provides high-quality food and nutrition service to clients in the health care organization.

ADMISSION

Admission is open to individuals who are currently dietary managers or who desire to enter the

profession. There are no prerequisites; some preparation courses in English, mathematics, accounting, management, and nutrition are desirable but not required. Online application is required.

PROGRAM OF INSTRUCTION

The certification program is offered via an online format. Students will complete an online orientation session prior to beginning the program.

REQUIRED		UNITS
DTCH 246	Nutrition Care in Long-term Care	3.0
DTCH 276	Nutrition Care Management in Long-term Care	3.0
DTCH 277	Sanitation and Safety for the Dietary Manager	2.0
DTCH 278	Supervised Practice in Dietary Management	2.0
Totals		10.0
Overall Totals		10.0

Magnetic Resonance Imaging (MRI)—AH

(Certificate)

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 that 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 experience 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. Demonstrates strong academic performance in science and related courses.
4. Is detail-oriented, able to work under pressure, and demonstrates 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 maintained in all didactic and clinical course work, as well as completions of 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:

- Work experience or training background
- Recommendations
- Academic background
- 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.

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
Overall Totals		28.0	42.0

Phlebotomy—AH

(Certificate)

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 Boule-

vard, Overland Park, KS 66211; telephone, 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, CPR (American Heart Association) Basic Life Support Certificate; and must pass a background check.

HOW TO APPLY

Complete an online application at <www.llu.edu/central/apply/index.page>.

REQUIRED		UNITS
AHCJ 105	Procedures in Phlebotomy	5.0
Totals		5.0
Overall Totals		5.0

Radiography Advanced Placement—AH

(School Certificate)

ANDREW SHEPARD, Program Director

FACULTY

- Laura Alipoon
- Mark Clements
- Andrew Shepard
- Will Edmunds

The purpose of the Radiography Advanced Placement Program is to enable candidates to be able to take the American Registry of Radiologic Technologists (ARRT) examination if they need to “regraduate” from a radiography program due to failing the registry examination or graduate from a U.S. program for the first time if they graduated from a program outside of the United States.

The American Registry of Radiologic Technologists distinguishes four types of candidates eligible for this program:

1. A person who received his/her radiologic technology education more than five years ago and did not take the national examination.
2. A person who has failed the national examination three times.

3. A person who received his/her professional education in a country without an accreditation mechanism that was recognized by the ARRT at the time of the program’s completion.
4. Ex-military personnel whose program was not accredited at the time of program completion.

Individual courses may be taken on a case-by-case basis if an individual wishes to review a certain registry section in-depth prior to taking the test, or has failed the ARRT examination fewer than three times and wants to review certain areas.

THE PROGRAM

There are five academic and two clinical courses. Each candidate must complete the clinical competencies required by the ARRT. If a student can complete the competencies in one quarter of clinical, s/he does not need to take the second clinical course.

REQUIRED		UNITS
RTAP 221	Patient Care and Education	1.0
RTAP 255	Radiographic Procedures	2.0
RTAP 283	Equipment Operation and Quality Control	1.0
RTAP 284	Radiation Protection	1.0
RTAP 287	Image Production and Evaluation	2.0
RTAP 971	Clinical Affiliation	2.0
RTAP 972	Clinical Affiliation	2.0
		Totals 11.0
		Overall Totals 11.0

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; Web site, <www.wascweb.org> or <wascsr@wascsr.org>.

STUDENT LEARNING OUTCOMES

Upon completion of the program, the graduate should be qualified to:

1. Demonstrate clinical competence.
2. Demonstrate effective patient care.
3. Pass the registry examination.

ADMISSION

Individuals must have successfully completed a radiography program (not limited permit).

School of Dentistry

Dean's Welcome

School Foundations

- History
- Our mission
- Vision
- Core values

General Information

- General regulations
- Specific program requirements
- Programs and degrees
- Combined-degrees programs
- Advanced Dental Education Programs—M.S., M.S.D., certificate
 - Admission requirements for advanced dental education programs/postdoctoral programs
- Residence
- Stipends
- Tuition
- Thesis
- Publishable paper
- General requirements
- Dual-major option
- Admission criteria for advanced dental education programs
- General Dentistry Program—Doctor of Dental Surgery (D.D.S)
 - Application and admission
 - Pre-entrance requirements
 - Application procedure
 - Transfer

International Dentist Program—D.D.S.

- Application and admission
- Pre-entrance requirements
- Application procedure, deadlines, deposit

Dental Hygiene Program—B.S.

Dental Hygiene Degree Completion Program—B.S.

- Application and admission
- Pre-entrance requirements
- General education requirements

Learning Outcomes

- Learning outcomes for advanced dental education

Student Life

- School of Dentistry technical standards
 - Cognitive abilities
 - Observation
 - Communication
 - Motor skills

Behavioral and social attributes

- Accommodation for disabled applicants and students

Policies for this school

Code of ethics

Student association

Special opportunities

Academic Information

General policies

Registration

Attendance

Length of academic residence

Dean's list

Course waiver

Special examination

Repeating/Remediating a course

Academic criteria for promotion

Dentistry

Dental Hygiene

School of Dentistry academic requirements for graduation

Dentistry

International Dentist Program

Dental Hygiene

National dental boards

Part I

Part II

Procedures for academic review

Academic disciplinary policy

Academic probation

Criteria for placement on academic probation (predoctoral, IDP, and dental hygiene students)

Criteria for advisory notice of potential for academic probation

Level of academic probation

Criteria for a student on academic probation (graduate students and residents)

Level of academic probation (predoctoral, IDP, dental hygiene, graduate students, and residents)

Clinic probation

Disciplinary actions available (graduate students and residents)

Probation (graduate students and residents)

Continuation (graduate students and residents)

Discontinuation (graduate students and residents)

Restrictions for a student on academic probation

- Remedial action (Remediation)
- Academic leave of absence
- Academic discontinuation
- Student-initiated academic grievance procedure

Service learning

Learning environment

Basic sciences departments serving the School of
Dentistry

Financial Information

Financial policies

General financial practices

- Satisfactory academic progress policy

Student financial aid

Schedule of charges/Tuition/Fees (2010–2011)

- General Dentistry

 - IDP

 - Dental Hygiene

On- and off-campus student housing

Awards

Additional policies and requirements

Programs, Degrees, and Certificates

General Dentistry, D.D.S.

Dental Hygiene, B.S.

International Dentist, D.D.S.

Advanced Dental Education

- Dental Anesthesiology, certificate, M.S.D.
(optional)

- Endodontics, M.S. (optional), M.S.D. (optional),
post-D.D.S./D.M.D., certificate

- 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

Dual majors in advanced education

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.

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 establish 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, amphitheatres, 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.

A preclinical laboratory was remodeled into a simulation laboratory in 2008. The laboratory included flat-panel monitors with access to the substantial digital resource library created by faculty. In 2009, the Department of Orthodontics and the advanced education program moved into new facilities designed as a model for providing student education and patient care in a digital world.

The School of Dentistry continues to regularly expand the opportunities for enhanced student learning by improving physical facilities; making regular curricular modifications; and introducing new interactive, navigable, nonlinear digital education programs.

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, 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. Pending approval from Loma Linda University Board of Trustees, WASC, and CODA, the ASSOCIATE IN SCIENCE DENTAL HYGIENE program will be available beginning Winter Quarter of 2011. This is a three-year college curriculum in which the first year prerequisites are taken
2. at a regionally accredited college, and the remaining two years (a minimum of seven quarters) are taken at the Loma Linda University School of Dentistry off-campus site.
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 Doctor of Dental Surgery and Master of Public Health degrees 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 Doctor of Dental Surgery 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 Doctor of Dental Surgery 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>

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 2010–2011.

Thesis

The student must complete a research project presented in thesis format and orally defended according to the standards set by the Faculty of Graduate Studies. A written thesis, approved by the student's research committee, must be submitted to the Faculty of Graduate Studies in order to receive a satisfactory grade for the course.

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) ¹	Cumulative G.P.A. ²	GRE ³	National Boards Part I ⁴	TOEFL ⁵	Letters of Recommendation
Dental Anesthesiology ⁶ <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 (only U.S.-trained applicants)	Required	3
Implant Dentistry <i>36 mo. / 3 positions</i>	Required	3.0	See #3	Not Required	Required	3
Oral and Maxillofacial Surgery ⁸ <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 ^{7,9,11} <i>27 mo. / 6 positions</i>	Required	3.0	Required ⁹	Required (all applicants)	Required	3
Pediatric Dentistry ¹² <i>24 mo. / 4 positions</i>	Required	3.0	Required for internationally trained applicants	Required (only U.S.-trained applicants)	Required	3
Periodontics ¹⁰ <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

¹ 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.

² Grade-point average (G.P.A.): A cumulative G.P.A. of 3.0 (on a 4.0 scale) is required for admission.

³ GRE (Graduate Record Examination) criteria: Although the Graduate Record Examination (GRE) may not be required

Application and Program Dates

Program	LLU Applications		Admissions	Pass Applications		Advanced Education	
	Open	Close	Committee Meets	Open	Close	Start Date	Ending Date
DENTAL ANES	1/1/2010	9/1/2010	October	5/15/2010	9/1/2010	July 1	June 30
ENDN	1/1/2010	9/1/2010	October	5/15/2010	9/1/2010	July 1	Late September
IMPD	1/1/2010	9/15/2010	December	n/a	n/a	July 1	June 30
OMFS	1/1/2010	10/15/2010	January	5/15/2010	10/15/2010	July 1	June 30
				Match Participant			
ORDN	1/1/2010	8/1/2010	November	n/a	n/a	Late June	Late September
PEDN	1/1/2010	10/15/2010	December	5/15/2010	10/15/2010	Late June	June 30
				Match Participant			
PERI ¹⁰	1/1/2010	9/1/2010 (Rolling Admissions)	On or by September	5/15/2010	9/1/2010	July 1	June 30
PROS	1/1/2010	9/1/2010	October	5/15/2010	9/1/2010	July 1	June 30

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.

⁴ 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.

⁵ 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.

⁶ 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.

⁷ International Dentist Program: All internationally trained applicants for the Advanced Education Program in orthodontics and dentofacial orthopedics must complete an accredited International Dentist Program.

⁸ Oral and Maxillofacial Surgery: All applicants to the six-year program also must submit their DAT scores to University Admissions through official channels.

⁹ 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.

¹⁰ 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.

¹¹ Orthodontics and Dentofacial Orthopedics: The program reserves the right to admit selected students to the certificate program which would require submission of a second application.

¹² Pediatric Dentistry: All internationally-trained applicants for the Pediatric Dentistry Program must have a current dental license from their country and submit a notarized copy with their application.

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

Admission requirements

Although the predentistry curriculum in an accredited college can be completed in three years, a baccalaureate degree or equivalent is strongly recommended. The following college courses are required for entrance into the D.D.S. degree program:

HUMANITIES

Freshman English (complete course sequence, two semesters or two quarters) to include composition and literature

NATURAL SCIENCES

(one full year sequence or equivalent required)
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; two quarters or a minimum of 6 units)

ELECTIVES (STRONGLY RECOMMENDED)

Molecular biology and/or Cell biology
Genetics
Immunology
Microbiology
Vertebrate physiology
Histology
Anatomy
Physiology
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, and general physics is required. A complete sequence of freshman English that includes composition and literature (two semesters or two quarters). The biochemistry requirement is one semester or a minimum of 4 units; two 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. This includes the required specific core sciences in the areas of biology, organic and inorganic chemistry,

biochemistry, and physics (all sciences must include laboratories). 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 (LLU).

1. AADSAS application. The Office of Admissions receives applications from AADSAS.
2. Supplementary application. The applicant then receives an email invitation from LLU to complete an electronic supplementary application.
3. Supplementary application deadline. 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 instruc-

- tor; 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. 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 sent 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, 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; or the Student Health Service office, 909/558-8770.

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.
12. Financial requirement. 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.
13. Financial aid. A financial aid advisor and financial aid programs are available. Please contact the Office of Financial Aid by email, finaid@llu.edu; or by telephone, 909/558-4509. Web site information is located at www.llu.edu/ssweb/finaid.

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. Requests for information are accepted by mail, email, or telephone.

Admission 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 20 in each area of 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 two personal references. It is recommended that these include an academic reference from a science instructor, a reference from a teacher or mentor, and one from an employer. 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.
 - Interview: Based on dexterity and case study testing, applicants may be invited to interview.
 - Dexterity and case study testing: Testing is conducted on one or more Sundays in the fall.
 - Final selection: The results of the testing 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 (Spring Quarter matriculation).
3. Transcripts. Official transcripts with English translations must be mailed directly from all colleges/universities attended by the student, and 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. Deposits. 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. Financial requirement. Students applying for or holding F-1 U.S. student visas are required by U.S. immigration regulation to secure sufficient funds for their first year's tuition and fees and provide documentary evidence of sufficient funds for their second year.
7. Financial aid. A financial aid advisor and financial aid programs are available. Please contact the Office of Financial Aid at email <finaid@llu.edu>; or by telephone, 909/558-4509. Web site information can be found at <www.llu.edu/ssweb/finaid>.
8. 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 encour-

aged 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; or 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.

DENTAL HYGIENE PROGRAMS

Application and admission

Dental Hygiene is an undergraduate program in the School of Dentistry. 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 a regionally accredited college or university, admission to the Dental Hygiene Program is in the junior year for the Bachelor of Science degree and in the sophomore year for the Associate in Science degree.

The application is available at <www.llu.edu/central/apply/index.page>. Applications and all other required documentation must be submitted between July 1 and February 1 for the Bachelor of Science degree. The Associate in Science degree and the Bachelor of Science Degree Completion Program require applications and all other required documentation to be submitted between April 1 and September 1. These programs begin in January.

Admission requirements

The Bachelor of Science degree dental hygiene applicant must meet the following minimum requirements:

- 96 quarter or 64 semester units of accredited college course work.
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.
- A grade-point average of 2.7 or higher in science and 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 average is 3.2 or higher.
- A personal interview with a representative designated by the School of Dentistry. This interview will assess personal qualities, such as: values, spiritual heritage, communication skills, service orientation, and volunteer experience. The interview is by invitation only.
- A minimum of 20 hours of 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 require-

ments 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.

- Required science courses must be completed within five years of admission.

The Associate in Science dental hygiene applicant must meet the following minimum requirements:

- 44 quarter or 32 semester units of transferable college course work.
- A grade-point average of 2.7 or higher in science and nonscience course work, averaged separately; a minimum grade of C for all pre-entrance course work to be transferred to the University.
- A personal interview with a representative designated by the School of Dentistry. This interview will assess personal qualities, such as: values, spiritual heritage, communication skills, service orientation, and volunteer experience. The interview is by invitation only.
- Three personal letters of reference.
- Minimum of 20 hours of experience observing with a dental hygienist.
- 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.

Dental Hygiene general education requirements (B.S. degree)

DOMAIN I: 28–32 UNITS

Religion and Humanities

4 quarter or 3 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 4 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. Required 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.

Dental Hygiene general education requirements (A.S. degree)

DOMAIN II: 20 QUARTER OR 15 SEMESTER 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. Required science course work must be completed within five years prior to admission. Nonremedial

college mathematics or statistics. Introductory sociology, general psychology.

DOMAIN III: 13 QUARTER OR 9 SEMESTER 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: 3 QUARTER OR 2 SEMESTER UNITS

Health and Wellness

A personal health or nutrition course and one physical education activity course.

LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY LEARNING OUTCOMES FOR THE NEW DENTAL GRADUATE (SLOS)

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.

LEARNING OUTCOMES FOR THE DENTAL HYGIENE B.S. DEGREE COMPLETION PROGRAM (SLOS)

Graduating dental hygiene B.S. degree completion program students will be able to:

1. Retrieve, interpret, and evaluate research for evidence-based decision making.
2. Utilize the principles of adult learning in allied dental or public/community health education settings.
3. Demonstrate skills in communication practices, including the gathering, integrating and conveying of information in written and oral forms.
4. Recognize the language of ethics that incorporates social and cultural diversity and professional responsibility.
5. Integrate a lifelong learning approach through self-reflection and through academic and professional achievements.

LOMA LINDA UNIVERSITY SCHOOL OF DENTISTRY ADVANCED DENTAL EDUCATION PROGRAMS STUDENT LEARNING OUTCOMES (SLOS)

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, and 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. The LLU School of Dentistry Code of Ethics is available for review in the School of Dentistry section of the LLU Student Handbook.

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, housing) 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 executive associate dean.

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 executive associate dean. 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 (predoctoral, IDP and dental hygiene students)

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

PREDOCTORAL

Level D1 to Level D2

- Cumulative didactic and preclinical laboratory G.P.A. at or above 2.0.
- Successful completion of D1 comprehensive examination.
- Successful completion of all courses in the D1 curriculum.

Level D2 to Level D3

- Cumulative didactic and preclinical laboratory G.P.A. at or above 2.0.
- Successful completion of National Board Examination Part I.
- Successful completion of all courses in the D2 curriculum.

Level D3 to Level D4

- Cumulative didactic and preclinical laboratory G.P.A. at or above 2.0.
- Successful completion of National Board Examination Part II.
- Successful completion of all courses in the D3 curriculum.

IDP**Level 3 to Level 4**

- Cumulative didactic and clinical course G.P.A. at or above 2.0.
- Successful completion of all courses in the D3 curriculum.

DENTAL HYGIENE (B.S. DEGREE)**Junior to Senior**

- Cumulative didactic and preclinical G.P.A. at or above 2.0.
- Successful completion of junior clinic promotion OSCE.
- Successful completion of all courses in the junior curriculum.

DENTAL HYGIENE (A.S. DEGREE)**Sophomore to Junior**

- Cumulative didactic and preclinical G.P.A. at or above 2.0.
- Successful completion of sophomore clinic promotion OSCE.
- Successful completion of all courses in the sophomore curriculum.

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 school dean to the University 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 (B.S. degree)

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 a regionally 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).
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.

Dental Hygiene (A.S. degree)

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 a regionally accredited college for one year, and Loma Linda University School of Dentistry for two years (minimum of seven quarters).
5. Achieved no lower than a C- grade in all core courses and a minimum grade-point average of 2.0.

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 (PREDOCTORAL, IDP AND DENTAL HYGIENE)

There are six academic review committees: D1, D2, D3, D4, IDP, and Dental Hygiene. Membership of each committee consists of the executive associate dean, 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 hearing 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 ac-

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 FOR PREDOCTORAL, IDP, AND DENTAL HYGIENE STUDENTS

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

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.

LEVEL OF ACADEMIC PROBATION

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 I First term on academic probation.
- Level II 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 or failure to reregister in the succeeding quarter.
- Level III 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 or failure to reregister in the succeeding quarter.
- Level IV 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 (predoctoral)

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 I (CPI)

A student who meets one or more of the following criteria:

1. Fails to meet the attendance requirement.
2. Fails to meet the published minimum clinic point requirement.
3. Fails to achieve the standards of care expected in the quality of patient treatment.
4. Fails to meet the requirements defined by the clinical departments in the School of Dentistry.

A student on CPI will receive a “Marginal Satisfactory” (MS) grade and will be required to attend Friday afternoon clinic sessions for the following quarter. The student on CPI will not be eligible for honors programs during the time s/he is on probation. The student is notified in writing of his/her probation status.

If a student, while on CPI, meets the attendance requirements, achieves the overall minimum clinic point requirement at the end of the remedial quarter, improves the quality of patient treatment as needed, and completes all requirements as defined by the clinical departments, s/he returns to “good standing” status and will not be required to attend the Friday afternoon clinic sessions the following quarter.

CLINIC PROBATION LEVEL II (CPII)

A student who, while on Clinic Probation Level I, meets one or more of the following criteria:

1. Fails to meet the attendance requirement.
2. Falls more than 200 points below the minimum points required for the remedial quarter.
3. Fails to achieve the standards of care expected in the quality of patient care.
4. Fails to complete requirements defined by the clinical departments in the School of Dentistry.

A student on CPII will receive an “Unsatisfactory” (U) grade, reregister for the SDCL course for which s/he received the “U” grade, and continue to attend Friday afternoon clinic sessions. A student on CPII will not be eligible for honors programs. The student on CPII 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 the quality of patient care, and complete all requirements as defined by the clinical departments in the School of Dentistry.

If a student, while on CPII, meets the attendance requirement, improves the quality of patient care, completes the requirements defined by the clinical departments of the School of Dentistry, and finishes the quarter with fewer than 200 points below the minimum, s/he will return to CPI. The student can eventually work back to good standing.

CLINIC PROBATION LEVEL III (CPIII)

A student who, while on CPII, meets one or more of the following criteria:

1. Completes the remedial quarter more than 200 points below the minimum.
2. Fails to meet the attendance requirement.
3. Fails to achieve the standards of care expected in the quality of patient care.
4. Fails 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 to 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 next graduating 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.

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 or remediation

As a condition for continued enrollment, remedial action for the student 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 which 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 executive associate dean.

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

Guidelines for academic discontinuation are indicated below for the predoctoral, IDP and dental hygiene students:

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 IV 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.

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 executive associate dean (for further discussion of the academic grievance process, see Loma Linda University Student Handbook, Section V—University Policies).

ACADEMIC STANDARDS FOR ADVANCED DENTAL EDUCATION PROGRAMS

Grading system for advanced education programs

The following information outlines the grading systems for all postdoctoral students/residents enrolled in advanced education programs in the School of Dentistry. Each course taught in the school has been approved for either a letter grade or an S/U grade, and deviations from this are not allowed other than the MS grade as specified below.

Grades and grade points for postdoctoral students/residents

A	4.0	Outstanding performance
A-	3.7	Very good performance
B+	3.3	
B	3.0	Satisfactory performance for which credit is granted toward degree. Minimum grade for program/department required core courses. (This also is the minimum final grade for tuition reimbursement by Loma Linda University for faculty and staff taking graduate classes.) Postdoctoral students/residents who receive one or more of the following grades in any quarter will be placed on academic probation if their cumulative G.P.A. is below 3.0.

B-	2.7	Passing grade but cumulative G.P.A. must be 3.0 or higher to avoid academic probation	U	none	Unsatisfactory performance, given only when performance falls below a B grade level. The U grade is not computed in the grade-point average. Course must be remediated or repeated to count toward a degree.
C+	2.3	Remediation* required and cumulative G.P.A. must be 3.0 or higher to avoid academic probation.			
C	2.0	Remediation* required and cumulative G.P.A. must be 3.0 or higher to avoid academic probation. Postdoctoral students/residents who receive one or more of the following grades in any quarter will be placed on academic probation and must retake the course(s) for which these grades were received.	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.
C-	1.7	Course must be retaken	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.
D+	0.0	Failure, course must be retaken	CR	none	Credit earned for credit by examination. Counted toward graduation/units earned, but not units attempted. Such credit cannot be counted for financial aid purposes.
D	0.0	Failure, course must be retaken	NC	none	No credit for satisfactory performance for a credit by examination. Does not count for any purpose.
F	0.0	Failure, course must be retaken			
S	none	Satisfactory performance, counted toward graduation. Equivalent of a B grade or better. An S grade is not computed in the grade-point average.			
MS	none	Marginally satisfactory, equivalent to a C+ or C; remediation* required. *To remediate a course, a detailed, written plan must be developed by the course instructor/program director outlining how deficiencies will be remedied and reassessed. The plan must be approved by the Office of Advanced Education, after which the student is required to register for the appropriate directed study course in the quarter following receipt of the MS grade for the number of units to be remediated. Select SDCL 696 Directed Study for didactic courses and SDCL 896 Clinical Directed Study for clinical courses. An Independent Study Title Request Form must be completed (electronically) by the student for each directed study course, and must include a description of the approved remediation plan.			

University policy states that "a student may repeat a course only once, and no more than two courses may be repeated in a student's degree program."

ACADEMIC CRITERIA FOR ACADEMIC ADVANCEMENT AND PROGRAM COMPLETION

Postdoctoral student/Resident

- Cumulative, didactic, and laboratory G.P.A. at or above 3.0 (B).
- Selection for advancement to Master of Science (M.S.) degree candidacy.
- Selection for Advancement to Master of Science in Dentistry (M.S.D.) degree candidacy.
- Successful completion of all evaluations.
- Successful completion of annual student evaluation (includes a review of entire academic record).

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 memorandum to the student. For a postdoctoral student/resident, a grade of 3.0 (B) is considered satisfactory performance for graduate credit.

CRITERIA FOR ADVISORY NOTICE OF POTENTIAL FOR ACADEMIC PROBATION (POSTDOCTORAL STUDENTS AND RESIDENTS)

A postdoctoral 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 (POSTDOCTORAL STUDENTS AND RESIDENTS)

A postdoctoral student/resident will be placed on academic probation if s/he meets one or more of the following conditions:

1. Term G.P.A. of 2.3 (C+) or below.
2. One or more courses with B-, C+, or C grade and an overall G.P.A. below 3.0.
3. Failing (F/U/D+/D/D-) or unsatisfactory (C-) grades in any course required for the specialty certificate, Master of Science (M.S.) degree, or Master of Science in Dentistry (M.S.D.) degree program.
4. Clinical performance below minimum expected for his/her year level.
5. Social/behavioral/ethical problems that significantly impact academic and/or clinical performance.

LEVEL OF ACADEMIC PROBATION (POSTDOCTORAL STUDENT AND RESIDENT)

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/resident may be considered for academic leave of absence or discontinuation at any level of probation.

Level I

First term on academic probation.

Level II

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 III

Third term on academic probation, consecutive or nonconsecutive. If a student/resident 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 IV

If a student/resident meets criteria for academic probation for a fourth term, consecutive or nonconsecutive, s/he will be considered for academic discontinuation.

RESTRICTIONS FOR A STUDENT ON ACADEMIC PROBATION

A student/resident 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/resident is discontinued.

REMEDIAL ACTION (REMEDICATION)

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.

DISCIPLINARY ACTIONS

A student who is not performing up to expectations can receive the following:

1. Restriction of clinical privileges—by program director.
2. Academic probation (Level I to III)—by the associate dean for advanced education or upon the recommendation of the program director.
3. Behavioral probation (Level I to III)—by the associate dean for advanced education or upon the recommendation of the program director.
4. Clinical probation (Level I to III)—by the associate dean for advanced education or upon the recommendation of the program director.
5. Discontinuation—by the associate dean for advanced education or upon the recommendation of the program director recommended to the dean.

Probation

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 important 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 postdoctoral student/resident.

Postdoctoral students/residents may be placed on academic probation, behavioral probation, and clinical probation. Probation begins at Level I and may progress to Level III. Postdoctoral 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 in writing (required) and also verbally (recommended).

Continuation

Students 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 make the determination as to when to recommend continuing a student and when to recommend discontinuing a student/resident and allow him/her to graduate or continue their studies. Invariably, the length of the continuation period will determine when a student/resident actually completes his/her program.

Discontinuation

Students who do not make any measurable improvement by the end of the prescribed remediation and counseling periods may be recommended for discontinuation by the associate dean for advanced education or upon the recommendation of the respective program director to the associate

dean for advanced dental education. Recommendations to discontinue a student/resident are then sent to the dean (in writing) for action.

Criteria for discontinuation

- 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.

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 students are required to complete assigned service-learning rotations and minimum clock hours, as described in each program. Predoctoral 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 hours of local service are required, and up to 15 nondental service hours may be credited. The International Dentist Program students must complete 60 hours of service. Of the 60 hours, 40 will be assigned by the program. Up to 10 hours of nondental service may be completed as part of the 60 hours total requirement.

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

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 purpose of the basic science curriculum is to provide a foundation 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 (all programs)

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 (2010–2011)

(subject to change by Board of Trustees action)

Dentistry

TUITION*

First Year	\$49,423	Fall, Winter, Spring quarters
Second Year	\$59,870	Rates effective beginning Summer Quarter

Third Year	\$59,870	Rates effective beginning Summer Quarter
Fourth Year	\$59,870	Rates effective beginning Summer Quarter

ENROLLMENT FEES

First Year	\$1,875	Fall, Winter, Spring quarters
Second Year	\$2,500	Effective beginning Summer Quarter
Third Year	\$2,500	Effective beginning Summer Quarter
Fourth Year	\$2,500	Effective beginning Summer Quarter

SCHOOL OF DENTISTRY FEES

First Year	\$1,670
Second Year	\$865
Third Year	\$865
Fourth Year	\$865

INSTRUMENTS AND RENTAL

First Year	\$5,725
Second Year	\$4,760
Third Year	\$340
Fourth Year	\$90

SUPPLIES

First Year	\$990
Second Year	\$835
Third Year	\$425
Fourth Year	\$550

LABORATORY FEES

First Year	\$135
Second Year	\$140
Third Year	\$120
Fourth Year	\$40

TEXT/MANUALS

First Year	\$1,200
Second Year	\$1,300
Third Year	\$1,300
Fourth Year	\$350

NATIONAL BOARD EXAMINATIONS

First Year	\$0
Second Year	\$280
Third Year	\$0
Fourth Year	\$345

RESTORATIVE DEPARTMENT SUPPLIES

First Year	\$250
Second Year	\$500
Third Year	\$125
Fourth Year	\$60

OTHER DEPARTMENT SUPPLIES

First Year	\$100
Second Year	\$565
Third Year	\$450
Fourth Year	\$0

TOTAL TUITION AND FEES

First Year	\$61,368
Second Year	\$71,615
Third Year	\$65,995
Fourth Year	\$64,670

IDP class of 2012

(students entering program Spring 2010)

TUITION

Spring 2010	\$18,047
Summer 2010	\$19,852
Autumn 2010	\$19,852
Winter 2011	\$19,852
Spring 2011	\$19,852
Summer 2011	\$19,852
Autumn 2011	\$19,852
Winter 2012	\$19,852
Spring 2012	\$19,852

ENROLLMENT FEES

Spring 2010	\$555
Summer 2010	\$625
Autumn 2010	\$625
Winter 2011	\$625
Spring 2011	\$625
Summer 2011	\$625
Autumn 2011	\$625
Winter 2012	\$625
Spring 2012	\$625

SCHOOL OF DENTISTRY FEES

Spring 2010	\$200
Summer 2010	\$500
Autumn 2010	\$320
Winter 2011	\$200
Spring 2011	\$200
Summer 2011	\$200
Autumn 2011	\$200
Winter 2012	\$200
Spring 2012	\$200

INSTRUMENT ISSUE

Spring 2010	\$6,650
Summer 2010	\$0
Autumn 2010	\$0
Winter 2011	\$0
Spring 2011	\$0
Summer 2011	\$0
Autumn 2011	\$0
Winter 2012	\$0
Spring 2012	\$0

SUPPLIES

Spring 2010	\$985
Summer 2010	\$20
Autumn 2010	\$10
Winter 2011	\$15
Spring 2011	\$15
Summer 2011	\$15
Autumn 2011	\$15
Winter 2012	\$15
Spring 2012	\$5

LABORATORY FEES

Spring 2010	\$50
Summer 2010	\$50
Autumn 2010	\$40
Winter 2011	\$40
Spring 2011	\$40
Summer 2011	\$40
Autumn 2011	\$40
Winter 2012	\$40
Spring 2012	\$35

TEXT/MANUALS

Spring 2010	\$850
Summer 2010	\$0
Autumn 2010	\$0
Winter 2011	\$0
Spring 2011	\$0
Summer 2011	\$0
Autumn 2011	\$0
Winter 2012	\$0
Spring 2012	\$0

COMPUTER

Spring 2010	\$2,500
Summer 2010	\$0
Autumn 2010	\$0
Winter 2011	\$0
Spring 2011	\$0
Summer 2011	\$0
Autumn 2011	\$0
Winter 2012	\$0
Spring 2012	\$0

TOTAL TUITION AND FEES

Spring 2010	\$29,847
Summer 2010	\$21,047
Autumn 2010	\$20,847
Winter 2011	\$20,732
Spring 2011	\$20,732
Summer 2011	\$20,732
Autumn 2011	\$20,732
Winter 2012	\$20,732
Spring 2012	\$20,717

IDP class of 2011**TUITION**

Summer 2010	\$19,852
Autumn 2010	\$19,852
Winter 2011	\$19,852

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	\$26,270	Fall, Winter, Spring quarters
Senior Year	\$35,026	Effective beginning Summer Quarter

ENROLLMENT FEES

Junior Year	\$1,821	Fall, Winter, Spring quarters
Senior Year	\$2,428	Effective beginning Summer Quarter

SCHOOL OF DENTISTRY FEES

Junior Year	\$1,665
Senior Year	\$2,165

INSTRUMENTS ISSUE

Junior Year	\$5,160
Senior Year	\$0

SUPPLIES

Junior Year	\$960
Senior Year	\$150

LABORATORY FEES

Junior Year	\$150
Senior Year	\$80

TEXT/MANUALS

Junior Year	\$950
Senior Year	\$250

NATIONAL BOARD EXAMINATIONS

Junior Year	\$0
Senior Year	\$280

TOTAL TUITION AND FEES

Junior Year	\$36,976
Senior Year	\$40,379

NOTE: The figures listed above are estimates based on the best information available for the 2010–2011 school year as of November 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> 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

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

David Anderson Recognition
Delta Dental Student Leadership
Dental Foundation of California Scholarships
Dentsply Student Clinician
Fixed Prosthodontics Department
G. Hartzell Clinician
Graduate Implant Dentistry
ICOI/Sullivan Schein Dental Pre-doctoral

Achievement

International College of Dentists
Kenneth E. Wical
LLU Center for Dental Research
Omicron Kappa Upsilon William S. Kramer
Oral Surgery Department
PCSP/JPD Award in Excellence Prosthodontics
Pacific Dental Services Scholarship
Pierre Fauchard Academy
Pierre Fauchard Academy Scholarship
Service-Learning
Southern California Academy of Endodontics
Southern California Academy of Oral Pathology
Southern California Society of Dentistry for

Children

Wil Alexander
Wilfred A. Nation

Alumni Association Award

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 (online version)
- 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 (online version)
- Recognition on a "perpetual" plaque on public display
- Press release to student's home newspaper

NASDAD Award

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 Honor Society

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.

M. Webster Prince Award

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.

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) Honor Society
LLUSD Clinical Excellence Award
Clinical Group Award

Dental Hygiene Programs

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 Hygienists' 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 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 (online version)

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 ques-

tioning, 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 Den-

tistry 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 executive associate dean.

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 executive associate dean. 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 SKEL-ETODENTAL DISCREPANCIES—Assess and manage maxillary and mandibular skeletal 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 skeletal discrepancies compared to normative data.
 - c. Evaluate the noncephalometric skeletal 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**

AUTUMN QUARTER		Lec/Sem	CLOCK HOURS			Total	TOTAL UNITS
			Lab	Clin			
ANAT 511	Human Anatomy for Dentists I	40	40	—	80	5.0	
DNES 708	Introduction to the Dental Profession	10	—	—	10	1.0	
PHSL 504	Physiological Systems of the Human Body	46	6	—	52	5.0	
RELT 775	Spirituality and the Christian Health Professional	20	—	—	20	2.0	
RESL 701	Restorative Dentistry I Lecture	20	—	—	20	2.0	
RESL 701L	Restorative Dentistry I Laboratory	—	60	—	60	2.0	
Totals		136	106	—	242	17.0	

WINTER QUARTER		Lec/Sem	CLOCK HOURS			Total	TOTAL UNITS
			Lab	Clin			
ANAT 512	Human Anatomy for Dentists II	40	40	—	80	5.0	
DNES 707	Personal Development	19	3	—	22	2.0	
PHSL 505	Homeostatic Mechanisms of the Human Body	55	—	—	55	5.0	
RELE 734	Christian Ethics for Dentists	20	—	—	20	2.0	
RESL 702	Restorative Dentistry II	28	—	—	28	2.0	
RESL 702L	Restorative Dentistry II Laboratory	—	66	—	66	2.0	
Totals		162	109	—	271	18.0	

SPRING QUARTER		Lec/Sem	CLOCK HOURS			Total	TOTAL UNITS
			Lab	Clin			
ANAT 513	Human Anatomy for Dentists III	40	40	—	80	5.0	
DNES 705	Etiology and Management of Dental Caries	22	—	—	22	2.0	
ODRP 501	Principles of Microbiology DN	44	—	—	44	4.0	
PERI 705	Introduction to Periodontics	20	—	—	20	2.0	
RESL 708	Restorative Dentistry III Lecture	20	—	—	20	2.0	
RESL 708L	Restorative Dentistry III Laboratory	—	80	—	80	2.0	
Totals		146	120	—	266	17.0	

SECOND YEAR, SUMMER QUARTER			CLOCK HOURS			Total	TOTAL UNITS
			Lec/Sem	Lab	Clin		
DNES 718	Communication Basics for the Dentist	10	—	—	10	1.0	
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	
				Course continues in fall quarter. Grade given at end of multiple-quarter course.			
RESD 709	Restorative Dentistry IV Lecture	20	—	—	20	2.0	
RESD 709L	Restorative Dentistry IV Laboratory	—	60	—	60	2.0	
Totals		119	131	—	250	15.5	

AUTUMN QUARTER			CLOCK HOURS			Total	TOTAL UNITS
			Lec/Sem	Lab	Clin		
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	
				Course continues winter, spring and summer quarters. Grade given at end of multiple-quarter course.			
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	TOTAL UNITS
			Lec/Sem	Lab	Clin		
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	1 of 10—Grade given at end of multiple-quarter course.	—	—	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	
			Lec/Sem	Lab	Clin	Total	UNITS
DNES 789	National Board Part I Review		40	—	—	40	2.0
ENDN 831	Endodontics I		10	—	—	10	1.0
ENDN 832	Endodontics II	Course continues summer quarter. Grade given at end of multiple-quarter course.	—	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		44	—	—	44	4.0
RESD 875	Restorative Dentistry Clinic	2 of 10—Grade given at end of multiple-quarter course.	—	—	30	30	1.0
SDCL 713	Clinic Orientation III		—	—	30	30	1.0
Totals			136	104	60	300	16.0

THIRD YEAR, SUMMER QUARTER			CLOCK HOURS			TOTAL	
			Lec/Sem	Lab	Clin	Total	UNITS
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	1 of 4—Grade given at end of multiple-quarter course.	—	—	20	20	1.0

OMFS 805	Oral and Maxillofacial Surgery I		10	—	—	10	1.0
PEDN 825	Pediatric Dentistry Clinic	1 of 4—Grade given at end of multiple-quarter course.	—	—	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	3 of 10—Grade given at end of multiple-quarter course.	—	—	60	60	2.0
SDCL 801	Clinical Patient Care		10	—	44	54	2.0
Totals			99	90	139	328	17.5

		CLOCK HOURS				TOTAL UNITS	
		Lec/Sem	Lab	Clin	Total		
AUTUMN QUARTER							
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	2 of 4—Grade given at end of multiple-quarter course.	—	—	15	15	0.5
OMFS 811	Oral and Maxillofacial Surgery II	1 of 2—Grade given at end of multiple-quarter course.	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	2 of 4—Grade given at end of multiple-quarter course.	—	—	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	4 of 10—Grade given at end of multiple-quarter course.	—	—	60	60	2.0

SDCL 802	Clinical Patient Care	10	—	44	54	2.0
Totals		140	63	179	382	20.5

		Lec/Sem	CLOCK HOURS			Total	TOTAL UNITS
			Lab	Clin			
WINTER QUARTER							
ODRP 808	Oral Medicine II: Medically Compromised Patient	20	—	—	20	2.0	
ODRP 825	Oral Diagnosis, Radiology, and Pathology Clinic	3 of 4—Grade given at end of multiple- quarter course.	—	—	15	15	0.5
OMFS 811	Oral and Maxillofacial Surgery II	2 of 2—Grade given at end of multiple- quarter course.	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	3 of 4—Grade given at end of multiple- quarter course.	—	—	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	5 of 10—Grade given at end of multiple-quarter course.	—	—	60	60	2.0
SDCL 803	Clinical Patient Care	10	—	44	54	2.0	
Totals		108	30	149	287	15.5	

		Lec/Sem	CLOCK HOURS			Total	TOTAL UNITS
			Lab	Clin			
SPRING QUARTER							
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	4 of 4—Grade given at end of multiple- quarter course.	—	—	30	30	1.0
PEDN 825	Pediatric Dentistry Clinic	4 of 4—Grade given at end of multiple- quarter course.	—	—	30	30	1.0
PHRM 503	Clinical Pharmacology in Dentistry	20	—	—	20	2.0	

PHSL 503	Biochemical Foundations of Physiology		56	—	—	56	4.0
RELR 749	Personal and Family Wholeness		20	—	—	20	2.0
RESL 801	Fixed Prosthodontics and Occlusion		10	—	—	10	1.0
RESL 823	Operative Dentistry III Lecture		16	—	—	16	1.0
RESL 823L	Operative Dentistry III Laboratory		—	30	—	30	1.0
RESL 875	Restorative Dentistry Clinic	6 of 10—Grade given at end of multiple-quarter course.	—	—	60	60	2.0
SDCL 804	Clinical Patient Care		10	—	44	54	2.0
Totals			162	30	164	356	20.0

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	1 of 4—Grade given at end of multiple-quarter course.	—	—	30	30	1.0
PEDN 875	Pediatric Dentistry Clinic	1 of 4—Grade given at end of multiple-quarter course.	—	—	10	10	0.5
PERI 875	Periodontics Clinic	1 of 4—Grade given at end of multiple-quarter course.	—	—	60	60	2.0
RESL 875	Restorative Dentistry Clinic	7 of 10—Grade given at end of multiple-quarter course.	—	—	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	2 of 4—Grade given at end of multiple-quarter course.	—	—	30	30	1.0
PEDN 875	Pediatric Dentistry Clinic	2 of 4—Grade given at end of multiple-quarter course.	—	—	10	10	0.5

PERI 875	Periodontics Clinic	2 of 4—Grade given at end of multiple-quarter course.	—	—	60	60	2.0
RESO 861	Senior Topics in Removable Prosthodontics		20	—	—	20	2.0
RESO 875	Restorative Dentistry Clinic	8 of 10—Grade given at end of multiple-quarter course.	—	—	210	210	7.0
SDCL 806	Clinical Patient Care		10	—	44	54	2.0
Totals			102	—	354	456	18.5

			CLOCK HOURS			Total	TOTAL UNITS
			Lec/Sem	Lab	Clin		
WINTER QUARTER							
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	3 of 4—Grade given at end of multiple-quarter course.	—	—	30	30	1.0
PEDN 875	Pediatric Dentistry Clinic	3 of 4—Grade given at end of multiple-quarter course.	—	—	20	20	1.0
PERI 875	Periodontics Clinic	3 of 4—Grade given at end of multiple-quarter course.	—	—	60	60	2.0
RELR 715	Christian Dentist in Community		20	—	—	20	2.0
RESO 875	Restorative Dentistry Clinic	9 of 10—Grade given at end of multiple-quarter course.-	—	—	210	210	7.0
SDCL 807	Clinical Patient Care		10	—	44	54	2.0
Totals			74	—	364	438	19.0

			CLOCK HOURS			Total	TOTAL UNITS
			Lec/Sem	Lab	Clin		
SPRING QUARTER							
ENDN 875	Endodontics Clinic		—	—	30	30	1.0
ODRP 875	Oral Diagnosis, Radiology, and Pathology Clinic	4 of 4—Grade given at end of multiple-quarter course.	—	—	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	4 of 4—Grade given at end of multiple-quarter course.	—	—	20	20	1.0

PERI 875	Periodontics Clinic	4 of 4—Grade given at end of multiple-quarter course.	—	—	45	45	1.5
RESO 844	Restorative Study Club Seminar		8	—	—	8	0.5
RESO 875	Restorative Dentistry Clinic	10 of 10—Grade given at end of multiple-quarter course.	—	—	210	210	7.0
SDCL 808	Clinical Patient Care		10	—	44	54	2.0
Totals			18	—	439	457	16.0
Overall Totals			1,731	976	2,217	4,924	261.5

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
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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
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DENTAL EDUCATIONAL SERVICES

RONALD J. DAILEY, Chair

FACULTY

Ronald J. Dailey
 Lincoln P. Edwards
 Rami R. Jekki
 Neal A. Johnson
 Fred C. Kasischke
 Steve Kurti
 George M. Lessard
 Edna M. Loveless
 William A. Loveless
 H. Maynard Lowry
 Kathleen L. Moore
 Gary M. Nelson
 W. Patrick Naylor
 Udochukwu E. Oyoyo
 Thomas C. Rogers
 Ronald J. Secor
 D. Graham Stacey
 James Trott
 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	1.0
DNES 718	Communication Basics for the Dentist	1.0
DNES 789	National Board Part I Review	2.0
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
 Bonnie J. Retamozo
 Sofia Rodriguez-Lopez
 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		UNITS
ENDN 831	Endodontics I	1.0
ENDN 832	Endodontics II (two 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
 Heidi B. Kohltharber
 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 ar-

living 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		UNITS
IDPO 534	Oral Medicine/Orofacial Pain and TMD	2.0
IDPO 535	Oral Pathology and Diagnosis	3.0
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 (four 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 (four 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

Jeffrey S. Dean
Liviu F. Eftimie
Alan S. Herford
Mei Lu
Mohammed H. Mohammadi-Araghi
Carlos M. Moretta
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 dif-

ficult, 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 (two 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 Rynearson

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		UNITS
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
JUNG-WEI CHEN, Director, Advanced Education Program

FACULTY

Jung-Wei Chen
Elaine R. Faria
Bonnie A. Nelson
Wesley K. Okumura

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		UNITS
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 (four quarters/3.5 units required)	0.5–3.5
PEDN 875	Pediatric Dentistry Clinic II (four 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
Chun Xiao Sun
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

		UNITS
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 (two quarters)	2.0
PERI 765	Special Topics in Periodontal Therapy	2.0
PERI 805	Periodontal Surgical Therapy	1.0
PERI 875	Periodontics Clinic (four 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

Aladdin Al-Ardah
Daniel R. Armstrong
Nadim Z. Baba
Frederick A. Berry
David C. Brodeur
Perry D. Burtch
Nathan A. Dinsbach
Mark E. Estey
Michael J. Fitzpatrick
Madelyn L. Fletcher-Stark
Ronald E. Forde
Belen G. Geach
Gary J. Golden
Charles J. Goodacre

B. Dan Hall
 William H. Heisler
 Balsam F. Jekki
 Rami R. Jekki
 Zina F. Johnston
 Joseph Y. K. Kan
 Mathew T. Kattadiyil
 Amir H. Khatami
 S. Alejandro Kleinman
 Edward S. C. Ko
 Doris R. Kore
 Sean Lee
 Monica C. Lehnhof
 Andrea R. Lewis
 Yiming Li
 Jaime L. Lozada
 Luminita S. Narita
 Michael R. Meharry
 Gregory D. Mitchell
 W. Patrick Naylor
 Doyle Nick
 Brian B. Novy
 Andrew T. Ordelheide
 James R. Padgett
 Patricia Ramos
 Paul L. Richardson
 Holli C. Riter
 Douglass B. Roberts
 Elizabeth B. Robbins
 Sofia I. Rodriguez-Lopez
 Clyde L. Roggenkamp
 Erik F. Sahl
 Ronald L. Sorrels
 Jung Hwa Suh
 Raghad Sulaiman
 Daniel E. Tan
 L. Parnell Taylor
 Marcelo G. Toledo
 F. Jose Torres
 Julian Tsai
 Robert B. Walter
 Robert D. Walter
 John M. Whittaker
 John B. Won
 Myron Winer
 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
IDPG 700	Review of General Dentistry	12.0
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 (five quarters/5.5 units required)	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 (four quarters)	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 (ten quarters/37.5 units required)	0.5–7.0
SDCJ 744	Clinical Training in Advanced Restorative Dentistry	8.0
SDCJ 799	Directed Study	4.0–12.0
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

(A.S., B.S.)

KRISTI J. WILKINS, Chair
MICHELLE T. HURLBUTT, Interim Director,
Degree Completion Program
JANEEN C. DUFF, Director, A.S. Degree Program

Jennifer D. Moss
Joni A. Stephens
Kristi J. Wilkins
Colleen A. Whitt

FACULTY

Darlene A. Armstrong
Kellie R. Bergendahl
D. Darlene Cheek
Janeen C. Duff
Debra K. Friesen
Shelly Hayton
Marilynn G. Heyde
Jean M. Honny
Michelle T. Hurlbutt
Shirley A. Lee
Patricia M. Lennan

Established in 1959, the Department of Dental Hygiene, the Bachelor of Science degree undergraduate program of the School of Dentistry, is largely focused on preventive oral health services and continuing care. Dental science courses, pre-clinical 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.

The Associate in Science (A.S.) degree dental hygiene program, established in 2010, is designed to be completed at the School of Dentistry off-campus location in Palm Desert, California. The goal of the A.S. program is to offer a unique educational opportunity for students in the Coachella Valley. Applicants who live in the Coachella Valley

and have completed prerequisite course work at the College of the Desert will be given priority review in the School of Dentistry Admissions process.

The purpose of the A.S. degree program, modeled after the B.S. degree dental hygiene program established in 1959, is to increase access to care in an area underserved by preventive oral health care providers. Upon completion of this curriculum, graduates will be prepared to enter clinical practice under the general and direct supervision of a licensed dentist. The A.S. degree graduate will be encouraged to pursue the B.S. degree online completion program, preparing them for a variety of career options, including teaching and public health opportunities.

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 A.S. degree program is pending approval by Loma Linda University Board of Trustees, Western Association of Schools and Colleges, and the Commission on Dental Accreditation of the American Dental Association.

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.

DENTAL HYGIENE—A.S.

		CLOCK HOURS				TOTAL UNITS
		Lec/Sem	Lab	Clin	Total	
SOPHOMORE YEAR, WINTER QUARTER						
ANAT 301	Head and Neck Anatomy, DH	40	—	—	40	4.0
DNHY 216	Oral Health and Preventive Dentistry	22	—	—	22	2.0
DNHY 305	Oral Anatomy Lecture	22	—	—	22	2.0
DNHY 305L	Oral Anatomy Laboratory	—	44	—	44	1.0
DNHY 321	Preclinical Dental Hygiene I Lecture	22	—	—	22	2.0
DNHY 321L	Preclinical Dental Hygiene I Laboratory	—	88	—	88	2.0
Totals		106	132	—	238	13.0
		CLOCK HOURS				TOTAL UNITS
		Lec/Sem	Lab	Clin	Total	
SPRING QUARTER						
ANAT 303	General and Oral Histology and Embryology	30	—	—	30	3.0

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 B.S. degree curriculum is organized as a four-year college program. The freshman and sophomore years of largely prescribed, preprofessional study may be taken at any regionally 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.

After completion of the required prerequisite course work, the A.S. degree dental hygiene student enters the seven-quarter program leading to the Associate in Science degree in dental hygiene. The student will meet eligibility in the sixth quarter, after successful completion of course work, for the written Dental Hygiene National Board Examination. After successful completion of the seventh quarter, the graduate will be eligible to sit for a state and/or regional clinical board examination.

ANES 314	Dental Anesthesia: Local Anesthesia and Inhalation Sedation	41	14	—	55	4.0
DNHY 309	Radiology I	33	28	—	61	3.0
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
RELT 423	Loma Linda Perspectives	20	—	—	20	2.0
Totals		144	86	30	260	17.0

SUMMER QUARTER		Lec/Sem	CLOCK HOURS			TOTAL UNITS
			Lab	Clin	Total	
DNHY 310	Radiology II	22	—	—	22	2.0
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 381	Pharmacology for the Dental Hygienist I	44	—	—	44	2.0
ODRP 311	General and Oral Pathology DH	50	—	—	50	5.0
Totals		158	40	120	318	18.0

JUNIOR YEAR, AUTUMN QUARTER		Lec/Sem	CLOCK HOURS			TOTAL UNITS
			Lab	Clin	Total	
DNHY 217	Community Oral Health Theory	22	—	—	22	2.0
DNHY 303	Dental Materials and Techniques	20	—	—	20	2.0
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
DNHY 450	Junior Clinical Seminar	10	—	—	10	1.0
RELE 457	Christian Ethics and Health Care	20	—	—	20	2.0
Totals		123	—	120	243	16.0

WINTER QUARTER		Lec/Sem	CLOCK HOURS			TOTAL UNITS
			Lab	Clin	Total	
DNHY 290	Research Design and Biostatistics	33	—	—	33	3.0
DNHY 408	Professional Ethics	22	—	—	22	2.0
DNHY 410	Cultural Competency in Health Care	22	—	—	22	2.0
DNHY 451	Clinical Seminar I	10	—	—	10	1.0
DNHY 475	Dental Hygiene Clinic I	—	—	176	176	4.0
Totals		87	—	176	263	12.0

SPRING QUARTER		Lec/Sem	CLOCK HOURS			TOTAL UNITS
			Lab	Clin	Total	
DNHY 218	Community Oral Health Practicum	—	—	60	60	2.0
DNHY 415	Applied Nutrition	22	—	—	22	2.0
DNHY 418	Critical Issues of Health Care	22	—	—	22	2.0
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	22	—	—	22	2.0
Totals		77	—	236	313	13.0

SUMMER QUARTER		Lec/Sem	CLOCK HOURS			TOTAL UNITS
			Lab	Clin	Total	
DNHY 409	Jurisprudence and Practice Management	22	—	—	22	2.0
DNHY 412	Dental Hygiene Topics II	22	—	—	22	2.0
DNHY 435	Special Topics in Periodontal Therapy	22	—	—	22	2.0
DNHY 453	Clinical Seminar III	11	—	—	11	1.0
DNHY 477	Dental Hygiene Clinic III	—	—	176	176	4.0
Totals		77	—	176	253	11.0
Overall Totals		772	258	858	1,888	100.0

DENTAL HYGIENE—B.S.

JUNIOR YEAR, AUTUMN QUARTER		Lec/Sem	CLOCK HOURS			TOTAL UNITS
			Lab	Clin	Total	
ANAT 301	Head and Neck Anatomy, DH	40	—	—	40	4.0
DNHY 303	Dental Materials and Techniques	20	—	—	20	2.0
DNHY 305	Oral Anatomy Lecture	22	—	—	22	2.0
DNHY 305L	Oral 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
Totals		157	160–190	—	317–347	18.0

WINTER QUARTER		Lec/Sem	CLOCK HOURS			TOTAL UNITS
			Lab	Clin	Total	
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
Totals		177	58	30	265	18.0

SPRING QUARTER		Lec/Sem	CLOCK HOURS			TOTAL UNITS
			Lab	Clin	Total	
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
Totals		143–153	40	120	303–313	19.0

SENIOR YEAR, SUMMER QUARTER		CLOCK HOURS				TOTAL
		Lec/Sem	Lab	Clin	Total	UNITS
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
DNHY 450	Junior Clinical Seminar	10	—	—	10	1.0
Totals		96	38	120	254	15.0

SENIOR YEAR, AUTUMN QUARTER		CLOCK HOURS				TOTAL
		Lec/Sem	Lab	Clin	Total	UNITS
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
Totals		147–168	—	176	323–344	18.0

WINTER QUARTER		CLOCK HOURS				TOTAL
		Lec/Sem	Lab	Clin	Total	UNITS
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	Public Health Dentistry	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
		Lec/Sem	Lab	Clin	Total	UNITS
DNHY 409	Jurisprudence and Practice Management	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
Overall Totals		936–988	296–326	798	2,030–2,112	116.0

NOTE: Consult advisor regarding other courses that may be applied to the program.

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 rationales 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 process 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, computers, 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 clinical 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 some states. Some states have additional computer-based written examinations. Further information can be obtained from each state licensing board or regional clinical examination Web site.

DENTAL HYGIENE—B.S. COMPLETION

- Dental Hygiene—Education Track
- Dental Hygiene—Public Health Track

Program Goals

The Loma Linda University Dental Hygiene Degree Completion Program offers an opportunity for dental hygienists to further their education beyond the Certificate or associate degree level.

This online program is designed to guide students in developing the knowledge, skills, attitudes, and values necessary for positions of responsibility in a variety of health care, educational, research, and community settings.

The program will:

1. Provide the student with knowledge to successfully apply critical thinking and evidence-based decision making in all aspects of dental hygiene practice.
2. Equip the student with the skills to teach in public/community health or educational settings.
3. Prepare the student to effectively communicate in diverse settings, utilizing a variety of methods.
4. Advance student awareness of wholeness and ethics in educational or public/community health settings.
5. Foster student commitment to lifelong learning and career development.

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 through February 1 and April 1 through August 1 for admission to the online degree completion program. Application is available at <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

		PUBLIC EDUC	HEALTH
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 419	Essentials of Public Health for Dental Hygienists		3.0
DNHY 421	Research I	2.0	2.0
DNHY 422	Research II	2.0	2.0
DNHY 425	Educational Psychology for Health Professionals	3.0	3.0
DNHY 428	Health Care Management		3.0
DNHY 436	Ethical and Legal Principles in Education	2.0	
DNHY 437	Ethical Principles in Public Health for the Dental Hygienist		2.0
DNHY 441	Principles of Education I	3.0	3.0
DNHY 442	Principles of Education II	3.0	

DNHY 444	Teaching Practicum	Variable unit course: minimum 3 units required. Additional unit may be added.	3.0	
DNHY 446	Principles of Clinical Instruction		3.0	
DNHY 449	Treating the Special-Needs Patient			3.0
DNHY 464	Web-Based Techniques		2.0	2.0
DNHY 478	Advanced Clinical Concepts		2.0	
DNHY 484	Legal Issues in Health Care			2.0
DNHY 498	Dental Hygiene Directed Study	Variable unit course: minimum 2 units required. Additional units may be added.	2.0	2.0
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	39.0 39.0
			Overall Totals	39.0 39.0

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.)

GREGORY D. MITCHELL, Program Director

FACULTY

Michael J. Fitzpatrick
 Ronald E. Forde
 Balsam F. Jekki
 Rami R. Jekki
 Andrea R. Lewis
 Gregory D. Mitchell
 Luminita Narita
 Sofia I. Rodriguez-Lopez
 Ronald L. Sorrels
 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 50 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 it 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, gov-

erning 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	Course continues summer quarter	—	60	—	60	2.0
IDPG 845	Evidence-Based Dentistry	1 of 2	22	—	—	22	2.0
IDPO 725	Patient Assessment and Data Management		22	—	—	22	2.0
IDPO 826	Oral and Maxillofacial Surgery	1 of 2	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	2 of 2	22	—	—	22	2.0
IDPO 726	Patient Diagnosis and Treatment Planning		22	—	—	22	2.0
IDPO 826	Oral and Maxillofacial Surgery	2 of 2	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

AUTUMN QUARTER			CLOCK HOURS				TOTAL UNITS
			Lec/Sem	Lab	Clin	Total	
IDPC 825	General Clinics	1 of 2	—	—	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

WINTER QUARTER			CLOCK HOURS			TOTAL	
			Lec/Sem	Lab	Clin	Total	UNITS
IDPC 825	General Clinics	2 of 2	—	—	240	240	8.0
IDPO 535	Oral Pathology and Diagnosis	33	—	—	33	3.0	
IDPR 854	Implant Dentistry for the IDP Student	22	44	—	66	3.0	
ORDN 811	Principles of Orthodontics II	11	—	—	11	1.0	
PEDN 821	Pediatric Dentistry II	10	—	—	10	1.0	
RELR 749	Personal and Family Wholeness	20	—	—	20	2.0	
Totals			96	44	240	380	18.0

FOURTH YEAR, SPRING QUARTER			CLOCK HOURS			TOTAL	
			Lec/Sem	Lab	Clin	Total	UNITS
IDPC 835	General Clinics	1 of 2	—	—	360	360	12.0
Totals			—	—	360	360	12.0

SUMMER QUARTER			CLOCK HOURS			TOTAL	
			Lec/Sem	Lab	Clin	Total	UNITS
IDPC 835	General Clinics	2 of 2	—	—	360	360	12.0
Totals			—	—	360	360	12.0

AUTUMN QUARTER			CLOCK HOURS			TOTAL	
			Lec/Sem	Lab	Clin	Total	UNITS
DNES 817	Practice Management I for IDP Students	—	40	—	40	1.0	
IDPC 845	General Clinics	1 of 2	—	—	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	
			Lec/Sem	Lab	Clin	Total	UNITS
DNES 818	Practice Management II for IDP Students		—	40	—	40	1.0
IDPC 845	General Clinics	2 of 2	—	—	240	240	8.0
Totals			—	40	240	280	9.0
Overall Totals			491	627	1,728	2,846	121.0

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 and present at the annual Dental Anesthesia Symposium at Loma Linda University.

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 anesthesia-related skills and knowledge that will be 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.

- 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 ability to take responsibility.

Program link: <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 pro-

gram in dental anesthesiology must also complete and submit a separate online application <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 (2010–2011)

Tuition or fees are waived. Residents are paid a stipend during training.

MAJOR		CERT	MSD
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
Totals		47.0	49.0
INTERDISCIPLINARY		CERT	MSD
REL_ 5__	Graduate-level Religion	3.0	3.0
Totals		3.0	3.0
CLINICAL		CERT	MSD
Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.			
ANES 746	General Anesthesia (9.0)	72.0	72.0
Totals		—	—
Overall Totals		50.0	52.0

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
Bonnie J. Retamozo
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>.

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 (<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 1 of the year prior to the summer of intended enrollment.

TUITION

Tuition for the 2010–2011 school year is \$11,847 per academic quarter. In addition, fees for each academic quarter include: insurance, \$418; student services, \$172; information technology support, \$195; and microsurgery fee, \$800.

MAJOR		CERT	MSD	MS
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
ENDN 698	Thesis			1.0
Totals		46.0	47.0	48.0

INTERDISCIPLINARY		CERT	MSD	MS
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.

		CERT	MSD	MS
ENDN 725	Clinical Practice in Endodontics (8.0)	72.0	72.0	72.0
Totals		—	—	—
Overall Totals		79.0	80.0	81.0

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

Joseph Y. K. Kan
S. Alejandro Kleinman
Jaime L. Lozada

FACULTY

Aladdin J. Al-Ardah
Yong C. Choi

The advanced 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 thirty-six 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 graduates to deliver 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 graduates to develop clinical practice.
4. To train graduates to achieve the highest levels of patient-treatment satisfaction.
5. To educate graduates to perform research and practice teaching.

Program link: <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 2010–2011 school year is \$11,847 per academic quarter. Additional fees for each academic quarter include insurance, \$418; student services, \$172; and information technology support, \$195.

Spring Quarter 2010–2011: 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		CERT	MSD	MS
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 547	Implant Dentistry Grand Rounds (1.0)	10.0	10.0	10.0
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 (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		105.5	108.5	108.5

INTERDISCIPLINARY

		CERT	MSD	MS
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 632	Basic Microsurgery Techniques	2.0	2.0	2.0
IMPD 698	Thesis			1.0
OMFS 604	Selected Topics in Oral and Maxillofacial Surgery (1.0)	4.0	4.0	4.0
OMFS 606	Applied Surgical Anatomy	1.0	1.0	1.0
PERI 601	Periodontal Therapy	2.0	2.0	2.0
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
REL_ 5__	Graduate-level Religion	3.0	3.0	3.0
Totals		50.0	50.0	51.0

CLINICAL

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		CERT	MSD	MS
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		—	—	—
Overall Totals		155.5	158.5	159.5

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 specialty.
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 with the skill to proficiently assess and treat problems of the maxillofacial region. This includes dentoalveolar surgery, maxillofacial trauma, reconstructive surgery, 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>.

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. Applicants to the six-year program must also apply to the School of Medicine.

TUITION

Tuition and fees are waived.

MAJOR		CERT	MSD	MS
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

INTERDISCIPLINARY		CERT	MSD	MS
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.

		CERT	MSD	MS
OMFS 614	Clinical Experience in Oral and Maxillofacial Surgery Practice (7.0)	70.0	70.0	70.0
	Totals	—	—	—
	Overall Totals	73.0	76.0	76.0

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 advanced education 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 obliga-

tion 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 bioprogressive 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>.

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 2010–2011 school year is \$11,847 per academic quarter. Additional fees for each academic quarter include: insurance, \$418; student services, \$172; and information technology support, \$195.

MAJOR		CERT	MS
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
ORDN 698	Thesis		3.0
Totals		67.0	71.0

INTERDISCIPLINARY		CERT	MS
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.

		CERT	MS
ORDN 725	Clinical Practice in Orthodontics (7.0)	56.0	56.0
Totals		—	—
Overall Totals		86.0	90.0

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.)

JUNG-WEI CHEN, Director, Advanced Education Program

J. TODD MILLEDGE, Associate Director, Advanced Education Program

FACULTY

Jung-Wei Chen
J. Todd Milledge
Bonnie A. Nelson
Wesley K. Okumura

The advanced 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 endorsed 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>.

APPLICATION PROCESS

The advanced education program in pediatric dentistry participates in the Postdoctoral Appli-

cation Support Service (PASS) of the American Dental Education Association (ADEA) and the National Match Program, 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.

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 2010–2011 school year is \$11,847 per academic quarter. Additional fees for each academic quarter include: insurance, \$418; student services, \$172; and information technology support, \$195.

MAJOR		CERT	MSD	MS
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
PEDN 698	Thesis			1.0
Totals		50.0	52.0	53.0

INTERDISCIPLINARY		CERT	MSD	MS
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
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
REL_ 5__	Graduate-level Religion	3.0	3.0	3.0
Totals		27.0	27.0	27.0

CLINICAL

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		CERT	MSD	MS
PEDN 725	Pediatric Dental Clinic (8.0)	64.0	64.0	64.0
Totals		—	—	—
Overall Totals		77.0	79.0	80.0

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

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- Craig M. Ririe
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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 pre-doctoral 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/periodontology/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> 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 2010–2011 school year is \$11,847 per academic quarter. Additional fees for each academic quarter include: insurance, \$418; student services, \$172; and information technology support, \$195.

MAJOR		CERT	MSD	MS
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
PERI 698	Thesis			1.0
Totals		90.0	93.0	94.0

INTERDISCIPLINARY		CERT	MSD	MS
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 632	Basic Microsurgery Techniques	2.0	2.0	2.0
REL_ 5__	Graduate-level Religion	3.0	3.0	3.0
Totals		17.0	17.0	17.0

CLINICAL

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		CERT	MSD	MS
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		—	—	—
Overall Totals		107.0	110.0	111.0

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

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The School of Dentistry's advanced education program in prosthodontics is designed to increase the knowledge base, and the clinical and laboratory skills of the student in all areas of prostho-

odontics. In addition to conventional fixed and removable prosthodontics, this program offers considerable experience in implant prosthodontics esthetic dentistry as well as 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.

PROSTHODONTICS GOALS

1. To educate students 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 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>.

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> 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 1 of the year prior to the summer of intended enrollment.

TUITION AND FEES

Tuition for the 2010–2011 school year is \$11,847 per academic quarter. Additional fees for each academic quarter include: insurance, \$418; student services, \$172; and information technology support, \$195.

MAJOR		CERT	MSD	MS
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

INTERDISCIPLINARY

		CERT	MSD	MS
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
PROS 698	Thesis			2.0
REL_5__	Graduate-level Religion	3.0	3.0	3.0
Totals		26.5	26.5	28.5

CLINICAL

Units for clinic practice courses do not count toward minimum number of graduate units required for the degree.

		CERT	MSD	MS
PROS 710	Clinical Practice of Prosthodontics (6.0)	66.0	66.0	66.0
Totals		—	—	—
Overall Totals		122.5	125.5	127.5

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		PERIO & PROS	PERIO & IMPLANT	PROS & IMPLANT
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 (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

		PERIO & PROS	PERIO & IMPLANT	PROS & IMPLANT
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	Bioethics and Society	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.

		PERIO & PROS	PERIO & IMPLANT	PROS & IMPLANT
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		—	—	—
Overall Totals		214.5	241.5	230.5

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 a Loma Linda University online Application for Admission and a Part I (Applica-

tion 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> 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 education to ensure all admissions requirements have been met.
5. Accepted applicants will receive a letter of admission from the associate dean for advanced 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 re-

quire 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>). 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 orthopedics.

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 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 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 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

Dean's Welcome

School Foundations

History

Our mission

General Regulations

Application and Admission

The study of medicine

General entrance information

Application procedure and acceptance

Where to write

AMCAS deadline

Fees

Procedure

Pre-entrance health requirement and health insurance

Early-decision program

Deadlines

Transfer

Technical standards

Student Life

Student organizations

Curriculum

Whole-person formation

Learning outcomes

Academic Information

Communications

Required supplies

Practices and regulations

Length of academic residence

Course exemptions

Examinations

Grading policy

Class standing

Promotion

Academic probation

Withdrawal

USMLE Steps I and II policy

Doctor of Medicine degree requirements

Doctor of Medicine/Oral and Maxillofacial Surgery degree requirements

Graduate combined degrees programs

Licensing examinations

Graduate specialty medical education residencies

Postgraduate training

Continuing medical education

Clinical facilities

The instructional resources

Research Centers

Financial Information

General financial practices

Veteran's benefits

Schedule of charges 2010–2011

Living expenses

Special charges 2010–2011

Awards

Additional Requirements

Programs, Degrees, and Certificates

Anatomy—M.S., Ph.D.

Biochemistry—M.S., Ph.D.

Biomedical Sciences—Postbaccalaureate certificate

Health Care Practice—certificate

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

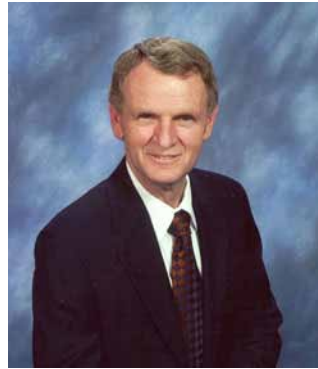
Thank you for your interest in Loma Linda University School of Medicine. This Catalog will provide you with detailed information about our people, programs, and facilities; as well as our requirements and expectations. Commitment to our University's mission and medical education remains our first priority.

In addition to our medical school program, we offer a broad spectrum of graduate education opportunities, including combined degrees programs and a wide range of postgraduate specialty residencies and fellowships; as well as a program of continuing medical education for physicians beyond their formal academic years.

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.

Roger Hadley, M.D.
Dean, School of Medicine



School Foundations

HISTORY

The professional curriculum in medicine was first offered at Loma Linda University in 1909. Ten decades later, we have kept pace with the rapid growth of knowledge and technology. Nearly 10,000 students have graduated from the School of Medicine and have practiced in all corners of the earth, fulfilling the University's mission—"To make man whole."

Since 1909

The first two years of medical school 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 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.

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, safe, 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.

THE STUDY OF MEDICINE

Preparing for a career in medicine, students should quest for a broad understanding in the major areas of knowledge—the natural sciences, the behavioral sciences, and the humanities—which assists them in the process of learning throughout their life.

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 the 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>.

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 an online supplementary application. The prospective student should provide evidence of exposure to health care through personal involvement or in other ways, giving evidence of an informed decision 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 ac-

ceptance 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.

In summary, the Admissions Office requires the following:

- Verified AMCAS application
- Loma Linda University School of Medicine supplementary application and \$75 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 coverage

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 health coverage through the University's Department of Risk Management. The Student Health Plan 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 plan (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 acceptance 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. 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. Students who have questions about the Student Handbook should contact the associate dean for student affairs.

STUDENT ORGANIZATIONS

The purpose of the Loma Linda University School of Medicine student organizations is to:

1. Create an avenue through which students may seek constructive solutions to problems and enhance their educational experience;
2. Develop ways to further the mission of the School and add to the medical school experience by organizing social, spiritual, and service activities;
3. Engage students in issues related to medical education and health care through participation in regional and national professional organizations.

At registration into the School of Medicine, students automatically become members of the Loma Linda University School of Medicine Student Association (SMSA).

Student organizations that operate within the School of Medicine and that are represented on the School of Medicine Senate include the following:

- The American Medical Association-Medical Student Section (AMA-MSS), Loma Linda University chapter
- The American Medical Student Association (AMSA), Loma Linda University chapter
- The Christian Medical and Dental Association (CMDA)

- Hands-On Wholeness (HOW)
- The Organization of Student Representatives (OSR) to the Association of American Medical Colleges (AAMC)
- Student National Medical Association, Loma Linda University chapter

Two additional student organizations are based in the School of Medicine but are not required to have representatives at Senate meetings. These service-focused organizations, which involve students from a number of schools within the University, are as follows:

- the Healthy Neighborhoods Project
- the Mission Interest Group

Loma Linda University students are represented by peers at the San Bernardino County Medical Society, the California Medical Association, the American Medical Association, the American Medical Student Association, the Association of American Medical Colleges, and the Student National Medical Association.

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, ethnic, 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 into their personal and professional lives.

Outcome VIII

Students will integrate their knowledge, skills, and behaviors through a spectrum of active learning activities.

Outcome IX

Students will acquire the knowledge and skills needed to foster self-direction for lifelong learning.

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 are required to take examinations at the scheduled time. Students who arrive more than 15 minutes late to an examination will be denied entrance. Students who arrive after any other student has left the examination for any reason will not be permitted to take the examination. For National Board subject examinations, students will be denied entrance once the examination has started.

Examinations will not be extended beyond the announced termination time, even if a student arrives late.

MISSED EXAMINATIONS

Should a student miss a midterm 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 amount extra, proportional to the weighting of the missed examination(s). In addition, course directors may require other remediation at their discretion.

Should a student miss an in-house final examination because of an “excused” absence, arrangements must be made with the course director(s) of the missed examination(s) to make-up the missed examination(s). The course director(s), at his/her discretion, may require the student to take an examination that is different in format, content, or length from the final examination that was administered to the class.

Should a student miss a National Board Subject Examination because of an “excused” absence, the student will be allowed to make up the subject examination upon completing all other course work for that year at the end of the academic year. Arrangements for the make up examination must be made through the Office of Medical Student Education.

CONDITIONS TO BE MET FOR AN “EXCUSED” ABSENCE

In order to have an “excused” absence, the student must get a written excuse from the Office of Medical Student Education prior to the administration of the test in question. Students missing examinations for health reasons must provide written documentation from Student Health that they were indeed ill. Whether or not this documentation is an adequate excuse for missing a test will be left to the discretion of the senior associate dean for medical student education. Once a request for an examination excuse has been received, the Office of Medical Student Education will determine whether or not the student will be required to make up the examination at a later date (generally within a week of the missed examination) or have the final examination count an extra amount proportional to the missed examination. Under no circumstances are students allowed

to take examinations earlier than scheduled.

In the event of a bona fide emergency, where prior approval is not feasible, the Office of Medical Student Education (909/558-4255) must be contacted as soon as possible. Failure to do so will result in an unexcused absence.

Students who miss examinations without prior approval from the Office of Medical Student Education will incur an “unexcused” absence. As a result, the student will receive a zero for the missed examination(s).

Missing more than one examination in any course or combination of courses could result in a student having to repeat the course(s) during the next academic year.

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—or 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 Wiser Road, Suite 300, Euless, TX 76039-3855.

GRADUATE SPECIALTY MEDICAL EDUCATION RESIDENCIES

Loma Linda University Medical Center sponsors a variety of accredited residency programs. These include residencies in anesthesiology, pediatric anesthesiology, anesthesiology critical care medicine, adult cardiothoracic anesthesiology, dermatology, procedural dermatology, emergency medicine, pediatric emergency medicine, family medicine (including rural track and combined family medicine-preventive medicine), internal medicine, pediatrics, cardiology, gastroenterology, nephrology, 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, interventional vascular 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.

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
909558-0330 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

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

East Campus Specialty Hospital (formerly 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 (FMO) 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 Medical 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

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

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 groundbreaking 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.
- It is proud of its student (medical, predoctoral) mentoring. Two recent Ph.D. recipients in biochemistry worked in its Biochemistry Laboratory. Each was 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>.

SCHEDULE OF CHARGES

Tuition

- \$40,664 Full time
- \$10,166 Full time, per quarter

Fees

- \$720 per quarter: student services, health insurance, etc.

Supplies and instruments (estimated)

- \$3,200 per school calendar year

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> for housing information and a housing application form.

SPECIAL CHARGES 2010–2011

- \$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 dem-

onstrated 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. Ordelleide Award

The Walter P. Ordelleide Award is given annu-

ally 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
 Resa Chase
 Brad A. Cole
 Bertha C. Escobar-Poni
 Michael A. Kirby
 Anissa Y. LaCount
 Pedro B. Nava
 Kerby C. Oberg
 Kimberly J. Payne
 Kenneth R. Wright

SECONDARY AND ADJUNCT APPOINTMENTS

Marino De Leon
 William M. Hooker
 Zhongrong Luo
 Paul J. McMillan
 Steven M. Yellon

MISSION

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.

STUDENT LEARNING OUTCOMES

1. Students will demonstrate a broad knowledge of the biomedical sciences.
2. Students will demonstrate subject mastery in molecular, cellular, and integrative aspects of anatomy.
3. Students will interpret the current literature in anatomy.
4. Students will make original contributions to the body of biomedical knowledge.
5. Students will demonstrate an understanding of the principles of scientific and professional ethics.

6. Students will understand the process of applying for external funding.*

* This objective is not applicable to M.S. degree students.

GENERAL INFORMATION

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.

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.

M.S. AND PH.D. DEGREES

The School of Medicine's Division of Anatomy offers study in the Anatomy Program leading to the Master of Science and the Doctor of Philosophy degrees. These degree programs provide a broad biomedical 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. Doctoral degree students are expected to develop creativity and independence, in addition to technical skills.

Combined degrees

Combined degrees (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

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 (Ph.D. program)

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.

Research units

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 cul-

minates 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 their dissertation before 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		MS COURSE- WORK	MS RESEARCH	PHD
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

MAJOR			MS COURSE- WORK	MS RESEARCH	PHD
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

SEMINARS			MS COURSE- WORK	MS RESEARCH	PHD
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

RELIGION			MS COURSE- WORK	MS RESEARCH	PHD
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

ELECTIVES			MS COURSE- WORK	MS RESEARCH	PHD
ANAT ___	Graduate Anatomy Elective	Electives in anatomy/ embryology	14.0		
		Totals	14.0	—	—

RESEARCH/DISSERTATION OR THESIS			MS COURSE- WORK	MS RESEARCH	PHD
ANAT 697	Research (1.0–8.0)		13.0	15.0	
IBGS 696	Research Rotations (1.0)			2.0	
		Totals	—	13.0	17.0
		Overall Totals	45.0	45.0	88.0

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 shows 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
Valery Filippov
Maria Filippova
William H. R. Langridge
Jonathan W. Neidigh
Christopher Perry
Lawrence C. Sowers
Nathan Wall
R. Bruce Wilcox

SECONDARY AND ADJUNCT APPOINTMENTS

Carlos A. Casiano
Shin Tai Chen
John R. Farley
Hansel M. Fletcher
Daila Gridley
Clifford Herrmann (Emeritus)
David A. Hessinger
Mark S. Johnson
Wolff M. Kirsch
Kin-Hing William Lau
Thomas Linkhart
Subburaman Mohan
Andre Obenaus
William J. Pearce
Michael Pecaut
John J. Rossi
Lawrence B. Sandberg
Donna D. Strong
Barry L. Taylor
Jon E. Wergedal
Kangling Zhang

MISSION

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.

STUDENT LEARNING OUTCOMES

1. Students will demonstrate a broad knowledge of the biomedical sciences.
2. Students will demonstrate subject mastery in molecular, cellular, and integrative aspects of biochemistry.
3. Students will interpret the current literature in biochemistry.
4. Students will make original contributions to the body of biomedical knowledge.
5. Students will demonstrate an understanding of the principles of scientific and professional ethics.
6. Students will understand the process of applying for external funding.*

* This objective is not applicable to M.S. degree students.

GENERAL INFORMATION

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 fully develop 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.

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. Doctoral degree students are expected to develop creativity and independence, in addition to technical skills.

Combined degrees

Combined degrees (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

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 (Ph.D. program)

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 pre-

sentation 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.

Research units

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 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 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 77 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 before their guidance committee prior to 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		MS COURSE- WORK	MS RESEARCH	PHD
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

MAJOR		MS COURSE- WORK	MS RESEARCH	PHD
BCHM __	Graduate Biochemistry Elective	Elective courses in biochemistry. 12 units required.	7.0	12.0
Totals		7.0	—	12.0

SEMINARS		MS COURSE- WORK	MS RESEARCH	PHD
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

RELIGION		MS COURSE- WORK	MS RESEARCH	PHD
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

RESEARCH/DISSERTATION OR THESIS		MS COURSE WORK	MS RESEARCH	PHD
BCHM 697	Research (1.0–10.0)		6.0	15.0
IBGS 696	Research Rotations (1.0)			2.0
Totals		—	6.0	17.0
Overall Totals		45.0	45.0	77.0

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. and Ph.D.)

LAWRENCE C. SOWERS, Ph.D., 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's scores before s/he 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. degree 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 has 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

(PB Certificate)

KENNETH WRIGHT, Ph.D., 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, or 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 sciences 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

WINTER QUARTER**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

SPRING QUARTER**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
Overall Totals		37.0

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**

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 17.0

WINTER QUARTER**UNITS**

BCHM 531	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 532	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
FMDN 701	Family Medicine Clerkship	(4 weeks)	6.0
GYOB 701	Gynecology and Obstetrics Clerkship	(6 weeks)	9.0
MEDN 701	Medicine Clerkship	(10 weeks)	15.0
MNES 791	Third-year Elective	(2 weeks)	3.0
NEUR 701	Neurology Clerkship	(4 weeks)	6.0
PEDS 701	Pediatrics Clerkship	(8 weeks)	12.0
PSYT 701	Psychiatry Clerkship	(6 weeks)	9.0
SURG 701	Surgery Clerkship	(10 weeks)	15.0
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)		

MEDN 822	Medicine Intensive Care (3)	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	45.0
		Overall Totals	228.0

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.

THE DEPARTMENTS OF THE SCHOOL OF MEDICINE

The twenty-three 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 and 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

Shelley F. Abdel-Sayed

Martin W. Allard

Donald L. Anderson

Richard L. Applegate

Sherif A. Azer

Jia-Yi Bian

Bernard J. Brandstater
 Allen L. Brandt
 Stanley D. Brauer
 Burton A. Briggs
 Douglas C. Brockmann
 Maureen H. Bull
 Edward R. Campbell
 Tony B. Chiang
 Deborah M. Chung
 Anne T. Cipta
 Carl E. Collier
 Francis L. Comunale
 Mark E. Comunale
 Carmencita J. Coronel
 Jennifer B. Cristall
 Ihab R. Dorotta
 Joseph P. Galura
 Jason W. Gatling
 Elizabeth A. Ghazal
 Brenna L. Gustafson-Jackson
 Daniela S. Karagyozyan
 Abraham M. Kiani
 David S. Kim
 Penny L. Kimball-Jones
 Carol A. Lau
 Ryan E. Lauer
 M. Minh Le
 Charles Lee
 E. Anita Lee
 Sandra H. Lee
 John Lenart
 Marina J. Liu
 Samuel J. Loh
 Mark R. Macknet
 Mathew R. Malkin
 Robert D. Martin
 Linda J. Mason
 Deborah McIvor
 James A. Meyer
 Phebe F. Mosaad
 Shannon M. Mulder-Michaelson
 Monica M. Neumann
 Rebecca J. Patchin
 Paul I. Patel
 Thomas Rasmussen
 Abdul R. Samady
 Michelle L. Schlunt
 Valerie A. Seabaugh
 Jean E. Sprengel

Gary R. Stier
 Donald L. Stilson
 Jason A. Tan
 Shirley L. Tan
 Teresa L. Thompson-Razzouk
 Samuel E. Torres
 Sidney E. Torres
 Edward W. Verde
 John F. Viljoen
 Linda I. Wat
 Bryan G. Wernick
 Po-chin J. Wu

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

FACULTY

Danilyn M. Angeles

Jerome Badaut

Richard E. Beltz

Arlin B. Blood

Danilo Boskovic

Eileen J. Brantley

John N. Buchholz

Leonard R. Bullas

Edouard M. Cantin

Carlos Casiano
 Daniela Castanotto
 Philip J. Chan
 Shin Tai Chen
 Bradley A. Cole
 Jane A. Crofut Kleinman
 Agus Darwanto
 Amitava Das
 Khashayar Dashtipour
 Daisy D. De Leon
 Marino A. De Leon
 Charles A. Ducsay
 Penelope J. Duerksen-Hughes
 Lincoln P. Edwards
 Alan P. Escher
 John R. Farley
 Valeri A. Filippov
 Maria Filippova
 Ronald R. Fiscus
 Hansel M. Fletcher
 Istvan Fodor
 Steven C. Forland
 Ian M. Fraser
 Ravi Goyal
 Daila S. Gridley
 Raymond G. Hall, Jr.
 E. Clifford Herrmann
 David A. Hessinger
 Sandra R. Hilliker
 George R. Javor
 Mark S. Johnson
 Michael A. Kirby
 Wolff M. Kirsch
 William H. Langridge
 Benjamin H. S. Lau
 John E. Lewis
 F. Alice Li
 Ren-Jang Lin
 Thomas A. Linkhart
 Lawrence D. Longo
 Monica M. Lurtz
 Eugenia I. Mata-Greenwood
 Elwood S. McCluskey
 Giuseppe A. Molinaro
 Jonathan W. Neidigh
 Stephen A. Nyirady
 Robert P. Ostrowski
 Janice C. Palaganas
 William J. Pearce

Michael J. Pecaut
 Christopher C. Perry
 Marvin A. Peters
 Gordon G. Power
 Philip J. Roos
 John J. Rossi
 Raymond E. Ryckman
 Hobe J. Schroder
 Charles W. Slattery
 Ubaldo Soto-Wegner
 Lawrence C. Sowers
 Allen Strother
 Xue Jun Sun
 Jiping Tang
 Barry L. Taylor
 Robert W. Teel
 Nathan R. Wall
 Kylie J. Watts
 Leonard S. Werner
 R. Bruce Wilcox
 Sean M. Wilson
 David L. Wolf
 Daliao Xiao
 Zhice Xu
 Steven M. Yellon
 John H. Zhang
 Kangling 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

DIVISIONS

CARDIOTHORACIC, ANEES J. RAZZOUK, Head
VASCULAR, AHMED M. ABOU-ZAMZAM, Head

FACULTY

Ahmed M. Abou-Zamzam
Leonard L. Bailey
Brian E. Bates
Christian Bianchi
Jason T. Chiriano
Michael J. delRio
Rosario Florida
Appannagari Gnanadev
William J. Hopewell
George Kafrouni
J. David Killeen
Afshin M. Molkara
Robert Pereyra-Suarez
Alfredo L. Rasi
Anees J. Razzouk
Theodore H. Teruya
Robert S. Vannix
Edwin E. Vyhmeister
Nan Wang
Ellsworth E. Wareham
Michael N. Wood
Salman Zaheer

The Department of Cardiovascular and Thoracic Surgery is dedicated to providing comprehensive, quality surgical care to patients with heart, vascular, and thoracic disease. The department's clinical services include adult cardiac surgery, congenital cardiac surgery, adult and pediatric heart transplantation, general thoracic surgery, vascular surgery, and trauma.

Other equally important goals of the department are to:

1. Educate medical students through lectures, clinical rotations, research projects, and faculty role modeling.
2. Train the next generation of competent surgeons in the specialty. The department provides opportunities for ACGME-approved

residencies in vascular surgery (two-year program) and in cardiothoracic surgery (three-year program).

3. Partner with the Global Health Institute of Loma Linda University by providing expert surgical help to other countries in need.
4. Provide support for innovation and promotion of clinical research.

Dermatology

ABEL TORRES, Chair

FACULTY

Nancy J. Anderson
John H. Bocachica
Tejas D. Desai
Richard D. Doty
Stephanie K. Fogelson
Desmond D. Gibson
Linda Golkar
Jane M. Hirokane
Elena M. Livina
Justin D. Love
Kenneth D. Macknet, Jr.
Christine E. Moorhead
David Opai-Tetteh
Joseph F. Sedrak
Fred F. Soepronon
Jamison E. Strahan
Abel Torres
Ingrid E. Trenkle
Hubert C. Watkins
J. Robert West
Edwin T. Wright
Sarvenaz Zand
John F. Zdrojewski

Emergency Medicine

KATHLEEN J. CLEM, Chair

DIVISIONS

GENERAL EMERGENCY MEDICINE, ROBERT STEELE, Head
PEDIATRIC EMERGENCY MEDICINE, LANCE E. BROWN, Head

FACULTY

Shamel A. Abd-Allah
 Besh R. Barcega
 Rishi Bhargava
 Ryan Brenchley
 Lance A. Brown
 Sean P. Bush
 Bharath Chakravarthy
 Eugene T. Chan
 Deepak N. Chandwani
 Samuel C. Chua
 Kathleen J. Clem
 Stephen W. Corbett
 Lynda Daniel-Underwood
 Carrie E. Davis
 T. Kent Denmark
 David M. Englander
 Ara Festekjian
 Michelle R. Gill
 Jeff T. Grange
 Steven M. Green
 Gregory T. Guldner
 Mindi J. Guptill
 Richard H. Guth
 Melvyn L. Harris
 Korbin N. Haycock
 Mia L. Karamatsu
 Julie K. Kasarjian
 Aqeel S. Khan
 Grace J. Kim
 Steven S. Kim
 Tae J. Kim
 Tommy Y. Kim
 Eduardo D. Lam
 Victor D. Levine
 Jennifer J. Lim
 Edwin F. Lopez
 R. Daniel 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
 Jason J. Prystowsky
 James W. Rhee
 Mark D. Sandoval
 Thomas S. Sherwin
 Dustin D. Smith
 Robert Steele
 Gail M. Stewart
 Carl B. Stilson
 Matthew K. Stilson
 David H. Tang
 Milton R. Teske
 Mark E. Thomas
 Tamara L. Thomas
 Andrea S. Thorp
 David D. Tito
 Louis P. Tran
 Matthew B. Underwood
 Edward J. Vargas
 Marcus T. Voth
 David K. Wagner
 Justin B. Wagner
 E. Lea Walters
 Deborah L. Washke
 Nathan T. Watson
 Samuel G. Wilson
 William A. Wittlake
 Kelvin L. Wong
 Ernest S. Woodhouse
 Timothy P. Young
 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
 Casey C. Cole
 F. Daniel Cruz
 Janet A. Cunningham
 Linda Deppe
 Dai Vien Du
 Wayne Dysinger
 Daniel L. Engleberg
 Christy L. Eskes
 Allen C. Felix
 Linda H. Ferry
 John Fleming
 Christopher V. Flores
 Daniel Franco
 Michael E. Frederich
 Herbert N. Giebel
 Cynthia J. Glasgow

David F. Glossbrenner
 Jean-Claude Hage
 Calvin Hagglov
 Tina M. Haller-Wade
 Jean E. Haynes-Lee
 Kevin R. Herrick
 Jonathan Horstmann
 Ming Chang Isinhue
 William W. Jih
 Jennifer A. Keehbauch
 Kamal Kejriwal
 Jay D. Kerr
 Sharmel O. Kettler
 Marina Khubesrian
 Richard Kim
 Claire H. Koga
 Rosarin Kriengprarthana
 James S. Ku
 Anissa Y. LaCount
 Gilbert H. Lee
 Tony B. Lee
 Margaret H. Lester
 Yi Lieu
 Rubin C. Lin
 Gerald Lofthouse
 Jason L. Lohr
 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 improve-

ment 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

CARLOS A. GARBEROGLIO, Chair

DIVISIONS

COLORECTAL

GENERAL, ANTONIO E. ROBLES, Head

PEDIATRIC, DONALD C. MOORES, Head

TRANSPLANT, RICHARD S. CATALANO, Head

TRAUMA, RICHARD D. CATALANO, Head

FACULTY

Yousef G. Amaar
 Joanne E. Baerg
 Pedro W. Baron
 Brian E. Bates
 Jack L. Bennett
 James A. Brown
 Richard D. Catalano
 Lori J. H. Chow
 N. Eugene Cleek
 Waldo Concepcion
 Douglas W. Cook
 John T. Culhane
 Joseph V. Davis III
 Clifford C. Eke
 Edson S. Franco
 Wesley L. Fung
 Carlos A. Garberoglio
 Fekede W. Gemechu
 Gerald Gollin
 Paul E. Gray
 Lawrence A. Harms
 Lawrence E. Heiskell
 Alan S. Herford
 David B. Hinshaw, Sr.
 Charles K. C. Hu
 Farabi M. Hussain
 Janet K. Ihde
 Victor C. Joe
 Samir D. Johna

Kevork K. Kazanjian
 Simon M. Keushkerian
 Faisal A. Khan
 Daniel D. Klaristenfeld
 Arputharaj H. Kore
 Fariborz Lalezarzadeh
 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
 Aleksandr A. Reznichenko
 Jorge L. Rivera
 Antonio E. Robles
 Frank A. Rogers
 Sharmila Roy-Chowdhury
 Gisella L. Sandy
 Gregory S. Shank
 Louis L. Smith
 Bruce C. Steffes
 Arnold D. Tabuena
 Derya U. Tagge
 Edward P. Tagge
 Angel J. Tamez
 Matthew S.C. Tan
 Ralph J. Thompson
 Keir J. Thelander
 David C. Thompson
 Noel Victor
 Hansen S. Wang
 David T. W. Wong
 Jan H. Wong
 J. Frank Yamanishi
 Robert M. Yuhan

The Department of General and Trauma Surgery is in harmony with the stated purposes and philosophy of Loma Linda University School of Medicine. The goals of the Department of General and Trauma Surgery are to:

1. Provide the highest standard of surgical patient care.
2. Maintain educational programs in the surgical disciplines for medical students, residents, and fellows.
3. Provide facilities for laboratory and clinical research in the areas of surgical interest.

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
 Sandy S. Chaun
 Ai-Mae Chee-Watkins
 Chul Choi
 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
 Dominique Shaw
 Kathryn Shaw
 Hyun S. Shvartsman
 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, Chair
 PHILIP M. GOLD, Executive Vice Chair,
 Department of Medicine
 KENNETH R. JUTZY, Vice Chair, Loma Linda
 University Medical Center
 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

DANIEL I. S. KIM, Associate Chair for Resident
 Education
 H. HELEN BAEK, Associate Chair for Continuing
 Medical Education
 MICHAEL H. WALTER, Senior Associate Chair
 for Finance and Development
 KEITH K. COLBURN, Associate Chair for
 Research
 LAWRENCE K. LOO, Associate Chair for Faculty
 Development

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
 Adewale B. Ajumoi
 Haris Ali
 Bradley T. Anderson
 Pamela E. Anderson
 James D. Anholm
 Patricia J. Applegate
 Zarshid Arbabi
 Mihran H. Ask
 H. Helen Baek
 Daljeet B. Bansal
 Ramesh C. Bansal
 Juan C. Barrio
 Rebekah Bartos-Specht
 F. Patricia Batin
 David J. Baylink

Samuel Baz
David M. Bee
Diane J. Berriman
Joann K. Bischoff
Michael F. Bishara
Moe H. Bishara
Patricia S. Blakely
David Bland
Ingrid K. Blomquist
Reiner B. Bonnet
Daniel L. Bouland
Jeffrey J. Brand
Charles H. Brinegar, Jr.
Gary W. Brown
Vickie D. Brown-Harrell
Evert A. Bruckner
John M. Byrne
Elber S. Camacho
Ethelred E. Carter
Carlos Casiano
Daniel Castro
Robert B. Chadwick
Bobby S. Chan
Francis D. W. Chan
Suzanne E. Chang
William W. Chang
Zeno L. Charles-Marcel
Gregory A. Cheek
Chien-Shing Chen
Shaw S. Chen
Jun R. Chiong
Morteza Chitsazan
Steven W. Chong
C. Joan Coggin
Keith K. Colburn
David S. Condon
Stanley C. Condon
Adrian N. Cotton
Alfred C. Cottrell
James J. Couperus
Debra D. Craig
Raymond B. Crawford
Smitha Daka
Chitra Damodaran
Nagamani Dandamudi
Amitava Das
Lino J. DeGuzman
James R. Dexter
Beverly K. Dolberg
Ralph Downey III
James P. Drinkard
Lida Eatedali
Bouchra Edderkaoui
Harvey A. Elder
Mohamed M. El-Kabany
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
Bevan A. Geslani
Thomas E. Godfrey
Philip M. Gold
Alma A. Gonzaga
Eduardo J. Gonzaga
Alan E. Gorenberg
Daniel Gorenberg
Walter S. Graf
George M. Grades
Margaret A. Griffin
Ronald A. Griffin
Mouna E. Haddad-Wilson
Susan L. Hall
Paul G. Hammond
Steven B. Hardin
L. Julian Haywood
Douglas R. Hegstad
Vickie Y. Height
Nancy J. Heine
Raymond Herber
Jan M. Herrmann
Kathy A. Herzberger

J. Thomas Heywood
Anthony A. Hilliard
Dennis A. Hilliard
Su Su Hline
Andrew T. Ho
Thanh X. Hoang
Frank D. Howard
Russell E. Hoxie, Jr.
Chung-Tsen Hsueh
Galen C. L. Huang
James J. Huang
Arnando J. Huaranga
Enacio G. Hunt
Sheri W. Hsu
Waleed A. Ibrahim
Michael B. Ing
George M. Isaac
Dale M. Isaeff
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
Pawan K. Juneja
Kenneth R. Jutzy
Roy V. Jutzy
Jay Kahng
Rahul M. Kale
Joanne S. Kang
T. Michael Kashner
Emmanuel P. Katsaros
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
Walter F. Klein
Vinaya P. Konduri
Faher E. Koteira
Edwin H. Krick
Rajagopal Krishnan
Irvin N. Kuhn
Ashok Kumar
Mei Y. Lai
Trang T. Lam
Euly M. Langga-Sharifi
Wilson D. Lao
James P. Larsen
Alan C. K. Lau
Francis Y. K. Lau
Kin-Hing William Lau
Susie H. Lau
Scott W. Lee
Sonny C. Y. Lee
Steve S. Lee
Paul A. Levine
Terence D. Lewis
Michael B. Lilly
Nelson H. Lim
Ju-an Lin
Takkin Lo
Evelyn B. Lomarda
Lawrence K. Loo
Ivan M. Magnaya
Kanwaljeet K. Maken
Ariel Malamud
Priya Malik
Nirav M. Mamdani
Ramesh K. Manchanda
Ravi Mandapati
Gary E. Marais
H. John Marais
Robert J. Marsa
Axa I. Martell
J. Todd Martell
Claire L. McArthur
John D. McCracken
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
Devadas S. Moses
Ashis Mukherjee
Malwinder K. Multani
J. Lamont Murdoch
Eduardo J. Nam
Hima B. Nareddy
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
Takahiro Otsuka
Ramdas G. Pai
Sudha M. Pai
Ivy C. Pandit
Hemal J. Parekh
Gauttam N. Patel
Mark C. Patuszynski
Jon G. Persichino
Prashant V. Phatak
Sonal V. Phatak
Bina Piya
Gerald M. Pohost
Gilbert J. Putnoky
Lakshmi K. Puvvula
Xue Zhong Qin
Walter Quan, Jr.
Gulnara Rackauskas
John A. Rambharose
Shuja Rasool
Syed J. Raza
H. Rajender Reddy
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
Seyed A. Sadjadi
Leena Sahay
Tisha L. Salary
Lawrence B. Sandberg
Amy E. Schill-Depew
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 E. Skoretz
Robert E. Soderblom
Mehul S. Sonawala
Lawrence C. Sowers
N. Lennard Specht
Wichit Srikureja
Malathy Sriskandarajah
Apurva K. Srivastava
Betty Stepien
Liset N. Stoletniy
Debra L. Stottlemeyer
Donna D. Strong
Richard M. Strong
Chao H. Sun
Edwin J. Supit
Made Sutjita
Richard J. Swabb
Linda Giles Tan
Shirley M. Tan
Siegmond Teichman
Douglas W. Teller
Mie Mie Thinn
Gary J. Thompson
Conny Tirtaman-Sie
Bhoodev Tiwari
Sigve K. Tonstad
Vilma I. Torres

Denise L. Townsend
 James Y. Tsai
 Leah A. Tudtud-Hans
 Wilfredo M. Tupas
 John S. Uniat
 Padmini Varadarajan
 Ashok K. Verma
 Madhavi Vesta
 Bertrand H. Vipond
 Michael H. Walter
 Jon E. Wergedal
 Leonard S. Werner
 David W. Wilbur
 Sean M. Wilson
 Trevor A. Winter
 Brian A. Wong
 Raymond Y. Wong
 Sammy S. Wong
 Michael K. Woo
 Sidney S. C. Wu
 Weirong Xing
 Yuan Yuan
 Yasmin A. Yusufaly
 Tommy Zaharakis
 Manila Zaman
 Xiao-Bing Zhang
 Yan Shi Zhao

DEPARTMENT OF MEDICINE GOALS STATEMENT*

The goal of the Department of Medicine is to innovate and provide leadership in:

- Healing
- Education
- Discovery
- Integrated health care delivery
- Shaping institutional and public policy

The Department of Medicine supports the missions of Loma Linda University and the Medical Center.

VISION

The Department of Medicine will become a greater regional clinical resource.
 The Department of Medicine fosters a spirit of

inquiry expressed in research and teaching. Its faculty advance clinical practice and understanding.

THEMES

- Renewal
- Growth
- Teamwork

* This goals statement should be a “living document,” periodically updated and revised with input from the Department of Medicine faculty and its stakeholders.

Neurology

BRYAN E. TSAO, Chair

FACULTY

Thomas W. Bohr
 Jeffrey A. Bounds
 Murray E. Brandstater
 Judy L. Chang
 Jack J. Chen
 Bradley A. Cole
 Dorothee L. Cole
 Khashayer Dashtipour
 Natasha V. Demattos
 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
 Norman L. McNulty
 Donald Miller
 Laura D. Nist
 Jignasa G. Patel
 Donald I. Peterson
 Gordon W. Peterson
 Sarah M. Roddy
 A. Dean Sherzai
 R. Richard Sloop
 David M. Swope

Bryan E. Tsao
Lori D. Uber-Zak
Sarah H. Uffindell
Paul J. Zak

The goal of the Department of Neurology is to deliver the highest quality neurological care to patients by integrating academic medicine with whole-person care, research, and education. With the rapid development of technology, it is essential that medical students learn to recognize and treat a variety of neurological disorders. The objective of the department's four-week rotation is to further God's work of restoring wholeness to people by teaching the essentials of clinical neurology through compassionate patient care, bedside teaching, and a focused didactic curriculum.

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 for Academic
Affairs
MICHAEL E. RAUSER, Vice Chair for Clinical
Affairs

FACULTY

John C. Affeldt
Madhu R. 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
Joyce E. Choe
David M. Choi
Paul Y. Chung
William R. Clegg
Denis J. Cline
Jan L. Cooper
Carlindo da Reitz Pereira
James L. Davidian
Kimberly D. Davis
Loren L. Denler
Andrew P. Doan
Jesse A. Dovich
Jennifer A. Dunbar
Joseph T. Fan
Eric J. Friedrichsen
David L. Gano
Arthur W. Giebel
Howard V. Gimbel
James P. Guzek
Elizabeth Hofmeister
Kenneth W. Houchin
Gary G. Huffaker
Jeffrey J. Ing
Wayne B. Isaeff
Shyun Jeng
Kelly S. Keefe
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
Rosallynn H. Nguyen
Young-Hyun Oh
Sayjal J. Patel

Richard D. Pesavento
 Barratt L. Phillips
 Corinna M. Pokorny
 Theresa P. Poindexter
 Frederick Ryan Prall
 Michael E. Rauser
 Steven O. Rimmer
 Robert C. Rosenquist, Jr.
 Nathan J. Rudometkin
 Jeff J. Rutgard
 Kimber L. Schneider
 Gerald R. Schultz
 Mark D. Sherman
 Jodi O. Smith
 Balachandran Srinivasan
 Charles M. Stephenson, Sr.
 Kris J. Storkersen
 Mukesh B. Suthar
 Richard R. Tamesis
 David J. Tanzer
 Khaled A. Tawansy
 Laura A. Teasley
 Donald G. Tohm
 Keith G. Tokuhara
 Tom S. Tooma
 P. Harold Wallar
 Izak F. Wessels
 David L. Wilkins
 Brian R. Will
 Hilary L. Wilson
 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
 Vincent J. Devlin
 Terry J. Dietrich
 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 L. Bellinger
 Bradley A. Cole
 Paul C. Engen
 Bertha C. Escobar-Poni
 William M. Hooker
 Michael A. Kirby
 Anissa Y. Lacount
 Paul J. McMillan
 Kenneth P. Moses
 Pedro B. Nava
 Kerby C. Oberg
 Kimberly J. Payne
 Darrell K. Petersen
 Salvador Soriano
 William Wagner
 Donald R. Wilson
 Kenneth R. Wright

PATHOLOGY DIVISION

M. Rose Akin
 J. Bruce Beckwith
 Lee S. Berk
 Albert F. Brown
 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
 Paul C. Herrmann
 Darryl G. Heustis
 Richard W. Hubbard
 W. William Hughes III
 Yuichi Iwaki
 Ralph A. Korpman
 John E. Lewis
 Roland E. Lonser
 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
 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/SECTIONS

ALLERGY/PULMONARY, YVONNE F. FANOUS, Head
 CARDIOLOGY, MICHAEL A. KUHN, Acting Head
 ENDOCRINOLOGY, EBA H. HATHOUT, Head
 GASTROENTEROLOGY, MANOJ C. SHAH, Head
 GENERAL, RAVINDRA RAO, Head
 ADOLESCENT MEDICINE, PUSHPA NOWRANGI, Section Chief
 FORENSIC MEDICINE, CLARE M. SHERIDAN-MATNEY, Section Chief
 GENETICS, ROBIN D. CLARK, Head
 HEMATOLOGY/ONCOLOGY, ANTRANIK A. BEDROS, Head
 INFECTIOUS DISEASE, JANE N. BORK, Head
 NEONATOLOGY, RICARDO L. PEVERINI, Head
 NEPHROLOGY, SHOBHA SAHNEY, Head
 NEUROLOGY, STEPHEN ASHWAL, Head
 PEDIATRIC CRITICAL CARE MEDICINE, SHAMEL A. ABD-ALLAH, Head
 PULMONOLOGY, YVONNE F. FANOUS, Head
 RHEUMATOLOGY, WENDY L. DE LA PENA, Head

FACULTY

Gregory S. Aaen
 Shamel A. Abd-Allah

Borhaan S. Ahmad
D. Jeanne Andrews
Barbara K. Ariue
Stephen Ashwal
Jerome Badaut
Freddie B. Balguma
Thomas J. Bahk
Joanne E. Baerg
Besh R. Barcega
Anna Bernus
Nerida T. Bates
Marti Baum
Jimmy B. Beck
Antranik A. Bedros
B. Lyn Behrens
Dilip R. Bhatt
Arlin B. Blood
Jane N. Bork
Danielle L. Borut
Lance E. Brown
Samuel D. Bruttomesso
Hong D. Bui
Gilberto Bultron
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 C. Cutler
Vo Minh Dai
Althea P. Daniel
Wendy L. De la Pena
Douglas D. Deming
Thomas K. Denmark
Laurie M Dickson-Gillespie
David K. Dong
Jimmy H. Eguchi
Janeth C. Ejike
Edward N. Elmendorf III
David G. Erickson
Yvonne F. Fanous
Wise N. Fargo
Elba E. S. Fayard

Nancy R. Fernando
Ross Fisher
Mary-Catherin Freier Randall
Laura S. Funkhouser
Maria C. Garberoglio
A. Keyla Garcia
Mitchell R. Goldstein
Brent M. Gordon
Steven M. Green
Agnes K. S. Gugan
Shilpa Gupta
Gregory T. Guldner
Ernie Guzman
Janet E. Halverson
Aijaz Hashmi
Eba H. Hathout
Heather E. Henken
Phuong Thao Hoang
Andrew O. Hopper
Kristen T. Houglan
W. Luke Huang
Donald L. Janner
Leo C. Jeng
Nin Yeh K. Jiffry
Leela Job
Olga E. Kalbermatter
Thomas A. Kaleita
Pejman Katiraei
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 P. K. Lam
Ranae L. Larsen
Caroline H. Lee
Sonny C. Y. Lee
Thomas A. Linkhart
Michelle H. Loh
M. Eliana Lois-Wenzel
Merrick R. Lopez
John W. Mace
Smita Malhotra
Ravi Mandapati

Lily B. Martorell-Bendezu
 Linda J. Mason
 Mark Massi
 Liesl A. Mathias
 Mudit Mathur
 Jorge R. Mazlumian
 Chalmers D. McClure
 Thurman A. Merritt
 David J. Michelson
 Saied Mirshahidi
 Farrukh Mirza
 Donald C. Moores
 Christopher L. Morris
 Joan D. Morris
 James A. Moynihan
 Jonathan J. Mthombeni
 Neda F. Mulla
 James L. Munson
 Cinda L. Nauertz
 Maily T. Nguyen
 Thieu P. Nguyen
 Janet E. Ninnis
 Pushpa Nowranghi
 Grace C. Oei
 Charalambos Opsimos
 Kimberly N. Otsuka
 Nicole M. Oyas
 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
 Sarah M. Roddy
 Mark R. Rowe
 Kiarash Sadrieh
 Shobha Sahney
 Gerald Saks
 Constance J. Sandlin
 George A. Segura
 Manoj C. Shah
 Praful C. Shah
 Tamara M. Shankel
 Clare M. Sheridan-Matney
 Thomas S. Sherwin
 Joan L. Shu

Stanford K. M. Shu
 Melissa D. Siccama
 Mary T. Silvia
 Gail M. Stewart
 James D. Swift
 Catherine A. Tan
 Andrea W. Thorp
 Cynthia H. Tinsley
 Stephen B. Treiman
 Meghan M. Trojnar
 Trinh T. Truong
 Diana L. Trupp
 Rosemarie Tweed
 Edward J. Vargas
 Daved W. van Stralen
 Chad J. Vercio
 Hansen Wang
 Timothy D. Watson
 Stacey D. Wiles
 Karen A. Winston
 William A. Wittlake
 Valerie Y. M. Wong
 Sidney S. C. Wu
 Linda L. Yang
 George S. Yanni
 Kim Yee-Hamai
 Steven M. Yellon
 Sherri D. Yhip
 Peter D. Yorgin
 Lionel W. Young
 Amy D. Young-Snodgrass
 Darlene M. Zaft
 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 psycho-social-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.

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

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
 Kenneth W. Hart
 Richard H. 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 clinical care, education, and research 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, an addiction medicine fellowship, and a combined family and preventive medicine residency. 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 Occupational Medicine Center, the Social Action Community (SAC) Health System clinics, 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 and Riverside County Health Departments, and various other regional and community entities.

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. Lambertson
 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.

Radiation Medicine

JERRY D. SLATER, Chair
 DAVID A. BUSH, Vice Chair

FACULTY

Vladimir Bashkirov
 Eleanor A. Blakely
 Nathan R. Brandstater

David A. Bush
 Dongrak Choi
 James E. Currier
 John F. Dicello
 Cecile J. Favre
 Abiel Ghebremedhin
 Daila S. Gridley
 Ryan S. Grover
 B. Rodney Jabola
 Adeel Kaiser
 Venkata N. Lingampally
 Lilia N. Loredó
 Xian Luo
 Xiao Wen Mao
 Daniel W. Miller
 Ivan C. Namihas, Jr.
 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
 Jian Tian
 Roman Vlkolinsky
 Ning Wang
 Jerry R. Williams
 Andrew J. Wroe

The fundamental goal of the Department of Radiation Medicine is to provide optimal care to patients by means of ionizing radiation, much of it using proton therapy, the hospital-based application of which was pioneered by the department. This care rests on the foundation of basic, translational, and clinical research—which, combined with patient education, is always pursued to ensure that patients and their families receive state-of-the-art treatment planning and delivery, follow-up and post-treatment care, and support.

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. Llauro
 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 Wolfsen
 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.

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
 Joseph L. Raffel
 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

Nerida Bates
 Carlos A. Casiano
 Alan P. Escher
 Hansel M. Fletcher
 Istvan Fodor
 Lora M. Green
 Daila S. Gridley
 Mark S. Johnson
 John E. Lewis
 Saied Mirshahidi
 Stephen Nyirady
 Ubaldo Soto
 Lawrence Sowers
 Barry L. Taylor
 Kylie J. Watts
 Anthony J. Zuccarelli

SECONDARY AND ADJUNCT APPOINTMENTS

Edouard M. Cantin
 William H. R. Langridge
 Yiming Li
 Michael B. Lilly
 Ren-Jang Lin
 Giuseppe A. Molinaro (Emeritus)
 John J. Rossi
 Donna D. Strong
 Nathan Wall

MISSION

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.

PROGRAM STUDENT LEARNING OUTCOMES

1. Students will demonstrate a broad knowledge of the biomedical sciences.
2. Students will demonstrate subject mastery in molecular, cellular, and integrative aspects of microbiology and molecular genetics.
3. Students will interpret the current literature in microbiology and molecular genetics.
4. Students will make original contributions to the body of biomedical knowledge.
5. Students will demonstrate an understanding of the principles of scientific and professional ethics.
6. Students will understand the process of applying for external funding.*

* This objective is not applicable to M.S. degree students.

GENERAL INFORMATION

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.

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. Doctoral 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

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 (Ph.D program)

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 pre-

sentation 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.

Research units

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—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 microbiology and molecular genetics 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.

MICROBIOLOGY AND MOLECULAR GENETICS—PH.D.

For the Ph.D. degree, students must complete a minimum of 77 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.

BASIC SCIENCE CORE		MS COURSE- WORK	MS RESEARCH	PHD
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

MAJOR		MS COURSE- WORK	MS RESEARCH	PHD
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

SEMINARS		MS COURSE- WORK	MS RESEARCH	PHD
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

RELIGION		MS COURSE- WORK	MS RESEARCH	PHD
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

RESEARCH/DISSERTATION OR THESIS		MS COURSE- WORK	MS RESEARCH	PHD
IBGS 696	Research Rotations (1.0)			2.0
MICR 697	Research (1.0–7.0)		6.0	15.0
Totals		—	6.0	17.0
Overall Totals		45.0	45.0	77.0

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
Jiping Tang
Leonard Werner
Sean M. Wilson
Kangling Zhang
Lubo Zhang

SECONDARY AND ADJUNCT APPOINTMENTS

Lincoln P. Edwards
David A. Hessinger
William Pearce
Lawrence Sowers

MISSION

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.

PROGRAM STUDENT LEARNING OUTCOMES

1. Students will demonstrate a broad knowledge of the biomedical sciences.

2. Students will demonstrate subject mastery in molecular, cellular, and integrative aspects of pharmacology.
3. Students will interpret the current literature in pharmacology.
4. Students will make original contributions to the body of biomedical knowledge.
5. Students will demonstrate an understanding of the principles of scientific and professional ethics.
6. Students will understand the process of applying for external funding.*

* This objective is not applicable to M.S. degree students.

GENERAL INFORMATION

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.

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.

Prerequisite

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 (Ph.D. program)

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.

Research units

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.

PHARMACOLOGY—M.S.

Two options, a research track and a course work track, are available. A minimum of 48 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		MS COURSE- WORK	MS RESEARCH	PHD
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

MAJOR		MS COURSE- WORK	MS RESEARCH	PHD
PHRM 554	Neuropharmacology	4.0	4.0	4.0
PHRM 564	Cardiovascular and Renal Pharmacology	3.0	3.0	3.0
PHRM 584	Drug Metabolism and Biochemical Pharmacology	4.0	4.0	4.0
Totals		11.0	11.0	11.0

SEMINARS		MS COURSE- WORK	MS RESEARCH	PHD
IBGS 604	Introduction to Integrative Biology Presentation Seminar	1.0	1.0	1.0
IBGS 605	Integrative Biology Presentation Seminar (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	1.0	3.0

RELIGION		MS COURSE- WORK	MS RESEARCH	PHD
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

RESEARCH/DISSERTATION OR THESIS		MS COURSE- WORK	MS RESEARCH	PHD
IBGS 696	Research Rotations (1.0)			2.0
PHRM 697	Research (1.0–6.0)			15.0
Totals		—	—	17.0
Overall Totals		49.0	49.0	76.0

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
 Philip J. Chan
 Subburaman Mohan
 Andre Obenaus
 Philip J. Roos
 Robert W. Teel
 Glyne U. Thorington
 Sean M. Wilson
 Zhice Xu
 Lubo Zhang

MISSION

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.

PROGRAM STUDENT LEARNING OUTCOMES

1. Students will demonstrate a broad knowledge of the biomedical sciences.
2. Students will demonstrate subject mastery in molecular, cellular, and integrative aspects of physiology.
3. Students will interpret the current literature in physiology.
4. Students will make original contributions to the body of biomedical knowledge.
5. Students will demonstrate an understanding of the principles of scientific and professional ethics.
6. Students will understand the process of applying for external funding.*

* This objective is not applicable to M.S. degree students.

GENERAL INFORMATION

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.

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 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. Doctoral degree students are expected to develop creativity and independence, in addition to technical skills.

Combined degrees

Combined degrees (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

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 (Ph.D. program)

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.

Research units

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 op-

tions, 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 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. 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		MS COURSE- WORK	MS RESEARCH	PHD
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

MAJOR		MS COURSE- WORK	MS RESEARCH	PHD
PHSL ___	Graduate Physiology Elective and/or statistics courses.	6.0		10.0
Totals		6.0	—	10.0

SEMINARS		MS COURSE- WORK	MS RESEARCH	PHD
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

RELIGION		MS COURSE- WORK	MS RESEARCH	PHD
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

RESEARCH/DISSERTATION OR THESIS		MS COURSE- WORK	MS RESEARCH	PHD
IBGS 696	Research Rotations (1.0)			2.0
PHSL 697	Research (1.0–8.0)		6.0	15.0
Totals		—	6.0	17.0
Overall Totals		44.0	45.0	75.0

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

Post-master's certificate admission criteria

Doctor of Philosophy degree admission criteria

Student Life

Programs of study

Student involvement

Student organizations

Honor society

Academic Policies and Practices

Undergraduate Department

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

Scholastic standing

Practicum experiences

Comprehensive examination

Thesis and dissertation

Graduation requirements

Financial Information

General financial practices

Schedule of charges/Tuition 2010–2011

Other academic charges/expenses

Other academic charges

On- and off-campus student housing

Nursing and government loans

Nursing loan repayment

Awards honoring excellence

Scholarships

Additional requirements/policies

Programs, Degrees, and Certificates

Undergraduate Department

Undergraduate curricula overview

Undergraduate courses B.S. degree program

Undergraduate curriculum sequence

B.S. degree options

Standard generic B.S. degree

Returning RN (RN/B.S.)

B.S. degree for the licensed vocational nurse

General education requirements

Accelerated B.S. degree programs

Intensive B.S. degree program

Nondegree options

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 Programs
- D.N.P. degree
 - 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 Hermann, 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

1. Liberal education. Students demonstrate integration of concepts from general education into their baccalaureate generalist nursing practice.
2. Basic organizational and systems leadership. Students apply principles of organizational and systems leadership into quality care and patient safety.
3. Evidence-based practice. Students use scholarship as a basis for evidence-based practice.
4. Technology. Students apply information management and patient-care technology to the practice of nursing.
5. Leadership. Students practice within the preview of health care policy, finance, and regulatory environments.
6. Collaboration. Students employ interprofessional communication and collaboration to improve patient-health outcomes.
7. Prevention. Students support clinical prevention through population health practices.
8. Values. Students demonstrate professionalism and professional values.
9. Nursing practice. Students integrate baccalaureate-level nursing skills into their practices.

GRADUATE DEPARTMENT

Learning outcomes for Master of Science

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 lifelong 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.

Learning outcomes for Doctor of Nursing Practice

1. Provides leadership in the use of information systems/technology and patient care technology for the improvement and transformation of health care.
2. Utilizes current scientific underpinnings for practice.
3. Promotes the use of clinical scholarship and analytical methods for evidence-based practice.
4. Participates in interdisciplinary collaboration for improving patient and population health outcomes.
5. Advocates for health care through policy analysis and development.
6. Applies organizational and systems leadership theory for quality improvement and systems thinking.
7. Demonstrates leadership in the promotion of advanced nursing practice and the nursing profession.
8. Incorporates into his/her practice the prin-

ciples of clinical prevention and population health for improving the nation's health.

Learning outcomes for Doctor of Philosophy

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:

- Learning is an interactive process that involves all of the learner's faculties.
- 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.
- Clinical experiences are essential to the development of professional and technical nursing competence.
- 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.
- 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 Loma Linda University and School of Nursing as presented in the Student Handbook and this Catalog.

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—August 15
- Spring Quarter—November 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—October 1
- Spring Quarter—February 1

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 and annual TB clearance. 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 immunizations, TB clearance, and CPR cards.

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—6.5; 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.
3. Health clearance, including immunizations as outlined in the "Admission Policies and Information" in Section II.
4. A current first aid certificate.
5. Current cardiopulmonary resuscitation (CPR) certificate approved by American Heart Association.
6. Prerequisite courses—
 - Intermediate algebra (or high school algebra II)
 - 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)
7. Basic computer literacy.
 8. 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.

9. 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.
10. For international students, all requirements indicated under "International Students" in Section II.
11. 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. or 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 non-transferable. 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-B.S. 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.

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.
7. Prerequisites: undergraduate statistics and research with satisfactory grades.
8. The Health Science Reasoning Test (HSRT), a test of critical-thinking skills, must be taken within the past year.

- 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.

Post-master's certificate programs admissions criteria

- 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).
- Current California RN licensure.
- 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. Each applicant's clinical experience will be individually evaluated.
- Prerequisites: Graduate-level physiology and advanced physical assessment.

Doctor of Nursing Practice program admissions criteria

- Masters degree (M.S.) in nursing from an accredited school
- License to practice nursing in state of residence
- Nurse practitioner license or certification in advanced practice for clinical track
- G.P.A. of 3.2 or higher from M.S. program
- Three letters of recommendation
- Application with personal statement
- Curriculum vitae or r sum 
- Interview by faculty members in the LLUSN
- Letter of support from employing institution, upon acceptance

Doctor of Philosophy program admissions criteria

- Preference will be given to applicants with a master's degree in nursing.
- The grade-point average minimum is 3.5

on a 4.0 scale or equivalent at the master's degree level.

- 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.

- 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.
- A personal interview is required.
- Evidence of scholarly work must be provided.

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.

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 Nursing Practice degree is designed to prepare nurses for leadership in the clinical setting.

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 invited to attend the Undergraduate Faculty Council, Master's Faculty Council, Doctoral Faculty Council, Spiritual Life and Wholeness Committee, and Diversity Committee, where they may contribute to the decision-making process.

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 of 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 the junior and senior classes 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 may be invited to become members if they meet the established criteria.

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 45 units at Loma Linda University; 32 of the units must be at the senior level. A minimum of three clinical nursing courses are 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 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.

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 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 Doctor of Nursing Practice this would be 50 units. For the Doctor of Philosophy degree, this would be 72 units.

Transfer credits

1. A transfer student 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. This transfer is limited to credits for which a grade of B (3.0) or better has been recorded and the course work was done at an accredited institution.
2. A maximum of 9 (nine) quarter units that have been previously applied to another degree may be accepted as transfer credits upon petition.
3. Following acceptance into a graduate program, all required courses must be taken at Loma Linda University.
4. Credits taken through NEXus for graduate courses are not considered transfer credits.
5. Transfer credits will not be used to offset course work at this University that is less than a B.

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 earn a grade of B (85%) or higher in all courses. If less than a B is the earned grade, the course must be repeated.

B. Withdrawal and repeating courses

1. A student may withdraw only once from a core, concentration, or clinical course.

2. A student may repeat a course only one time.
3. A student may repeat no more than two courses in the program.
 - a. Two core or concentration courses may be repeated
 - b. Only one clinical course may be repeated, along with a core or concentration course.

C. Academic probation

At the end of each quarter, student G.P.A.s will be reviewed. Students will be placed on probationary status if the earned G.P.A. is less than 3.0 for the quarter, cumulatively, or in the nursing major

While on probation a student:

1. May not take the clinical focus courses.
2. May not take the comprehensive examination.

Academic probation may be removed:

1. By raising the G.P.A. to 3.0 or higher the next quarter.
2. By retaking the course in which a grade lower than B was earned to raise the earned grade the next time the course is offered.
3. If the low grade occurred in a clinical course, that course must be retaken and a grade of B or higher earned before proceeding in the clinical sequence. It will be necessary to wait until the course is offered again and has space.

Students requesting to repeat a clinical course due to a low grade are placed on a waiting list, according to the timing of the request.

D. Academic termination for students on academic probation

Academic enrollment will be terminated if:

1. The cumulative G.P.A. has not been raised to 3.0 or above
2. All grades lower than B have not been

raised within two quarters or the next time the course is offered.

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 Ph.D. degree student will be advanced to candidacy after successful defense of the dissertation proposal. A D.N.P. degree student will be advanced to candidacy after successful defense of the project 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 reevaluation of the student's total academic plan.

Any credit transferred to the school or taken in residence and submitted toward a graduate degree is nullified seven years from the date when the course was completed.

Statistics and research prerequisites

Introduction to statistics and research courses are a prerequisite to entry to the master's degree. The courses STAT 414 and 509, as well as NRSG 429—described in the University CATALOG—fulfill the prerequisite requirement.

Scholastic standing

GRADE SCALE

The graduate department in nursing uses the fol-

lowing 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

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.)

PORTFOLIO

A portfolio, developed during the program of study is required of all students

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
2010–2011**

The charges that follow are subject to change without notice.

Tuition**TUITION CHARGE—UNDERGRADUATE
NONCLINICAL, SPECIAL, CERTIFICATE,
AND PART-TIME STUDENTS**

- \$535.00 Credit, per unit—Clinical course fees
\$200 per clinical course
- \$267.50 Audit, per unit

TUITION CHARGE—GRADUATE

- \$634.00 Credit, per unit—Clinical course
fees \$200 per clinical course
- \$317.00 Audit, per unit

APPLIED MUSIC CHARGES

- varies School of Nursing tuition does not
include applied music charges.

OTHER ACADEMIC CHARGES

- (Application nonrefundable)
- \$60.00 Testing fee (undergraduate only)
- \$60.00 Regular
- \$200.00 Deposit to hold place in class
(undergraduate only)

EXAMINATIONS

- \$267.50 Undergraduate per unit credit
(challenge, equivalency)
- \$317.00 Graduate
- \$50.00 Early examination
- \$40.00 Application to change program or
degree

SPECIAL FEES

- \$535.00 Per quarter for NRSG 497 Advanced
Clinical Experience

FINANCE

- \$50.00 Tuition installment
- \$50.00 Late payment
- \$25.00 Returned check

REGISTRATION

- \$50.00 Late registration fee
- \$2.00 Per copy of regular student
transcript

MISCELLANEOUS EXPENSES

- \$2,250.00 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

- \$50.00 Laboratory make-up fee

**ON- AND OFF-CAMPUS STUDENT
HOUSING**

Students may go to <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>.

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 Professional 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

(B.S., M.S., PM certificate, Ph.D. in nursing)

MARILYN M. HERRMANN, Dean

ELIZABETH BOSSERT, Associate Dean, Academic Affairs and Graduate Nursing

DYNNETTE HART, Associate Dean, Student Affairs and Undergraduate Nursing

PATRICIA S. JONES, Director, Office of International Nursing

FACULTY

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

Elizabeth A. Bossert

Brenda Boyle

Shirley Bristol

Michelle Buckman

Margaret Burns

Karen G. Carrigg

Sally Curnow

Ellen D'Errico

Sabine Dunbar

Katty Joy French

Eileen Fry-Bowers

Nalo Hamilton

Dynnette E. Hart

Marilyn M. Herrmann

Catherine K. Horinouchi

Kathie Ingram

Patricia S. Jones

Lana S. Kanacki

Lorna Kendrick

Nancy Kofoed

Marian Llaguno

Susan Lloyd

Iris Mamier

Bonnie Meyer

Earline Miller

Deborah Monson

Christine Neish

Jan Marie Nick

Barbara Ninan

Laura Nyirady

Nancy Parmenter

Judith Peters

Anna Berit Petersen

Patricia T. Pothier

Edelweiss Ramal

Karen Ripley

Su Lin Ritchie

Hannah Sandy

Nancy Sarpy

Panadda Stacy

Sylvia Stewart

Nancy Testerman

Megan Volkov

Betty Winslow

Dolores J. Wright

Ann Ekroth Yukl

Zelne Zamora

PART-TIME FACULTY

Helen E. King

Keri L. Medina

Elizabeth Johnston Taylor

Lois H. Van Cleve

FACULTY WITH SECONDARY APPOINTMENTS

Floyd Petersen

Mark Haviland

VOLUNTARY APPOINTMENTS

Elva Abogado

Danilyn Angeles

Shayne Bigelow-Price

Christina Bivona-Tellez

Cora Caballero

Elizabeth J. Dickinson
 Jane Doetsch
 Anne M. Gillespie
 Sharon Goodrich
 Marie Hodgkins
 Bernadine I. Irwin
 Margaret (Peggy) Jewell
 Angela Jones
 Susan L. Krider
 Jan Kroetz
 Beverly Monti
 Jean L. Newbold
 Nancy Oakley
 Pauline Park
 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.

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. 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, and 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. A combination of online and fact-to-face courses are available for the working nurse. 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.) See admissions requirements.

	Units required		
	B.S. 28*	RN/B.S. 28*	LVN/B.S. 28*
DOMAIN 1: RELIGION AND HUMANITIES (28–32 quarter units)			
Religion	×	×	×
4 units of religion per year of attendance at a Seventh-day Adventist college or university			
Humanities			
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)			
DOMAIN 2: SCIENTIFIC INQUIRY AND ANALYSIS (43 quarter units)			
Natural Sciences (31 units minimum)			
Intermediate algebra (or high school algebra II)—not counted toward domain total	×		×
Introduction to physics (or high school physics)	4		4
Human anatomy and physiology with laboratory, complete sequence	8	8	8
Introduction to organic chemistry and biochemistry	8		8
Introduction to chemistry with laboratory, one quarter/semester		4	
Basic medical microbiology with laboratory	5	5	5
Natural science electives		4	
Social Sciences (12 units minimum)			
Sociology or anthropology	4	4	4
General psychology	4	4	4
Developmental psychology (lifespan development)	4	4	4
DOMAIN 3: COMMUNICATION (13 quarter units)			
English composition, complete sequence	9	9	9
Speech	4	4	4

DOMAIN 4: HEALTH AND WELLNESS**(2–6 quarter units)**

Physical education (two separate physical activity courses)	1	2	1
Nutrition (taken at LLU)	2–4	0–2	2–4

DOMAIN 5: ELECTIVES

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.

			BS	RN/BS	LVN/BS
DTCS 311	Human and Clinical Nutrition for Nursing	DTCS 312 may be taken in place of DTCS 311 if transfer credit includes articulated course in human nutrition	4.0		4.0
NRSG 214	Fundamentals of Professional Nursing		8.0		
NRSG 216	Basic Nursing Skills and Health Assessment		4.0		
NRSG 217	Psychiatric Mental Health Nursing	May be taken concurrently while at junior-level status	6.0		6.0
NRSG 224	Nursing Pathophysiology		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
RELT 423	Loma Linda Perspectives (2.0)				
RELT 436	Adventist Heritage and Health (2.0)				
RELT 437	Current Issues in Adventism (2.0)				
Totals			28.0	2.0	20.0

JUNIOR YEAR

For admission to junior-level nursing courses, the following courses must be successfully completed: NRSG 214, 216, 224.

		BS	RN/BS	LVN/BS
ENGL 300	Research Writing for Health Care Professionals		2.0	
NRSG 305	Nursing Pharmacology	3.0		3.0
NRSG 308	Adult Health Nursing I	8.0		8.0
NRSG 309	Gerontological Nursing	4.0		
NRSG 314	Obstetrical and Neonatal Nursing	6.0		6.0
NRSG 315	Child Health Nursing	6.0		6.0
NRSG 316	The Nursing Role in Health Promotion	4.0		4.0
NRSG 317	Adult Health Nursing II	8.0		8.0
RELE 4__	Upper Division Ethics	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
Totals		49.0	10.0	45.0

SENIOR YEAR

For admission to senior-level courses, sophomore- and junior-year nursing courses must be successfully completed.

		BS	RN/BS	LVN/BS
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	Critical Care Nursing	6.0		6.0
NRSG 409	Home Health Nursing	3.0		3.0
NRSG 415	Community Mental Health Nursing	4.0	4.0	4.0
NRSG 416	Public Health Nursing	8.0	8.0	8.0
NRSG 418	Capstone Nursing Practicum	8.0		8.0
NRSG 419	Capstone: Management and Leadership in Nursing	5.0	5.0	5.0
NRSG 420	Professional Preparation	2.0		2.0
NRSG 424	Professional Practice for the Experienced RN		7.0	
			With appropriate experience as an RN, this course may be taken instead of NRSG 417	
NRSG 429	Nursing Research	4.0	4.0	4.0
REL_ 4__	Upper Division Religion	6.0	2.0	6.0
Totals		49.0	43.0	49.0
Overall Totals		193.0	193.0	193.0

Accelerated B.S. degree programs

[For generic student with no nursing degree or license]

A student who has completed all humanities, so-

cial 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 Sci-

ence 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 requirements and prerequisite courses. All students on the B.S. or B.A. track will be eligible to take the NCLEX-RN at the end of five quarters. No Loma Linda degree is given. 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:

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

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

A 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 a 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

+ 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

Prerequisite courses

(may be taken at another college/university)

Statistics with computer application

Introduction to research methods

Epidemiology

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.

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

Loma Linda University equivalent

STAT 414 Introduction to Biostatistics and

STAT 415 Computer Applications in Biostatistics

NRSG 429 Clinical Nursing Research

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 Univer-

sity 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 standards 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.

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 D.N.P. and Ph.D. degree students, it is necessary to begin the program Summer Quarter of even 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 CONCENTRATIONS AND POST-MASTER'S CERTIFICATE OPTIONS AVAILABLE

- Adult nurse practitioner concentration and post-M.S. certificate
- Family nurse practitioner concentration and post-M.S. certificate
- Pediatric nurse practitioner concentration and post-M.S. certificate
- Psychiatric Nurse Practitioner concentration and post-M.S. certificate
- Neonatal nurse practitioner concentration and post-M.S. certificate (not open to admissions)
- Clinical nurse specialist: Adult and aging family concentration and post-M.S. certificate
- Clinical nurse specialist: Growing family concentration and post-M.S. certificate
- Nurse educator: Adult and aging family
- Nurse educator: Growing family
- Nursing administration
- Clinical nurse specialist: Adult and aging family or Growing family concentration and bioethics (dual M.S./M.A. degrees)
- Clinical nurse specialist: Adult and aging family or Growing family concentration and M.P.H. degree: health education (dual M.S./M.P.H. degrees)

ADULT NURSE PRACTITIONER CONCENTRATION

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 as a nurse practitioner by the state of California and the American Nurses 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)	4.0	40	—	—	4.0	
RELE 524	Bioethics and Society (3.0–4.0)	3.0	30	—	—	3.0	
RELE 534	Ethical Issues in Public Health (-3 to 4)	—	—	Acceptable alternate religion courses		—	
RELE 548	Christian Social Ethics (3)						
Totals			21.0	210	—	—	21.0

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	2.0	20	Offered alternate years		—	
PHSL 588	Pathophysiology						
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

THEESIS OPTION	THEORY		CLINICAL		TOTAL UNITS	
	Units	Hours	Units	Hours		
NRSG 697 Research	3.0	40–160	—	—	3.0	
Totals		—	—	—	—	
Overall Totals		48.0	480	19.0	570	67.0

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 Bioethics and Society (3.0–4.0)	3.0	30	—	—	3.0	
RELE 534 Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	
RELE 548 Christian Social Ethics (-3 to 4)		—	—	—	—	
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

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
Overall Totals		21.0–23.0	190	18.0	540	39.0–41.0

CERTIFIED ADVANCED PRACTICE REGISTERED NURSE CONCENTRATION

The M.S. in Nursing for Certified Advanced Practice Registered Nurses provides the opportunity for certified Advanced Practice nurses who obtained their education prior to the late 1980s to obtain a master's degree in nursing.

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 544	Teaching and Learning Theory		3.0	30	—	—	3.0
NRSG 547	Management: Principles and Practices		3.0	30	—	—	3.0
NRSG 680	Intermediate Statistics		3.0	30	—	—	3.0
NRSG 684	Research Methods		4.0	40	—	—	4.0
PHSL 588	Pathophysiology		4.0	40	—	—	4.0
RELE 524	Bioethics and Society		3.0	30	—	—	3.0
Totals			28.0	280	—	—	28.0

CONCENTRATION			THEORY		CLINICAL		TOTAL UNITS
			Units	Hours	Units	Hours	
NRSG 555	Pharmacology in Advanced Practice I	not required with current CA Furnishing License	3.0	30	—	—	3.0
NRSG 556	Pharmacology in Advanced Practice II	not required with current CA Furnishing License	2.0	20	—	—	2.0
NRSG 624	The Adult and Aging Family I (2)	Choose one course	2.0	—	—	—	2.0
NRSG 645	Growing Family I (2)						
Totals			7.0	50	—	—	7.0

CLINICAL			THEORY		CLINICAL		TOTAL UNITS
			Units	Hours	Units	Hours	
NRSG 693	Experience Portfolio (1.0–16.0)	or supplemental courses & Guided Studies as needed to equal 18 units	—	—	18.0	540	18.0
Totals			—	—	18.0	540	18.0
Overall Totals			35.0	330	18.0	540	53.0

FAMILY NURSE PRACTITIONER CONCENTRATION

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 as a nurse practitioner by the state of California and the American Nurses 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)	4.0	40	—	—	4.0
RELE 524	Bioethics and Society (3.0–4.0)	3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses		—	—	—
RELE 548	Christian Social Ethics (3)			—	—	—
Totals		21.0	210	—	—	21.0

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		THEORY		CLINICAL		TOTAL
Units are in addition to minimum required for the degree		Units	Hours	Units	Hours	UNITS
NRSG 697	Research (1.0–4.0)	5.0	200	—	—	5.0
Totals		—	—	—	—	—
Overall Totals		47.0	470	21.0	630	68.0

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	Hours	Units	Hours	UNITS
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	Bioethics and Society (3.0–4.0)		3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)						
Totals			12.0	120	—	—	12.0

CLINICAL			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
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
Overall Totals		24.0	240	20.0	600	44.0

PEDIATRIC NURSE PRACTITIONER CONCENTRATION

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 as a nurse practitioner by the state of California, the American Nurses Certification Corporation, and by the Pediatric Nursing Certification Board.

CORE		THEORY		CLINICAL		TOTAL
		Units	Hours	Units	Hours	UNITS
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)	4.0	40	—	—	4.0
RELE 524	Bioethics and Society (3.0–4.0)	3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses		—	—	—
RELE 548	Christian Social Ethics (3)			—	—	—
Totals		21.0	210	—	—	21.0

CONCENTRATION		THEORY		CLINICAL		TOTAL
		Units	Hours	Units	Hours	UNITS
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	2.0	20	—	—	2.0
		Offered every other year or when the student pool is sufficient				
PHSL 588	Pathophysiology	4.0	40	—	—	4.0
Totals		14.0	140	—	—	14.0

CLINICAL			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
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			THEORY		CLINICAL		TOTAL
Units are in addition to minimum required for the degree			Units	Hours	Units	Hours	UNITS
NRSG 697	Research	3.0	40–160	—	—	3.0	
Totals			—	—	—	—	—
Overall Totals			48.0	480	19.0	570	67.0

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	Hours	Units	Hours	UNITS
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	Bioethics and Society (3.0–4.0)		3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)						
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

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
Overall Totals			21.0–23.0	190	18.0	540	39.0–41.0

PSYCHIATRIC NURSE PRACTITIONER CONCENTRATION

The Psychiatric Nurse Practitioner (PsychNP) program prepares the registered nurse for an advanced specialist role focused on the promotion of mental health, prevention, and treatment of psychiatric disorders in consultation and collaboration with psychiatrists and other mental health care providers. The program is accredited by the Commission of Collegiate Nursing Education and prepares the student to be certified by the American Nurses 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		4.0	40	—	—	4.0
RELE 524	Bioethics and Society		3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)						
Totals			21.0	210	—	—	21.0

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	Hours	Units	Hours	UNITS
NRSG 581	Psychiatric Nurse Practitioner I: Models and Theoretical Foundations	3.0	30	1.0	30	4.0
NRSG 582	Psychiatric Nurse Practitioner II: Disorders	3.0	30	4.0	120	7.0
NRSG 583	Psychiatric Nurse Practitioner III: Disorders	3.0	30	4.0	120	7.0
NRSG 584	Psychiatric Nurse Practitioner IV: Psychopharmacology	3.0	30	3.0	90	6.0
NRSG 585	Psychiatric Nurse Practitioner V: Treatment Modalities	2.0	20	5.0	150	7.0
NRSG 651	Advanced Physical Assessment	2.0	20	1.0	30	3.0
Totals		16.0	160	18.0	540	34.0

THESIS OPTION

		THEORY		CLINICAL		TOTAL
Units are in addition to minimum required for the degree		Units	Hours	Units	Hours	UNITS
NRSG 697	Research	1.0–5.0	40–200	—	—	1.0–5.0
Totals		—	—	—	—	—
Overall Totals		49.0	490	18.0	540	67.0

NEONATAL NURSE PRACTITIONER CONCENTRATION

(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.

		THEORY		CLINICAL		TOTAL
CORE		Units	Hours	Units	Hours	UNITS
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)		4.0	40	—	—	4.0
RELE 524	Bioethics and Society (3.0–4.0)		3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)						
Totals			21.0	210	—	—	21.0

CONCENTRATION			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
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

CLINICAL			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
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

THESIS OPTION			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
Units are in addition to minimum required for the degree							
NRSG 697	Research (1.0–4.0)		5.0	200	—	—	5.0
Totals			—	—	—	—	—
Overall Totals			51.0	510	20.0	600	71.0

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 Corporation.

Prerequisite

Graduate-level pathophysiology and pharmacology

CORE			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
RELE 524	Bioethics and Society (3.0–4.0)		3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)						
Totals			3.0	30	—	—	3.0

CLINICAL			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
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
Overall Totals			23.0	230	20.0	600	43.0

CLINICAL NURSE SPECIALIST: ADULT AND AGING FAMILY CONCENTRATION

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 includes 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)		4.0	40	—	—	4.0
RELE 524	Bioethics and Society (3.0–4.0)		3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)						
Totals			21.0	210	—	—	21.0

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)						
NRSG 546	Curriculum Development in Higher Education (3)	Take one course	3.0	—	—	—	3.0
Totals			15.0	120	—	—	15.0

CLINICAL			THEORY		CLINICAL		TOTAL UNITS
			Units	Hours	Units	Hours	
NRSG 545	Teaching Practicum	Optional	—	—	3.0	90	3.0
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	20.0	600	26.0

THESIS OPTION		THEORY		CLINICAL		TOTAL
		Units	Hours	Units	Hours	UNITS
Units are in addition to minimum required for the degree						
NRSG 697	Research (1.0–4.0)	5.0	200	—	—	5.0
Totals		—	—	—	—	—
Overall Totals		42.0	390	20.0	600	62.0

CLINICAL NURSE SPECIALIST: ADULT AND AGING FAMILY (POST-MASTER'S CERTIFICATE)

Prerequisite

Graduate-level pathophysiology
Advanced physical assessment

CORE		THEORY		CLINICAL		TOTAL
		Units	Hours	Units	Hours	UNITS
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	Bioethics and Society (3.0–4.0)	3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	—	—	—	—	—
	Acceptable alternate religion courses					
RELE 548	Christian Social Ethics (3)					
Totals		14.0	140	—	—	14.0

CLINICAL			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
NRSG 545	Teaching Practicum	Optional	—	—	3.0	90	3.0
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	6.0	240–540	22.0
Overall Totals			30.0	180	6.0	240–540	36.0

CLINICAL NURSE SPECIALIST: GROWING FAMILY CONCENTRATION

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)	4.0	40	—	—	4.0
RELE 524	Bioethics and Society (3.0–4.0)	3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses		—	—	—
RELE 548	Christian Social Ethics (3)			—	—	—
Totals		21.0	210	—	—	21.0

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
_____	Elective (3)			—	—	—
NRSG 546	Curriculum Development in Higher Education (3)	Take one course		3.0	—	3.0
Totals		11.0	80	—	—	11.0

CLINICAL		THEORY		CLINICAL		TOTAL UNITS	
		Units	Hours	Units	Hours		
NRSG 545	Teaching Practicum	Optional	—	—	3.0	90	3.0
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	20.0	600	26.0

THESIS OPTION

Units are in addition to minimum required for the degree

			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
NRSG 697	Research (1.0–4.0)		5.0	20	—	—	5.0
Totals			—	—	—	—	—
Overall Totals			38.0	350	20.0	600	58.0

CLINICAL NURSE SPECIALIST: GROWING FAMILY (POST-MASTER'S CERTIFICATE)

Prerequisite

Graduate-level pathophysiology
Advanced physical assessment

CORE			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
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	Bioethics and Society (3.0–4.0)		3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)						
Totals			14.0	140	—	—	14.0

CLINICAL			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
NRSG 545	Teaching Practicum	Optional	—	—	3.0	90	3.0
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	21.0	630	25.0
Overall Totals			18.0	180	21.0	630	39.0

NURSING ADMINISTRATION CONCENTRATION

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)	4.0	40	—	—	4.0
RELE 524	Bioethics and Society (3.0–4.0)	3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	—	—	—	—	—
RELE 548	Christian Social Ethics (3)					
Totals		21.0	210	—	—	21.0

CONCENTRATION		THEORY		CLINICAL		TOTAL UNITS
		Units	Hours	Units	Hours	
HADM 507	Principles of Financial Accounting in Health Care	3.0	30	—	—	3.0
HADM 528	Organizational Behavior in Health Care	3.0	30	—	—	3.0
HADM 534	Healthcare Law	3.0	30	—	—	3.0
HADM 605	Health Care Quality Management	3.0	30	—	—	3.0
HADM 514	Health Care Economic Policy (3)	9.0	—	—	—	9.0
HADM 529	Health Care Negotiations and Conflict Resolution (3)					
HADM 542	Managerial Accounting for Health Care Organizations (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)					
Totals		21.0	210	—	—	21.0

Continued on 410

HADM 575	Management Information Systems in Health Care (3)	<i>Continued from 409</i>
HADM 604	Health Systems Strategic Planning (3)	

Totals 21.0 120 — — 21.0

CLINICAL			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
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>						
Totals			—	—	10.0	240	10.0

THESIS OPTION			THEORY		CLINICAL		TOTAL
Units are in addition to minimum required for the degree			Units	Hours	Units	Hours	UNITS
NRSG 697	Research (1.0–4.0)		5.0	200	—	—	5.0
Totals			—	—	—	—	—
Overall Totals			42.0	330	10.0	240	52.0

NURSE EDUCATOR CONCENTRATION

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

CORE			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
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)		4.0	40	—	—	4.0
RELE 524	Bioethics and Society (3.0–4.0)		3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	Acceptable alternate religion courses	—	—	—	—	—
RELE 548	Christian Social Ethics (3)						
Totals			21.0	210	—	—	21.0

CONCENTRATION			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
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

CLINICAL			THEORY		CLINICAL		TOTAL
			Units	Hours	Units	Hours	UNITS
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			THEORY		CLINICAL		TOTAL
Units are in addition to minimum required for the degree			Units	Hours	Units	Hours	UNITS
NRSG 697	Research		3.0	40–160	—	—	3.0
Totals			—	—	—	—	—
Overall Totals			45.0	450	9.0	270	54.0

Nurse Educator: Adult and Aging Family

CORE		THEORY		CLINICAL		TOTAL
		Units	Hours	Units	Hours	UNITS
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)	4.0	40	—	—	4.0
RELE 524	Bioethics and Society (3.0–4.0)	3.0	30	—	—	3.0
RELE 534	Ethical Issues in Public Health (3)	—	—	—	—	—
RELE 548	Christian Social Ethics (3)					
Totals		21.0	210	—	—	21.0

CONCENTRATION		THEORY		CLINICAL		TOTAL
		Units	Hours	Units	Hours	UNITS
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
Totals		18.0	180	3.0	90	21.0

CLINICAL		THEORY		CLINICAL		TOTAL
		Units	Hours	Units	Hours	UNITS
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
Totals		6.0	60	6.0	180	12.0

THEESIS OPTION	THEORY		CLINICAL		TOTAL UNITS	
	Units	Hours	Units	Hours		
Units are in addition to minimum required for the degree						
NRSG 697 Research	4.0	40–160	—	—	4.0	
	Totals	—	—	—	—	
	Overall Totals	45.0	450	9.0	270	54.0

Dual degree: M.S./M.A.

MASTER OF SCIENCE DEGREE IN NURSING WITH A CLINICAL NURSE SPECIALIST CONCENTRATION*

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	Clinical Practicum: Adult and Aging	12.0
	or	
NRSG 645	Growing Family I	4.0
*NRSG 646	Growing Family II	3.0
*NRSG 617	Clinical Practicum: Growing Family	12.0
	Electives from biomedical and clinical ethics	12.0
	Clinical hours from nursing = 480	
	Totals	58.0

CLINICAL ETHICS

RELE 524	Christian Bioethics	4.0
RELE 588	Philosophical Resources for Bioethics	4.0
RELE 589	Bible, Theology & Bioethics	4.0
RELE 599	Masters Seminar – I	2.0
RELE 599	Masters Seminar – II	2.0
RELE 554	Clinical Ethics Pract. I	4.0

RELE 555	Clinical Ethics Pract. II	4.0
RELE ____	Selectives in Ethics	11.0
	Electives applied from Nursing	13.0
	Clinical hours from ethics = 30	—
Totals		48.0

Doctor of Nursing Practice

The Doctor of Nursing Practice (D.N.P.) degree is a three-year, 63-unit, post-masters degree program beginning Summer Quarter 2010. This program will allow master's-level educated registered nurses to earn doctorates, which will prepare them to assume advanced practice (patient care) and leadership (health care systems) roles. It will address and meet outcome expectations as articulated by the American Association of Colleges of Nursing in accordance with their recommendation that advanced practice specialty areas be staffed by nurses with doctorate degrees by 2015.

THE CURRICULUM

Courses will be offered as one-to-two-week, on-campus intensives—with the exception of one online and several mentored-inquiry courses. An orientation session, several courses an advanced seminar, and courses associated with the capstone activity will be offered annually. All other courses will be available every other year.

CORE		UNITS
NRSG 601	DNP Professional Development	2.0
NRSG 602	Evidence-based Models of Advanced Practice and Healthcare Outcomes	3.0
NRSG 605	Vulnerable Populations	3.0
NRSG 607	Complex Issues in Nursing Practice	3.0
NRSG 608	Translational Research for Advanced Nursing Practice	3.0
NRSG 613	Cultural Issues in Nursing Practice	3.0
NRSG 618A	Writing for Publication	2.0
NRSG 618B	Writing for Publication	1.0
RELE 536	Ethics, Leadership, and Advanced Nursing	3.0
RELR 525	Health Care and the Dynamics of Christian Leadership	3.0
RELT 557	Theology of Human Suffering	3.0
Totals		29.0

NURSING THEORY AND SCIENCE		UNITS
NRSG 603	Nursing Informatics	3.0
NRSG 625	The Practice Mentor	3.0
Totals		6.0

INQUIRY		UNITS
NRSG 608	Translational Research for Advanced Nursing Practice	3.0
NRSG 611	Assessment, Planning, and Outcomes for Clinical Practice	3.0
Totals		6.0

ADVANCED PRACTICE AND LEADERSHIP		UNITS
NRSG 609	Policy Development and Advocacy	3.0
NRSG 612	Health Care Systems Leadership	3.0
Totals		6.0

CONCENTRATION		UNITS
NRSG 627	DNP Project Development Seminar: Practice	1.0
NRSG 629	DNP Project Development Seminar: Leadership	1.0
NRSG 634	DNP Project: Practice	3.0
NRSG 635	DNP Project: Leadership	3.0
Totals		8.0
Overall Totals		55.0

Doctor of Philosophy in Nursing

The aim of the Doctor of Philosophy degree program in nursing is to prepare nurse scholars for leadership in education, health care administration, and research. The nurse-scientist who completes this program should be committed to the generation of knowledge critical to development of nursing science and practice. Graduates join 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 will 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 the 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**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 (4.0)		4.0
Totals			4.0

CONCENTRATION**UNITS**

_____	Elective	Focus courses	10.0–12.0
_____	Elective	General electives	8.0–10.0
Totals			20.0

COGNATES**UNITS**

NRSG 637	LLU Scholars Seminar	Repeat nine (9) or more times	—
NRSG 664	Nursing Science Seminar (1.0)	Taken three times	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

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)	Taken twice	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			50.0
Overall Totals			90.0

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 and acceptance procedures

Procedure

Acceptance process

International applicants

Rolling admission

Admission deadline

Transfer credit hours

Computer competency

Technical standards for admission, promotion, and graduation

Technical standards

Observation

Communication

Motor coordination and function

Intellectual-conceptual, integrative, and quantitative abilities

Behavioral and social attributes

Ethical values

Applicable technical standards requirements

Student Life

General expectations

Student life

Health check requirements

Background check

Pharmacy intern license

Professional integrity

Code of conduct

CPR and first aid certification

Student organizations

Professional development

Professional organizations

Organization membership by invitation

Class leadership

Academic Policies and Procedures

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

Class attendance

Chapel

Pharmacy forum

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

Pharmacist intern license

Pharmacist intern hours

Graduation requirements

Financial Information

General financial practices

Schedule of charges, tuition, and fees (2010–2011)

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 worldwide network of Seventh-day Adventist higher education institutions. While at Loma Linda University, your studies will be filled with 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 to underserved populations. 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 committed 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 activities 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.

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 curricular activities around seven values. These are:

- **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.
- **Excellence**—The commitment to exceed minimum standards and expectations.
- **Humility**—The willingness to serve others in a sacrificial manner, and the self-respect that renounces haughtiness or arrogance.

- 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.
- Purity/Self-Control—The commitment to be morally upright and moderate in all things, with complete control over one's emotions, desires, and actions.
- 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."

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 ADMISSION

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 prerequisites, 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 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 units 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 director of records.

RECOMMENDED COURSES

Cellular and molecular biology
Histology
Immunology
Physiology

RECOMMENDED EXPERIENCE

It is highly recommended that applicants obtain volunteer or pharmacy work experience.

APPLICATION AND ACCEPTANCE REQUIREMENTS

Application process

The School of Pharmacy only accepts online applications through the central application service PharmCAS. The link to PharmCAS and other required forms are available online at <www.llu.edu/central/apply/index.page>.

Procedure

The application procedure is as follows:

- Online submission of Doctor of Pharmacy application through PharmCAS.
- When the PharmCAS application is received, Loma Linda University School of Pharmacy will request completion of an LLU secondary application.
- Three online letters of recommendation from previous instructors, employers (pharmacist employer if possible), and a spiritual advisor (required).
- Written personal statement (answer all questions in two pages or less).
- Projected College Work form (if applicable).
- Completed Academic Prerequisite Record form (available after the LLU secondary application is submitted).
- Payment of the \$75 application fee by check

or credit card submitted with the online LLU secondary application.

- After the secondary application and letters of reference have been submitted and reviewed, the applicant may be invited for an interview.

All application documents are evaluated by the School of Pharmacy Admission's committee to determine if they are accepted, placed on an alternate list, or denied. All applicants are notified of the final committee decision. Admission into the School of Pharmacy continues until the class is filled.

Acceptance process

The accepted applicant sends a written acceptance of the offer of admission, along with the \$500 class holding fee, within the deadline stated in the acceptance letter. This fee is applied to the student's financial account at the time of matriculation. Class holding fees are nonrefundable.

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/foreignEd-Cred.cfm>
- Educational Credential Evaluators, Inc. (ECE) <www.ece.org/>
- World Education Services (WES) <www.wes.org>
- American Education Research Corporation (AERC) <www.aerc-eval.com>

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> for more information.

Rolling admission

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 June.

ADMISSION DEADLINE

The School of Pharmacy accepts applications through PharmCAS from June 1 through November 1 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:

Admissions Processing
Loma Linda University
Loma Linda, CA 92350

Letters of recommendation are now only accepted through the online application. Instructions for online letters are given once an application has been started. Committee letters are accepted from Seventh-day Adventist colleges/universities only and will fulfill the requirement for recommendation letters.

TRANSFER CREDIT UNITS

The School of Pharmacy does not accept students with advanced status in the Pharmacy Program.

COMPUTER COMPETENCY

Students must have computer proficiency prior to enrollment, which includes use of an email 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.

TECHNICAL STANDARDS FOR ADMISSION, PROMOTION, AND GRADUATION

Technical standards

Technical standards specify those attributes the faculty consider necessary for initiating, continuing, or completing a high-quality pharmacy education program, thus enabling each graduate to enter practice, residency, or fellowship training. The faculty are entrusted with the responsibility of monitoring the maintenance of these standards. Students must be able to perform independently all of the described functions. A candidate for the Doctor of Pharmacy degree must have aptitude, abilities, and skills in the following areas: observation; communication, motor coordination and function; conceptual, integrative, and quantitative abilities; behavioral and social attributes; and ethical values. The School of Pharmacy will consider for admission any applicant who demonstrates the ability to perform or to learn to perform the skills listed in this document. Applicants are not required to disclose the nature of their disability(ies), if any, to the Admissions Committee. However, any applicant with questions about these technical standards is strongly encouraged to discuss his/her specific issue(s) with the Assistant Dean, Student Affairs and Admissions prior to the interview process. If appropriate, and upon the request of the applicant, reasonable accommodations will be provided. This commitment also holds for current students who experience changes in health or abilities while enrolled in the program.

The School of Pharmacy recognizes that certain student disabilities can be accommodated without compromising the standards required by the college and the integrity of the curriculum. Technological compensation can be made for some handicaps in these areas, but a candidate should be able to perform in a reasonably independent manner. The School is committed to the development of innovative and creative ways of opening the curriculum to competitive and qualified disabled candidates, while protecting the care of patients. The use of a trained intermediary means that a candidate's judgment must be mediated by

someone else's power of selection and observation. Therefore, third parties cannot be used to assist students in accomplishing curricular requirements in the skill areas specified above.

Observation

Students must be able to observe demonstrations and conduct exercises in a variety of areas related to contemporary pharmacy practice, including but not limited to monitoring of drug response and preparation of specialty dosage forms and experiments in the basic sciences. A student must be able to observe a patient accurately at a distance and close at hand, noting nonverbal as well as verbal signals. The student must be able to observe and interpret presented information. Specific vision-related requirements include, but are not limited to the following abilities: visualizing and discriminating findings on monitoring tests; reading written and illustrated material; observing demonstrations in the classroom or laboratory, including projected images; observing and differentiating changes in body movement; observing anatomic structures; discriminating numbers and patterns associated with diagnostic and monitoring instruments and tests; observing a patient's environment; and competently using instruments for monitoring drug response.

Communication

A student should be able to speak to, hear, and listen to patients in order to elicit information; describe changes in mood, activity, and posture; and perceive verbal as well as nonverbal communications. Students must be able to relate effectively and sensitively with patients and their caregivers and or partners, and convey a sense of compassion and empathy. Students must be able to communicate effectively and sensitively with patients and faculty and staff in the School of Pharmacy. Communication includes speech, reading, writing, hearing, and computer literacy. Students must be able to communicate quickly, effectively and efficiently in oral and written English with all members of the health care team. Specific requirements include but are not limited to the following abilities: communicating rapidly and clearly with

members of the health care team individually and collectively; eliciting a thorough medication and medical history; and communicating complex findings in appropriate terms that are understood by patients and their caregivers, partners, and various members of the health care team (fellow students, pharmacists, faculty and staff members, physicians, nurses, aides, therapists, social workers, and others). Students must be able to prepare and communicate concise but complete summaries of individual activities and decisions; as well as complex, prolonged encounters with patients. Students must be able to complete forms or appropriately document activities according to directions in a complete and timely fashion.

Motor coordination and function

Students should have sufficient motor function and skills necessary to perform basic tasks in the practice of pharmacy and to elicit information from patients by various screening maneuvers. A student should be able to execute motor movements reasonably required to participate in the general care and emergency treatment of patients. They must be able to respond promptly to urgencies within the practice setting and must not hinder the ability of their co-workers to provide prompt care. Examples of such emergency treatment reasonably required of pharmacists include arriving quickly when called, administration of cardiopulmonary resuscitation, application of pressure to stop bleeding, participating in the initiation of appropriate procedures, rapidly and accurately preparing appropriate emergency medication, and the preparation of sterile intravenous medications. Such actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision. Students must have sufficient sensory and motor function to monitor drug responses and to prepare and or dispense pharmaceuticals. A candidate should be able to perform basic laboratory tests (e.g., blood glucose and lipid levels); administer immunizations (intramuscular and subcutaneous); compound sterile and non-sterile dosage forms; use current technology for drug information evaluation; and read EKGs, drug blood levels, and other laboratory results. It is also

necessary for the student to be able to access drug and disease information sources (both paper and electronic) within a reasonable time frame and record data correctly so that it is clearly understood by other health professionals.

Intellectual, conceptual, integrative, and quantitative abilities

A student should possess sufficient intellectual, conceptual, integrative, and quantitative abilities to complete a rigorous and intense didactic and experiential curriculum. These abilities include measurement, calculation, rational reasoning, problem analysis and solving, decision making, judgment, numerical recognition, information integration, and solution synthesis. In addition, the candidate should be able to comprehend three-dimensional relationships and understand the spatial relations of structures. Especially important is the appropriate and rapid calculation of dosages for a variety of patient-specific conditions such as renal or hepatic failure, obesity, cardiac or respiratory arrest, etc. Additionally, calculations involving appropriate dilution or reconstitution of drug products, electrolytes, etc., must be made accurately and quickly. Problem solving and critical skills demanded of all pharmacists require all of the above-mentioned intellectual abilities and must be performed quickly, especially in emergency situations. The ability to incorporate new information from peers or teachers and to locate and evaluate new information from the literature to be used appropriately in formulating assessments and pharmaceutical care plans is essential, as is good judgment in patient assessment and therapeutic planning for disease management. Students must be able to identify and acknowledge the limits of their knowledge to others when appropriate and must be able to recognize when the limits of their knowledge indicate further study or investigation is essential before participating in decision making. A student must be fully alert and attentive at all times in clinical settings.

Behavioral and social attributes

Empathy, integrity, honesty, concern for others, kindness, patience, good interpersonal skills,

interest, and motivation are required personal qualities. Students must possess the emotional and mental health required for full use of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities attendant to the screening and care of patients, and the development of mature, sensitive, and effective relationships with patients of differing cultures and backgrounds. Students must also be able to develop mature, sensitive and effective relationships with patients and their caregivers and partners, providing comfort and reassurance when appropriate.

Students must possess adequate endurance to be able to tolerate physically, intellectually, and emotionally taxing workloads and to function effectively under stress or with distractions. At times, this requires the ability to be aware of and appropriately react to one's own immediate emotional responses and environment. For example, students must maintain a professional demeanor and organization in the face of long hours and personal fatigue, dissatisfied patients, and tired colleagues.

Students must develop the skills necessary to instruct and supervise technical personnel assisting with the delivery of pharmaceutical services. Students are expected to accept appropriate suggestions and criticism and if necessary, respond quickly, appropriately and cooperatively by modification of behavior. Empathy, patience, integrity, concern for others, interpersonal skills, interest, and motivation are personal qualities that should be assessed during the admission and education processes.

Ethical values

Students must demonstrate the highest level of professional demeanor and behavior and must perform in an ethical manner in all dealings with peers, faculty, staff, and patients. Students must also be able to develop professional relationships with patients and their caregivers and partners while protecting patient confidentiality. Students must also meet the expected ethical standards set forth by the pharmacy profession. Good moral character, decent values, and principled judgment are paramount attributes for being a professional.

In order to participate in key components of the curriculum, a student must be able to obtain and maintain a valid Intern pharmacist license from the California Board of Pharmacy and pass requisite criminal background checks and random illegal drug screens required by the board or affiliated clinical institutions.

Applicable technical standards requirements

1. The candidate/student observes demonstrations and participates in experiments in the basic pharmaceutical sciences.
2. The candidate/student analyzes, synthesizes, extrapolates, solves problems, and reaches therapeutic judgments and monitoring parameters.
3. The candidate/student sufficiently uses the senses of vision and hearing and the somatic sensation necessary to perform a physical assessment. (For example, the candidate/student performs palpation, auscultation, and percussion.)
4. The candidate/student relates to patients of all cultures and backgrounds and establishes sensitive, professional relationships with them.
5. The candidate/student communicates therapeutics options and decisions to the patient and to colleagues with accuracy, clarity, and efficiency.
6. The candidate/student learns and performs routine laboratory tests and screening procedures.
7. The candidate/student performs with precise, quick, and appropriate actions in emergency situations.
8. The candidate/student displays good judgment in the assessment and treatment of patients.
9. The candidate/student possesses the perseverance, diligence, and consistency to complete the School of Pharmacy curriculum and to enter the practice of pharmacy.
10. The candidate/student accepts criticism and responds with the appropriate modification of behavior.

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

Health check requirements

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 show 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 student tests 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 Services. A valid and completed immunization record is required before the student can register.

PHYSICAL EXAMINATION

Documentation of a physical examination is required for entrance into the program. For additional information, please contact Student Health Services directly at 909/558-8770.

Background check

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.

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 ac-

countable 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 oneself.
- 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.

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 enhance the overall educational experience and provide 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 for the current year before enrolling in courses for the succeeding years. 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 an 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 stating 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 summer sessions). 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. 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 the 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 the 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, in a collegial manner, a disagreement between student and instructor concerning the assignment of a grade. 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 change it. The department head will then commu-

nicate 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 with determining 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. 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 the instructor; and the matter will be closed.

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 during which 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.

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. Students demonstrating excellence in scholarship, professionalism, and leadership ability may be nominated for recognition. Selection of students for the following awards is a function of the Honors and Awards Committee with input from the faculty.

The PRESIDENT'S AWARD is given annually to a graduating student who has demonstrated excellence in scholarship and community service within the framework of commitment to the highest ideals of the University.

The DEAN'S AWARD is given annually to a graduating student who has demonstrated excellence in scholarship.

The WIL ALEXANDER WHOLE PERSON CARE AWARD is given annually to a graduating student who has demonstrated superior commitment to helping others.

DEAN'S SCHOLARSHIPS are given annually to the top 3 students academically in the first three years of the Doctor of Pharmacy program.

In addition, the School of Pharmacy receives funding annually from a variety of organizations dedicated to assisting the School in helping students meet the financial obligations for their education. These funds are distributed to students who have demonstrated a strong commitment to their studies as well as a commitment to the values of the institution.

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 his/her 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 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 will 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 Cali-

fornia 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 and experiential) 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 other health care professionals.

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 experience. The director of experiential education coordinates 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, 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 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>.

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 predominantly 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; and
 - 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 with 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 nonrefundable 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.

Tuition

\$37,050 Annual block tuition
\$12,350 Per quarter

Fees

\$590 Per quarter, University enrollment fee: health care insurance, Drayson Center membership, student activities, and publications

Miscellaneous

\$75 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

\$90 California Board of Pharmacy internship license (application, examination, interim practice permit); plus Live Scan fingerprinting fee (cost varies).

ON- AND OFF-CAMPUS STUDENT HOUSING

Students may go to <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.

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
 Rashid Mosavin
 Lee H. Nguyen
 Paul M. Norris
 James Pinder
 Shastin L. Rains
 Wei-Xing Shi
 Michelle M. Spencer-Safier
 Javad Tafreshi
 S. Reza Taheri
 Robert Tan
 Robert W. Teel
 Stanley C. Weisser
 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 VI: 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	3.5
RXTH 772	IPDM IX: Infectious Diseases II	4.5
Totals		13.0

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	2.0
Totals		2.0

FOURTH YEAR		UNITS
Six 6-unit rotations required (1—Summer, 2—Autumn, 2—Winter, 1—Spring)		
RXEE 806	Advanced Clinical Community Practice (6)	Choose two elective rotations from this list
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)	12.0
<i>Continued on 441</i>		

RXEE 868	Drug Information (6)	<i>Continued from 440</i>		
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)		Required	24.0
RXEE 858	Ambulatory Care (6)			
RXEE 859	Clinical Community (6)			
		Totals	36.0	
		Overall Totals	177.5	

School of Public Health

Dean's Welcome

Mission, Values, and Goals

School Foundations

General Regulations

University email accounts

Learning Environment

Technology facilities

Campus facilities

Departments and Centers

The Departments

Environmental and Occupational Health

Epidemiology and Biostatistics

Global Health

Health Policy and Management

Health Promotion and Education

Nutrition

Centers

Center for Health Promotion (CHP)

Center for Health Research (CHR)

Computer Center

Health Geoinformatics Resource Laboratory

Application and Admissions

Computer literacy

Bachelor of Science in Public Health

Graduate degree programs—M.B.A., M.P.H., M.S. P.H.

Master of Science

Doctor of Public Health

Doctor of Philosophy

Academic Policies and General Regulations

Advanced standing

Religion course requirement

Student classification

Shared units

Convocation attendance

Course attendance

Time limit

Academic probation

Residency requirements

Graduation requirements

Grievance policy

Programs and degrees

Degrees offered

Continuing education and extension programs

BACHELOR'S DEGREE PROGRAM

BACHELOR OF SCIENCE IN PUBLIC HEALTH

B.S.P.H. degree program requirements

Public health content requirements

Public health seminars

Senior project

MASTER'S DEGREE PROGRAMS

MASTER OF PUBLIC HEALTH

Public health core requirements

Public health seminars

Culminating activity

Field practicum

MASTER OF BUSINESS ADMINISTRATION

MASTER OF SCIENCE IN PUBLIC HEALTH

MASTER OF SCIENCE

Public health core requirements

Public health seminars

Culminating activity

MEDICAL RESIDENCIES

Preventive medicine

Occupational medicine

MEDICAL/DENTAL LEADERSHIP PROGRAM

DISTANCE LEARNING PROGRAMS

Financial information

ONLINE EXECUTIVE MASTER OF PUBLIC HEALTH

PEACE CORPS MASTER'S INTERNATIONAL PROGRAM

INTERNATIONAL PROGRAMS

Peru M.P.H. degree

Russia M.P.H. degree

Pacific M.B.A. degree

CERTIFICATE PROGRAMS

General certificate information

GENERAL CERTIFICATE REQUIREMENTS

TEN CERTIFICATE PROGRAMS

Basic biostatistics

Basic epidemiology

Advanced biostatistics

Advanced epidemiology

Epidemiological research methods
 Health geoinformatics
 Emergency preparedness and response
 Reproductive health
 Tobacco control methods
 Lifestyle intervention

DOCTORAL DEGREE PROGRAMS

DOCTOR OF PUBLIC HEALTH

INDIVIDUAL DOCTORAL DEGREE PROGRAMS

Epidemiology, Doctor of Public Health
 (Dr.P.H.), Doctor of Philosophy (Ph.D.)
 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.)
 Health policy and leadership (Dr.P.H.)

COMBINED DEGREES PROGRAMS

Financial Information

Traineeships/Assistantships
 Application for financial aid
 Loans
 Schedule of charges/Tuition/Fees
 Awards and honors
 On- and off-campus student housing
 Refund policy
 Graduation with honors
 Additional requirements

Programs, Degrees, and Certificates Offered

Biostatistics
 Environmental and Occupational Health
 Epidemiology
 Global Health
 Health Care Administration
 Health Education
 Health Geographics and Biomedical Data
 Management
 Health Policy and Leadership
 Lifestyle Medicine
 Nutrition
 Preventive Care
 Public Health Practice
 Certificates
 Biostatistics
 Emergency Preparedness and Response
 Epidemiology
 Epidemiological Research Methods
 Health Geoinformatics
 Lifestyle Intervention
 Maternal and Child 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.

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 ourselves and others to maximize personal and community wellness through excellent faith-based public health education and practice.

VALUES

Diversity—to humbly learn from all people, while embracing and celebrating their healthy beliefs and practices.

Wholeness—to support the process of integrating spirituality with physical, social, emotional, intellectual, and character development.

Engagement—to be active contributors and participants in our profession as educators and learners, respectively.

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 societal needs.
3. Enhance the school's visibility in support of efforts to maximize enrollment.
4. Enhance the school's visibility in public health issues.
5. Enhance the school's operating resources through increased external (nontuition) sources.
6. Strengthen infrastructure supporting excellence in grant writing.
7. Recruit and retain a student body that reflects the diversity of the population served.

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, and 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

New technology-blended and fully online courses have been added to the school's curriculums. 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.

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, the Parkland Building, and the Centennial Complex.

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, Global Health, Health Policy and Management, Health Promotion and Education, and Nutrition.

DEPARTMENT OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH

Description

Environmental health professionals touch the lives of every person each day. From the water people drink to the air they breathe to the food they eat, these health professionals are responsible for ensuring that safe and healthy conditions exist in the community and in the workplace, and that vulnerable areas of the environment are protected from contamination. They function as first responders in some public safety situations; but they also engage in routine activities, such as: community education or preparation for natural disasters or other threats; enforcement of health and safety standards; hazardous waste management; water quality assurance; inspections of recreational areas; and many other protection functions. Career options are varied, including employment within nongovernmental and governmental agencies, industrial and service firms, the health care industry, or consulting companies.

Department goal

The Department of Environmental and Occu-

pational Health endeavors to train expert professionals committed to public health protection and environmental stewardship with a broad understanding of the causes, mechanisms, and consequences of environmental and occupational hazards; and with the skills to design sustainable approaches to prevent and manage them.

Learner outcomes

The academic and curricular philosophy of the department is built upon themes of environmental health quality and assurance, environmental stewardship and sustainability, and the vocation for social justice intrinsic to the history of public health practice. Graduates are expected to demonstrate competency in six areas of responsibility and leadership:

1. Assess environmental conditions that present actual or potential health hazards to employees and the general public; and recommend cost-effective, practical mitigation techniques and monitoring strategies.
2. Manage environmental health programs and professionals.
3. Conduct applied policy and technical research that expands the existing knowledge base in the field of environmental and occupational health sciences, both in the United States and in international communities.
4. Provide environmental and occupational health-related consultation to local and national governments, international agencies, nongovernmental organizations, industry, private associations, labor organizations, and academic institutions.
5. Advocate for environmental justice and equity on behalf of vulnerable and disadvantaged subgroups of the population.
6. Meet the eligibility requirements to sit for the registered environmental health specialist (REHS) examination.

Department mission

The mission of the Department of Environmental and Occupational Health is to prepare distinguished environmental health professionals who

can serve local, national, and international communities and meet the following standards:

- Conduct themselves in a professional and ethical manner.
- Serve as qualified, successful environmental health practitioners.
- Be prepared to enter into advanced or doctoral degree programs.

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

Description

Recent advances in science, technology, and communications have created a rapidly shrinking planet—a veritable global, interconnected village—with unique opportunities and unparalleled challenges in health and development. Current global trends highlight increasingly ominous problems—escalating threats of conflict, violence and disasters, chronic and infectious disease (old and emerging), deteriorating maternal, perinatal, and child health indices, endemic poverty, political instability, social injustice and human rights violations, uncontrolled urbanization,

environmental hazards and a fragile ecosystem, societal disintegration, and widespread substance abuse—all of which combine to amplify the stark inequities and shocking disparities in health and development that exist around the world.

On the other hand, remarkable progress is being made through multisectoral efforts directed toward preventing disease, disability, and death; promoting health, safety and wellbeing; improving education and socioeconomic status, and ensuring improved standards of living. The availability of and access to simple, cost-effective, appropriate strategies is further reinforced by a heightened awareness of the underlying complex array of determinants, forces, processes, and systems (social, political, economic, epidemiological, religious, and cultural) that dynamically interact to impact health and development.

The Department of Global Health (GLBH) prepares committed professionals who are both technically competent and cross-culturally skilled in creating and facilitating sustainable health and development programs in diverse settings and populations. Utilizing an experiential, evidence-based model of learning, the department's program enables graduates to contribute towards a better quality of life for all people, and especially those who are vulnerable, underserved, marginalized, and disadvantaged. The department's extensive network of global and local resources affords a broad spectrum of options for students to learn and practice the "art and science" of this exciting discipline.

The department prepares career professionals who qualify for entry-level positions in nongovernmental organizations, faith-based and other voluntary agencies, community-based organizations, county, state and national health departments, private foundations, public health practice organizations; and in the nonprofit relief and development sector. Graduates also find positions in government and transnational organizations such as the World Health Organization, UNICEF, the World Bank, Centers for Disease Control and Prevention, and national assistance organizations like the United States Agency for International Development. Further academic training is also an option for graduates interested in teaching and research. Graduates with field experience (includ-

ing students who add the M.P.H. degree in global health to a previous clinical or academic degree) will qualify for managerial positions in program planning and evaluation, contracting, technical assistance, grant writing, and advocacy.

Department goal

The goal of the Department of Global Health is rooted in the Christian values of love for and service to humanity, and stewardship of the earth's resources. The department aims to educate competent, ethical, and compassionate individuals who engage communities, especially the poor and underserved, to help them achieve an optimal level of health and development.

Programs

The programs of the Department of Global Health include the M.P.H. degree in global health, with concentrations in global epidemiology and global maternal and child health), the Dr.P.H. degree in global health, the certificate in emergency preparedness and response, and the certificate in tobacco control research methods.

Outcomes

Utilizing an experiential approach, the competency-based curriculum is built around three themes: (1) developing and maintaining a sustainable healthy environment; (2) supporting and empowering communities, families, and individuals; and (3) advocating for social justice, human rights and equity among vulnerable populations. Graduates are also expected to apply cross-cultural skills and demonstrate technical competence in assessing systems, needs, and resources; planning, managing, and evaluating comprehensive, integrated health and development programs; and in facilitating and promoting multidisciplinary, intersectoral collaborations within and between countries and regions.

Vision statement

The vision of the Department of Global Health is to establish excellence in education, research, and

service in global public ; and to facilitate partnerships that allow marginalized communities to achieve optimal health and development.

DEPARTMENT OF HEALTH POLICY AND MANAGEMENT

Description

The Department of Health Policy and Management prepares students with new skills to be more effective leaders. Instruction includes problem-based scenarios, case studies, models, projects, laboratories, field work, and presentations. A network of alumni and health care professionals provides a broad spectrum of options for students to learn and apply the knowledge obtained.

Department goal

The goal of the Department of Health Policy and Management is to equip graduates with leadership skills and management competencies that will enable them to effectively function in a rapidly evolving health care 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 influence change in national and global environments.

Programs

The programs of the Department of Health Policy and Management include the M.B.A. degree in health care administration, the M.P.H. degree in health policy and leadership, and the Dr.P.H. degree in health policy and leadership.

Outcomes

The competency-based curriculum is designed to develop and strengthen the skills of health professionals who are able to think critically, apply systems thinking, and demonstrate leadership in health policy and administration.

Vision statement

The vision of the Department of Health Policy and Management is to train future health care professionals with competence in health policy, management, and leadership.

DEPARTMENT OF HEALTH PROMOTION AND EDUCATION**Description**

The Department of Health Promotion and Education emphasizes educational, interpersonal, community, preventive, and legislative factors that promote positive health behaviors. Health promotion also emphasizes community and an in-depth understanding of today's health issues and prevention of negative health behaviors and outcomes. Course work may be pursued in the traditional on-campus classroom format or fully online.

Health promotion and education students receive excellent preparation for the certified health education specialist (CHES) examination. Loma Linda University School of Public Health is among the top ten schools of public health whose students take and pass the CHES examination.

Graduates 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; be involved 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.

Department goals

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 credentials 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.

Programs

The Department of Health Promotion and Education offers the following programs: the M.P.H. degree in health education (on campus and online), maternal/child health, and lifestyle medicine; the Dr.P.H. degree in health education and in preventive care; and the certificate in lifestyle intervention and in reproductive health. Three dual degree programs are offered by the department: the Dr.P.H. degree in preventive care and the Psy.D. degree in psychology, the M.P.H. degree in health education and the M.S. degree in nursing, and the M.P.H. degree in health education and the Psy.D. degree in psychology.

Outcomes

Graduates of the programs in the Department of Health Promotion and Education will have the skills necessary to:

1. Assess individual and community needs and plan effective health education programs.
2. Collaborate with other professionals in using resources to educate the public about health.

3. Evaluate and appropriately apply public health research findings to the practice of health education.
4. Provide leadership or technical assistance for public health projects in selected settings.
5. Meet didactic and professional practice requirements for certification as health education specialists.

Department vision

Helping students succeed
 Promoting positive behaviors
 Research par excellence
 Outreach to communities

The Department of Health Promotion and Education seeks to:

- 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

Description

The Department of Nutrition at Loma Linda University's School of Public Health, offers courses of study leading to the Master of Public Health (M.P.H.) and the Doctor of Public Health (Dr.P.H.) degrees. The department also offers the Master of Science (M.S.) degree in nutrition through the Faculty of Graduate Studies in the areas of nutritional science and clinical nutrition. Students have the opportunity to concurrently complete a graduate degree and establish eligibility to sit for the registration examinations for registered dietitians (RDs).

The department prepares public health nutritionists who can combine knowledge of nutrition science with competencies in education, behavioral science, management and public policy to enhance the nutrition status of individuals, groups and populations. Public health nutritionists use the science of nutrition and related disciplines to identify and solve nutrition-related health problems.

The Department of Nutrition at Loma Linda University is distinguished by the variety of options students can pursue. Through a combination of academics, research, and service they can tailor a university experience that fits their interests and furthers their professional goals. In addition to course work, the Department of Nutrition offers a wide spectrum of opportunities from participation in research, including laboratory experience, to nutritional epidemiology. The department routinely conducts clinical trials and feeding studies that can provide project management, laboratory, and data analysis experiences for those students who are interested. Loma Linda University nutrition programs are "coordinated," meaning the classroom curriculum is enhanced with clinical applications and experiences in local medical facilities. Undergirding all educational experiences is a vegetarian approach to nutrition. The department organizes the International Congress on Vegetarian Nutrition every five years.

Goals

The Department of Nutrition will:

- Train competent public health nutritionists who will serve as leaders in their field.
- Contribute to the body of nutrition knowledge through active research, emphasizing issues related to vegetarian nutrition, plant-based diets, prevention of disease, and promotion of health.
- Serve as a resource for the Seventh-day Adventist Church and others, with special attention to vegetarian nutrition.
- Collaborate with local associations in various activities for improvement of the nutritional status of the community.
- Provide opportunity within a graduate program to meet the didactic and professional

practice requirements for registration by the Commission on Dietetic Registration of the American Dietetic Association.

Programs

- M.P.H. – Public Health Nutrition
- M.P.H. – Public Health Nutrition and Dietetics
- M.P.H. – Nutritional Epidemiology
- Master’s International Peace Corps Program
- M.S. – Nutrition
- Dr.P.H. – Nutrition

Outcomes

- Professionals trained in public health nutrition
- Scientific communications and publications
- Educational tools and resources for the vegetarian community
- Community partnerships established and maintained
- Acceptable pass rate on the registration examination for the RD

Vision statement

Inspiring leaders toward plant-based, health-promoting, sustainable diets for all.

The centers

The School of Public Health includes three centers—Center for Health Promotion, Center for Health Research, and Computer Center—and the Health Geoinformatics Resource Laboratory.

CENTER FOR HEALTH PROMOTION

The Center for Health Promotion (CHP) 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

The Center for Health Research (CHR) 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 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 center manages student email, both wireless and online service accounts.

HEALTH GEOINFORMATICS RESOURCE LABORATORY

The Health Geoinformatics Resource Laboratory, located in the Centennial Complex, 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>.

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>.

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 for 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, gradu-

ate-level religion course is mandatory for completion of degree requirements. The religion requirement is designed 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 allowed; 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>. 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:

Completed all requirements for admission.

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.

Completed a field practicum.

Completed the culminating activity, which shall consist of a combination of the following, depending on the academic program:

- a written comprehensive examination (prior to the field experience),
- professional portfolio (upon completion of the field experience), and
- an online exit survey and exit interview with the department chair (at the conclusion of the program).

Attended a minimum of five approved public health seminars for the bachelor's degree program.

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 each doctoral degree sought.

Submitted a graduation petition two-to-four quarters before graduation, as specified by the degree program.

Given evidence of responsiveness to the established aims of the University and of the school.

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 Provost 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 four master's degrees—Master of Business Administration (M.B.A.), Master of Public Health (M.P.H.), Master of Science in Public Health (M.S.P.H.), and Master of Science (M.S.); 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 (GE) requirements 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.

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 offers 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 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 aug-

ments 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 for 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.

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 in 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 Loma Linda University Medical Center offers an annual tuition benefit to all employees, approximately 40 quarter hours of the required 56–60 hours to complete an M.P.H. degree 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 National Residency Matching Program (NRMP) 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. Residents 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.

Under the guidance of the residency and faculty members at the School of Public Health, each resident conducts a research project on a topic of choice during the senior year.

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.

Under the guidance of the residency and faculty members of the School of Public Health, each resident completes a research project on a topic of choice during the senior year.

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 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 has offered M.P.H. degree programs in Russia, Chile 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 who are 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 program. Students in this program complete it online.

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 quar-

ter terms. Students are responsible for following 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 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.

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 public health professionals and scholars through instruction, example, and the pursuit of truth;
- Expanding and providing advanced knowledge through research in nutrition, epidemiology, and 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 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 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 re-

quired 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, 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.) and Doctor of Philosophy (Ph.D.)

- Global Health, Doctor of Public Health (Dr.P.H.)—closed to new admissions
- 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.)
- Health Policy and Leadership, 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 student's 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 2010 (subject to change by trustee action):

Tuition

MASTER'S AND DOCTORAL DEGREES

\$681.00 Per unit: credit (on and off campus)
\$340.50 Per unit: audit (on and off campus)

SPECIAL TUITION CHARGES

\$250.00 Field practicum and internship

SPECIAL FEE

\$599.00 Special fee

SPECIAL CHARGES

\$25.00 Application (nonrefundable)
\$100.00 Acceptance deposit for bachelor's degree (nonrefundable)
\$100.00 Acceptance deposit for master's degree students (nonrefundable)
\$250.00 Acceptance deposit for doctoral degree students (nonrefundable)
\$50.00 Late payment fee
\$20.00 Returned check fee
\$50.00 Late registration fee
\$25.00 Examination, other than regularly scheduled
\$50.00 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 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 cash awards of \$2000 to two students 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 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 CATA-

LOG, as well as the University Student Handbook. Students are responsible for informing themselves of and satisfactorily meeting all regulations per-

tinent to registration, matriculation, and graduation.

Biostatistics—PH

(M.S.P.H., M.P.H., Certificates)

SYNNOVE M. F. KNUTSEN, Chair

FACULTY

David E. Abbey
Khaled Bahjri
W. Lawrence Beeson
Yvan Castro
Mark Ghamsary
Jayakaran S. Job
Keiji Oda
Floyd F. Petersen
David J. Shavlik
Gerald W. Shavlik
Pramil N. Singh
Loretta Wilber
Grenith J. Zimmerman

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 analysis 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. degree program in statistics, epidemiology, or biostatistics.

A thesis is required. Students work with faculty as research associates during their training.

Learner outcomes

Upon completion of the M.S.P.H. in biostatistics degree program, the graduate should be able to:

1. Apply 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, R, 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
Presentation and defense of thesis	Presentation and defense of completed thesis and writing a publishable paper	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 Epidemiol-

ogy 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

The culminating activity includes a research thesis, including a written publishable report and oral presentation; professional portfolio; 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 the M.P.H. in biostatistics degree program, the graduate should be able to:

1. Apply statistical methods to applied statistical problems.
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, R, 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 Presentation	A written comprehensive paper Presentation of research by student after completion of research	LLU campus 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 in biostatistics degree program includes courses in biostatistics, computer programming, and epidemiology; and a research project. No thesis is required. Comple-

tion 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 Epidemiol-

ogy 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 present and defend his/her research and complete a written publishable paper, as required by the Department of Epidemiology and Biostatistics.

PUBLIC HEALTH CORE		MPH	MSPH	BASIC CERT	ADV CERT
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		29.0	29.0	10.0	3.0

MAJOR		MPH	MSPH	BASIC CERT	ADV CERT
EPDM 510	Principles of Epidemiology II				3.0
EPDM 515	Clinical Trials	3.0	3.0		3.0
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	2.0	
STAT 549	Analytical Applications of SPSS			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
Totals		34.0	39.0	20.0	24.0

FIELD EXPERIENCE

Practicum units are in addition to the minimum graduate units required for the degree.

		MPH	MSPH	BASIC CERT	ADV CERT
STAT 798	Field Practicum	120 clock hours required for each unit of credit	1.0		
Totals		—	—	—	—

THESIS

		MPH	MSPH	BASIC CERT	ADV CERT
STAT 695	Thesis (2.0–8.0)	Includes a minimum of 240 hours of public health practice	8.0		
Totals		—	8.0	—	—
Overall Totals		63.0	76.0	30.0	27.0

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
 William C. Hoffman
 David Holt
 Daniel Jimenez
 George E. Johnston

Marilyn S. Kraft
 Robert I. Krieger
 Harold (Hal) J. Marlow, Jr.
 Kevin Mickey
 Makram Murad al-Shaikh
 Yojo Murata
 Guck T. Ooi
 Sun H. Paik
 Cynthia A. Paulo
 Corwin Porter
 Joon W. Rhee
 Kristen Riegel
 Obed Rutebuka
 Mark Stewart
 Steve Uhlman
 Padma P. Uppala
 Seth A. Wiafe
 Dave A. Williams

CONCENTRATIONS AND PROGRAMS

1. Environmental health sciences
2. Health geoinformatics

ENVIRONMENTAL AND OCCUPATIONAL HEALTH—M.P.H.

SAMUEL SORET, Program Director

The Department of Environmental and Occupational Health builds upon students' academic foundation in the sciences to prepare them to meet the growing employment market for environmental health specialists, industrial hygienists, geographic information system specialists, and other professions that examine human-environment interactions.

The M.P.H. degree in environmental and occupational health 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. 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 Department of Public Health. 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.

Admission into the M.P.H. degree program is considered for individuals who can provide verification of at least two years of applicable environmental health experience (with preference given to applicants who are registered environmental health specialists); or for students without previous professional experience but with a solid science background.

Learner outcomes

Upon completion of the degree, the graduate should be able to:

1. Describe the health effects of major environmental and occupational agents.
2. Apply the principles of risk assessment to determine the impact of environmental and occupational hazards on human health.
3. Recommend appropriate policy and interventions, such as engineering controls, behavior change, or material substitution necessary for reducing human exposures to environmental and occupational hazards.
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. Conduct sampling programs and interpret environmental analytical data.
7. Demonstrate basic familiarity with geospatial information systems technologies and methods in support of environmental health practice.

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.

Degree requirements

PREREQUISITE

The following prerequisite courses must be completed prior to enrolling in the registered envi-

ronmental health specialist 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).

COREQUISITE

The department will consider for acceptance into the program committed students lacking some prerequisites but who otherwise possess a strong academic background and exhibit a solid scholastic performance. Upon acceptance, the missing prerequisite courses are to be taken concurrently during the first two quarters of the program, in addition to the units required for the degree.

Culminating activity

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 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).

Concentrations

ENVIRONMENTAL HEALTH AND GEOINFORMATICS

A concentration in environmental health and geoinformatics can be pursued by individuals who desire to integrate training in modern geotechnologies and related methods into their environmental health studies. Geospatial Information Systems (GIS) skills are highly desired today as an integral part of the informatics competencies that

are required of public health professionals as outlined in the 2002 Institute of Medicine Report and in the CDC's National Agenda for Public Health Informatics. Acquiring dual skills in public health and geoinformatics enhances the preparation of environmental health professionals by expanding their decision-making and problem-solving ability. The department is a national leader in health geoinformatics, and it possesses a world-class GIS laboratory where students can access state-of-the-art geotechnological tools and a multitude of geospatial databases. 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.

Prerequisite

Students must have completed the program prerequisite courses prior to enrolling, as listed under the Environmental and Occupational Health Program. In addition, students in the environmental health and geoinformatics concentration must demonstrate computer proficiency, although no previous experience with GIS technology is required. Advanced placement can be considered for students with previous GIS experience or training.

Each student must work on a field experience in which geospatial technology and methods are applied to a problem or issue in environmental health.

Culminating activity

A formal, oral presentation and a written paper on a topic linking and spanning across the fields of environmental health and geoinformatics are required as a culminating activity. Student presentations and paper are evaluated on professionalism, scientific merit, and thoroughness. The culminating activity shall include a comprehensive examination prior to field experience; field experience, upon completion of essential major course work; professional portfolio, upon completion of 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.

PUBLIC HEALTH CORE		MPH	MPH WITH GIS
ENVH 586	Environmental Health Administration	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
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	4.0
Totals		26.0	26.0

MAJOR		MPH	MPH WITH GIS
ENVH 515	Food Quality Assurance	Not required for experienced Environmental Health Professionals	3.0 3.0
ENVH 524	GIS Software Applications and Methods		3.0 3.0
ENVH 539	GIS Applications in Environmental Health		2.0 2.0
ENVH 567	Hazardous Materials and Solid-waste Management		3.0 3.0
ENVH 568	Water Quality Assurance		3.0 3.0
ENVH 569	Environmental Sampling and Analysis	Not required for experienced Environmental Health Professionals	4.0 4.0
ENVH 581	Principles of Industrial Hygiene		3.0 3.0
ENVH 587	Environmental Toxicology		3.0 3.0
ENVH 589	Environmental Risk Assessment		3.0 3.0
ENVH 605	Seminar in Environmental and Occupational Health		1.0 1.0
ENVH 566	Outdoor Air Quality and Human Health (3.0)	Choose one course	3.0 3.0
ENVH 575	Indoor Air Quality (3.0)		
Totals		24.0–31.0	31.0

GEOINFORMATICS		MPH	MPH WITH GIS
ENVH 521	Cartography and Map Design		2.0
ENVH 522	Principles of Geographic Information Systems and Science		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
Totals		—	11.0

ELECTIVES			MPH	MPH WITH GIS
_____	Elective	Experienced Environmental Health professionals required to take 9 units	2.0–9.0	
		Totals	2.0–9.0	—

FIELD EXPERIENCE			MPH	MPH WITH GIS
Practicum units are in addition to the minimum graduate units required for the degree.			MPH	MPH WITH GIS
ENVH 798B	Field Practicum		12.0	12.0
		Totals	—	—
		Overall Totals	59.0	68.0

Other requirements

In addition to the foregoing degree requirements, the student must also complete the following:

COMPREHENSIVE EXAMINATION

Students must satisfactorily complete a de-

partmental 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.

Public health seminars (10 hours)

Epidemiology—PH

(M.P.H., Dr.P.H., Ph.D., Certificates)

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
 Vichuda Lousuebsakul
 Tomas P. Matamala
 John W. Morgan
 Tricia Penniecook
 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

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 concentrations (each with a different focus) are offered by the program. Each concentration is designed to meet a particular professional need.

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)
 Behavioral science
 Computer literacy
 Additional prerequisites specific to chosen concentration

COREQUISITE

(a limited number of the above courses may be taken during the first two quarters of program, in addition to units required for the degree)

Concentrations

ENVIRONMENTAL EPIDEMIOLOGY

This concentration, administered jointly by the Environmental and Occupational Health and the Epidemiology departments, is designed for persons with special interest in studying how environmental factors affect health and disease. Students in this specialization 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.

Concentration specific prerequisites in addition to degree prerequisites

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)
 Biochemistry (one course)
 General microbiology with laboratory (one course)
 Physics (one year)

HEALTH SERVICES RESEARCH

This concentration is administered jointly by the Department of Health Policy and Management 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.

Concentration specific prerequisites in addition to degree prerequisites

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 during the Fall Quarter).

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 in a minimum of ten noncredit colloquia is required. This is 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).

MEDICAL EPIDEMIOLOGY

This concentration 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 specialization provides a greater emphasis on research and may allow students to complete a moderate-size project with publication potential.

Concentration specific prerequisite in addition to prerequisites required for the degree

License to practice a health profession in the United States or the country of usual residence

NUTRITIONAL EPIDEMIOLOGY

This concentration 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.

Concentration-specific prerequisites in addition to prerequisites required for the degree

Chemistry through organic (at least 5 quarter units of organic)

Microbiology with laboratory (one course)

Anatomy and physiology (one course or course sequence)

Corequisite

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).

RESEARCH EPIDEMIOLOGY

This concentration 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.).

Concentration-specific prerequisites in addition to prerequisites required for the degree

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

SPATIAL EPIDEMIOLOGY

This concentration is managed 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 specialization 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. For additional information, please see the Environmental and Occupational Health Program in Section III of this Catalog.

Degree requirements**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).

	HEALTH			
	ENVIRON	SERV	MEDICAL	RESEARCH
	EPID	RESEARCH	EPID	EPID
PUBLIC HEALTH CORE				
ENVH 509 Principles of Environmental Health	3.0	3.0	3.0	3.0
ENVH 586 Environmental Health Administration	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	2.0
HADM 509 Principles of Health Policy and Management	3.0	3.0	3.0	3.0
HPRO 509 Principles of Health Behavior	3.0	3.0	3.0	3.0
HPRO 536 Program Planning and Evaluation	2.0	2.0	2.0	2.0
NUTR 509 Public Health Nutrition and Biology	3.0	3.0	3.0	3.0
PHCJ 605 Overview of Public Health	1.0	1.0	1.0	1.0
PHCJ 675 Integrated Public Health Capstone	2.0	2.0	2.0	2.0
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	4.0
Totals	29.0	29.0	29.0	29.0

	HEALTH			
	ENVIRON	SERV	MEDICAL	RESEARCH
	EPID	RESEARCH	EPID	EPID
MAJOR				
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 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	3.0	3.0	3.0
EPDM 512 Multivariate Modeling in Epidemiology (1.0–3.0)	3.0	1.0	3.0	3.0
EPDM 515 Clinical Trials	3.0			
EPDM 544 Epidemiology of Infectious Disease	3.0		3.0	3.0

EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement	3.0			
EPDM 566	Epidemiology of Cardiovascular Disease	3.0			
EPDM 588	Environmental and Occupational Epidemiology	3.0			
EPDM 635A	Epidemiological Studies of Seventh-day Adventists A	1.0			
HADM 528	Organizational Behavior in Health Care	3.0			
HADM 534	Healthcare 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			
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	4.0	4.0	3.0
STAT 548	Analytical Applications of SAS	2.0	2.0	4.0	4.0
STAT 557	Research Data Management	3.0	2.0	2.0	2.0
STAT 564	Survey and Advanced Research Methods	3.0	3.0	3.0	3.0
EPDM 565	Epidemiology of Cancer (3.0)				
EPDM 566	Epidemiology of Cardiovascular Disease (3.0)				
	Choose on course	3.0	—	—	3.0
		—	—	—	—

EPDM 515	Clinical Trials (3.0)																			
EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement (3.0)	Choose one course	—	—	—	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0
EPDM 565	Epidemiology of Cancer (3.0)	Choose one course																		
EPDM 566	Epidemiology of Cardiovascular Disease (3.0)	in consultation with advisor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0
EPDM 567	Epidemiology of Aging (3.0)	Choose one course																		
NUTR 534	Maternal and Child Nutrition (3.0)	Choose one course	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0-3.0
NUTR 536	Nutrition and Aging (2.0)	in consultation with advisor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		Totals	47.0	43.0	21.0	22.0	42.0-43.0	27.0												

HEALTH

		ENVIRON EPID	HEALTH SERV RESEARCH	SPATIAL EPID	MEDICAL EPID	NUTRI EPID	RESEARCH EPID		
GEOINFORMATICS									
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	—	—	—	—	—	—	—

HEALTH

		ENVIRON EPID	HEALTH SERV RESEARCH	SPATIAL EPID	MEDICAL EPID	NUTRI EPID	RESEARCH EPID		
ELECTIVES									
EPDM 5__	Epidemiology Elective	—	—	—	5.0	—	—	—	8.0
EPDM 635B	Epidemiological Studies of Seventh-day Adventists B	—	—	—	—	—	—	—	—

ENVH 521	Cartography and Map Design (2.0)									
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)									
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)									
Choose one course		2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0
Totals		2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0	7.0-8.0	2.0-3.0	2.0-3.0	10.0-11.0	

HEALTH

	ENVIRON EPID	SERV RESEARCH	SPATIAL EPID	MEDICAL EPID	NUTRI EPID	RESEARCH EPID
RESEARCH PROJECT						
ENVH 699	2.0		2.0			
EPDM 699A	1.0	1.0	1.0	1.0		1.0
EPDM 699B						1.0
EPDM 798						2.0
NUTR 699					2.0	
Totals		3.0	3.0	1.0	2.0	4.0

FIELD EXPERIENCE

Practicum units are in addition to the minimum graduate units required for the degree.

	HEALTH										Totals	
	ENVIRON EPID	RESEARCH	SERV	SPATIAL EPID	MEDICAL EPID	NUTRI EPID	RESEARCH EPID	RESEARCH EPID	RESEARCH EPID	RESEARCH EPID		
EPDM 798 Field Practicum	1.0	1.0	1.0		1.0		2.0					
HADM 699 Applied Research			2.0									
Overall Totals	81.0–82.0	75.0–76.0	69.0	58.0	75.0–77.0	67.0						

120 clock hours
required for each unit
of credit

EPIDEMIOLOGY—DR.P.H.

W. LAWRENCE BEESEN, Program Director

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. degree, 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 National Institutes of Health (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.

S. F. KNUTSEN, Program Director

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 stu-

dent'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 his/her training. In addition to participating as a teaching assistant and a laboratory assistant, the student will also deliver lectures in courses. The program ordinarily consists of twelve quarters. At least five of these quarters must be devoted to a research project. The student is responsible for gaining the commitment of an appropriate faculty member to serve as his/her 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 research conducted; and communicate orally.
5. Develop lectures and teach at the graduate level in 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 of one, preferably more	On file in-house
Course evaluations	Each course is assessed at the end	On file in-house
Exit survey and interview	Each graduate completes both a written survey 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 (I) every Fall Quarter in which they are students in the epidemiology program. Registration implies

attendance and participation in seminar projects during the 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 course.

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

		DRPH	PHD
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

		DRPH	PHD
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

		DRPH	PHD
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)		
Totals		9.0	

Continued on 493

EPDM 625	Special Topics in Epidemiology (1.0–3.0)	<i>Continued from 492</i>		
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	12.0 9.0

BIOMEDICAL SCIENCES

		DRPH	PHD
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

		DRPH	PHD
HADM 510	Health Policy Analysis and Synthesis (3.0)		
HADM 514	Health Care Economic Policy (3.0)		
HADM 528	Organizational Behavior in Health Care (3.0)	Choose 6 units	6.0 —
HADM 542	Managerial Accounting for Health Care Organizations (3.0)		
HADM 604	Health Systems Strategic Planning (3.0)		

RELIGION

		DRPH	PHD
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

		DRPH	PHD
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.

		DRPH	PHD
_____	Elective		7.0–10.0
		Totals	— 7.0–10.0

ELECTIVES

			DRPH	PHD
-----	Elective	May be chosen from another institution, in consultation with advisor	8.0	
Totals			8.0	—

RESEARCH AND DISSERTATION

			DRPH	PHD
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	25.0
Overall Totals			113.0	78.0

Other requirements

The student must attend a minimum of twenty department forums per year in the program.

Both the Dr.P.H. and the Ph.D. degrees 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, part 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—one of which 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 Health—PH

(M.P.H., Dr.P.H., Certificates)

JAYAKARAN S. JOB, Chair

FACULTY

- Juan Carlos Belliard
- Jesse Bliss
- David T. Dyjack
- Donald Gaede
- Bradley Jamison
- Eddy Jara
- Ronald H. Mataya
- Susan B. Montgomery
- Ehren Ngo
- Sharon Rushing
- Ryan Sinclair
- Pramil N. Singh
- Ann Stromberg
- Seth Wiafe

GLOBAL HEALTH—M.P.H.

JAYAKARAN S. JOB, Program Director

Program description

The Department of Global Health (GLBH) prepares committed professionals who are both technically competent and cross-culturally skilled in creating and facilitating sustainable health and development programs in diverse settings and populations. Utilizing an experiential, evidence-based model of learning, this program enables graduates to contribute to a better quality of life for all people—especially those who are vulnerable, underserved, marginalized, and disadvantaged. The department’s extensive network of

global and local resources affords a broad spectrum of options for students to learn and practice the “art and science” of this exciting discipline.

The M.P.H. degree in global health prepares career professionals who qualify for entry-level positions in nongovernmental organizations; faith-based and other voluntary agencies; community-based organizations; county, state, and national health departments; private foundations; public health practice organizations; and in the nonprofit, relief-and-development sector. Graduates also find positions in government and transnational organizations, such as the World Health Organization, UNICEF, the World Bank, Centers for Disease Control and Prevention; and in national assistance organizations like the United States Agency for International Development. Further academic training is also an option for graduates interested in teaching and research. Graduates with field experience (including students who add the global health M.P.H. degree to a previous clinical or academic degree) will qualify for managerial positions in program planning and evaluation, contracting, technical assistance, grant writing, and advocacy.

Learner outcomes

Utilizing an experiential approach, the competency-based curriculum is built around three themes:

1. Developing and maintaining a sustainable healthy environment;
2. Supporting and empowering communities, families, and individuals; and
3. Advocating for vulnerable populations.

By the end of the program, graduates are expected to demonstrate competency in:

1. Assessing capacity, systems, services, needs, and resources.
2. Planning comprehensive, integrated interventions.
3. Planning, implementing, maintaining, and evaluating community-based programs.
4. Promoting collaborations among sectors, disciplines, countries, and regions.

5. Advocating for social justice, equity, and access to health and other services that contribute to individual and community well-being.
6. Contributing to operational and translational research.

Educational effectiveness

Educational effectiveness will be determined through reading assignments and reports, research papers, oral presentations, group work on proposals, community engagement projects and research, laboratory exercises, case studies, tests, quizzes, field practicum, and exit interview.

Corequisites

(may be taken concurrently during the first two quarters of program, in addition to units required for the degree)

- Anatomy and physiology
- Microbiology

Units required

The total minimum units required is 56 (including culminating experience), as well as the field practicum units (variable). Ten public health seminars are required.

Global epidemiology concentration

PRAMIL N. SINGH, Director

PROGRAM DESCRIPTION

In schools of public health, a traditional domain of the M.P.H. degree in epidemiology has been the training in population-based survey research. Three recent trends in population health are noteworthy: 1) the emergence of multinational survey research teams working in the environments of academia (i.e., Fogarty/NIH model of universities in high-income and low-income regions collaborating), nongovernmental organizations, and policy institutes; 2) the emergence of a chronic disease epidemic in developing regions in which public health in such nations as India and China is facing the challenge of obesity co-existing with

malnutrition; and 3) the need for valid survey data from large samples for immediate use in program planning and health policy relative to exposure and disease.

In light of these global trends, the global epidemiology M.P.H. degree student will complete the same formal training in epidemiologic research methods as other epidemiology majors, but will integrate this training with the global health knowledge base, specific global health skills (qualitative research methods, alternative sampling strategies, alternative survey design approaches, and spatial data analysis), and global health worldview. The training will enable graduates to plan, design, and implement surveys of hard-to-access, vulnerable populations in global and community-based settings. After the first year of intensive course work on the core knowledge and skills of global health and epidemiology, the global epidemiology major will be engaged in a summer of integrated community development, research, and field practicum activities in community and/or global settings.

This concentration is designed to educate global health professionals who will be capable of:

1. Planning, designing, and implementing epidemiologic studies that serve research and program planning needs in global and community settings.
2. Planning, designing, and implementing a "mixed methods" (quantitative and qualitative components) study that serves research and program planning needs in global and community settings.
3. Analyzing and interpreting data from a wide range of methodologies (quantitative, qualitative, GIS) to serve research, program planning, and health policy initiatives in global and community settings.
4. Incorporating the knowledge base (i.e., primary health care, health disparities, millennium development goals, culture/behavior-social context of health, child health and survival, public health systems and government, micro-enterprise/poverty alleviation/social economics, complex health emergencies and preparedness, nutrition and food security, health education, injury/violence prevention and control), skills, and worldview of global health training into their planning, design, and implementation of epidemiologic studies.
5. Writing grant proposals to fund global epidemiology and global health research and programs.

EDUCATIONAL EFFECTIVENESS

Educational effectiveness will be determined through reading assignments and reports, research papers, oral presentations, group work on proposals, community engagement projects and research, laboratory exercises, case studies, tests, quizzes, field practicum, and exit interview.

COREQUISITE

(may be taken concurrently during the first two quarters of program, in addition to units required for the degree)

- Anatomy and physiology
- Microbiology
- College algebra (calculus preferred)

FIELD PRACTICUM

GLBH 699/ EPDM 699 Applied Research and Field Practicum

Students will complete a major field practicum component in a global community setting that partners them with an organization outside the University (governmental, nongovernmental, community-based partnership, humanitarian assistance). This experience will provide students an opportunity to actively participate in and observe the organization's practice of global health and epidemiology.

This comprehensive, 4-unit research-based project typically requires a two-to-three month continuous engagement in a global community setting.

The on-site research objectives will be met by students completing an epidemiology research project in the global community setting under the mentorship of faculty from global health and epidemiology. The preferred scenario is that the

student is working on a faculty member's project in the global community setting.

Global maternal and child health concentration

RONALD H. MATAYA, Director

DESCRIPTION

In its comprehensive definition, the term maternal and child health (MCH), a major subfield of public health, encompasses women, infants, children of all ages, adolescents, and families (Association of Teachers in Maternal and Child Health 2001). Therefore, the goal of MCH programs is to improve the health of women, children, adolescents, and families. Against the backdrop of the Healthy People 2010 document, which highlights the importance of their health, this goal emerges out of a clear recognition that women and children are the most vulnerable, least powerful and often neglected members of societies around the world; that women and children form a major segment of the population, particularly in developing countries; that the health of mothers and children is closely interrelated; that a significant part of MCH morbidity, disability, and mortality stems from preventable causes; and that women, infants, children of all ages, adolescents, and families deserve special services in order to assure their future health and development and that of the communities in which they live.

Building on its strong foundation of knowledge, skills, and worldview of community health and development, the Global Health Department will incorporate the recommended competencies throughout the two-year MCH curriculum. The program will utilize family and community-centered interdisciplinary approaches with special emphases on cultural competency and empowerment. Graduates of this program will be able to effectively apply their MCH skills and knowledge both in the developed and developing world context.

This concentration is designed to educate global public health professionals who will be capable of:

1. Planning, implementing, monitoring, and evaluating maternal and child health

2. Understanding, promoting, developing, and applying national and international health policies and programs that impact maternal and child health issues.
3. Advocating for public health policies and programs to improve maternal and child health.
4. Writing grant proposals to fund maternal and child health programs locally and internationally
5. Preparing behavioral change communications materials in maternal and child health.
6. Conducting research on maternal and child health

EDUCATIONAL EFFECTIVENESS

Educational effectiveness will be determined through reading assignments and reports, research papers, oral presentations, group work on proposals, community engagement projects and research, laboratory exercises, case studies, tests, quizzes, field practicum, and exit interview.

Co-requisite

(may be taken concurrently during the first two quarters of program, in addition to units required for the degree)

Anatomy and physiology
Microbiology

UNITS

Total minimum required units—74 units (including Culminating Experience) plus Field Practicum units (variable).

INDIVIDUALS WHO MAY BENEFIT FROM THE PROGRAM

The program is best suited for students who have had two or more years of public health practice and have specific interest in maternal and child health. In addition, this specialization will be appropriate for global health students from diverse cultural backgrounds who have a keen interest in working within their communities to improve the health of mothers and children.

PUBLIC HEALTH CORE		GLOBAL HEALTH	GLOBAL EPID	MATRNL CHILD HEALTH
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 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 521	Biostatistics I		4.0	
STAT 509	General Statistics (4.0)	Choose one course 4.0	—	—
STAT 521	Biostatistics I (4.0)			
Totals		27.0	27.0	27.0

MAJOR		GLOBAL HEALTH	GLOBAL EPID	MATRNL CHILD HEALTH
EPDM 510	Principles of Epidemiology II		3.0	
EPDM 512	Multivariate Modeling in Epidemiology (1.0–3.0)		1.0	1 unit required; additional 2 units may be taken as electives
EPDM 534	Epidemiology of Maternal-Child Health			3.0
EPDM 568	International Epidemiology		2.0	
EPDM 699A	Applied Research		1.0	
EPDM 699B	Applied Research II		1.0	
GLBH 516	HIV/AIDS: Implications for Public Health			3.0
GLBH 545	Integrated Community Development	4.0	4.0	4.0
				This field-based course involves international travel and fulfillment of required pre-requisites. A separate laboratory fee must be paid at the time of registration into this course (subject to change, if needed).
GLBH 550	Women in Development			3.0
GLBH 564	Fundamentals of Community Health and Development I	2.0	2.0	2.0

GLBH 565	Interventions in Community Health and Development I	3.0	3.0	3.0
GLBH 566	Fundamentals of Community Health and Development II	2.0	2.0	2.0
GLBH 567	Interventions in Community Health and Development II	3.0	3.0	3.0
GLBH 568	Fundamentals of Community Health and Development III	2.0	2.0	2.0
GLBH 569	Interventions in Community Health and Development III	3.0	3.0	3.0
GLBH 584	Special Topics in Global Health			1.0
GLBH 605	Seminar in Global Health	1.0	1.0	1.0
GLBH 699	Applied Research in Global Health		2.0	
HPRO 523	Maternal/Child Health: 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
STAT 515	Grant- and Contract-Proposal Writing	3.0	3.0	3.0
STAT 522	Biostatistics II		4.0	
STAT 548	Analytical Applications of SAS		2.0	
Totals		23.0	39.0	47.0

ELECTIVES IN DESCRIPTIVE EPIDEMIOLOGY		MATRNL		
		GLOBAL HEALTH	GLOBAL EPID	CHILD HEALTH
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 588	Environmental and Occupational Epidemiology (3.0)			
GLBH 544	Epidemiology of Infectious Disease (3.0)			
GLBH 561	Epidemiology of Tobacco Use and Control I (3.0)			
GLBH 562	Epidemiology of Tobacco Use and Control II (3.0)			
NUTR 543	Concepts in Nutritional Epidemiology (3.0)			
Totals		—	3.0	—

Choose one course

ELECTIVES IN GLOBAL EPIDEMIOLOGY		GLOBAL HEALTH	GLOBAL EPID	MATRNL CHILD HEALTH
ENVH 522	Principles of Geographic Information Systems and Science (3.0)			
ENVH 524	GIS Software Applications and Methods (3.0)			
EPDM 512	Multivariate Modeling in Epidemiology (1.0) <i>1 unit required; additional 2 units may be taken as electives.</i>	Choose 5 units	—	5.0
HPRO 589	Qualitative Research Methods (3.0)			—
Totals			—	5.0

ELECTIVES IN GLOBAL HEALTH		GLOBAL HEALTH	GLOBAL EPID	MATRNL CHILD HEALTH
GLBH 514	Ethnographic Methods in Public Health (3.0)			
GLBH 516	HIV/AIDS: Implications for Public Health (3.0)			
GLBH 517	Cultural Issues in Health Care (3.0)			
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 544	Epidemiology of Infectious Disease (3.0)			
GLBH 547	Refugee and Displaced Population Health (3.0)			
GLBH 548	Violence and Terrorism Issues (3.0)	Choose a minimum of 6 units	6.0	—
GLBH 550	Women in Development (3.0)			—
GLBH 555	Technology in Emergency Management (3.0)			
GLBH 556	Community Data Analysis for Sustainable Development (3.0)			
GLBH 557	Epidemiology of Disasters (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)			
GLBH 561	Epidemiology of Tobacco Use and Control I (3.0)			
GLBH 562	Epidemiology of Tobacco Use and Control II (3.0)			
Totals			6.0	—

PRACTICUM

Practicum units are in addition to the minimum graduate units required for the degree

		GLOBAL HEALTH	GLOBAL EPID	MATRNL CHILD HEALTH
GLBH 699	Applied Research in Global Health (2.0–4.0)	Choose one course	—	—
GLBH 796	Internship (12.0)			
GLBH 797	MIP Residency in Global Health (12.0)			
GLBH 798	Culminating Activity/Field Practicum (12.0)			
Totals		—	—	—
Overall Totals		56.0	74.0	74.0

Culminating experience

The following requirements comprise the culminating experience for the M.P.H. degree in global health:

1. Field practicum report
All students complete a written field practicum report of their approved field experience, using a standardized format (as provided in the department’s student handbook). The format includes a description of the program setting/agency; a review of literature of the public health issue addressed; and specific objectives, methods, results, and discussion (plus references and appendices). A section is devoted to the student’s critical evaluation of the field experience. Documentation also includes a reference from the student’s field supervisor/mentor. The final document is reviewed and approved by the student’s faculty advisor and a second designated reader before being accepted by the department as fulfilling the requirement. Additionally, the global epidemiology concentration requires an oral presentation of research findings at either the GLBH or EPDM seminar

2. Portfolio
The professional portfolio enables students to prepare and collect evidence of content knowledge, skills, and worldview used to support learning activities. It also serves as evidence presented to potential employers of the skills and capacities that students have developed while in the program.
3. Exit interview
This interview covers a range of questions from the University, school, and department perspectives aimed at learning about the students’ academic experience and at ascertaining students’ future directions.
4. Two courses are also considered part of the culminating experience: PHCJ 675 Integrated Public Health Capstone and GLBH 545 Integrated Community Development.

Public health seminars—10 required

GLOBAL HEALTH—DR.P.H.

Currently closed for enrollment.

Health Care Administration—PH

(M.B.A. on and off campus)

S. ERIC ANDERSON, Department Chair

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

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 Dwight Barrett
 Donna Bennett
 Richard Blanco
 Richard Bruno
 John Carney
 Bonnie Chi-Lum
 Wayne S. Dysinger
 Dwight C. Evans
 Earl Ferguson
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 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
 Akankshi Sharma-Arora
 Paul Simms
 Teri S. Tamayose
 David Tejada-de-Rivero
 C. Torben Thomsen
 Abel Torres
 Brian Weed

HEALTH CARE ADMINISTRATION—M.B.A.

STEVE SERRAO, Program Director

Description

The School of Public Health offers a Master of Business Administration (M.B.A.) degree in health care administration on campus as well as in Kailua, Hawaii, and in Tamuning, Guam. The off-campus curriculum was developed for a specific population. The Master of Business Administration (M.B.A.) degree provides students with a broad understanding of health care management in line with appropriate and relevant industry-leading competencies in addition to practical experience in applying the principles learned. Graduates are prepared for administrative careers in health service organizations—including medical centers, health plans, physician group practices and dental practices, and long-term and managed-care settings, among others.

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 policies.
3. Apply health care finance and managerial accounting in health care.
4. Incorporate market research towards strategic planning in health care.
5. Employ a wide array of quality improvement processes and tools in health care operations management.
6. Understand technology that supports the practice, research, and decision making in health care.

Educational effectiveness

Educational effectiveness will be determined by research, papers, class presentations, debates, tests, field practicum project/paper, and exit interview.

Field practicum

The on-campus M.B.A. degree student is required to successfully demonstrate an understanding of and the ability to apply stated competencies towards an administrative project in a health care setting. Upon enrollment in the required field practicum, on-campus students must complete both the colloquia and public health seminars, along with their 400 hours of field experience. The off-campus student is required to successfully demonstrate an understanding of all the primary components of the program and show the ability to apply them during the course of his field practicum experience. The School of Public Health also requires the student to complete ten public health seminars during the time s/he is in the M.B.A. degree program.

Culminating experience

Comprehensive examinations. The on-campus student is required to successfully complete the oral and written comprehensive examinations at the end of the program. This will include the successful completion of the M.B.A. degree portfolio. Comprehensive examinations will be facilitated in HADM 690 Integrated Health Care Management Capstone.

Field presentation and report. The on-campus student is required to produce a final report at the end of the field practicum experience and to present the findings at a formal presentation.

The off-campus student is required to complete a research paper or professional project, field experience upon completion of essential major course work; a professional portfolio upon completion of the field experience; and an exit interview with the program director at the conclusion of the program.

Other program requirements

Professional membership. During their first quarter, students are required to secure and maintain membership in the American College of Healthcare Executives (ACHE).

Colloquia. Participation in ten hours of noncredit colloquia designed to acquaint students with various aspects of the health care industry and the public health system is required of all on-campus students. Colloquia hours are not required for off-campus students.

Exit interview and/or survey. The on-campus student is also required to either fill out an exit survey and/or attend an exit interview with the M.B.A. degree program director at the conclusion of the program.

Public health seminars—ten required

Individuals who may benefit from the program

Individuals preparing for administrative careers in health service organizations, including hospitals, health plans, physician group practices, dental practices, and long-term and managed-care settings, among others.

Admission requirements

Bachelor's degree from an accredited college or university

Minimum cumulative G.P.A. of 3.0

Acceptable score on GRE or GMAT (not required of students in the off-campus program)

PUBLIC HEALTH CORE		ON CAMPUS	OFF CAMPUS
EPDM 505	Principles of Epidemiology MBA	3.0	
EPDM 509	Principles of Epidemiology I		3.0
HADM 509	Principles of Health Policy and Management		3.0
STAT 505	Statistics in Health Administration	3.0	3.0
Totals		6.0	9.0

MAJOR		ON CAMPUS	OFF CAMPUS
HADM 506	Principles of Health Care Finance	3.0	3.0
HADM 507	Principles of Financial Accounting in Health Care	3.0	3.0
HADM 514	Health Care Economic Policy	3.0	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	3.0
HADM 534	Healthcare Law	3.0	3.0
HADM 542	Managerial Accounting for Health Care Organizations	3.0	3.0
HADM 555	Health Care Delivery Systems	4.0	
HADM 559	Health Care Marketing	3.0	3.0
HADM 564	Health Care Finance	3.0	3.0
HADM 574	Managing Human Resources in Health Care Organizations	3.0	3.0
HADM 575	Management Information Systems in Health Care	3.0	3.0
HADM 580	Foundations of Leadership		3.0
HADM 601	Health Systems-Operations Management	3.0	3.0
HADM 604	Health Systems Strategic Planning	3.0	3.0
HADM 605	Health Care Quality Management	3.0	3.0
HADM 690	Health Care Management Capstone	4.0	4.0
STAT 515	Grant- and Contract-Proposal Writing		3.0
Totals		56.0	49.0

RELIGION		ON CAMPUS	OFF CAMPUS
RELE 534	Ethical Issues in Public Health		3.0
RELE 535	Ethical Issues in Health Care Management	3.0	
Totals		3.0	3.0

FIELD EXPERIENCE		ON CAMPUS	OFF CAMPUS
Practicum units are in addition to the minimum graduate units required for the degree.			
HADM 695	Health Administration Field Practicum		3.0
HADM 798D	Health Administration Field Practicum	12.0	
Totals		—	3.0
Overall Totals		65.0	64.0

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 a 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

The health education major focuses 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.

Students who complete the 58-unit curriculum (additional 1 unit in online learning for online students) 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.

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.

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 with a major in health education will have the skills necessary to:

- Design, develop, implement, market, and evaluate health promotion and education programs utilizing principles from human learning motivation, communication, organizational behavior, and health behavior changes
- 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.

Bachelor’s degree with a G.P.A. of 3.0 or better
 Professional license in a medical or health-related discipline, or a minimum of two years of public health experience (preferred for online format)

Educational effectiveness indicators

- Comprehensive examination
- Field practicum report
- Professional portfolio
- Capstone project
- Exit interview/Survey

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)

PREREQUISITE

Demonstrate college-level conceptualization and writing skills
 Graduate Record Examination (GRE)

Web site information

For more information, please see our Web site at <www.llu.edu/public-health/online/index.page>.

PUBLIC HEALTH CORE			ON CAMPUS	ONLINE
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
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	To be taken the first quarter of program	1.0	1.0
PHCJ 675	Integrated Public Health Capstone	To be taken in the final quarter of program	2.0	2.0
RELE 534	Ethical Issues in Public Health		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

MAJOR			ON CAMPUS	ONLINE
HPRO 524	Adolescent Health		3.0	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
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 and Evaluation	Taken concurrently with HPRO 537B	3.0	3.0
HPRO 539	Policy and Issues in Health Education		3.0	3.0
HPRO 553	Addiction Theory and Program Development		3.0	3.0
HPRO 589	Qualitative Research Methods	Taken concurrently with HPRO 537A	3.0	3.0
HPRO 696	Directed Study/Special Project			4.0
Totals			25.0	25.0

SELECTED ELECTIVES

			ON CAMPUS	ONLINE
HPRO ___	Health Education ()	Choose from this list	6.0	6.0
HPRO 526	Lifestyle Diseases and Risk Reduction (3.0)			
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)			
Totals			6.0	6.0

FIELD EXPERIENCE

Practicum units are in addition to the minimum graduate units required for the degree.

			ON CAMPUS	ONLINE
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			—	—
Overall Totals			58.0	59.0

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.

Field practicum

Each student is required to complete a total of 400 hours and no less than 240 hours of practicum.

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—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. The program emphasizes 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

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 with a minimum G.P.A. of 3.2
 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 and Evaluation	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 (3) <i>Advanced epidemiology course, chosen in consultation with advisor</i>	Choose one course	3.0
HPRO 589	Qualitative Research Methods (3)		
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 534A	Research Methods		2.0
HPRO 534B	Research Methods		2.0
HPRO 544	Health Education Evaluation and Measurement		3.0
HPRO 685	Preliminary Research Experience		2.0
HPRO 694	Research		6.0
PHCJ 604	Research Seminar	Taken after HPRO 534A & B	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
Overall Totals			98.0

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 courses at a nearby community college in order to complete their outstanding prerequisite requirements. A minimum of 192 quarter units is needed for the B.,S.P.H. degree. This University also offers a flexible plan for transfer students. Students must complete 105 units at Loma Linda University and 87 quarter units may be transferred from another institution.

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 environ-

mental 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 examination may be written, oral, demonstration, or a combination of all three.

RECOMMENDED 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	6.0
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

* U.S. history or Western civilization (or equivalent), depending on history courses taken in high school

FRESHMAN + SOPHOMORE

58 semester units

87 quarter units

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)	

Totals 42.0–44.0

SENIOR YEAR

UNITS

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

Overall Totals 81.0–84.0

Health Policy and Leadership—PH

(M.P.H., Dr.P.H.)

HEALTH POLICY AND LEADERSHIP—M.P.H.

DORA BARILLA, Program Director

Description

The Master of Public Health (M.P.H.) degree in health policy and leadership prepares participants to develop a new mind set and develop effective leadership strategies to maximize success. The program is designed to enhance the skills and abilities of individuals interested in leadership and to strengthen their knowledge and understanding of health policy needed to effectively anticipate challenges and impact change.

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.

Educational effectiveness

- Course work
- Individual advisement
- Field experience
- Professional portfolio
- Exit interview

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
STAT 509	General Statistics (4)	Choose one course 4.0
STAT 521	Biostatistics I (4)	
Totals		26.0

MAJOR		UNITS
HADM 501	Health Policy and Leadership Seminar	1.0
HADM 510	Health Policy Analysis and Synthesis	3.0
HADM 529	Health Care Negotiations and Conflict Resolution	3.0
HADM 532	Public Health Law	3.0
HADM 536	Health Policy Communications	3.0
HADM 545	Government Policy and Health Disparities	3.0

HADM 580	Foundations of Leadership		3.0
HADM 514	Health Care Economic Policy (3)	Choose one course	3.0
HADM 516	International Economic Policy (3)		
Totals			22.0

RELIGION		UNITS
RELE 534	Ethical Issues in Public Health	3.0
Totals		3.0

ELECTIVES		UNITS
HADM 506	Principles of Health Care Finance (3)	Choose one course 3.0
HADM 555	Health Care Delivery Systems (4)	
HADM 604	Health Systems Strategic Planning (3)	
Totals		3.0

PRACTICUM		UNITS
HADM 797	Health Policy and Leadership Field Practicum	3.0
Totals		3.0
Overall Totals		57.0

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 in a minimum of ten noncredit colloquia designed to acquaint students with various aspects of the health care industry is required. Attendance at these colloquia will be in addition to attendance at ten public health seminars.
- *Public health seminars (10).*

Culminating experience

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. program director at the conclusion of the program).

Research

Participants will have the opportunity to be

involved in research and policy projects at various levels. They may be part of an ongoing research or policy project at the University or in the community. Faculty maintains a research agenda and invites participants to join them in ongoing projects. It is anticipated that the research conducted by the program participants would coincide with the research interests of one or more faculty.

Individuals who may benefit from the program

Participants will be drawn primarily from public health; but they also will be drawn from health care, higher education, community-based organizations, and those working in public policy. This program is specifically designed for individuals interested in multidisciplinary approaches to problem solving and creating a healthier future.

HEALTH POLICY AND MANAGEMENT—DR.P.H.

DAVID S. PENNER, Program Director

General description

The current, rapidly changing leadership arena demands a diversity of leadership talents to

respond to the varied challenges posed by the global community. Moreover, creative approaches are needed to meet these challenges. The Doctor of Public Health in health policy and management degree program of Loma Linda University is a unique and wonderful opportunity to serve at the very heart of leadership development.

The primary focus of this program is to enhance the skills and abilities of those in positions of leadership; to add to the body of knowledge about leadership through observation, reflection, and research; and to bring together leaders who desire to learn, mentor, and model good leadership. This program, in part, meets the great need for leaders of integrity and understanding in both research and practice.

Leadership talents cannot be taught, but they can be developed and strengthened. The design of the program is to help individuals discover their talents and strengths, imagine how they can be developed, and then devise plans to increase and extend their skills and knowledge around those unique strengths.

Description of the curriculum components

ORIENTATION

Prior to admission to the doctoral program, each participant completes the orientation for leadership (12 credits). Composed of three courses, this orientation includes time for assessing individual leadership strengths and academic potential, understanding personal leadership styles and skills, exploring areas of future leadership development, and preparing academic plans. Admission to the orientation is limited to thirty per cohort. Admission to the degree is limited to nine-to-twelve individuals per cohort. Admission to the orientation for leadership is not admission to the doctoral degree program.

ACADEMIC PLAN

During the orientation for leadership, each participant creates an individualized academic plan. This plan outlines the specific details for the participant's degree program. It includes elements

such as a statement of goals, a record of past experience, the result of various leadership tests and assessments, a personal statement of vision of achievement by the end of the program (and beyond), and a specific plan of how the participant will demonstrate the eight areas of leadership competency. For each of the areas of competency, the participant indicates how that particular competency is to be achieved—listing specific courses, strategic experiences, directed research, past experience, and/or other evidence to be presented as part of his portfolio. A request is also submitted at this time for academic advisors and research supervisors. The completed academic plan is presented as part of the application for admission to the doctoral program and must be approved by the program faculty before the participant is admitted to the doctoral program. Changes in the academic plan may be made during the program with approval of the program faculty.

PORTFOLIO

Achievement of competency is found in the evidence contained in the portfolio, not in attendance records or simply the completion of required course work. Based on the academic plan approved at the time of admission to the doctoral program, the participant assembles the portfolio throughout the program. The completed portfolio is presented at the end of the program as evidence that all areas of competency have been met and the requirements of the program satisfied.

ACADEMIC COURSES

Depending on specific needs outlined in the academic plan, participants choose from a variety of courses and mentored activities. Courses are available in traditional classroom settings, online, or through directed study and mentored activities.

RESEARCH PROJECTS

Throughout their program of study, participants are involved in research at various levels. They may be part of an ongoing research projects at the University or elsewhere. The doctoral dissertation is an integrated part of the degree.

SUPPORT

Given the nature of the program and the discipline, interaction with many other persons is paramount. Leadership cannot be studied in isolation; collaboration is encouraged and modeled throughout the program. Since support and advisement is so critical, special emphasis is placed on academic support. Three examples follow.

Faculty advisors and professional mentors. All participants have a primary academic advisor assigned from the core health policy and leadership faculty. In addition, participants may choose additional mentor(s) from beyond the department or University. These mentors provide support and encouragement, as well as depth and expertise.

Learning and study support groups. There are at least two specifically designed study groups. One group of fellow participants (three-to-five) serves as a creative force and idea exchange. The group meets on a regular basis to keep members of the group focused on completing the degree. Another group, created by each participant and formed of individuals primarily outside the program (five-to-eight) creates an extended learning environment and helps to create/provide opportunities in which the participants can improve and demonstrate their leadership skills. These learning groups include mentors, work colleagues, professional associates, and friends. Although not technically part of the health policy and leadership faculty, these groups nonetheless become extensions of the ethos and mission of the program.

Yearly conferences. As professionals, all participants attend an annual health policy and leadership conference until the completion of their programs and may continue to do so afterward. These open conferences provide students opportunities to discuss current health policy and leadership issues, present scholarly papers, consult with academic advisors, report on their progress in the program, and meet with fellow participants for collaborative and networking activities. The first three conferences are taken for academic credit.

Learning outcomes

In addition to the eight University learning outcomes, the Health Policy and Leadership Program

has chosen five additional learning outcomes.

1. *Leadership:* Participants understand a broad range of leadership issues and participate in future-oriented planning and change processes.
2. *Health policy:* Participants understand that health policy is a multidisciplinary field of inquiry and practice concerned with the delivery, quality, and costs of health and health care for individuals and populations.
3. *Ethics:* Participants demonstrate ethical choices, values, and professional practices implicit in their discipline and personal ethics.
4. *Reflection:* Participants model reflective leadership.
5. *Scholarship:* Participants develop skills in reading, evaluating, conducting, and reporting research.

Areas of leadership competency and underlying themes

In order to more clearly define the range of meaning and expectations for this program, eight areas of leadership competency and two underlying themes have been identified and elaborated. These form the framework in which the academic plan is developed and the portfolio evaluated.

1. *Policy development and strategy:* Participants understand the framework for policy development and explain how strategy is essential to achieving outcomes.
2. *Systems thinking:* Participants explore the dynamic interactions among human and social systems and seek to improve the interrelated and interdependent relationships among individuals, groups, organizations, and communities.
3. *Community building:* Participants, in Peter Block's words, "create hospitable space, invite collective attention to what is important and make the group's intelligence visible to itself".
4. *Understanding diversity:* Participants utilize leadership skills in bringing together a variety of persons, including those who are dif-

ferent from themselves (age, gender, religion, work ethics, mind styles, etc.) in a way that strengthens organizations/communities.

5. *Leading change*: In creating a supportive environment for the change, participants encourage creativity and innovation and help bring about both individual and organizational change.
6. *Effective communication*: Participants accept responsibility for and respond to finding appropriate avenues to communicate with a variety of audiences.
7. *Conflict resolution*: Participants, through careful deliberation, good listening and understanding, interest-based negotiation, and mutually beneficial collaboration, practice the fragile process of addressing conflict.
8. *Management and governance*: Participants observe, participate in, evaluate the various styles of management and governance, and explore management strategies and governance structures for the future.

Integrated themes

Woven throughout the eight areas of competency, two themes elevate the developmental process and increase the value of the discussion within each area. While the areas of leadership competency are broadly found in many similar programs, the emphasis on ethics and scholarship makes this program particularly valuable to those seeking to model leadership characterized by integrity and understanding.

1. *Ethics—Virtue and obligation*: Participants demonstrate ethical choices, values, and professional practices implicit in their discipline and personal ethics.
2. *Scholarship—Research and reflection*: Participants practice reflective leadership and develop skills in reading, evaluating, conducting, and reporting research.

Educational effectiveness

INITIAL ASSESSMENT

The orientation for leadership begins with

intense evaluation and feedback as participants discover and evaluate their talents, skills, and strengths. Each participant works closely with a program advisor to prepare an academic plan. This plan is evaluated at the end of the orientation and must be approved by the program faculty before admission to the program.

ANNUAL PROGRESS REPORTS AND PORTFOLIO REVIEWS

Yearly progress reports and portfolio reviews are scheduled at the time of the annual conferences. The program advisor and other program faculty (two or three) meet with the participant to review the progress of the portfolio, consider any changes and/or additions to the academic plan, answer questions, and give advice as necessary. These yearly evaluations should not be seen as isolated conversations but more as markers along the way in an ongoing dialogue with the program faculty. If unsatisfactory progress is being made, a letter of warning is given following the review. Failure to achieve satisfactory progress will result in the termination of the participant or in a hold being placed on his/her registration until the necessary progress is made. In all cases, a summary of the review will be included in the participant's portfolio.

FACULTY INVOLVEMENT IN LEARNING GROUPS

The academic advisor meets regularly with the participant's mentors and support group to evaluate portfolio progress and opportunities to enhance the learning experience. The frequency of these meetings will vary, depending on the specific activities related to the demonstration of competency. It is anticipated that much of this will be done in the first three-or-four years of the degree. Notes on these meetings will be included in the participant's portfolio.

PROGRESS THROUGH DISSERTATION

Involvement in research and reflection is encouraged throughout the program. Already included in the academic plan is an outline of such activi-

ties to be completed during the degree program. It is anticipated that the academic advisor and participant will discuss the progress of topic development and formulation of dissertation proposal even within the first year. Research courses taken early in the program will also provide feedback on satisfactory progression in this area. Building on the existing School of Public Health's Dr.P.H. Handbook, a clear set of guidelines will be further developed to apprise both the advisor and the participant of the steps required in taking the dissertation from topic to proposal, approval, research, writing, and defense. The dissertation committee will oversee the progress of the dissertation to the point of satisfactory defense.

**Admissions requirements
(in addition to the University
Admissions requirements)**

1. Approved academic plan
2. Department interview
 - a. Academic plan
 - b. Evidence of leadership ability and self-motivation
 - c. Sample of written work
3. Completed orientation for leadership session
4. Minimum of five years of work experience
5. Current employment and position in an organization that is supportive of leadership 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
EPDM 509	Principles of Epidemiology I	3.0
STAT 509	General Statistics or STAT 521	4.0
Totals		—

MAJOR

		UNITS
HADM 584	Current Topics in Health Policy and Leadership (1.0) Required to take 3 times	3.0
HADM 585	Policy Development for a Twenty-First Century Health System	3.0
HADM 595	Leadership—Past, Present, and Future	3.0
HADM 584	Current Topics in Health Policy and Leadership (1)	Major electives 9.0–15.0
HADM 589	Advanced Practice in Leadership (1 to 8)	
HADM 689	Graduate Seminar in Leadership (2) <i>May be repeated up to 8 units of credit</i>	
HADM 696	Directed Study/Special Project (1 to 8)	
Totals		18.0–24.0

PUBLIC HEALTH

		UNITS
HADM 586	Building Healthy Communities: Integrative Health Policy	3.0
HADM 587	Statistics to Policy: What Turns the Dial?	3.0
HADM 588	Leadership, Policy, and Environmental Change	3.0
EPDM 5__	Epidemiology Elective (3 to 12)	Advanced epidemiology courses chosen in consultation with advisor 6.0–15.0
EPDM 512	Multivariate Modeling in Epidemiology (3)	
EPDM 534	Epidemiology of Maternal-Child Health (3)	
EPDM 544	Epidemiology of Infectious Disease (3)	
EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement (3)	
EPDM 566	Epidemiology of Cardiovascular Disease (3)	
EPDM 567	Epidemiology of Aging (3)	
Totals		15.0–24.0

RELIGION

One course required from each of the following three areas. May include one additional elective. **UNITS**

RELR 5__	Graduate-level Relational		3.0
RELE 5__	Graduate-level Ethics		3.0
RELT 5__	Graduate-level Theological		3.0
REL_ 5__	Graduate-level Religion (3)	Optional	0.0–3.0
Totals			9.0–12.0

ELECTIVES

Choose from the following **UNITS**

_____	Elective (1 to 10)		9.0–18.0
HADM 581	Orientation for Leadership I: Vision and Understanding (4)		
HADM 582	Orientation for Leadership II: Exploring the Nature of Leadership (4)		
HADM 583	Orientation for Leadership III: Setting a New Direction (4)		
Totals			9.0–18.0

RESEARCH

HADM 685	Preliminary Research Experience		3.0
HADM 699	Applied Research		3.0
PHCJ 534	Research Methods	or similar course	2.0
PHCJ 604	Research Seminar (2)	Choose from this list or similar	7.0–10.0
STAT ___	Statistics (3 to 4)		
STAT 514	Intermediate Statistics for Health-Science Data (3)		
STAT 548	Analytical Applications of SAS (2)		
STAT 549	Analytical Applications of SPSS (2)		
STAT 568	Data Analysis (3)		
Totals			15.0–18.0

DISSERTATION

HADM 686	Writing Seminar (1)		12.0–13.0
	<i>Optional</i>		
HADM 697	Dissertation Proposal (4)		
HADM 698	Dissertation (8)		
Totals			12.0–13.0
Overall Totals			88.0

Field practicum

Throughout the program, there is an intentional integration of the subject being examined and the practice of it. As a result, many courses contain a significant component of field application. Some courses consist of field practicum. But more importantly, the program is designed around “taking learning to the workplace.” As such, participants are expected to develop a learning environment at their place of work. The work in these learning groups will be evaluated by the local work

supervisor and the University advisor and will be included in the final portfolio.

Culminating experience

Besides the dissertation defense, which is itself a major culminating experience, participants will present their portfolios at the end of the program. The portfolios are based on the academic plan and the eight areas of leadership competency, supported by evidence and validated as sections are completed, and assessed at the end of the program

as the participants present them in the culminating degree activity.

Research

Throughout their program of study, participants are involved in research at various levels. They may be part of an ongoing research project at the University or elsewhere. The doctoral dissertation is an integrated part of the degree from the beginning of the degree program. Leadership faculty maintains a research agenda and invites participants to join them in ongoing projects. It is anticipated that the research conducted by the program participants will coincide with the research interests of one or more faculty. To support and encourage research, the program includes a faculty member whose task is to coordinate the research efforts of those enrolled in the program.

Underscoring the importance of research, one of the underlying themes supporting the leadership competencies is scholarship. As such, participants will practice reflective leadership; develop skills in reading, evaluating, conducting, and reporting research; develop a habit for and practice in reflective thinking and critical self-evaluation in all areas of competency; analyze and evaluate research published in professional journals in both qualita-

tive and quantitative traditions in four or more areas of competency; present posters, professional papers and/or research findings at one or more professional conferences in two or more areas of competency; demonstrate the ability to conduct independent research at an advanced level, from problem definition to research and oral defense, in at least one research tradition while addressing issues in one or more areas of competency; and participate in the dialogue of the discipline by submitting at least two articles for publication.

Individuals who may benefit from the program

Given the context of Loma Linda University, participants will be drawn primarily from public health; but they will also be drawn from health care, higher education, NGOs, and faith-based CBOs that have developed health initiatives, and other related groups. Two important requirements are that those admitted to the program will have had sufficient experience in the workplace (normally five years or more) and that they are currently employed in an organization that is supportive of their degree program and unique requirements to develop a “learning environment” at the workplace.

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 remainder 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 health 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 health 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

PUBLIC HEALTH CORE

UNITS

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 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

MAJOR			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

FIELD EXPERIENCE

Practicum units are in addition to the minimum graduate units required for the degree.

			UNITS
HPRO 798B	Field Practicum		6.0
Totals			—
Overall Totals			60.0

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).

Maternal and Child Health—PH**(M.P.H)**

PATTI HERRING, Program Director

DESCRIPTION

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 traditional on-campus program.

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 250–400 clock-hours of field practicum.

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

1. Field Practicum report
2. Professional portfolio for review
3. Exit interview

PREREQUISITE

Bachelor's Degree
GRE Scores
Demonstrate college-level conceptualization and writing skills

Professional license in a medical or health related discipline (nursing, dentistry, medicine, social work, dietetics)

GPA of 3.0 or higher

Relevant professional or public health experience in the field of maternal and child health

RESEARCH

Although not required, students may have the opportunity to collaborate with researchers.

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.

INDIVIDUALS WHO MAY BENEFIT

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 58-unit program in health education and complete their electives in maternal and child health.

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 538	Health Education Program Development and Evaluation	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) <i>400 clock hours</i>		
Totals		—	
Overall Totals		62.0	

Nutrition—PH

(M.P.H. in Public Health Nutrition, M.S., Dr.P.H.)

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

Description

The Master of Public Health (M.P.H.) degree Nutrition Program provides specialized training in community nutrition within the multidisciplinary public health programs offered by the School of Public Health (SPH). 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.

Learner outcomes

The curriculum of the M.P.H. degree in nutrition 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.

Upon completion the program 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 the 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.

Educational effectiveness

Indicators of educational effectiveness include successful completion of a written comprehensive examination, field experience, field practicum report, and an exit interview with the department chair.

Prerequisite

- Chemistry through organic (at least 5 quarter units of organic)
- Microbiology
- Physiology

All prerequisites must be completed with a passing grade of B or better.

Individuals who may benefit from the program

- Graduates of bachelor's degree programs in chemistry, biology, social sciences, etc., who seek advanced degrees in nutrition or the health professions.
- Health professionals, such as physicians, nurses, dentists, allied health professionals, and registered dietitians.

PUBLIC HEALTH NUTRITION AND DIETETICS—M.P.H.

ELLA HADDAD, Program Director

Description

The Master of Public Health (M.P.H.) degree Nutrition and Dietetics Program 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 programs may establish eligibility to write the registration examination to become a registered dietitian (RD) by completing this program. The 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.

Learner outcomes

The curriculum of this program integrates the requirements of the M.P.H. 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 (see Public Health Nutrition), graduates will:

- Demonstrate effectiveness in the nutritional care process consistent with competencies defined by the Commission for Accreditation of Dietetic Education (CADE) of the American Dietetic Association (ADA).
- Apply systems management and use of resources to the provision of nutritional services.

Educational effectiveness

Indicators of educational effectiveness include: successful completion of a comprehensive examination, field practicum, field practicum report, food systems management affiliation, clinical

affiliation, and exit interview with the department chair.

Prerequisite

- Chemistry through organic (at least 5 quarter units of organic)
- Microbiology
- Physiology

All prerequisites must be completed with a passing grade of B or better.

Individuals who may benefit from the program

Graduates with bachelor's degrees or higher who seek credentialing as registered dietitians (RDs).

NUTRITION—M.S.

MICHELLE WIEN, Program Director

Description

The Master of Science (M.S.) degree Nutrition Program is suitable for persons planning to pursue a doctoral degree in nutrition or other related areas and for persons preparing to teach at the secondary or university level. The program provides background experience for those interested in research careers in academic or industry settings and provides advanced training in basic nutrition for physicians and other health professionals.

Learner outcomes

The M.S. degree 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 the ability to conduct and publish applied research in nutrition.

Educational effectiveness

Indicators of educational effectiveness include successful completion of a comprehensive examination, oral defense of a thesis project, a publishable paper, and an exit interview with the department chair.

Prerequisites

- Basic nutrition
- General chemistry through organic
- Microbiology
- Physiology
- Nutritional metabolism*
- Biochemistry*

* These courses can be taken concurrently with the M.S. degree program if not previously passed with a B grade or better.

Culminating experience

Included in the culminating experience are a written comprehensive examination prior to the thesis experience, one publishable paper upon completion of the thesis experience, and an exit interview with the department chair at the conclusion of the program.

Individuals who may benefit from the program

Persons who hold a baccalaureate degree in science, or physicians and other health professionals who desire the further pursuit of teaching or a doctoral degree, may benefit from the program; as well as persons who desire training in nutritional sciences to prepare them for conducting and publishing applied nutrition research.

COREQUISITES

Units do not count toward degree

		MPH	MPH WITH RD	MS
DTCS 343	Medical Nutrition Therapy II		5.0	
DTCS 426	Food Systems Management Affiliation		6.0	
DTCS 461	Food Science		4.0	
DTCS 575	Food Systems Management		4.0	
DTCS 578	Clinical Nutrition Affiliation		12.0	
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 537	Nutrition Education Practicum		1.0	
Totals		—	—	—

PUBLIC HEALTH CORE

		MPH	MPH WITH RD	MS
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 510	Advanced Public Health Nutrition		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	
RELE 534	Ethical Issues in Public Health		3.0	3.0	3.0
STAT 509	General Statistics	or STAT 521 Biostatistics I (4.0) – choose one	4.0	4.0	
STAT 514	Intermediate Statistics for Health- Science Data				3.0
STAT 548	Analytical Applications of SAS	or STAT 549 Analytical Application of SPSS – choose one			2.0
Totals			29.0	29.0	12.0

		MPH WITH RD			MS
MAJOR		MPH	RD		
NUTR ___	Nutrition				8.0
NUTR 510	Advanced Public Health Nutrition				3.0
NUTR 517	Advanced Nutrition I: Carbohydrates and Lipids	4.0	4.0		4.0
NUTR 518	Advanced Nutrition II: Proteins, Vitamins, and Minerals	4.0	4.0		4.0
NUTR 519	Phytochemicals				2.0
NUTR 525	Nutrition Policy, Programs, and Services	3.0	3.0		
NUTR 527	Assessment of Nutritional Status	3.0	3.0		
NUTR 531	Community Nutrition Intervention I	2.0	2.0		
NUTR 532	Community Nutrition Intervention II	1.0	1.0		
NUTR 534	Maternal and Child Nutrition			3.0	
NUTR 564	Contemporary Issues of Vegetarian Diets	2.0	2.0		2.0
NUTR 605	Seminar in Nutrition	1.0	1.0		1.0
Totals			20.0	23.0	24.0

		MPH WITH RD			MS
ELECTIVES		MPH	RD		
Choose from the following or in consultation with advisor					
_____	Elective				2.0
DTCS 554	Advanced Medical Nutrition Therapy (3.0)	Units may be selected from both groups	5.0	—	—
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 536	Nutrition and Aging (2.0)				
NUTR 578	Exercise Nutrition (2.0)				
Totals			5.0	3.0	2.0

STATISTICS AND RESEARCH		MPH	MPH WITH RD	MS
NUTR 535	Research Applications in Nutrition		3.0	
NUTR 539	Research Methods in Nutrition	2.0		2.0
NUTR 694	Research (1.0–12.0)			6.0
NUTR 695	Thesis			2.0
Totals		2.0	3.0	10.0

PRACTICUM (SUPERVISED PRACTICE)		MPH	MPH WITH RD	MS
Practicum units are in addition to the minimum graduate units required for the degree.				
NUTR 694	Research (2.0)	One course required	—	—
NUTR 798D	Field Practicum (12.0)		—	—
DTCS 473	Medical Nutrition-Therapy Affiliation		12.0	
NUTR 798D	Field Practicum		12.0	
Totals		—	—	—
Overall Totals		56.0	58.0	48.0

NUTRITION—DR.P.H.

SUJATHA RAJARAM, Program Director

Description

The Doctor of Public Health (Dr.P.H.) degree Nutrition Program is designed to provide 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.

Learner 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 the ability to produce scientific papers and presentations
- Demonstrate effective leadership skills

Educational effectiveness

- Comprehensive examination
- Written research proposal
- Two publishable scientific papers
- One presentation at a scientific meeting

Prerequisite

- A master’s degree in nutrition or a health professional degree at the doctoral level (M.D., D.D.S., or equivalent)
- Advanced biochemistry (may be taken concurrently with the program)
- Anatomy and physiology
- Behavioral science (one course)
- Quantitative proficiency

All prerequisites must be completed with a passing grade of B or better.

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	—

PUBLIC HEALTH CORE

	UNITS
RELE 5__ Graduate-level Ethics	3.0
RELR 5__ Graduate-level Relational	3.0
RELT 5__ Graduate-level Theological	3.0
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
EPDM 5__ Epidemiology Elective (2 to 3)	Choose in consultation with advisor 4.0–6.0
STAT ___ Statistics (2 to 3)	
Totals	21.0–23.0

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 (1.0–2.0)	3.0
Totals	31.0

ELECTIVES

	UNITS
NUTR ___ Nutrition	20.0
	Choose 20.0 units from the areas of Nutrition, Public Health, Basic Science or Leadership & Administration; a minimum of eight (8.0) units must be from NUTR
Totals	20.0

RESEARCH AND EVALUATION		UNITS
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 564	Survey and Advanced Research Methods	3.0
Totals		13.0–15.0
DISSERTATION		UNITS
NUTR 698	Dissertation (1.0–14.0)	12.0
Totals		12.0
Overall Totals		99.0

Field practicum

Field practicum is required only if the student is taking registered dietitian (RD) preparation.

Culminating experience

As a part of the culminating experience, the student completes two publishable scientific papers.

Individuals who may benefit from the program

Those who may benefit from the program include individuals seeking careers in:

- Academia and research.
- Leadership in public health nutrition in government and nonprofit organizations.

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 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

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	6.0
HPRO 502	Human Anatomy and Physiology II	6.0
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	4.0
	Or STAT 521	4.0
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

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 s/he plans to complete. This outline must be approved by the student's advisor prior to submission.

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.

_____	Elective		UNITS
			12.0
Totals			12.0

RELIGION

One course required from each of the following three areas. May include one additional elective.

REL 5__	Graduate-level Relational		UNITS
REL 5__	Graduate-level Ethics		3.0
REL 5__	Graduate-level Theological		3.0
Totals			9.0

RESEARCH AND EVALUATION

HPRO 534A	Research Methods		UNITS
HPRO 534B	Research Methods		2.0
HPRO 694	Research (1.0–14.0)		6.0
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)		
Totals			20.0

RESEARCH AND DISSERTATION

HPRO 698	Dissertation (1.0–14.0)		UNITS
			12.0
Totals			12.0

INTERNSHIP

Internship units are in addition to the minimum graduate units required for the degree.

UNITS

HPRO 704A	Internship (3)	(42 units required = 1400 clock hours)	—
HPRO 704B	Internship (6)		
HPRO 704C	Internship (9)		
HPRO 704D	Internship (12)		
Totals			—
Overall Totals			109.0

Public Health Practice—PH

(M.P.H., Online M.P.H.)

DESCRIPTION

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

INDIVIDUALS WHO MAY BENEFIT

Individuals who may benefit from this program include health care working professionals (e.g., physicians, nurses, dentists, social workers, psychologists, public health practitioners, health administrators, etc.) who seek general training in public health.

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.

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 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.

HEALTH PRACTICE—M.P.H.

Prerequisite

Professional license in a medical or health related discipline, or a minimum of one year of 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

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 501	Introduction to On-line Learning	1.0
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		30.0

MAJOR

		UNITS
HADM 510	Health Policy Analysis and Synthesis	3.0
NUTR 529	Health Aspects of Vegetarian Eating	2.0
STAT 515	Grant- and Contract-Proposal Writing	3.0
Totals		8.0

SELECTED ELECTIVES

		UNITS
ENVH 587	Environmental Toxicology (3)	Choose from these courses
EPDM 555	Epidemiologic Methods in Outcomes Research and Continuous Quality Improvement (3)	
EPDM 568	International Epidemiology (2)	
EPDM 635A	Epidemiological Studies of Seventh-day Adventists A (1)	
GLBH 519	Principles of Disaster Management I (3)	
GLBH 547	Refugee and Displaced Population Health (3)	
GLBH 548	Violence and Terrorism Issues (3)	
GLBH 550	Women in Development (3)	
GLBH 561	Epidemiology of Tobacco Use and Control I (3)	
GLBH 562	Epidemiology of Tobacco Use and Control II (3)	
GLBH 564	Fundamentals of Community Health and Development I (2)	
GLBH 565	Interventions in Community Health and Development I (3)	
HPRO 507	Spirituality and Health: The Wholeness Connection (3)	
HPRO 524	Adolescent Health (3)	
HPRO 526	Lifestyle Diseases and Risk Reduction (3)	
HPRO 527	Obesity and Disordered Eating (3)	
HPRO 553	Addiction Theory and Program Development (3)	
HPRO 565	Tobacco Use: Prevention and Interventions (3)	
HPRO 575	Immune System: Public Health Applications (3)	
NUTR 505	Public Health Biology (2)	
NUTR 534	Maternal and Child Nutrition (3)	
Totals		15.0

FIELD EXPERIENCE

Practicum units are in addition to the minimum graduate units required for the degree.

		UNITS
PHCJ 695	Community Practicum	3.0
Totals		—
Overall Totals		56.0

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.

Culminating experience

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 field experience/practicum upon completion of all core classes, professional portfolio to be submitted, and an exit interview at the conclusion of the program.

Field practicum

The student is required to successfully demonstrate understanding of and the ability to apply all primary components of the program. Students are required to undertake 400 hours of practical experience in public health practice. The field practicum provides opportunity to apply theoretical knowledge and develop skills and approaches to problem solving within the context of public health. The practicum is participatory, designed to address the student's identified unmet public health competencies and career interests while also allowing him/her to make creative contributions to a local organization.

Research

Students are encouraged to engage in active, applied research—looking forward to identify problems in public health and design and implement intervention programs and plans.

Other program requirements

Professional membership. During their first quarter, students are required to secure and maintain membership in an approved professional society, such as the American Public Health Association (APHA), the American College of Healthcare Executives (ACHE).

Public health seminars

Certificates

Biostatistics—PH

(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 biostatistics 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, students will be able to:

1. Critically read the literature with respect to design and statistical analysis.

2. Interpret and communicate the results of basic statistical analyses.
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. Midterm and comprehensive final examination
2. Course evaluation forms
3. Oral presentations of class projects

PUBLIC HEALTH CORE		BASIC CERT	ADV CERT
EPDM 509	Principles of Epidemiology I	3.0	
RELE 5__	Graduate-level Ethics		3.0
RELE 534	Ethical Issues in Public Health	3.0	
STAT 521	Biostatistics I	4.0	
Totals		10.0	3.0

MAJOR		BASIC CERT	ADV CERT
EPDM 510	Principles of Epidemiology II		3.0
EPDM 515	Clinical Trials		3.0
STAT 515	Grant- and Contract-Proposal Writing	3.0	
STAT 522	Biostatistics II	4.0	
STAT 523	Biostatistics III		4.0
STAT 525	Applied Multivariate Analysis		3.0
STAT 535	Introduction to Modern Nonparametric Statistics	3.0	
STAT 545	Survival Analysis		3.0
STAT 548	Analytical Applications of SAS	2.0	
STAT 549	Analytical Applications of SPSS	2.0	

STAT 557	Research Data Management	3.0	
STAT 564	Survey and Advanced Research Methods		3.0
STAT 569	Advanced Data Analysis	3.0	
STAT 594	Statistical Consulting		2.0
STAT 694A	Research I		1.0
STAT 694B	Research II		1.0
STAT 694C	Research III	1.0	
		Totals	20.0 24.0
		Overall Totals	30.0 27.0

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	Fundamentals of Community Health and Development I (3)	
Totals		6.0
Overall Totals		27.0

Epidemiology—PH

(Certificate)

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 analyses. 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 analyses.

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. Design, implement, and evaluate methods for quality control.
3. Obtain funds through well-written grant proposals.
4. Write scientific papers for submission to scientific journals.

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

PUBLIC HEALTH CORE		BASIC CERT	ADV CERT
EPDM 509	Principles of Epidemiology I	3.0	
RELE 5__	Graduate-level Ethics		3.0
RELE 534	Ethical Issues in Public Health	3.0	
STAT 509	General Statistics (4.0)	Choose one course 4.0	—
STAT 521	Biostatistics I (4.0)		
Totals		10.0	3.0

MAJOR		BASIC CERT	ADV CERT
EPDM 510	Principles of Epidemiology II	3.0	
EPDM 512	Multivariate Modeling in Epidemiology		3.0
EPDM 515	Clinical Trials	3.0	
STAT 515	Grant- and Contract-Proposal Writing		3.0
STAT 522	Biostatistics II		4.0

STAT 557	Research Data Management		3.0	
STAT 569	Advanced Data Analysis		3.0	
STAT 548	Analytical Applications of SAS (2.0)	Choose one course	2.0	—
STAT 549	Analytical Applications of SPSS (2.0)			
Totals			8.0	16.0
ELECTIVES			BASIC CERT	ADV CERT
EPDM 5__	Epidemiology Elective		9.0	6.0
Totals			9.0	6.0
RESEARCH PROJECT			BASIC CERT	ADV CERT
EPDM 699A	Applied Research		1.0	1.0
EPDM 699B	Applied Research II			1.0
Totals			1.0	2.0
Overall Totals			28.0	27.0

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.

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.

PURPOSE

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 analyses.

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		UNITS
Choose one course		
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
Overall Totals		27.0

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.

ADMISSION 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 University faculty and staff (tuition benefits may apply), and anyone interested in GIS applications in the health field.

LEARNER 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 organi-

zation 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.

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
Overall Totals		27.0

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.
2. Oral presentation (course specific, at the discretion of the instructor)
 3. Portfolio (course specific, at the discretion of the instructor)
 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 of validating their geospatial programs and measuring 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).

INDICATORS OF EDUCATIONAL EFFECTIVENESS

1. Class project (course specific, at the discretion of the instructor)

Nondegree

Students may take classes in the program as non-degree. 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>. Instruction for nondegree registration can be found at <www.llu.edu/ssweb/documents/non-degree-reg.pdf>. The cost per unit is US\$ 535 (subject to change).

For Additional Information

Web: <www.llugis.org>
 Seth Wiafe, M.P.H., Assistant Professor, Health Geographics
 Telephone: 909/558-7596
 Email: swiafe@llu.edu

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
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 565	Tobacco Use: Prevention and Interventions	3.0
HPRO 573	Exercise Physiology I	3.0
HPRO 606	Preventive Care Seminar	2.0
NUTR 509	Public Health Nutrition and Biology	3.0
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
_____	Elective (2)	Choose one course.
NUTR 564	Contemporary Issues of Vegetarian Diets (-2 to 3)	2.0
		Totals 29.0
		Overall Totals 29.0

Maternal and Child 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 on 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
		Overall Totals 28.0

Tobacco Control Methods—PH

(Online and on-campus certificate)

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 use 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 program is offered as a combination of online courses, on-campus courses, and a mentored research project. The online course work on tobacco control epidemiology, prevention and treatment is made possible through a grant from the Association of Schools of Public Health and the American Legacy Foundation.

LEARNER OUTCOMES

Upon completion of this certificate program, participants should:

1. Design a survey with population-based variables pertinent to tobacco policy that measures prevalence of tobacco use, knowledge

and attitudes about tobacco use, and health behaviors associated with tobacco use.

2. Conduct qualitative studies with population-based variables pertinent to tobacco policy that assess tobacco use; knowledge and attitudes about tobacco use, and health behaviors associated with tobacco use.
3. Design research programs to establish a national and regional baseline and subsequent compliance with conditions set forth by the Framework Convention on Tobacco Control Treaty (WHO) and NPOWER initiative (WHO).
4. Interpret the findings from qualitative and quantitative research on tobacco use for the purpose of planning tobacco-prevention and-cessation programs.
5. Write focused grant proposals for tobacco control research.
6. Prepare reports of original research in tobacco control research.
7. Be familiar with the authoritative sources of national and global tobacco control data on the Internet and in the published literature (scientific, policy, governmental).

EDUCATIONAL EFFECTIVENESS

Educational effectiveness will be determined

through reading assignments and reports, re-search papers, oral presentations, group work on proposals, community engagement projects and research, laboratory exercises, case studies, tests, quizzes, field practicum, and exit interview.

PREREQUISITE

STAT 509, EPDM 509, or the equivalent. Competencies from related master's, doctoral, or health professional course work can be used by permission of the instructors and of the certificate program coordinator.

REQUIRED

REQUIRED		UNITS
EPDM 568	International Epidemiology	2.0
EPDM 699A	Applied Research	1.0
EPDM 699B	Applied Research II	1.0
EPDM 699C	Applied Research III	1.0
EPDM 699D	Applied Research IV	1.0
GLBH 561	Epidemiology of Tobacco Use and Control I	3.0
GLBH 562	Epidemiology of Tobacco Use and Control II	3.0
HPRO 565	Tobacco Use: Prevention and Interventions	3.0
HPRO 589	Qualitative Research Methods	3.0
RELE 534	Ethical Issues in Public Health	3.0
STAT 515	Grant- and Contract-Proposal Writing	3.0
STAT 564	Survey and Advanced Research Methods	3.0
		Totals 27.0
		Overall Totals 27.0

INDIVIDUALS WHO MAY BENEFIT

- Public health professionals interested in tobacco research and control methods,
- On-campus degree students,
- Online students at domestic and international locations, and
- NIH-funded trainees from Southeast Asia who were enrolled in the Tobacco Control Leadership Training Program.

Certificate program graduates have participated in the design and validation of tobacco surveys, qualitative studies of tobacco users, and the writing of successful grant proposals to conduct large sample tobacco surveys.

School of Religion

Dean's Welcome

School Foundations

History

Philosophy

Mission statement

General Regulations

Application and Admissions

Application and acceptance

Where to write

Application procedure

Admission requirements

Scholarship

Academic probation

Concurrent admission

Financial Information

On- and off-campus student housing

Additional requirements

Programs, Degrees, and Certificates Offered

MASTER'S DEGREE PROGRAMS

Bioethics

Clinical Ministry

Religion and the Sciences

CERTIFICATE PROGRAMS

Bioethics

Clinical Ministry

COMBINED DEGREES PROGRAMS

Bioethics with Advanced Practice Nursing

Bioethics with Dentistry

Bioethics with Medicine

Bioethics with Psychology

Bioethics 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.

Detailed information about our three master's degrees in religion is contained in this section of the Catalog. These programs have been designed to specifically equip graduates with skills in clinical ministry, bioethics, and religion and the sciences. However, within the framework of our academic programs, we also offer a unique opportunity for LLU students in other professional programs to apply for dual enrollment in either bioethics or clinical ministry. Students enrolled in Dentistry (D.D.S.), marital and family therapy (M.S.), medicine (M.D.), nursing (M.S.), psychology (Psy.D. or Ph.D.), and social policy and social research are eligible to apply for admission to the master's degree in either the Bioethics or Clinical Ministry program. Please refer to The Combined Degrees Programs of the University section to learn more about our dual enrollment degree programs.

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,

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 apply

Loma Linda University manages all applications through an online process. The application, all required forms, and instructions are available online at <www.llu.edu/central/apply/index.page>.

The School of Religion has a rolling admission policy in which completed applications are reviewed and students are accepted on a continual basis. Applications must be completed by the deadlines listed for the quarter in which the student wishes to enroll:

- Fall Quarter: August 1
- Winter Quarter: November 1
- Spring Quarter: February 1
- Summer Quarter: May 1

Application procedure

1. Complete the online application and submit all supporting information, transcripts, test results, and references by the deadlines listed above.
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 desirable and should be arranged with the director 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 to the Clinical Ministry Program or the Religion and Sciences Program 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 major field. 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. For scholarship requirements for the Bioethics Program, please go to the Bioethics Program section in this Catalog.

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 earn a 3.0 for the next quarter, or who fail to have an overall G.P.A. of 3.0 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 for housing information and a housing application form.

Bioethics—SR

(M.A., PB certificate)

JAMES W. WALTERS, Program Director

FACULTY

Ivan T. Blazen
 Roy Branson
 Mark F. Carr
 Debra Craig
 Carla Gober
 Andy Lampkin
 David R. Larson
 Robert Orr
 Richard Rice
 Charles W. Teel
 Sigve Tonstad
 James W. Walters
 Gerald R. Winslow

BIOETHICS—M.A.

The purpose of the Bioethics 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

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.

and human biology.

This degree is designed primarily for two types of students: those 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 field.

This academic program is enhanced by its close association with the Center for Christian Bioethics and its 4,000-volume library.

Objectives

Graduates of the Bioethics Program will be able to demonstrate:

1. A broad knowledge of the field of bioethics.
2. Mastery of at least one area of bioethical enquiry.
3. Research and writing skills of a caliber to contribute to bioethical literature.
4. An understanding of the relationship among personal, professional, and social ethics.

Admission

Typically, applicants will meet the following criteria for admission:

1. Minimal GRE percentile scores of 60 (verbal), 60 (analytical writing), and 35 (quantitative). In some professional programs (e.g., MD and DDS), students and graduates need not take the GRE, although other requirements apply.
2. An undergraduate grade-point average of B+ (3.30) or better in the overall program and in the field of the major.
3. An 800-word essay on the applicant’s background and goals and how earning an M.A. in bioethics at Loma Linda University is envisioned to further such goals.
4. A personal interview.

More important than any single admissions factor is the cumulative sense that the applicant is capable of and committed to serious academic work. Hence, the applicant might also submit an essay—published or from previous class work—that demonstrates creative, analytical thinking.

Information on admission, tuition, and student life and an online application can be found on the Web at <www.llu.edu/central/apply/index.page>.

Course requirements

In order to receive the Master of Arts degree in bioethics 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+ (3.30) or higher, with no grade lower than a C and with no grade lower than a B- in a required course.

Transfer credits

Students are permitted to transfer up to 9 units of approved graduate-level courses from other accredited institutions into the Bioethics Program.

BIOETHICS—CERTIFICATE

The Bioethics Program certificate option is available for students who prefer not to complete the full M.A. degree program. Students must complete 27 units of course work. There are no additional requirements.

REQUIRED

REQUIRED		MA	CERT
RELE 524	Bioethics and Society	4.0	4.0
RELE 588	Philosophical Resources for Bioethics	4.0	4.0
RELE 589	Bible, Theology, and Bioethics	4.0	4.0
RELE 598	Masters Seminar I	2.0	
RELE 599	Masters Seminar II	2.0	
Totals		16.0	12.0

ELECTIVES

		MA	CERT		
RELE 525	Ethics for Scientists (4.0)				
RELE 534	Ethical Issues in Public Health (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 564	Ethics and Health Disparities (4.0)				
RELE 567	World Religions and Bioethics (4.0)	Choose required units from this list	24.0 16.0		
RELE 568	Bioethics and the Law (4.0)				
RELG 504	Research Methods (4.0) <i>Applies only to MA degree program</i>				
RELG 674	Reading Tutorial (4.0) <i>Applies only to MA degree program</i>				
RELG 697	Independent Research (4.0) <i>Applies only to MA degree program</i>				
Totals				24.0	16.0

ELECTIVES

Choose 8 units, in consultation with adviser, from bioethics list of electives or other School of Religion courses, from other Loma Linda University schools or other educational institutions

		MA	CERT
_____	Elective	8.0	
Totals		8.0	—
Overall Totals		48.0	28.0

Clinical Ministry—SR

(M.A., PB certificate)

SIROJ SORAJJAKOOL, Program Director

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 stepping-stone 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 co-operating 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 lower than a B- in a core course.

Transfer credits

Students are permitted to transfer up to 9 units of approved graduate-level courses from other accredited institutions into the Clinical Ministry Program.

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.) It is expected that all students will complete all course work before entering the clinical internship. In certain cases, however, a student may petition the director of the program to take the clinical internship out of sequence. Even in such cases, it is recommended that the fol-

lowing 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 director.

Comprehensive examination

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

choose from the following options: (a) prepare a thesis while registered for RELG 698 Thesis (1–4), (b) prepare a project while registered for RELG 696 Project (1–4), or (c) 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 director. 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		CERT	MA
RELE 524	Bioethics and Society	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		24.0–32.0	38.0–51.0

THESIS, PROJECT, OR PUBLISHABLE PAPERS		CERT	MA
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.

		CERT	MA
RELG 795	Clinical Internship	12.0	12.0
Totals		—	—
Overall Totals		27.0	48.0

Religion and the Sciences—SR

(M.A.)

RICHARD RICE, Program Director

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.

The Master of Arts degree Religion and the Sciences Program 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 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.

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.

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.

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 lower than a B-in a required course.

REQUIRED		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 or seminars offered at Loma Linda University or another accredited educational institution.

		UNITS
_____	Elective	4.0–8.0
Totals		4.0–8.0

CLUSTER V: RESEARCH

A minimum of one unit of RELG 697 is required as well as a minimum of one unit of either RELG 696 or RELG 698

		UNITS
RELG 696	Project (1 to 4) <i>(publishable paper)</i>	Choose one course 1.0–4.0
RELG 698	Thesis (1 to 4)	
RELG 697	Independent Research (1.0–8.0)	1.0–8.0
Totals		2.0–12.0
Overall Totals		48.0

TRANSFER CREDITS

Students are permitted to transfer up to 9 units of approved graduate-level courses from other accredited institutions into the Religion and the Sciences Program.

COMPREHENSIVE EXAMINATIONS

A series of comprehensive examinations will cover essential aspects of religion and science.

THESIS OR PUBLISHABLE PAPER

Independent research for either the thesis or the publishable paper 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 publishable paper while registered for RELG 696 Project (1–4). The student must provide an oral defense of the thesis or publishable paper.

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; and a 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 will not only teach humanities courses, but who will also 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

- Lifelong 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).

School of Science and Technology

Dean's Welcome

School Foundations

Philosophy

Objectives

Application and Admissions

Application and acceptance

Application procedure

Acceptance procedure

Admission requirements

Scholarship

Graduate Record Examination

Re-entrance

English competence

From master's to Ph.D. degree

Bypassing master's degree

Second master's degree

Concurrent admission

Combined degrees

Certificate programs

MASTER OF ARTS / MASTER OF SCIENCE /

MASTER OF SOCIAL WORK

Advisor and guidance committee

Subject prerequisites and deficiencies

Study plan

Time limit

Residence

Minimum required grade-point average

Professional performance probation

Comprehensive and final examinations

Research competence

Thesis

Candidacy

Specific program requirements

Religion requirement

Combined-degrees programs

THESIS AND DISSERTATION

Format guide

Binding

DOCTOR OF PHILOSOPHY

Advisor and guidance committee

Subject prerequisites and deficiencies

Study plan

Time limit

Residence

Minimum required grade-point average

Clinical probation

Scholarly competence

Comprehensive examinations

The final oral examination

Project

Dissertation

Candidacy

Specific program requirements

Religion requirement

COMBINED DEGREES PROGRAMS

Student Life

Academic Information

Conditions of registration, residence, attendance

Academic residence

Transfer credits

Academic probation

Financial information

Schedule of charges (2010–2011)

Programs, Degrees, and Certificates Offered

Biology

Case Management

Child Life Specialist

Clinical Mediation

Counseling

Criminal Justice

Drug and Alcohol Counseling

Earth Science

Environmental Sciences

Family Counseling

Family Life Education

Family Studies

Geology

Gerontology

Health Professions Education

Marital and Family Therapy

Natural Sciences

Program Evaluation and Research

Psychology

School Counseling

Social Policy and Social Research

Social Work

Social Work, Clinical

Spanish Studies for Health Care Professionals

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.

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>; 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 per-

formance 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 (2010–2011) 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 (2010–2011), 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 course work at this University that earns 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 an overall G.P.A. of 3.0 after two quarters may be dismissed from school.

Financial Information

SCHEDULE OF CHARGES (2010–2011)

Tuition

\$535	Per unit, undergraduate credit
\$634	Per unit, graduate credit
\$317	Per unit, audit
\$30,730	Per year: Psychology Psy.D. and Ph.D.

Special charges*

\$60	Application fee
\$100	Application fee for combined degrees
\$595	Enrollment fee per quarter
\$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

PRIMARY APPOINTMENTS

Leonard R. Brand
 H. Paul Buchheim
 Stephen G. Dunbar
 Raul Esperante
 Hansel M. Fletcher
 William K. Hayes
 W. William Hughes
 Kevin E. Nick

SECONDARY APPOINTMENTS

Danilo Boskovic
 Ronald L. Carter
 Hansel M. Fletcher
 David A. Hessinger
 Michal Kirby

ADJUNCT FACULTY

Gordon J. Adkins
 H. Thomas Goodwin
 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 the ability to relate faith and science with public interest issues.

Student financial aid

Research and teaching assistantships are available in the Department of Earth and Biological Sciences on a competitive basis. Further information can be obtained by contacting the department at <ebs@llu.edu>. Qualified students are also encouraged to seek fellowships from federal and private agencies with the help of their advisor.

General requirements

For additional information about requirements and practices to which all graduate students are subject, the student should consult 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. An undergraduate G.P.A. of at least 3.0 is expected. Applicants must take the general Graduate Record Examination (GRE) and achieve an acceptable score (the subject GRE is not required). International students may be required to take the TOELF examination. Applicants must contact the department or refer to the Catalog for details.

To apply for admission to the program, applicants should log on to the LLU Web site at <www.llu.edu/central/apply/index.page>. It is also recommended that applicants contact the department at <ebs.llu.edu>.

Application time

Applications are accepted at any time. However, it is recommended that applications for Fall Quarter be submitted by March. Financial aid decisions will be made early in April.

Undergraduate corequisites

- Precalculus (required)
- Calculus (recommended)
- Statistics (one course)
- General biology (one year)
- General chemistry (one year)
- Organic chemistry (one year)
- Biochemistry (recommended)
- General physics (one year)

Some of these courses may be taken during residence at this University, with the approval of the admissions committee.

Required courses during the M.S. degree program

A total of 48 units of courses and research are required, including at least 32 at or above the 500 level. See below for a list of courses.

Seminar attendance requirements

All graduate students in residence must register for and attend seminars at this University each quarter.

Research proposal

Students are urged to select a research project early in their program, in consultation with a faculty member approved by the department. 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. A comprehensive plan for completion of the degree will be approved at this time.

Advancement to candidacy

Students may apply for advancement to candidacy by completing Form A, which requires:

- 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).

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 the format of an appropriate scientific journal.

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 effective 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). Applicants must take the general GRE examination and achieve an acceptable score (the subject GRE is not required). International students may be required to take the TOEFL examination. Applicants must contact the department or refer to this Catalog for details. Recommended G.P.A. in a previous M.S. program is at least 3.5

Application

Applications are accepted at any time. However, it is recommended that applications for Fall Quarter be submitted by March. Financial aid decisions will be made in early April.

To apply for admission to the program, log on to the LLU Web site at <www.llu.edu/central/apply/index.page>. It is also recommended that applicants contact the department at <ebs.llu.edu>.

Undergraduate corequisites

- Statistics (required)
- Precalculus (required)
- Calculus (recommended)
- General biology (one year)
- General physics (one year)
- General chemistry (one year)
- Organic chemistry (one year)
- Biochemistry (recommended)

Required courses during the Ph.D. degree program

A total of 72 units of courses and research beyond the master's level are required, including at least 48 at or above the 500 level. See below for a list of courses.

Seminar attendance requirements

All graduate students in residence must register for and attend seminars each quarter at Loma Linda University.

Teaching experience

Teaching is recommended for 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 2 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.

Professional development

Ph.D. students are expected to publish papers, present papers at scientific meetings, and submit research grant proposals.

Defense of dissertation

An oral dissertation presentation and defense are required.

REQUIRED

Additional courses beyond those listed below will be chosen in consultation with the student's advisor

			MS	PHD
BIOL 545	Genetics and Speciation		4.0	4.0
BIOL 558	Philosophy of Science and Origins			4.0
BIOL 607	Seminar in Biology	(each quarter in residence; 1 unit per quarter)	—	—
BIOL 616	Research and Experimental Design		2.0	2.0
BIOL 617	Proposal Writing and Grantsmanship		2.0	2.0
BIOL 558	Philosophy of Science and Origins (4.0)	One course required: BIOL 558 required except for students who have taken BIOL 475 or equivalent	4.0	4.0
BIOL 559	Philosophy of Science and Origins (1.0)			
Totals			12.0	16.0

CHOOSE COURSE(S) FROM EACH OF THE FOLLOWING AREAS:

		MS	PHD
BCHM 504	Introduction to Biochemistry GS (5.0)		
BCHM 508	Principles of Biochemistry (6.0)		
BCHM 534	Techniques of Biochemistry (2.0)		
BIOL 517	Ecological Physiology (4.0)		
BIOL 547	Molecular Biosystematics (4.0)	Biological systems	3.0–4.0
BIOL 548	Molecular Ecology (4.0)		
BIOL 555	Molecular Genetics (3.0)		
MICR 540	Physiology and Molecular Genetics of Microbes (3.0)		
MICR 570	Mechanisms of Microbial Pathogenesis (3.0)		
BIOL 444	Paleobotany (4.0)		
BIOL 505	Marine Biology (4.0)		
BIOL 515	Biogeography (3.0)	Ecology	3.0–4.0
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 409	Mammalogy (4.0)		
BIOL 426	Invertebrate Paleontology (4.0)		
BIOL 427	Vertebrate Paleontology (4.0)	Organismal biology	3.0–4.0
BIOL 504	Biology of Marine Invertebrates (4.0)		
BIOL 537	Advances in Sociobiology (3.0)		
BIOL 539	Behavioral Ecology (4.0)		
GEOL 444	Paleobotany (4.0)		
GEOL 545	Taphonomy (4.0)		
Totals			

RELIGION

		MS	PHD
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

RESEARCH

4 units minimum; will be graded each quarter and can be repeated for additional credit		MS	PHD
BIOL 698	Thesis Research (1.0–8.0)	4.0	
BIOL 699	Dissertation Research		4.0
Totals		4.0	4.0
Overall Totals		48.0	72.0

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, in consultation with their advisor.

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 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 comportsment.

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 9.0
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
Overall Totals		27.0

Child Life Specialist—ST

(PB certificate; M.S.)

MICHELLE MINYARD-WIDMANN, Program
Director

FACULTY

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

A complete list of program instructors can be viewed online at <www.llu.edu/science-technology/grad/mfam/index.page>.

DEPARTMENT

The Child Life Specialist Program is 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>).

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>).

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.

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

**CHILD LIFE SPECIALIST—
 CERTIFICATE**

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.

CHILD LIFE SPECIALIST—M.S.

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

		CERT	MS
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	or COUN 547		3.0
MFAM 553	Family Systems Theory			3.0
MFAM 568	Groups: Process, and Practice			3.0
MFAM 584	Advanced Child and Adolescent Problems	or COUN 584	3.0	3.0
MFAM 644	Child Abuse and Family Violence	or COUN 644		3.0
RELR 564	Religion, Marriage, and the Family			3.0
RELR 587	Religion and the Social Sciences		3.0	
			Totals	36.0 58.0
			Overall Totals	36.0 58.0

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>.

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; 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 admission requirements for the program are as follows:

- A bachelor's (B.A. or B.S.) degree from an accredited university.
- Minimum G.P.A. of 3.0 in the 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 earn 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 (3)	Choose one course 3.0
RELR 564	Religion, Marriage, and the Family (3)	
Totals		3.0
Overall Totals		27.0

Counseling—ST

(M.S.)

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 OF COUNSELING AND FAMILY SCIENCES

The Master of Science degree in counseling 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. The department also offers doctoral programs in family studies and marital and family therapy.

Mission and vision statement

Mission: To facilitate wholeness by promoting health, healing, and hope to individuals, families, and communities through education, research, professional training, community service, and global outreach.

Vision: Transforming relationships

COUNSELING—M.S.

The Master of Science degree in counseling is a 79-quarter unit program designed to prepare the counselor for practice as a licensed professional clinical counselor (LPCC) and for practice as a pupil personnel services (PPS) credentialed school counselor. Both license and credential competencies are embedded in the curriculum to provide

graduates with a wide range of counseling career options in such specialities as mental health counseling, rehabilitation counseling, developmental counseling, pastoral counseling, family counseling, career counseling, school counseling, sports and wellness counseling, addictions counseling, clinical meditation, residence hall counseling, and student services on college campuses.

Accreditation

The M.S. degree in counseling is accredited by the Western Association of Schools and Colleges (WASC). LPCC license is regulated by the California Board of Behavioral Sciences (BBS). The pupil personnel services (PPS) credential program is regulated by the California Commission on Teacher Credentialing (CTC).

Licensure: Licensed professional clinical counselor (LPCC)

In October 2009, California became the fiftieth state to approve master's level licensure for independent practice as an LPCC. The M.S. degree in counseling at Loma Linda University provides all academic requirements to meet state licensing standards established by the Board of Behavioral Sciences (BBS). Graduates who seek LPCC licensure must meet BBS standards, which include: M.S. degree in counseling; academic verification by Loma Linda University; 3,000 clock hours of postdegree clinical internship; and competency examinations determined by BBS.

Credential: Pupil personnel services credential in school counseling (PPS)

The M.S. degree in counseling provides all academic and field requirements for the PPS, which is regulated but the California Commission on Teacher Credentialing (CTC) and is required for work as a salaried, certificated counselor in California public schools. Graduates who seek this PPS credential must meet the CTC standards,

which include: M.S. degree in counseling, completion of 600 clock hours of field experience prior to graduation, passing score on all sections of the California Basic Educational Skills Test (CBEST). M.S. degree in counseling students must take the CBEST examination during their first two quarters following admission.

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)

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 must 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.
- 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).
- A background check (required before matriculation to the program).

Postadmission requirements

After admission into the M.S. degree program in counseling and completion of one quarter of course work, a student may be required to take a 3-unit graduate writing course, as determined by the program director in consultation with department faculty.

Degree requirements

Requirements for the M.S. degree in counseling include the following:

- Residence of at least two academic years.
- A minimum of 79 quarter units of graduate work, which includes credit received for core courses, electives, and a 3-unit religion course.
- Certificate of clearance (COC) prior to field experience, including Live Scan and TB test.

- 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 M.S. degree program in counseling 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 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 M.S. degree in counseling is divided into three domains, as outlined below.

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 535	Case Presentation and Professional Studies	4.0
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
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 524	Psychopharmacology and Medical Issues	3.0
COUN 579	Career Theories and Applications	4.0
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 675	Dynamics of Aging	2.0
COUN 678	Consultation and Leadership	3.0
COUN 679	Professional School Counseling	3.0
COUN 681	Counseling Practicum and Seminar (1.0)	Minimum registration requirement is five quarters 5.0
Totals		37.0

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		

PRACTICUM

Practicum units are in addition to the minimum graduate units required for the degree

UNITS

COUN 680	Field Experience in Counseling	18 units = 600 hours	18.0
Totals			—
Overall Totals			79.0

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; and provides a deeper understanding of crime and the struggle of the modern criminal justice system.

CRIMINAL JUSTICE—M.S.

Mission

The mission of the 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 system.
- An understanding of the differences between retributive and restorative justice approaches in addressing the effects of crime.

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.

Concentration descriptions

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
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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 passing rate of 75 percent.
2. Applicants must demonstrate satisfactory adherence to 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 include:

- 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.

CORE		NON- THESIS	THESIS
CRMJ 515	Crime and Society	3.0	3.0
CRMJ 517	Criminal Procedure and Rules of Evidence	3.0	3.0
CRMJ 520	Restorative Justice	3.0	3.0
CRMJ 574	Criminological Theory	4.0	4.0
SOWK 682	Legal and Ethical Aspects in Health and Mental Health Services	3.0	3.0
Totals		16.0	16.0

RELIGION, PHILOSOPHY, AND ETHICS		NON- THESIS	THESIS
REL_ 5__	Graduate-level Religion (4.0) <i>An approved 4-unit course within subject area, in consultation with advisor</i>	Choose one course	4.0
RELE 524	Bioethics and Society (4.0)		
Totals		4.0	4.0

SOCIAL RESEARCH METHODS		NON- THESIS	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

Only one concentration required

			NON- THESIS	THESIS
PUAD 678	Public Administration Management (3.0)	Concentration selectives – choose 6 units	6.0	6.0
SOWK 494	Conflict Resolution and Dispute Mediation (2.0)			
SOWK 673	Program Planning and Evaluation (3.0)			
SOWK 676A	Human Resources Planning and Development (3.0)			
SOWK 676B	Human Resources Planning and Development Seminar (3.0)			
SOWK 681	Health and Mental Health Policy and Services (2.0)			
SOWK 683	Advanced Policy Analysis (3.0)			
SPOL 665	Information Technologies and Decision Science (4.0)			
CRMJ 630	Criminal Justice Planning and Administration	Required	3.0	3.0
SOWK 672	Theories of Organizations and Systems	Required	3.0	3.0
Totals			6.0	6.0

CONCENTRATION – FORENSIC MENTAL HEALTH

Only one concentration required

			NON- THESIS	THESIS
MFAM 644	Child Abuse and Family Violence (3.0)	Concentration selectives – choose 6 units	6.0	6.0
PSYC 685	Drug Addiction and Therapy (2.0)			
PSYC 686	Child, Partner, and Elder Abuse (2.0)			
SOWK 494	Conflict Resolution and Dispute Mediation (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)			
SOWK 681	Health and Mental Health Policy and Services (2.0)			
CRMJ 620	Forensic Mental Health	Required	3.0	3.0
SOWK 663	Advanced Social Work Practice with Individuals	Required	3.0	3.0
Totals			12.0	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

		NON- THESIS	THESIS
CRMJ 518	Legal Discourse (2.0)		
CRMJ 519	Moot Court (2.0)		
CRMJ 599	Directed Study/Special Project (1.0)		
CRMJ 640	Forensic Evidence (3.0)		
GLBH 548	Violence and Terrorism Issues (3.0)		
GLBH 550	Women in Development (3.0)	9.0	9.0
HADM 510	Health Policy Analysis and Synthesis (3.0)		
HPRO 548	Community and Domestic Violence (3.0)		
SOWK 615	Social Policy II (3.0)		
SOWK 659	Interventions with Persons with Severe Mental Illness (2.0)		
SPOL 615	Economic Theory and Social Policy (4.0)		
Totals		9.0	9.0

OTHER

		NON- THESIS	THESIS
CRMJ 757A	Professional Practicum and Seminar (3.0)	1.0	—
CRMJ 757B	Professional Practicum and Seminar (3.0)		
CRMJ 757C	Professional Practicum and Seminar (3.0)		
SOWK 578	Field Orientation (1.0)		
SOWK 697	Applied Research		2.0
SOWK 698	Thesis (2.0)		4.0
Totals		1.0	6.0
Overall Totals		54.0	59.0

Drug and Alcohol Counseling—ST

(PB certificate)

RANDALL WALKER, Program Director

Mary Moline
Cheryl Simpson
Randall Walker
Colwick Wilson

FACULTY

Jennifer Andrews
Ian P. Chand
Curtis Fox
Barbara Hernandez
Douglas Huenergardt
Carmen Knudson-Martin
Michelle Minyard-Widmann

A complete list of program instructors can be viewed online at <www.llu.edu/science-technology/grad/mfam/index.page>

DRUG AND ALCOHOL COUNSELING—CERTIFICATE

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 requirements of the Board of Behavioral Examiners (BBS), the American Association for Marriage and Family Therapy (AAMFT), and other certifying organizations.

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 fitness 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 experi-

ence. Numerous other programs offer substance abuse services in San Bernardino and Riverside counties. In addition, with program coordinator approval, students may be able to work in other

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.

REQUIRED		UNITS
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
REL_ 5__	Graduate-level Religion	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)	
Totals		24.0

ELECTIVES		UNITS
MFAM ____	Marital and Family (3)	3.0
Totals		3.0
Overall Totals		27.0

Earth Science—ST

(Ph.D.)

H. PAUL BUCHHEIM, Program Director

FACULTY

PRIMARY APPOINTMENTS

Leonard R. Brand
 H. Paul Buchheim
 Benjamin Clausen
 Stephen G. Dunbar
 Raul Esperante
 Ronald Nalin
 Kevin E. Nick

SECONDARY APPOINTMENTS

Ronald L. Carter
 V. Leroy Leggitt
 Samuel Soret

ADJUNCT FACULTY

M. Awramik
 Doug Britton
 H. Thomas Goodwin

The specific research and academic interests and strengths of the faculty are in:

- vertebrate paleontology, taphonomy, philosophy of science
- limnogeology, sedimentology, 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

EARTH SCIENCE—PH.D.

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 sedimentology, 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 sedimentology, limnogeology, paleontology, paleoenvironmental, paleoecology, and taphonomy. Research in paleontology can also be pursued through the Master of Science degree program in geology and the Doctor of Philosophy degree program 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 among 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 effective 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 with 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 by contacting the department at <ebs@llu.edu>. Qualified students are also encouraged to seek fellowships from federal and private agencies with the help of their advisor.

General requirements

For additional information about requirements and practices to which all graduate students are subject, the student should consult 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 this CATALOG. Applicants must take the general GRE examination and achieve an acceptable score (the subject GRE is not required). International students may be required to take the TOEFL examination. Contact this department or refer to this CATALOG for details. Recommended G.P.A. in a previous M.S. degree program is at least 3.5. Expected undergraduate preparation includes physical geology, mineralogy, sedimentology, stratigraphy, igneous and metamorphic petrology, structural geology, geological field mapping, historical geology, 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.

To apply for admission to the program, go to the LLU Web site at <www.llu.edu/central/apply/index.page>. It is also recommended that you contact the department at <ebs.llu.edu>.

Application time

Applications are accepted at any time. However, it is recommended that applications for Fall Quarter be submitted by March. Financial aid decisions will be made in early April.

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 (including at least 48 at or above the 500 level); that is, a minimum of 120 units beyond the baccalaureate degree, including the following required courses:

MAJOR		UNITS
GEOL 555	Carbonate Geology	4.0
GEOL 556	Paleoenvironments	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 607	Seminar in Geology	each quarter in residence; 1 unit per quarter
GEOL 617	Proposal Writing and Grantsmanship	2.0
GEOL 558	Philosophy of Science and Origins (4)	One course required: GEOL 558 required except for students who have taken GEOL 475 or equivalent
GEOL 559	Philosophy of Science and Origins (1)	
Totals		26.0

DURING THE UNDERGRADUATE OR GRADUATE PROGRAM		UNITS
GEOL 431	Geochemistry	Required 4.0
ENVH 521	Cartography and Map Design (2)	Choose one GIS course
ENVH 522	Principles of Geographic Information Systems and Science (3)	
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)	
BIOL 426	Invertebrate Paleontology (4)	Choose two paleontology courses
BIOL 427	Vertebrate Paleontology (4)	
BIOL 444	Paleobotany (4)	
GEOL 525	Paleopalynology (4)	
GEOL 545	Taphonomy (4)	Choose one course to be approved by PhD committee
STAT 509	General Statistics (4)	
STAT 525	Applied Multivariate Analysis (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	58.0–61.0
Totals		—

RESEARCH

4 units minimum; will be graded each quarter and can be repeated for additional credit		UNITS
GEOL 699	Dissertation Research	4 minimum 4.0
Totals		4.0
Overall Totals		120.0

Geographic information systems (GIS)

Skill in use of GIS is becoming more critical in many areas of geological study. Students wishing to complete the GIS certificate will need to take an additional 12 units of GIS. Financial aid will not be available for the additional 12 units; students will need to pay the tuition.

Seminar attendance requirements

All graduate students in residence must register for and attend seminars each quarter at Loma Linda University.

Research proposal

Students are urged to select a research project early in their program, in consultation with a faculty member approved by the department. 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. A comprehensive plan for completion of the degree will be approved at this time.

Advancement to candidacy

Students may apply for advancement to candidacy by completing Form A, which requires:

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).

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.

Professional development

Ph.D. degree students are expected to publish papers, present papers at scientific meetings, and submit research grant proposals.

Dissertation

The written thesis must demonstrate the completion of significant, original research and must be written in the format of an appropriate scientific journal.

Defense of dissertation

An oral presentation and defense of the thesis, including final oral examination on the student's field of study, are required.

Teaching experience

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, the student, with committee approval, 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

PRIMARY APPOINTMENTS

Leonard R. Brand
H. Paul Buchheim
Benjamin L. Clausen
Stephen G. Dunbar
Ricardo A. Escobar III
Raul Esperante
William K. Hayes
Kevin E. Nick

SECONDARY APPOINTMENTS

Ronald L. Carter
W. William Hughes
V. Leroy Leggitt
Samuel Soret
Seth Wiafe

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 systems sciences to

help understand the effect of human activities on environmental sustainability and management. 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). With these tools, students will be able to address environmental problems, such as: climate change, conservation, biodiversity decline, groundwater and soil contamination, use of natural resources, waste management, sustainable development, and air and noise pollution. Students have a choice of advanced expertise in one of the following concentration areas: conservation biology and biodiversity, environmental geology, or health geographics. 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.

LEARNING OUTCOMES

- 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).
- Develop the ability to critically evaluate the relation of science and faith within an environmental context.
- Develop written, technical, oral, and problem-solving skills necessary to collect, analyze, and share environmental data with scientific and public communities.
- Develop awareness of the professional and academic opportunities in the environmental science field, as well as knowledge of concurrent environmental science research.
- Obtain an understanding of the human and natural causes to some of Earth's environmental problems and learn how the environmental scientist addresses this problem.

ADMISSION REQUIREMENTS

A B.S. degree student in the Environmental Sciences (ENVS) Program will generally take the first two years of required corequisite course work (96–105 units) at any accredited community college or university, and the last two years of the ENVS curriculum at Loma Linda University. Also, students may obtain early entrance with the approval of the Earth and Biological Sciences Department after completing at least 48 quarter units of corequisites at a college of their choice. Students accepted early will concurrently take course work at a nearby community college in order to complete their outstanding corequisite requirements. All students seeking admission into the Environmental Sciences Program must have a 2.5 G.P.A. and three letters of recommendation from faculty members at the 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; 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.

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.

PREPARATION FOR ADVANCED PROGRAMS

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 medical, dental, and engi-

neering programs. In most cases, these programs would require full-year courses in general biology, general chemistry, general physics, and organic chemistry. One or more courses in calculus may also be required. Students are highly encouraged to contact their prehealth or graduate program of choice early in their major to ensure they meet specific course requirements.

ENVIRONMENTAL INTERNSHIP

The Environmental Sciences Program offers students the opportunity to engage in “hands-on” application of fundamentals learned in course work by enrolling in ENV 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 Environmental Scientist 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:

1. Academic scholarships
 - Scholarships based on test results:
 - American College Test (ACT) results
 - 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 cumulative G.P.A. of at least 3.5, 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.
2. Other scholarships
 - a. 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 earth and biological sciences 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.

- b. **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.
- c. **Summer Ministries Leadership Scholarship** to the student's tuition
 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.
- d. **Student Missions/Task Force Scholarships**—\$2000
 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.
3. **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**
1. The combined total of all scholarships and/or discounts cannot exceed costs for tuition.
 2. 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.
3. Loss of scholarship money may result when a student does not maintain the minimum cumulative G.P.A. required by the particular scholarship.
 4. 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.
 5. The scholarships and discounts listed above apply only to students enrolled in undergraduate programs in the Department of Earth and Biological Sciences.
 Note: 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.

ENVS REQUIRED COREQUISITE COURSES

Freshman and sophomore year corequisite courses are not offered at Loma Linda University and should be taken at any accredited college prior to (or during) enrollment at Loma Linda University. Students approved for early enrollment may take some of their outstanding corequisites concurrently with courses offered at this University. See admissions section above for conditions of early acceptance. 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.

REQUIRED GENERAL EDUCATION COURSES (44–48)

(Some may be taken at LLU)

English composition (complete sequence that meets baccalaureate requirements)	9–13
Religion (minimum 4 units for each 28 units enrolled in an SDA college)	0–8
Personal health or nutrition	2
Physical education (two physical activities)	1
Social Sciences (e.g. anthropology, economics, geography, political science, psychology, sociology, etc.)	12
Humanities (a course from three of the following areas: civilization/history, fine arts, literature, modern language, performing/visual arts [4 units maximum], or philosophy)	12–20

REQUIRED COGNATE COURSES (31)

(Not offered at LLU unless specified)

College algebra	4
Statistics (offered at LLU)	3

At least two from the following three full year course sequences are required, depending on the concentration area (see following concentration section). All three courses are required by premedicine and some other preprofessional and graduate programs (see previous section on Preparation of Advanced Programs for more on requirements).

General biology	12
General chemistry	12
General physics	12

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
Totals		36.0

CONCENTRATION ELECTIVES

One concentration required

UNITS

BIOL 315	Ecology	4.0
BIOL 415	Ecology	4.0
BIOL 449	Biodiversity and Conservation	3.0
BIOL 409	Mammalogy (4)	Choose 6 units
BIOL 439	Behavioral Ecology (4)	
Totals		11.0

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	Environmental Ethics recommended	2.0–4.0
RELR 4__	Upper Division Relational		2.0–4.0
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
Overall Totals		192.0

Family Counseling—ST

(PB certificate)

MARY E. MOLINE, Program Director

FACULTY

Ian P. Chand
 Brian Distelbert
 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>.

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 Counseling 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 Counseling 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.

FAMILY COUNSELING— CERTIFICATE

The certificate in family counseling 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.

The on-campus program can be completed in two quarters (Fall, Winter).

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.

REQUIRED		UNITS
FMST 514	Cross-cultural Counseling and Family Values	2.0
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
Totals		15.0
ELECTIVES		UNITS
As approved by adviser		
MFAM ____	Marital and Family	9.0
Totals		9.0
RELIGION		UNITS
RELR 5__	Graduate-level Relational (3)	Choose one course 3.0
RELR 564	Religion, Marriage, and the Family (3)	
Totals		3.0
Overall Totals		27.0

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>.

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 for both degree and nondegree students.

FAMILY LIFE EDUCATION— CERTIFICATE

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 in the organization's official Web site at <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. Student will meet professional standards in basic content areas for certification in family life education.
2. Student 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.

REQUIRED		UNITS
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 27.0
		Overall Totals 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

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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. degree programs in family studies 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 for both degree and 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 human beings' mental, physical, social, and spiritual well-being. 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

be able to serve these families better, 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

FAMILY STUDIES—M.A.

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 family life educators, and/or secure important knowledge and skill to augment their present career. The M.A. degree program 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 program 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). Earning the M.A. degree 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>.

Professional training

In addition to the courses of instruction required for the successful completion of the M.A. degree in family studies, there is also 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 program 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 graduate-level persons 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 family scientists 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 program 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.

FAMILY STUDIES—PH.D.

Family studies and career options

The Ph.D. degree 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 family life educators.

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. degree 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 is the highest level of academic preparation in family studies. This University's Ph.D. degree 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>.

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, which 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 include 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 their program in the Fall Quarter, but they 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 of 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. in family studies degree 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 doctoral-level family scientists.
2. Students will be grounded in the theoretical and philosophical foundations of the field of family science and be conversant with the ongoing developments in 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		MA	PHD
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 (1.0)	Register for 6 quarters	3.0
		Totals	35.0 25.0

RELIGION		MA	PHD
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		MA	PHD
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

		MA	PHD
_____	Elective	4.0	5.0
		Totals	4.0 5.0

PRACTICUM

Units do not count toward total units required for the degree		MA	PHD
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.

		MA	PHD
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.

		MA	PHD
COUN 574	Psychological Foundations of Education (4.0)		
COUN 576	Exceptional and Medically Challenged Children (3.0)		
COUN 577	Assessment in Counseling (3.0)	Choose 12 units	12.0
COUN 578	College and Career Counseling (3.0)		
COUN 678	Consultation and Leadership (3.0)		
COUN 679	Professional School Counseling (3.0)		
Totals			

CONCENTRATION – SYSTEMS CONSULTATION AND PROFESSIONAL RELATIONS

		MA	PHD
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		—	—
Overall Totals		60.0	78.0

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.

PRIMARY APPOINTMENTS

Leonard R. Brand
Benjamin L. Clausen
Paul Buchheim
Stephen G. Dunbar
Raul Esperante
James L. Gibson
Ronald Nalin
Kevin E. Nick

SECONDARY APPOINTMENTS

V. Leroy Leggit

ADJUNCT FACULTY

Douglas R. Britton
Thomas Goodwin
V. Leroy Leggit

FACULTY—M.S.

PRIMARY APPOINTMENTS

Leonard R. Brand
H. Paul Buchheim
Stephen G. Dunbar
Kevin. E. Nick

SECONDARY APPOINTMENTS

Ben Clausen
Raul Esperante
V. Leroy Leggitt
Ronald Nalin

ADJUNCT FACULTY

Stanley M. Awramik
Douglas R. Britton
H. Thomas Goodwin
V. Leroy Leggitt

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 in geology degree. 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

1. Academic scholarships
Students interested in the following scholarships should contact the department at <ebs.llu.edu>.
 - Scholarships based on test results:
 - American College Test (ACT) results
 - 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 cumulative G.P.A. of at least 3.5, 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.

2. Other scholarships

- a. 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.
- b. 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.
- c. Summer Ministries Leadership Scholarships

These scholarships are available to students who work at an Adventist sum-

mer camp, in summer youth ministry, or engage in literature evangelism during the summer and then attend this University for the academic year immediately following such service. Loma Linda University will match 50 percent of all amount earned from such work and this is applied to the student's tuition.

- d. Student Missions/Task Force Scholarships, \$2000

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.

3. Discounts

Family discount

An family with two dependent students (immediate family members) 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

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 scholarships and discounts listed above apply only to students enrolled in undergraduate programs in the Department of Earth and Biological Sciences.
4. 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 with public interest issues.

Admission

A student pursuing a Bachelor of Science in geology degree 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 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.

To apply for admission to the program, applicants must log on to the LLU website at <www.llu.edu/central/apply/index.page>. It is also recommended that applicants contact the department at <ebs.llu.edu>.

Application time

Applications are accepted at any time. However, it is recommended that applications for Fall Quarter be submitted by March. Financial aid decisions will be made in early April.

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 may apply and be accepted into the environmental sciences honors program if they meet the following requirements: a G.P.A. of 3.0 or above, a sponsoring faculty member, and an approved research proposal. 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 deliver a public oral presentation.

Graduate programs

The Department of Earth and Biological Sciences offers a Master of Science degree in geology. This program's emphasis is on: sedimentary geology, paleontology, and environmental geology. A Master of Science degree in biology, a Doctor of Philosophy degree in biology, and a Doctor of Philosophy degree in earth science are also available.

General education requirements

The information below provides a summary of the University's general education 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 seminars for each quarter of 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		UNITS
Choose at least one course from each prefix		
RELE 4__	Upper Division Ethics	3.0
RELR 4__	Upper Division Relational	3.0
RELT 406	Adventist Beliefs and Life (2)	One course required 2.0
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		UNITS
Must include one paleontology course		
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
	Totals	20.0
	Overall Totals	91.0

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 through 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. Plan and carry out independent research.
3. Develop publication quality writing and effective 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 by contacting the department at <ebs@llu.edu>. Qualified students are also encouraged to seek fellowships from federal and private agencies with the help of their advisors.

Application

Applications are accepted at any time. However, it is recommended that applications for Fall Quarter be submitted by March. Financial aid decisions will be made in early April.

To apply for admission to the program, applicants must log on to the University Web site at <www.llu.edu/central/apply/index.page>. It is also recommended that applicants contact the department at <ebs.llu.edu>.

Admission

Applicants must meet the general School of Science and Technology admission requirements. An undergraduate G.P.A. of at least 3.0 is expected. Applicants must also take the general GRE examination and achieve an acceptable score (the subject GRE is not required). International students may be required to take the TOEFL examination. Con-

tact the department or search this CATALOG for details. Acceptable undergraduate preparation is a bachelor's degree and must include the following required corequisites (in quarter units):

Biology (zoology, botany, ecology or general biology) (highly recommended, not required)	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 corequisites may be taken during residence at Loma Linda University, with approval of admission committee.

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 MS 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 443 Historical Geology	4.0
GEOL 456 Field Methods of Geologic Mapping	4.0
Totals	12.0

MAJOR

	UNITS
GEOL 556 Paleoenvironments	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 607 Seminar in Geology	— each quarter in residence; 1 unit per quarter
GEOL 617 Proposal Writing and Grantsmanship	2.0
GEOL 558 Philosophy of Science and Origins (4)	One course required: GEOL 558 required except for students who have taken GEOL 475 or equivalent
GEOL 559 Philosophy of Science and Origins (1)	

Curriculum

TWO-YEAR TRACK, FOR STUDENTS WITH AN UNDERGRADUATE DEGREE IN GEOLOGY

A minimum of 67 quarter units, including 49 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:

BIOL 426	Invertebrate Paleontology (4)	Choose two paleontology courses	8.0
BIOL 427	Vertebrate Paleontology (4)		
BIOL 444	Paleobotany (4)		
GEOL 545	Taphonomy (4)		
Totals			30.0

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)	4.0
		4 units minimum; will be graded each quarter and can be repeated for additional credit
Totals		6.0
Overall Totals		51.0

THREE-YEAR TRACK, FOR STUDENTS WITHOUT AN UNDERGRADUATE DEGREE IN GEOLOGY

Students with a variety of majors (including science and some nonscience majors) are encouraged to enter into the M.S. degree program in geology. The following curriculum is for students whose undergraduate degree is not in geology. The total program consists of 89 units, including 22 units of undergraduate geology courses that are not part of the M.S. degree program, and the M.S. degree curriculum with a minimum of 67 quarter units, including 49 at or above the 500 level. The following courses are required:

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 seminars 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

Students are urged to select a research project early in their program, in consultation with a faculty member approved by the department. 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. A comprehensive plan for completion of the degree will be approved at this time.

Advancement to candidacy

Students may apply for advancement to candidacy by completing Form A, which requires:

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).

Thesis

The written thesis must demonstrate the completion of significant, original research and must be written in the format of an appropriate scientific journal.

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.

Defense of thesis

An oral presentation and defense of the thesis are required. This 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.

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.

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 practical orientation, 540 hours of integrated practicum and seminar, and 9 units of didactic selectives.

CONCENTRATION DESCRIPTION

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 services for older adults. Students acquire an appreciation for the unique policy and systems structure influencing the delivery of services to older adults. 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 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 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.

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, as follows:

1. Applicants must demonstrate satisfactory performance on the Graduate Record Exami-

nation (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 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 program 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 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.

SOCIAL SCIENCE THEORY		NON- THESIS	THESIS
GERO 615	Economics and Management Issues of Older Adult Services	4.0	4.0
GERO 617	Bio-psycho-social-spiritual Theories of Aging	4.0	4.0
Totals		8.0	8.0

CLINICAL PRACTICE		NON- THESIS	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

		NON- THESIS	THESIS
RELE 524	Bioethics and Society	4.0	4.0
RELR 568	Care of the Dying and Bereaved	4.0	4.0
Totals		4.0	4.0

SOCIAL RESEARCH METHODS

		NON- THESIS	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

		NON- THESIS	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)	Choose 8 units	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

		NON- THESIS	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)	Choose 8 units	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

		NON- THESIS	THESIS
GERO 599	Directed Study/Special Project (1.0)		
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)	9.0	9.0
SOWK 683	Advanced Policy Analysis (3.0)		
SOWK 684	Advanced Policy Projects (2.0)		
Totals		9.0	9.0

OTHER

		NON- THESIS	THESIS
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)		
SOWK 697	Applied Research (2.0)	4.0	
SOWK 698	Thesis	2.0	
Totals		1.0	6.0
Overall Totals		63.0	68.0

Marital and Family Therapy—ST

(M.S.) California and Canadian Campuses

MARY E. MOLINE, Program Director
 DIANNA L. CONNORS, Program Director
 (Canada)

A complete list of program instructors can be viewed online at <www.llu.edu/science-technology/grad/mfam/index.page>.

FACULTY

Ian P. Chand
 Brian Distelberg
 Curtis Fox
 Lori Gray (Canada)
 Barbara Hernandez
 Douglas Huenergardt
 Carmen Knudson-Martin
 Michelle Minyard
 Daniel Newell (Canada)
 Cheryl Simpson
 Randall Walker
 Colwick Wilson

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 mission of the Marriage and Family Therapy Program is to facilitate wholeness by promoting health, healing, and hope to individuals, families, and communities through education, research, professional training, community service, and global outreach.

MARITAL AND FAMILY THERAPY—M.S.

The Master of Science degree program 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:

1. Provide an integrated course of study that trains students generally in the diagnosis, assessment, prognosis, and treatment of mental disorders.
2. Prepare students to be familiar with the broad range of matters that may arise within marriage and family relationships.
3. Train students specifically in the application of marriage and family relationship counseling principles and methods.
4. Encourage students to develop those personal qualities that are intimately related to the counseling situation, such as integrity, sensitivity, flexibility, insight, compassion, and personal presence.
5. Teach students a variety of effective psychotherapeutic techniques and modalities that may be utilized to improve, restore, or maintain healthy individual, couple, and family relationships.
6. Permit an emphasis or specialization that may address any one or more of the unique and complex array of human problems, symptoms, and needs of Californians served by marriage and family therapists.
7. Have students assigned to clinical sites where they work with low-income and multicultural individuals, couples, and families.

Clinical license requirements vary by state and will require additional hours of supervised clinical practice.

Conduct or disciplinary actions

The applicant should view "instruction for completing application for registration as a marriage and family intern" at the Board of Behavioral Science Examiner's Web site for possible issues that may prevent the student from obtaining a marriage and family therapy license in the state of California. One should not apply to the program if s/he has any of the convictions or disciplinary actions cited.

Certificate

The Department of Counseling and Family Sciences offers certificate programs that can be com-

bined 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 82 quarter credits of academic course work, students in the Marital and Family Therapy Program must complete field experience at clinical placement sites. Upon completion of 18 quarter units, each student will be evaluated by all the 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 18 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 125 hours must be with couples and families. These hours will be

double counted, $2 \times 125 = 250$. 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 program in marital and family therapy 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 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 the 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 and one quarter of course work, a student may be required to take a writing course (3 units, graduate level). The program director will determine at the end of the completed quarter if the writing course will be required.

Degree completion

The M.S. degree program 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 82 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 125 hours must be with couples and families (these hours will be counted as double) it is regulation by the Behavioral Board of Science Examiners. 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 marital and family therapists.
2. Students will be able to identify themselves as systemic-oriented marital and family therapists (MFT) grounded in the theoretical and philosophical foundations of the field.
3. Students will be familiar with a variety of marriage and family 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 marriage and family therapy 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 marriage and family therapists.

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' obtaining a Loma Linda University graduate degree in marital and family therapy while completing their academic work and clinical training in Western Canada. The program is the only one that provides marital and family therapy training 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 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 University Records 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. Clinical training placement for two consecutive years is provided while the student is taking academic courses. The student is also required to engage in some personal therapy while s/he 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 travel 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 Loma Linda University's doctoral program in marital and family therapy.

		ON CAMPUS	OFF CAMPUS CANADA
THEORETICAL FOUNDATIONS			
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

		ON CAMPUS	OFF CAMPUS CANADA
CLINICAL KNOWLEDGE			
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

		ON CAMPUS	OFF CAMPUS CANADA
INDIVIDUAL DEVELOPMENT AND FAMILY RELATIONS			
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

		ON CAMPUS	OFF CAMPUS CANADA
PROFESSIONAL IDENTITY AND ETHICS			
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

		ON CAMPUS	OFF CAMPUS CANADA
SUPERVISED CLINICAL PRACTICE			
700-numbered courses do not count toward total units required for the degree			
MFAM 536	Case Presentation Seminar	2.0–4.0	2.0
MFAM 537	Case Presentation Seminar	2.0–4.0	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		10.0–14.0	10.0

		ON CAMPUS	OFF CAMPUS CANADA
RELIGION			
RELR 564	Religion, Marriage, and the Family	3.0	3.0
Totals		3.0	3.0

		ON CAMPUS	OFF CAMPUS CANADA
GROUP			
MFAM 568	Groups: Process, and Practice	3.0	3.0
Totals		3.0	3.0

		ON CAMPUS	OFF CAMPUS CANADA
RESEARCH			
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		ON	OFF
One course in theory required		CAMPUS	CAMPUS
		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)		
COUN 577	Assessment in Counseling (3.0)		
COUN 578	College and Career Counseling (3.0)		
COUN 678	Consultation and Leadership (3.0)		
COUN 679	Professional School Counseling (3.0)		
COUN 680	Field Experience in Counseling (3.0–18.0) (18.0) (600 clock hours)		
FMST 524	Family Resource Management (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 544	Family and Divorce Mediation (4.0)		
MFAM 546	Brain and Behavior (3.0) Available only on the Canadian campus.	Choose 6 units	6.0
MFAM 548	Men and Families (2.0)		6.0
MFAM 549	Christian Counseling and Family Therapy (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 615	Reflective Practice (2.0)		
MFAM 616	Cognitive Assessment (4.0) Available only on the Canadian campus.		
MFAM 617	Personality and Behavior Testing (4.0) Available only on the Canadian campus.		
MFAM 659	Current Trends (2.0)		
MFAM 664	Experiential 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		ON CAMPUS	OFF CAMPUS
Not applicable to degree program		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	—
		Overall Totals	82.0
			82.0

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

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

A complete list of program instructors can be viewed online at <www.llu.edu/science-technology/grad/mfam/index.page>.

DEPARTMENT

The Ph.D. in marital and family therapy degree program 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. in family studies degree; along with master's in family therapy, child life, family studies, and counseling degree programs.

Mission statement

The Ph.D. in marital and family therapy degree program 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 programs 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>.

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 the context of family, community, and interpersonal relationships. This program focuses on both 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.

MARITAL AND FAMILY THERAPY—PH.D.

The Ph.D. in marital and family therapy degree program 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. in marital and family therapy degree program 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. in marital and family therapy degree program 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:

- Families, systems, and health
- Family studies
- Systems consultation and professional relations
- 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 a scientist/practitioner.
3. Students will be able to analyze, synthesize and critique MFT theory, human development, and family science literatures to advance and integrate research, theory, and practice in the field.
4. Student will demonstrate knowledge and skills as a researcher in the field of marital and family therapy.
5. Students will be responsive to the societal, cultural, and spiritual contexts in which health and well-being are embedded.
6. Students will develop an ethical consciousness that guides their practice in aspects of professional work.

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. Five page 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. Curriculum vita (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
TOTAL MINIMUM APPROVED	48.0
COREQUISITE COURSES	

Financial assistance

Students who are accepted into the Ph.D. in marital and family therapy degree 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. in marital and family therapy degree program are eligible to and encouraged to apply for the AAMFT minority fellowships. See <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.

The list of required courses follows the description of the D.M.F.T. program.

MARITAL AND FAMILY THERAPY—D.M.F.T.

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 therapists, program developers, evaluators, and administrators 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 be responsive to the societal, cultural, and spiritual contexts in which health and well-being are embedded.
6. 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. Curriculum vita.
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.

Corequisites

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 for and encouraged to apply for the AAMFT minority fellowships. See <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.

THEORY AND PRACTICE

		DMFT	PHD
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)	3.0	6.0
MFTH 525	Advanced Marital and Family Therapy Assessment	3.0	

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.

MFTH 527	Advanced Legal and Ethical Issues	3.0	
MFTH 634	Practicum (2.0)	6.0	
Totals		24.0	19.0

INDIVIDUAL DEVELOPMENT AND FAMILY RELATIONS

		DMFT	PHD
MFTH 505	Advanced Family Studies	4.0	4.0
Totals		4.0	4.0

SUPERVISION

		DMFT	PHD
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

		DMFT	PHD
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

		DMFT	PHD
RELE 5__	Graduate-level Ethics (3.0)	Choose one course	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

		DMFT	PHD
_____	Elective	In addition to units required for the concentration	3.0
Totals		3.0	6.0

RESEARCH

		DMFT	PHD
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		17.0	30.0

DISSERTATION/DOCTORAL PROJECT

			DMFT	PHD
MFTH 695	Project Research (1.0–12.0)		12.0	
MFTH 698	Dissertation Research (1.0–10.0)			20.0
Totals			12.0	20.0

PROFESSIONAL DEVELOPMENT AND PRACTICE

700-numbered courses do not count in total graduate units required for the degree

			DMFT	PHD
MFTH 634	Practicum (2.0)			6.0
MFTH 694	Doctoral Seminar (1.0)		1.0	1.0
MFTH 785	Professional Clinical Training in MFT (1.5–3.0)	1000 hours	—	—
MFTH 786	Professional Development Proposal (—)		—	—
MFTH 786A	Professional Development in Marital and Family Therapy (1.5–12.0)	36 non-academic units	—	—
Totals			1.0	7.0

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.

			DMFT	PHD
FMST 518	Advanced Theories in Child Development		3.0	3.0
FMST 526	Marriage and the Family		3.0	3.0
CHLS 507A	Aspects of Illness and Disease (3.0)	Choose 6 units	6.0	6.0
CHLS 507B	Aspects of Illness and Disease (3.0)			
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			12.0	12.0

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.

		DMFT	PHD
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	1.0	3.0
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.

		DMFT	PHD
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	Professional School Counseling (3.0)		
Totals		—	—

CONCENTRATION – SYSTEMS CONSULTATION AND PROFESSIONAL RELATIONS

		DMFT	PHD
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

		DMFT	PHD
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	3.0
MFAM 638	Family Therapy and Chemical Abuse	2.0	3.0
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.

			DMFT	PHD
FMST 514	Cross-cultural Counseling and Family Values		2.0	2.0
MFAM 501	Research Tools and Methodology: Quantitative		3.0	3.0
MFAM 515	Crisis Intervention Counseling		3.0	3.0
MFAM 524	Psychopharmacology and Medical Issues		3.0	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 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	2.0
MFAM 638	Family Therapy and Chemical Abuse		3.0	3.0
MFAM 644	Child Abuse and Family Violence			3.0
MFAM 674	Human Sexual Behavior (3.0)	Choose one course	—	—
MFTH 515	Couples Therapy (2.0)			
MFAM 734	Professional Clinical Training (—) (1.5)	500 client contact hours (15 units)	—	—
Totals			—	—
Overall Totals			102.0	108.0

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

PRIMARY APPOINTMENTS

Leonard R. Brand
H. Paul Buchheim
Benjamin L. Clausen
Stephen G. Dunbar
Raul Esperante
William K. Hayes
Ronald Nalin
Kevin E. Nick

SECONDARY APPOINTMENTS

Ronald L. Carter
Samuel Soret

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. Effective 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 integrate 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 with 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.

An undergraduate G.P.A. of at least 2.75 is expected. Applicants must take the general GRE examination and achieve an acceptable score (the subject GRE is not required). International students may be required to take the TOEFL examination. Applicants should contact this department or search this CATALOG for details.

APPLICATION TIME

Applications are accepted at any time. However, it is recommended that applications for the Fall Quarter be submitted by March.

CURRICULUM

A minimum of 50 quarter units, including 40 at or above the 500 level, constitutes the curriculum for the Master of Science degree program 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 at the 400 level:

MAJOR		UNITS
GEOL 416	Sedimentology and Stratigraphy	6.0
BIOL 558	Philosophy of Science and Origins (4)	Choose one course 4.0
GEOL 558	Philosophy of Science and Origins (4)	
BIOL 607	Seminar in Biology (1)	Choose one course 3.0
GEOL 607	Seminar in Geology (1)	
BIOL 616	Research and Experimental Design (2)	Choose one course 2.0
GEOL 616	Research and Experimental Design (2)	
BIOL 426	Invertebrate Paleontology (4)	Choose one geology or paleontology course 3.0–4.0
BIOL 427	Vertebrate Paleontology (4)	
BIOL 444	Paleobotany (4)	
GEOL 545	Taphonomy (3)	
BIOL 505	Marine Biology (4)	Choose one ecology or conservation course 3.0–4.0
BIOL 515	Biogeography (3)	
BIOL 539	Behavioral Ecology (4)	
BIOL 546	Techniques in Vertebrate Ecology (3)	
BIOL 549	Biodiversity and Conservation (3)	
Totals		21.0–23.0

RELIGION		UNITS
REL_ 5__	Graduate-level Religion	3.0
Totals		3.0

ELECTIVES		UNITS
_____	Elective	Selected in consultation with the student's faculty advisor 26.0–28.0
Totals		26.0–28.0
Overall Totals		50.0

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

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 seminars 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 program. 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.

ADVANCEMENT TO CANDIDACY

Students may apply for advancement to candidacy by completing Form A, which requires:

- Completing all deficiencies and corequisites.
- Completing an approved written project proposal.
- Passing the written comprehensive examination.
- Being recommended by the program faculty (should be completed by the end of the third quarter 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 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

The graduate-level certificate in program evaluation and research is designed for the working professional who 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 cer-

tificate 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.

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

Religion		Units
RELE 5__	Graduate-level Ethics (3)	Choose one course 3.0
RELR 528	Christian Citizenship and Leadership (3)	
Totals		3.0

Overall Totals 29.0–31.0

ADDITIONAL REQUIREMENTS

Students should serve as project directors or codirectors 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.)

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
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

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.

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:

- a solid academic foundation,
- high-level training in the empirical methods of science so that they are capable of conducting independent and original research,

- the skills to be highly competent clinicians for whom research and practice constantly inform each other, and
- 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.
3. Clinical skills—ongoing clinical evaluations, the quality and type of internships obtained, and successful passing of the clinical comprehensive 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 that they will be given:

- 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:

1. Academic foundations course evaluations and the comprehensive examination.
2. Clinical skills, ongoing clinical evaluations, the quality and type of internships obtained, and the clinical proficiency examination.
3. Application of research design and methods appropriate to the doctoral project; involve-

ment 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

The comprehensive examination has three parts: Part I. 200-item objective test covering all foundation courses; Part II. written clinical examination; and Part III. a written psychological test report that 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 application. The comprehensive 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:

1. conceptualizing the present problem;
2. obtaining information regarding personal history, interpersonal functioning, and present status;
3. synthesizing psychodiagnostic data;
4. justifying diagnostic impressions;
5. applying relevant research to treatment planning;
6. formulating a comprehensive treatment plan;
7. engaging in effective intervention and evaluating treatment progress and outcome;
8. professional, legal, and ethical psychological science;
9. foundations of psychological science;
10. psychological report writing.

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, GRE 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 a doctoral project and PSYC 696 Psy.D. Research (proposal preparation through final

defense) for a total of 8 units. 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
- the doctoral project proposal, which is accepted and recommended by 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, GRE 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.

Thesis and 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 thesis. These units normally will be completed by the beginning of the third year of study. Students will complete a thesis prior to beginning the dissertation. 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;
- completion of a thesis;
- 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. Students will complete a doctoral dissertation. Completion of the dissertation will be submission of Form D.

Graduation requirements

- successful completion of all course work;
- successful completion of a thesis and dissertation;
- submission of an article for publication;
- successful completion of a predoctoral examination.

Defense

Upon completion of the doctoral dissertation, a public defense before the supervisory committee is required.

CORE CURRICULUM I: FOUNDATIONS OF PSYCHOLOGICAL SCIENCE		MA	PSYD	PHD
PSYC 524	History, Systems, and Philosophy of Psychology	2.0	2.0	2.0
PSYC 545	Cognitive Foundations	4.0	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	4.0
PSYC 591	Colloquia (1.0)	One unit each year for three years.		3.0
Totals		19.0	21.0	21.0

**CORE CURRICULUM II: QUANTITATIVE PSYCHOLOGY RESEARCH
METHODOLOGY**

			MA	PSYD	PHD
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	M.A./PsyD	4.0	4.0	
PSYC 505	Research Methods in Psychological Science	M.A./PhD.	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

			MA	PSYD	PHD
PSYC 526	Ethics and Legal Issues in Clinical Psychology		3.0	3.0	3.0
PSYC 554	Health Psychology			4.0	4.0
PSYC 567	Human Diversity			3.0	3.0
RELE 5__	Graduate-level Ethics (3.0) (3)	Choose one course from each prefix. Only two courses required for MA degree			
RELR 5__	Graduate-level Relational (3.0) (3)		6.0	9.0	9.0
RELT 5__	Graduate-level Theological (3.0) (3)				
Totals			9.0	19.0	19.0

CLINICAL PSYCHOLOGY: GENERAL

			MA	PSYD	PHD
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
Totals			4.0	8.0	8.0

PSYCHOLOGICAL ASSESSMENT

			MA	PSYD	PHD
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

PSYCHOLOGICAL TREATMENT

			MA	PSYD	PHD
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	2.0	
PSYC 676	Geropsychology (1.0)	Choose 6 units			
PSYC 684	Human Sexual Behavior and Treatment (1.0)				
PSYC 685	Drug Addiction and Therapy (2.0)		—	6.0	—
PSYC 687	Cognitive Behavioral Treatment of Anxiety Disorders (2.0)				
PSYC 688	Empirically Supported Treatments of Depression (2.0)				
Totals			—	20.0	14.0

PROFESSIONAL CONCENTRATION

		MA	PSYD	PHD	
PSYC 681	Clinical Supervision and Consultation		2.0	2.0	
PSYC 683	Management and Professional Practice		1.0	1.0	
Totals			—	3.0	3.0

PRACTICUMS AND INTERNSHIPS

Units do not count toward total graduate units required for the degree

		MA	PSYD	PHD	
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)	10 units per quarter , total 40 units (2000 hours)	40.0	0.5	
Totals			—	—	—

RESEARCH

		MA	PSYD	PHD	
PSYC 595	Directed Research	Master's thesis		13.0	
PSYC 597	Supervised Research (1.0)			8.0	
PSYC 696	Psy.D. Doctoral Research		8.0		
PSYC 697	Doctoral Research (1.0–16.0)			30.0	
Totals			—	8.0	51.0
Overall Totals			51.0	104.0	144.0

PSYCHOLOGY—M.A

A master's in psychology degree is available only to students enrolled in the Psy.D. or Ph.D. clinical degree program and is part of the overall doctoral program, and does not require a thesis. Eligibility for the M.A. degree requires the student to complete 51 units of course work. The thesis and dissertation are requirements for the Ph.D. degree program. The doctoral project is a requirement

for the Psy.D. degree program. The Department of Psychology does not admit students to an M.A.-only degree program.

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

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. degree in counseling 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. degree

students in marital and family therapy. 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. degree program in marital and family therapy may earn this certificate (credential).

Mission and vision statement

Mission: To facilitate wholeness by promoting health, healing, and hope to individuals, families, and communities through education, research, professional training, community service, and global outreach.

Vision: Transforming relationships.

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 students in the M.S. in marital and family therapy degree 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>.

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. in marital and family therapy degree program students)

PROFESSIONAL EXPERIENCE

In addition to successful completion of the M.S. in marital and family therapy degree program requirements 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 Practicum and 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 master's degree is awarded. Requirements for the combined school counseling certificate/M.S. in marital and family therapy degree program include:

- Residence of at least two academic years, including residence in the M.S. in marital and family therapy degree program.

- Completion of M.S. in marital and family therapy degree program requirements 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.
- Pre-field practicum and field experience, as outlined in the curriculum.

Additional requirements: School counseling certificate

Loma Linda University students in the M.S. in marital and family therapy degree program may complete the School counseling certificate program concurrently with their degree program. The application process for the certificate is separate, and acceptance is not automatic. Applicants whose master's in marital and family therapy degree 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 counselors 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. in marital and family therapy degree program outlined below.

REQUIRED			UNITS
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
COUN 577	Assessment in Counseling		3.0
COUN 579	Career Theories and Applications		4.0
COUN 678	Consultation and Leadership		3.0
COUN 679	Professional School Counseling		3.0
COUN 680	Field Experience in Counseling	(600 hours)	18.0
COUN 681	Counseling Practicum and Seminar	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			43.0

REQUIRED MS IN MFT			UNITS
FMST 514	Cross-cultural Counseling and Family Values		2.0
MFAM 515	Crisis Intervention Counseling		3.0
MFAM 524	Psychopharmacology and Medical Issues		3.0
MFAM 535	Case Presentation and Professional Studies		4.0
MFAM 536	Case Presentation Seminar		2.0
MFAM 537	Case Presentation Seminar		2.0
MFAM 545	Gender Perspectives		2.0
MFAM 547	Social Ecology of Individual and Family Development		3.0
MFAM 552	Couples Therapy: Theory and Practice		3.0
MFAM 556	Psychopathology and Diagnostic Procedures		3.0
MFAM 584	Advanced Child and Adolescent Problems		3.0
MFAM 614	Law and Ethics		3.0
MFAM 624	Individual and Systems Assessment		3.0
MFAM 635	Case Presentation Seminar		2.0

MFAM 636	Case Presentation Seminar		2.0
MFAM 637	Case Presentation Seminar		2.0
MFAM 638	Family Therapy and Chemical Abuse		2.0
MFAM 644	Child Abuse and Family Violence		3.0
MFAM 674	Human Sexual Behavior		3.0
MFAM 734	Professional Clinical Training	(1.5–3.0) 500 hours total (3 units = 100)	3.0
RELR 564	Religion, Marriage, and the Family		3.0
			Totals 56.0
			Overall Totals 99.0

Social Policy and Social Research—ST

(Ph.D.)

CHRISTIANE SCHUBERT, Ph.D., Program
Director

FACULTY

Beverly J. Buckles
Kimberly Freeman
Sigrid James
Chris Schubert
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:

- Ability to integrate advanced concepts from social science theories, social ethics, and philosophy.

- Ability to utilize critical thinking to distinguish between the moral, ethical, and political differences that affect policies and their consequences.
- Understanding of the conceptual and analytical requirements of policy analysis through the integration of behavioral, political, economic, and social frameworks for understanding human conditions.
- 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.
- Ability to independently define research problems and formulate appropriate questions and hypotheses.
- 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 3.5 (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.
10. Personal statement.
11. Application fee.
12. Three letters of recommendation (including one from an academic source and one from a work supervisor.)
13. All college and/or university transcripts.

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

RELT 557	Theology of Human Suffering	4.0
RELE 588	Philosophical Resources for Bioethics	4.0
	Required of all Ph.D. degree students	
RELR 528	Christian Citizenship and Leadership	3.0
Totals		11.0

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	4.0
	Advanced course in statistics or methods	

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)		
		Totals	28.0

APPLIED/STRUCTURED RESEARCH AND SPECIALIZED ELECTIVES**UNITS**

_____	Elective	10.0–16.0
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 10.0–22.0

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 697	Research	8.0
SPOL 699	Dissertation (4.0–12.0)	6.0
		Totals 20.0
		Overall Totals 105.0

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 director. During the first year of study, students further define their interests through advisement. During the second year of study, after passing a comprehensive examination, students are assigned a research mentor who guides them in 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 the 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 Heredia-Miller
 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 pos-

sess 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 lifespan; 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.

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.

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
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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).

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 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; and
 - 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 pre-approval 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 gate-keeping. 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.

DUAL DEGREES

Students interested in a dual degree with social work and gerontology or social work and criminal justice need to contact the Social Work Department directly.

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
SOWK 512	Human Behavior and Cross-cultural Environment II (3)	
SOWK 515	Social Policy I (3)	Sequence II: Social welfare policy and services
SOWK 615	Social Policy II (3)	
SOWK 547	Research Methods I (3)	Sequence III: Social research
SOWK 549	Research Methods II (3)	
SOWK 517	Foundation Practice I: Individuals (3)	Sequence IV: Practice
SOWK 518	Foundation Practice II: Groups (3)	
SOWK 519	Foundation Practice III: Organizations and Communities (3)	
SOWK 520	Foundation Practice IV: Families (3) Not eligible for waiver.	
SOWK 671	Foundation Practice V: Social Work Administration (3)	
SOWK 578	Field Orientation (1) Not eligible for waiver.	Sequence V: Field practicum; units not calculated into degree units
SOWK 757A	Professional Foundation Practicum and Seminar (3) Not eligible for waiver.	
SOWK 757B	Professional Foundation Practicum and Seminar (3) Not eligible for waiver.	
SOWK 757C	Professional Foundation Practicum and Seminar (3) Not eligible for waiver.	
Totals		34.0

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
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**

Choose one course

SOWK 675	Supervision	3.0
SOWK 676B	Human Resources Planning and Development Seminar	3.0
		Totals 3.0

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 – choose 6 units from this category or from problem areas	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 – choose 6 units from this group or from population groups	—
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	
Overall Totals		77.0	

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.)

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 at-risk clinical populations.

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
Totals		68.0

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
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
Overall Totals		107.0

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 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 Care 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, 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.

This certificate program 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

SPANISH LITERATURE, HISTORY**UNITS**

SPAN 118	Spanish Literature I (4)		
SPAN 119	Spain: Culture and Civilization (4)		4.0
SPAN 122	Tradition and Paradox of Latin American Women (4)		
Totals			4.0

DIVERSITY**UNITS**

ANTH 304	Biological Anthropology (4)		
ANTH 306	Language and Culture (4)		4.0
SPAN 430	Diversity in Twenty-First Century (4)		
Totals			4.0

SERVICE-LEARNING/CULTURAL ISSUES IN RELIGION (MUST INCLUDE PORTFOLIO)**UNITS**

RELR 404	Christian Service (1.0–2.0)	Must include portfolio.	3.0
Totals			3.0
Overall Totals			27.0

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

Graduate Degrees Overseen by the Faculty of
Graduate Studies

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> or by calling toll free 1/800/422-4LLU.

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 humankind.

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 during 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 program. If at the time of application the student wishes to qualify for the Doctor of Philosophy degree program, this intention should be declared even if the first objective is to earn a master's degree.

If after admission to the master's degree program a student wishes to go on to the doctoral degree program, 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 that 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> 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.

Graduate Degrees Overseen by the Faculty of Graduate Studies

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
- Epidemiology
- 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.)

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* **Dentistry—SD**

M.S./M.D., M.S./D.D.S., or Ph.D./D.D.S.

Combined degrees programs allow qualified students to work on combined D.D.S./M.S. or Ph.D. (dentistry with anatomy) degrees. Details are

provided in the Dentistry 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 in biology or geology degree program, 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 in biology degree program, 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.

Bioethics—SR *with* **Dentistry—SD**

M.A./D.D.S.

JAMES W. WALTERS, Program Director, Bioethics,
School of Religion
RONALD J. DAILEY, Program Coordinator, School
of Dentistry

FACULTY

The faculty for the combined degrees program in Bioethics with Dentistry is drawn from Loma Linda University's School of Religion and School of Dentistry.

THE PROGRAM

The combined degrees program in Bioethics 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 together with an application for the scholarship.

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	Bioethics and Society	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

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 Bioethics and Society are recommended.

Along with the dental curriculum in the third year, the student will enroll in routine M.A. in ethics degree course work.

The fourth year concludes the required courses in the dental and clinical and bioethics 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.

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

Bioethics—SR
with
Medicine—SM

M.A. /M.D.

JAMES W. WALTERS, Program Director, Bioethics,
School of Religion
LEONARD S. WERNER, Program Coordinator,
School of Medicine

FACULTY

The faculty for the combined degrees program in Bioethics with Medicine is drawn from Loma Linda University's School of Religion and School of Medicine.

THE PROGRAM

The combined degrees program in Bioethics 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

CORE REQUIREMENTS

First year

Fall Quarter

RELG 504	Research Methods	4.0
		Totals 4.0

Winter Quarter

RELE 548	Christian Social Ethics	4.0
or		
RELE 589	Biblical Ethics	4.0
		Totals 4.0

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. in ethics or bioethics degree programs.

Spring Quarter

RELE 577	Theological Ethics	4.0
Totals		4.0

Summer Quarter

RELE 524	Bioethics and Society	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 religion courses, if offered, during the Summer Quarter.

Second year

Fall Quarter

RELE 588	Philosophical Ethics	4.0
Totals		4.0

Winter Quarter

RELE 554	Clinical Ethics Practicum I	4.0
or		
RELE 548	Christian Social Ethics	4.0
or		
RELE 589	Biblical Ethics	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:		
<ul style="list-style-type: none"> • Finish any required course work for both SM and SR. • Successfully complete a research project. • Successfully complete the comprehensive examinations. 		
Totals		4.0
Overall Totals		36.0

Bioethics—SR
with
Nursing, Advanced Practice—SN

M.A./M.S.

JAMES W. WALTERS, Program Director, Bioethics,
School of Religion
ELIZABETH BOSSERT, Program Coordinator,
School of Nursing

FACULTY

The faculty for the combined degrees program in Bioethics 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 Bioethics 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 in bioethics degree program and the M.S. in advanced practice nursing degree program.

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

Bioethics

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	Bioethics and Society	4.0
RELE 548	Christian Social Ethics	4.0
REL_/	Electives in religion or ethics	3.0
RELE ____		
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

ADVANCED PRACTICE NURSING

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 45.0
		Overall Totals 80.0

* Course offered alternate years

**Bioethics—SR
with
Psychology—ST**

M.A./Psy.D. or M.A./Ph.D.

JAMES W. WALTERS, Program Director, Bioethics
LOUIS E. JENKINS, Chair, Department of
Psychology

FACULTY

The faculty for the combined degrees program in Bioethics 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. in bioethics degree program (offered by the School of Religion) with either the Psy.D. or Ph.D. in psychology degree program (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. in ethics degree program 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. in bioethics degree program when taken with psychology as part of the combined degrees program:

CORE REQUIREMENTS

RELE 524	Bioethics and Society	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 program 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.)

**Bioethics—SR
with
Social Policy and Social
Research—ST****M.A./Ph.D.**

JAMES W. WALTERS, Program Director, Bioethics
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 Bioethics 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 Bioethics 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. in social policy and social research degree program.

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	Bioethics and Society	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 in clinical ministry degree program and Master of Science in marital and family therapy degree program (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.

CURRICULUM

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

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). Students 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. Students taking course work in clinical ministries but are continuing their case presentation in MFAM will be placed in a Christian-oriented site, such as the Christian Counseling Center.

COURSE REQUIREMENTS

In order to complete the combined degrees program, Master of Arts in clinical ministry with Master of Science degree in marital and family therapy, 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:

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	New Testament Thought	3.0
or		
RELR 587	Religion and the Social Sciences	
*MFAM 734	Professional Clinical Training	1.5
Totals		8.0

THIRD YEAR

Summer Quarter

RELE 524	Bioethics and Society	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

Bioethics—SR

D.D.S./M.A.

(See program in Bioethics 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. in marital and family therapy degree program 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 in marital and family therapy degree program 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	Qualitative Research Methods	3.0
or	or	
MFAM 502	Research Methodology Qualitative	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)	12.0
**These units are not counted in the final number of units required.	

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.

M.S. IN MARITAL AND FAMILY THERAPY

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

ASSESSMENT AND TREATMENT IN MARRIAGE AND FAMILY THERAPY

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

HUMAN DEVELOPMENT AND FAMILY STUDIES

FMST 514 Cross-cultural 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

ETHICS AND PROFESSIONAL STUDIES

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.

Introduction to research methods (2 quarter units)
 Graduate Record Examination (GRE)
 Bachelor’s degree

COREQUISITE

PREREQUISITE

Demonstrate college-level conceptualization and writing skills
 Community service or public health experience preferred
 General statistics (descriptive and beginning inferential) (3 quarter units)

(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
NUTR 509	Public Health Biology/Nutrition	2.0
PHCJ 605	Overview of Public Health	1.0
RELE 534	Ethical Issues in Public Health	3.0
or		
RELE 524	Bioethics and Society	3.0
Totals		20.0

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 and Program Development	3.0
HPRO 589	Qualitative Research Methods	3.0
NUTR 534	Maternal and Child Nutrition	3.0
Totals		22.0
M.P.H. Totals		42.0

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
Totals		25.0

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
Totals		19.0

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
Totals		19.0
M.S. Totals		44.0
Electives from Bioethics		16.0
(540 clinical hours required for certification)		–
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.) in health education degree program is taught through the School of Public Health. The Doctor of Psychology (Psy.D.) in clinical psychology degree program 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
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Field experience

HPRO 798D	Field Practicum (400 clock hours)	-
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Overall Totals 63.0

(Total does not include Psy.D. program units)

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
Bioethics—SR

M.S./M.A.

(See program in Bioethics 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 programs, Master of Arts in clinical ministry and Master of Science in marital and family therapy degree programs 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 program 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 taking case presentation in MFAM will be placed in secular sites. Students taking course work in Clinical Ministries but are continuing their case presentation in MFAM will be placed in a Christian-oriented site, such as the Christian Counseling Center.

COURSE REQUIREMENTS

In order to receive the Master of Arts in clinical ministry degree and the Master of Science in marital and family therapy degree 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	New Testament Thought	3.0
or		
RELR 587	Religion and the Social Sciences	
*MFAM 734	Professional Clinical Training	1.5
Totals		8.0

THIRD YEAR**Summer Quarter**

RELE 524	Bioethics and Society	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

MFAM 734	Professional Clinical Training (15 clinical units)	–
Overall Totals		101.0

* Clinical training courses are nonacademic units and require a fee

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. and M.S.W. in maternal and child health degree programs 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 IBGS (Integrated Biomedical Graduate Studies) graduate programs (Anatomy, Biochemistry, Microbiology and Molecular Genetics, Pharmacology and Physiology). In the first year, students participate in a 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 in 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 may 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 a student before he or she 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* **Biology—ST**

M.D./M.S.

(See program in Biology or Geology with Medicine.)

Medicine—SM *with* **Bioethics—SR**

M.D./M.A.

(See program in Bioethics 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
Totals		134.0

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
Bioethics—SR

M.S./M.A.

(See program in Bioethics 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	Pharmacology	3.0
or		
PSYC 555	Psychopharmacology	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	Epidemiology of Cardiovascular Disease	3.0
or		
EPDM 565	Epidemiology of Cancer	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	Health-Behavior Theory and Research	4.0
or		
PSYC 554	Health Psychology	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	Advanced Statistics	4.0
or		
STAT 509	General Statistics	4.0
PSYC 502	Advanced Statistics	4.0
or		
STAT 514	Intermediate Statistics for Health-Science Data	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	Foundations of Learning	4.0
or		
PSYC 545	Cognitive Foundations	4.0
PSYC 551	Psychobiological Foundations	4.0
PSYC 564	Foundations of Social Psychology and Culture	4.0
PSYC 574	Personality Theory	4.0
or		
PSYC 575	Foundations of Human Development	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	Cognitive and Behavioral Therapy Laboratory	3.0
or		
HPRO 606A	Stress Management	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)	3.0
RELT ___	Religion elective (500 or 600 level)	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	External Practicum V	4.0
or		
HPRO 704	Internship	4.0
PSYC 787	External Practicum VI	4.0
or		
HPRO 704	Internship	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)	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)	1.0
PSYC 684	Human Sexuality (California licensure)	1.0
PSYC 685	Drug Addiction/Treatment (California licensure)	2.0
PSYC 686	Elder, Partner, Child Abuse (California licensure)	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
Bioethics—SR

Psy.D. or Ph.D./M.A.

(See program in Bioethics 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
Bioethics—SR

Ph.D./M.A.

(See program in Bioethics 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

AHCJ	Allied Health—Conjoint	GERO	Gerontology
ANAT	Anatomy	GLBH	Global Health
ANES	Anesthesiology	GRDN	Graduate Dentistry
ANTH	Anthropology	GSCJ	Graduate Studies—Conjoint
ARTA	Art Appreciation and History	GYOB	Gynecology and Obstetrics
BCHM	Biochemistry	HADM	Health Administration
BIOL	Biology	HCAD	Health Care Administration
CHIN	Chinese	HLCS	Coding Specialist
CHLS	Child Life Specialist	HLIN	Health Information Administration
CLSC	Cytotechnology	HPRO	Health Promotion and Education
CLSM	Clinical Laboratory Science	HUMN	Humanities
CMBL	Cell and Molecular Biology	IBGS	Integrated Biomedical Graduate Studies
CMSD	Communication Sciences and Disorders	IDPC	International Dentist Program—Clinics
COMM	Communication	IDPG	International Dentist Program—General
COMP	Composition	IDPO	International Dentist Program— Oral Pathology
COUN	Counseling	IDPP	International Dentist Program— Periodontics and Pediatric Dentistry
CRMJ	Criminal Justice	IDPR	International Dentist Program— Restorative
CSWK	Clinical Social Work	IMPD	Implant Dentistry
DERM	Dermatology	MDCJ	Medicine—Conjoint
DNES	Dental Educational Services	MEDN	Medicine
DNHY	Dental Hygiene	MFAM	Marriage and Family
DTCH	Dietetic Technology	MFTH	Marital and Family Therapy
DTCS	Dietetics	MICR	Microbiology
EMDN	Emergency Medicine	MNES	Medical Education Services
EMMC	Emergency Medical Care	MUHL	Music History and Literature
ENDN	Endodontics	NEUR	Neurology
ENGL	English	NEUS	Neurosurgery
ENSL	English as a Second Language	NRSB	Nursing Bridge
ENVH	Environmental Health	NRSG	Nursing
ENVS	Environmental Sciences	NSCI	Natural Sciences
EPDM	Epidemiology	NUTR	Nutrition
ESSC	Earth System Science	OCTA	Occupational Therapy Assistant
FMDN	Family Medicine	OCTH	Occupational Therapy
FMST	Family Studies	ODRP	Oral Diagnosis, Radiology, and Pathology
GEOG	Geology		

OMFS	Oral and Maxillofacial Surgery	RTII	Radiation Technology—Imaging Informatics
OPHM	Ophthalmology	RTMD	Radiation Technology—Medical Dosimetry
ORDN	Orthodontics	RTMR	Radiation Technology—Medical Radiography
ORPA	Oral Pathology	RTMS	Radiation Technology—Medical Sonography
ORPR	Orthotics and Prosthetics	RTNM	Radiation Technology—Nuclear Medicine
ORTH	Orthopaedic Surgery	RTRA	Radiation Technology—Radiologist Assistant
OTOL	Otolaryngology	RTRS	Radiation Technology—Radiation Sciences
PAST	Physicians Assistant	RTSI	Radiation Technology—Special Imaging
PATH	Pathology	RTTH	Radiation Technology—Radiation Therapy
PEAC	Physical Education Activity	RXDI	Pharmacy Practice—Drug Information
PEDN	Pediatric Dentistry	RXEE	Pharmacy Practice—Experiential Education
PEDS	Pediatrics	RXPC	Pharmacy Practice—Pharmaceutical Care
PERI	Periodontics	RXPS	Pharmaceutical Sciences
PHCJ	Public Health—Conjoint	RXXR	Pharmacy Conjoint
PHIL	Philosophy	RXSA	Pharmacy—Social and Administrative Sciences
PHRM	Pharmacology	RXTH	Pharmacy Practice—Therapeutics
PHSL	Physiology	SDCJ	School of Dentistry—Conjoint
PHTH	Physical Therapy	SDCL	School of Dentistry—Clinical
PMPT	Physical Therapy—Progression Master's	SOCI	Sociology
PROS	Prosthodontics	SOWK	Social Work
PRVM	Preventive Medicine	SPAN	Spanish
PSYC	Psychology	SPOL	Social Policy
PSYT	Psychiatry	STAT	Statistics
PTAS	Physical Therapist Assistant	STCJ	Science and Technology—Conjoint
PUAD	Public Administration	SURG	Surgery
RADS	Radiology	UROL	Urology
RDMN	Radiation Medicine	WRIT	Writing
RDNG	Reading		
RELE	Religion—Ethical Studies		
RELG	Religion—General Studies		
RELR	Religion—Relational Studies		
RELT	Religion—Theological Studies		
RESC	Rehabilitation Science		
RESD	Restorative Dentistry		
RSTH	Respiratory Therapy		
RTCH	Radiation Technology		

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 110 Fundamentals of College Algebra (4)

Encompasses the essential fundamentals of algebra. Topics include but are not limited to signed numbers, solving equations and inequalities, properties of exponents, polynomials, logarithmic

functions, sequences and series, and problem-solving techniques with practical application. Provides knowledge necessary for application to the sciences.

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 substitute.

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 314 Managing Stress (3, 4)

Comprehensively approaches stress management by focusing on the integration, balance, and harmony/unity of mind, body, spirit, and emotions. The whole-person approach provides greater levels of mental, emotional, physical, and spiritual well-being by emphasizing the importance of mind-body-spirit unity. Examines the balance among the research of health psychology, the psychology of lifestyle, the science of psychoneuroimmunology, and holistic healing. Provides tools needed to identify and manage stress, as well as to achieve health and balance. Additional project required for fourth unit.

AHCJ 315 Psychosocial Aspects of Health Care (3, 4)

Based on the belief that an understanding of psychosocial aspects of health care optimizes therapeutic outcomes. Emphasizes the importance of the wholeness human factor in clinical compe-

tence and professional excellence. Comprehensively addresses a variety of psychosocial topics involving health professionals/health care providers affected by pathology, impairment, functional limitation, and/or disability. Realistically and practically addresses real issues in today's health care, acknowledging time as well as other constraints; and describes recommended roles and intervention strategies for health care providers. Applies to all health care professions, such as nursing, physical and occupational therapy, speech-language pathology, physicians assistant and medicine, respiratory therapy, social work, and medical laboratory science. Additional project required for fourth unit.

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 417 Lifestyle Health and the Science of Wellness (3)

Explores the concept of lifestyle health and wellness, focusing on the research literature. Students explore the interconnected issues of diet, exercise, affect, attitude, and other lifestyle factors; as well as the issues of how to assess lifestyle factors that appear to work but that are not accompanied by research. Uses the wholeness portal to pursue various literatures and programs related to lifestyle health. Major paper required.

AHCJ 418 Physiology I (4)

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

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 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 448 Human Resource Management (3)

Human resource management from the department head point of view. Assesses the employment process from justification of a position until the position is filled and productive. Emphasizes position evaluation and development of the job description. Reviews labor unions from a management point of view. Wage analysis and employee benefits.

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 510 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 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 513 Biochemistry of Muscle and Muscle Energetics (3)

Surveys the biochemistry and metabolism of muscle during exercise and at rest. Includes muscle biochemistry, glycolysis, gluconeogenesis, beta oxidation, and protein metabolism. Emphasizes vitamins and nutrients as cofactors in cells. Focuses on physical therapy and the body. Covers any needed prerequisites in organic and cellular chemistry.

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 524 Pharmacology (2)

Introduces pharmacology, including study of pharmacokinetics, pharmacodynamics, and actions of pharmaceuticals commonly encountered in various allied health professions.

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 528 Lifestyle Health and Wholeness (3-4)

Explores current lifestyle health and diseases, including: cardiovascular, metabolic, communicable, and nutritional. Explores concepts regarding risk factors, screening approaches, and risk reduction, focusing on their impact on specific health parameters. Addresses the universal problem of

personal health and the influence of lifestyle on health and lifestyle disease. For the beginner as well as for the health professional who wishes to attain or maintain good whole-person health and freedom from disease by such natural means as minimizing the use of prescription drugs, food supplements, and diet fads. Presents specific lifestyle advice to attain these goals. Addresses disease prevention as well as treatment through whole-person lifestyle, evidence-based measures. A “whole-person” approach—mind, body and spirit—with a biblical perspective that explores the influence of the mind and the spirit/religiosity on lifestyle health. Additional project required for fourth unit.

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 540 Psychosocial Aspects of Health Care (3, 4)

Focuses on understanding the psychosocial aspects of health care in order to optimize therapeutic outcomes. Emphasizes the importance of the wholeness human factor in clinical competence and professional excellence. Comprehensively addresses a variety of psychosocial topics involving health professionals/health care providers affected by pathology, impairment, functional limitation, and/or disability. Addresses current health care issues, including time and other constraints; and recommends roles and intervention strategies for health care providers. Relevant to all health care professions, such as nursing, physical and occupational therapy, speech-language pathology, physicians assistant and medicine, respiratory therapy, social work, and medical laboratory science. Additional project required for fourth unit.

AHCJ 541 Managing Stress (3, 4)

Provides a comprehensive approach to stress management that focuses on the integration, balance, and harmony of mind, body, spirit, and emotions. Examines the balance among the research of health psychology, the psychology of lifestyle, the science of psychoneuroimmunology, and holistic healing. Provides tools needed to identify and manage stress, as well as to achieve health and balance. Additional project required for fourth unit.

AHCJ 542 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 543 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.

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 548 Human Resource Management in the Health Care Environment (3)

Discusses human resource management issues from the viewpoint of the health care professional. Includes the legal foundation governing human resource management, as well as the impact that leadership has on the employee's quality of work, motivation, and performance management. Human resource planning and job analysis, recruitment and selection, employee pay and benefit plans, labor-management and collective bargaining. Opportunity for role playing and negotiation experiences. Paper required.

AHCJ 549 Professional Responsibility in Allied Health Professions (3)

Provides graduate students an advanced overview that combines aspects of substantive law and ethical guidelines in the profession. Focuses on part on handling problems that include the canons of ethics; duty to patients, the workplace, and the profession. Also covers legal aspects such as conflicts of interest; solicitation; and professional discipline.

AHCJ 550 Organizational Theory (3)

Introduces students to the concepts needed to understand and predict the behavior of people in health care organizations today. Covers foundations of organizational structure, leadership, politics, and conflict management.

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 560 Physiology (4)

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

AHCJ 561 Neuroscience I: Neuroanatomy (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 562 Neuroscience II: Neurophysiology (3)

Detailed study of neuromuscular physiology.
Prerequisite: AHCJ 418.

AHCJ 563 Neuroscience III: Clinical Neurology (2)

Systematic review of clinical disorders of the central and peripheral nervous systems, emphasizing sensorimotor sequelae of injury and disease.

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 the discipline of leadership. Focuses on the relevance of leadership through study of trait theory, situational leadership, transactional v. transformational leadership, leadership v. management, and leadership ethics. Students will reflect upon theoretical approaches, correlate those approaches with personal experience, and apply those approaches in the professional setting.

AHCJ 567 Personal Leadership (3)

A web-based course that focuses on the discovery and growth of an individual's personal leadership style. Students will reflect upon various leadership qualities at the personal level, will complete the Life Styles Inventory (LSI-1), will analyze data from the LSI-1, and will discuss the recommendations for increased effectiveness.

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 588 Fundamentals of Human Resource Management (3)

Introduces students to the fundamentals of human resource management in the private, public, and nonprofit sectors. Covers employee development, legal compliance, and diversity management from a health care perspective.

AHCJ 589 Strategic Planning in Health Care Organizations (3)

Applies health care systems knowledge and skills to real-life assessment scenarios. Focuses on integrating systems components and analyzing their interactions in the health care industry. Emphasizes development of systems assessment techniques that facilitate understanding of the traits of a particular organization, such as its strengths, weaknesses, areas of growth, and changes needed. Students conduct their organizational assessment, apply didactic content presented in other courses in the curriculum, and enhance their strategic planning skills.

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.

AHCJ 721 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 722 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.

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 tissues, alveolar process, oral mucosa, and calcified tissues of the tooth. Includes development of head and neck structures.

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 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 medi-

cine. 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 406 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. Four class hours per week, plus all-day field trips (usually on Sunday).

Cross-listing: BIOL 504.

BIOL 409 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 414 Biology of Marine Invertebrates (4)

Behavior, physiology, ecology, morphology, and systematics of marine invertebrates, with emphasis on morphology and systematics. Three class hours per week, one-day field trip alternate weeks, or the equivalent.

Cross-listing: BIOL 504.

BIOL 415 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 426 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.

BIOL 427 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.

BIOL 428 Genetics and Speciation (4)

Introduces genetic mechanisms of biological change. Processes of inheritance through time evaluated in their ecological context.

BIOL 437 Animal Behavior (4)

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

BIOL 439 Behavioral Ecology (4)

Examines in depth how behavior contributes to the survival of animals, with emphasis on behavioral strategies that reflect adaptation to the animal's environment.

Cross-listing: BIOL 539.

BIOL 444 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.

BIOL 449 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.

Cross-listing: BIOL 549.

BIOL 456 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.

Cross-listing: BIOL 546.

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 478 Current Topics in Biology (1–5)

Reviews cutting-edge literature in the biological sciences. Different sections may be repeated for additional credit.

BIOL 479 Readings in Biology (1–4)

Studies, analyzes, and discusses current and classic papers.

Cross-listing: BIOL 589.

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 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 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 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 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 555 Molecular Genetics (3)

An overview of the molecular basis of life, with emphasis on DNA as an information storage medium. The systems of information retrieval found in prokaryotes and eukaryotes.

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 559 Philosophy of Science and Origins (1)

Studies selected topics in the history and philosophy of science, and applies these principles in analyzing current scientific trends. Provides an advanced update in the topic for students who have had a similar course at the undergraduate level.

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 research and for writing the master's thesis. Grade received does not indicate whether thesis is completed and approved.

BIOL 699 Dissertation Research (1–8)

Credit for research and for writing the doctoral dissertation. Grade received does not indicate whether dissertation is completed and approved.

BIOPHYSICS AND BIOENGINEERING**BPBE 510 Introduction to Medical Imaging (3)**

Increases understanding of and facilitates proficiency in the major medical imaging modalities currently used, including: magnetic resonance, positron emission tomography, ultrasound, computed tomography, and x-ray. Discusses the physical and theoretical bases for the use of an instrument to provide specific information. Incorporates real-life examples and utilizes imaging specialists with expertise in various modalities, as appropriate. Provides laboratory experience in the extraction and analysis of content.

Prerequisite: Advance college level mathematics and biology recommended.

CARDIAC ELECTROPHYSIOLOGY TECHNOLOGY**CEPT 245 Cardiovascular Anatomy and Physiology (3)**

Explores normal and pathological cardiovascular anatomy and physiology. Emphasizes myocardial excitation, contraction, intracardiac flow, intracardiac pressure, valve function, coronary anatomy, and ventricular function. Studies in detail the electrical conduction system and cardiovascular hemodynamic principles. Introduces pathological coronary anatomy, as well as abnormalities of the cardiovascular system.

CEPT 248 Cardiovascular Patient Assessment (2)

Principals of assessment for the patient with cardiovascular disorders, including: health history, physical assessment techniques, interpretation of laboratory data, diagnostic data, chest radiography, auscultation, and diagnostics procedures. Interview techniques and the development of patient care techniques specific to the cardiovascular patient.

CEPT 251 Cardiac Electrophysiology and Rhythm Recognition I (2)

Clinical use of diagnostic tests and procedures related to cardiac electrophysiology disease states. Introduces anatomical and physiologic concepts of rhythm generation and cardiac electrophysiology pathways, with emphasis on basic rhythm recognition and evaluation.

CEPT 252 Cardiac Electrophysiology and Rhythm Recognition II (2)

Principles of application and interpretation of the 12-lead system. Emphasizes recognition of the acute myocardial infarction and common myocardial pathology. Additional topics include, but are not limited to, axis deviation, acute ischemic conditions, electrolyte imbalances, bundle-branch block, and infarct imposters. 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. American Heart Association advanced cardiac life support certificate issued upon successful completion of the course.

Prerequisite: Successful completion of a basic interpretation examination or CEPT 251 Cardiac Electrophysiology and Rhythm Recognition I.

CEPT 258 Fundamentals of Biomedical Science (2)

Study and application of basic sciences related to physiology and pathophysiology, integrating the concepts into the fundamentals of biomedical electronics—specifically the physical sciences to cardiac management.

CEPT 261 Cardiac Electrophysiology Science I (3)

Principles of cardiac electrophysiology, including electrophysiology conduction, pathways and mapping, measurements of refractory periods, aberrant conduction of the myocardium, tests of sinus node function, atrial and ventricular extra stimulus testing, pacing protocols for diagnostic electrophysiology studies, and cardiac resynchronization. Emphasizes application to the clinical setting.

CEPT 262 Cardiac Electrophysiology Science II (3)

Medical instrumentation and clinical application used in cardiac electrophysiology. In-depth study of the technical knowledge used for diagnostic, interventional, and therapeutic modalities. Applies scientific principles to the operation of laboratory equipment. Identifies correct patient-specific or appropriate device system adjustments.

CEPT 263 Cardiac Electrophysiology Science III (3)

Continues CEPT 261 and 262, developing advanced knowledge, skills, and application of mapping and monitoring systems. Explores device features, therapy options, and hands-on troubleshooting in depth. Includes case study review.

CEPT 271 Cardiology Diseases and Therapeutics I (2)

Overview of pathophysiology of cardiac diseases. Describes appropriate therapy for acute and chronic cardiovascular disease states. Emphasizes scientific support for treatment modalities and reviews current treatment trends for cardiovascular diseases.

CEPT 272 Cardiology Diseases and Therapeutics II (2)

Addresses major cardiac pathologies; congenital and acquired. Focuses on cardiac rehabilitation science and current therapy of the cardiac patient. Includes applied knowledge of relevant risk factors and fosters appreciation of cardiovascular disease prevention. Emphasizes the function

of exercise in disease prevention, as well as the role nutrition plays in promoting cardiovascular health. Discusses testing protocols and exercise prescription, along with evidence-based therapies.

CEPT 275 Cardiovascular Pharmacology (3)

Pharmacological agents currently used in the treatment of cardiovascular disease management, including biophysical, biochemical, and cellular basis of treatment, pharmacokinetics, pharmacodynamics, and therapeutics. Emphasizes pharmaceuticals commonly given to and used to treat cardiac patients.

CEPT 281 Cardiac Electrophysiology Procedures I (3)

Indications for technology-based evaluations and diagnostic and therapy interventions. Focuses on interventions that minimize procedural and device-related complications. Includes information related to patient monitoring and comfort. Laboratory practice and techniques.

CEPT 282 Cardiac Electrophysiology Procedures II (3)

Continues to explore advanced cardiovascular diagnostic and therapeutic procedures. Laboratory practice and techniques.

CEPT 285 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.

CEPT 321 Cardiac Electrophysiology Clinical Practicum I (.5)

Introduces the clinical setting. Orients the student to environments in which the CEP specialist works. Student participates in or conducts a health history and physical assessment of the cardiac patient and learns proper documentation procedures. Hands-on experience to assist development of basic clinical skills. Introduces procedures,

diagnostic examinations, and equipment utilized in cardiac procedures.

CEPT 322 Cardiac Electrophysiology Clinical Practicum II (1.5)

Clinical experience and application of cardiac electrophysiology procedures, interventions, instrumentation and patient care interactions. Preceptors in the clinical settings, facilitate experiences that enable students to develop and enhance competencies related to cardiac testing and procedures. Includes practice with components of communicating effectively with clients, their families, and other members of the health care team.

CEPT 323 Cardiac Electrophysiology Clinical Practicum III (1.5)

Clinical assignments to assist the student in gaining specific experiences that enable him/her to develop and enhance competencies in cardiac testing and patient evaluation. Guided by clinical preceptors, student rotates through multiple environments relevant to the practice of cardiac electrophysiology.

CEPT 324 Cardiac Electrophysiology Clinical Practicum IV (2)

Student rotates through several clinical environments in order to gain advanced competencies in all content areas. Includes, but is not limited to Holter scanning, cardiac rehabilitation, exercise testing, pacemaker technologies, and cardiac mapping.

CEPT 345 Case Studies in Cardiac Electrophysiology (2)

Presents cardiac electrophysiology concepts through a case study model. Student reviews and presents case studies that integrate knowledge of cardiac disease, treatments, diagnostic tests, and procedures. Utilizes a simulated patient care setting to improve and develop critical-thinking skills.

CEPT 348 Cardiac Electrophysiology Seminar (3)

A comprehensive view of the rapidly evolving field of interventional cardiology. Studies new developments, technological innovations, and advances in clinical application.

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.

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.

CHLS 608 Child Life Practicum (1)

Students carry out assigned playroom duties: supervise activities that foster creativity, divert patients from stress and worry, and normalize their environment; and provide opportunities for patients and families to socialize and engage in developmentally appropriate activities. Students assist with bedside interaction and interventions and assist staff with escorting patients to other locations of the hospital for special programming.

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.

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 325 Clinical Immunology (3)

Presents the basic principles of immunology. Topics covered include humoral and cell-mediated immunity, complement, autoimmunity, immunodeficiency, hypersensitivity, tumor immunology, transplant immunology, virology, syphilis serology, and immunologic laboratory techniques. Emphasizes principles, laboratory procedures, and clinical significance. Lecture and laboratory.

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 396 CLS Junior Seminar (2)

Prepares student for entry into the senior-year clinical practicum. Introduces student to the clinical

cal laboratory and its operations by direct observation and discussions to include pre-analytical, analytical, and post-analytical areas. Students expected to apply knowledge acquired from all disciplines within the junior year curriculum. Visits to off-site locations may be required.

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 435 Immunoassay and Molecular Diagnostic Techniques (3)

Reviews common immunoassay methodologies and discusses molecular diagnostic techniques, including fluorescent in situ hybridization (FISH); as well as Northern, Southern, and Western immunoblots. Compares different signal and target amplification methodologies. Discusses and applies the foregoing methods to clinical laboratory science.

Prerequisite: CLSM 324; or consent of the instructor.

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 knowl-

edge 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.

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.

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 diseases; diseases of blood, endocrine, respiratory, digestive, genitourinary, skin, and musculoskeletal systems; and mental disorders.

Prerequisite: 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.

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.

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 universal billing forms

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 291 Computer Applications in Health Care I (2)

Introduces health care information systems concepts and applications. Focuses on software application in the health care arena. Specific topics addressed include: general system theory; interoperability; specific health record applications (encoder, ADT-R, ROI, etc); electronic health records; personal health records; and patient informatics applications.

HLCS 292 Computer Applications in Health Care II (2)

Introduces health care information systems concepts and applications. Focuses on software application in the health care arena. Specific topics addressed include: general system theory; interoperability; specific health record applications (encoder, ADT-R, ROI, etc); electronic health records; personal health records; and patient informatics applications.

Prerequisite: New course requested will be pre-req (HLCS 961).

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.

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.

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: CMSD 276* (*may be taken concurrently).

CMSD 334 Phonological and Articulation Disorders (4)

Definition, classification, etiology, diagnosis, and treatment of phonological/articulation disorders.

Prerequisite: CMSD 318* (*may be taken concurrently).

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 589 Remediation/Advanced Directed Teaching (1)

For students who have not successfully completed CMSD 588. Requires remediation or completion of clinical skills necessary for work in the public schools.

Prerequisite: CMSD 588.

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 599 Remediation/Externship (1)

For students who have not successfully completed CMSD 597. Requires remediation or completion of clinical skills necessary for work in medical settings.

Prerequisite: CMSD 597.

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.

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 524 Psychopharmacology and Medical Issues (3)

Introduces common physical and medical issues related to the practice of counseling. Students learn a biopsychosocial-spiritual model to assess and intervene—emphasizing psychopharmacology, neuroanatomy, the mind-body relationship, and research relative to the field of counseling.

Cross-listing: MFAM 524.

COUN 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 counselors and other professionals. Examines licensure procedures and application to professional organizations (ACA, CCA, etc.) Develops professional attitude and identity. Limited to students in clinical training.

Cross-listing: MFAM 535.

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 multi-axial 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 579 Career Theories and Applications (4)

Study of career theories such as Holland, Ginzberg, Super; as well as multiple approaches, including family and systemic influences on career choice. Application made to values, ethics, meaning, decision making, and individual differ-

ences in twenty-first century work places. Includes laboratory experience in the field.

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, dynam-

ics 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 675 Dynamics of Aging (1, 2)

Studies aging and related processes of personal and systemic change, such as developmental and self-actualization challenges, retirement, chronic illness, long term care, losses, and other end-of-life issues. Additional unit of study involves laboratory field experience.

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 Professional School Counseling (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 Practicum and Seminar (1)

Includes group supervision and mentoring of counseling students during practicum and field experience. Develops counselor identity through readings, case presentation, discussion of field placements, counseling program evaluation, and group process. Reviews California standards for licensed professional clinical counselor (LPCC) and pupil personnel services credential in school counseling. Quarterly registration required for students enrolled in COUN 680 Field Experience in Counseling until graded out of field experience. Minimum of five quarters required for M.S. degree 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.

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 assuming 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.

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 (2)

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)

Addresses statutes, regulations, and case law that govern the practice of dentistry.

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 216 Oral Health and Preventive Dentistry (2)**

Introduces preventive dentistry concepts, including the history of dentistry and dental hygiene in oral health promotion and disease prevention. Emphasizes the prevention of oral diseases through effective patient education and motivation, including current theories and principles of psychology as they relate to learning and teaching, personality development and change, and interpersonal processes and dynamics in oral health care education. Includes instruction in oral health care techniques for clinical application during concurrent preclinical laboratory sessions.

DNHY 217 Community Oral Health Theory (2)

Philosophy, principles, language, and objectives of dental public health. Critical review of literature, including epidemiology of oral disease. Principles and practices involved in teaching community oral health. Lesson plan development. Methods and practice of professional presentation.

DNHY 218 Community Oral Health Practicum (2)

Fieldwork in local schools and the community.

DNHY 290 Research Design and Biostatistics (3)

Introduces research methodology. Fundamentals of statistical analysis and critique of research data in scientific literature. Student reviews literature and designs proposal in preparation for community oral health practicum.

DNHY 303 Dental Materials and Techniques (2)

Materials and equipment used in dentistry. Practice in the manipulation and use of common materials.

DNHY 305 Oral Anatomy Lecture (2)

Anatomy of the teeth and surrounding tissues.

DNHY 305L Oral 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. Computer applications 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. Domain I.

DNHY 409 Jurisprudence and Practice Management (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 410 Cultural Competency in Health Care (2)

Explores cultural competency as it relates to the health, illness, and healing beliefs in caring for people from diverse backgrounds. Addresses Christian perspectives on wholeness.

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 (3)

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 or informational project.

DNHY 422 Research II (2)

Review and emphasis of research methodology. Develops literature review, emphasizing statistics adequate for interpretation of the literature. Student continues to develop a research proposal in preparation for professional presentation of a table clinic or informational project. 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)

Fundamentals of psychological principles related to learning in professional and higher education. Major theories of learning and behavior change; as well as research in the areas of cognitive, social, emotional, and moral development. Emphasizes the nature of learning at all age levels, motivation, communication skills, and stimulation of high-level thinking and problem solving.

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 Public Health Dentistry (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 Ethical and Legal 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)

Introduces methods of effective instruction and curriculum design for adult learners. Includes learning and teaching styles, development of

course goals, learning outcomes and objectives; teaching methods and strategies for face-to-face and online instructional presentations, public education, in-service, and continuing education; and cultivation of respect for diversity in learning.

DNHY 442 Principles of Education II (3)

Integrates knowledge and skills related to educational methodology with emphasis on experiential teaching; outcomes assessments, including test construction and implementation; curriculum vitae and resume writing; accreditation; leadership in higher education; and promotion and tenure. Students prepare and present lectures and develop 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 450 Junior Clinical Seminar (1)

Introduces topics and issues directly and indirectly related to the comprehensive practice of dental hygiene.

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.

DERMATOLOGY

DERM 891 Dermatology Elective (1.5–18)

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 pathophysiological 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 246 Nutrition Care in Long-term Care (3)

Applies basic nutrition skills in preparation and service of meals that meet the nutrition prescription for the long-term patient. Emphasizes normal and clinical nutrition, focusing on specific foods that are allowed and not allowed.

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 276 Nutrition Care Management in Long-term Care (3)

Develops and applies management skills in the operation of a dietary department in long-term

care. Emphasizes development of quality standards, productivity, menu planning, food production and service, food purchasing, and human resource management.

DTCH 277 Sanitation and Safety for the Dietary Manager (2)

Develops and applies sanitation and safety standards in the long-term care facility.

DTCH 278 Supervised Practice in Dietary Management (2)

Emphasizes application of didactic instruction in the facility where the student is employed. Includes 150 hours supervised practice.

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 426 Food Systems Management Affiliation (6)

Supervised experience in food systems management in health care, education, and commercial food service operations. Performance, documentation, and review. Five weeks (200 hours) during the summer term.

DTCS 427 Community Nutrition Affiliation (6)

Supervised professional practice in public health nutrition. Six units (200 hours) in the summer term. Includes documentation, evaluation, and review.

Prerequisite: DTCS 305.

DTCS 428 Clinical Nutrition Affiliation (6)

Supervised professional practice in medical nutrition therapy. Develops knowledge and skills in health care facilities for the delivery of quality nutrition care. Regular performance review, assessment and activity logs document development of professional skills. Minimum of five weeks (200 clock hours) during the summer term.

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 506 Professional Seminar in Nutrition and Dietetics (1)

Review and application of topics in nutrition and dietetics in preparation for professional practice and the registration examination for dietitians. Student presentations covering professional competencies and material essential for high-level practice.

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 545 Nutrition Care Management (3)

Applies classical management theories and current application in the delivery of nutrition care; applies continuous quality management, staffing decision making, operations analysis, business planning, quantitative decision making, and

productivity-management techniques to enhance the delivery of nutrition care. Includes reimbursement for nutrition services, servant leadership, case management, and entrepreneurship. Major paper due at end of quarter.

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 (3–12)

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. Taken for five weeks (200 hours) for 6 units in the summer and ten weeks (100 clock hours) for 3 units in the next Autumn Quarter, followed by 10 weeks (400 clock hours) in the Winter Quarter for 12 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 595 Nutrition and Dietetics Graduate Practicum (12)

Supervised professional practice in medical nutrition therapy, community nutrition, and food systems management. Professional experiences in health care, public health centers, and food production facilities. Performance review and assessment, written weekly reports of learning achieved, and review. Ten weeks (400 clock hours) during the summer term.

DTCS 696 Nutrition Care-Management Project (6)

Develops a nutrition care-management project

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.

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 Theories of Emergency Medical Services I (3)

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 II (3)

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 (2)

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.

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.

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 300 Research Writing for Health Care Professionals (2)

Students learn to write research-oriented papers using sources located in health care literature

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 (2, 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 geographi-

cal 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.

Prerequisite: INTD 588 recommended.

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 505 Principles of Epidemiology MBA (3)

Distribution and determinants of health events and disease outcomes in human populations. Assessments of environmental conditions, lifestyles, various treatments, and other circumstances influencing disease and disease prognosis. Measures of disease outcomes and frequency, and use of these measures in health care. Major types of epidemiological investigation. Interpretation of statistical associations. Study of how to read and critically evaluate scientific literature. Presentation of personal literature study. Laboratory included.

Prerequisite: HADM 519, (STAT 509 or STAT 521 or STAT 505).

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)

Introduces students to the epidemiologic and public health aspects of infectious diseases occurring both in developing and developed countries. Emphasizes long-standing diseases that remain real or potential problems; diseases with changing

ecology due to immunization, medical treatment and other preventive programs; and infectious diseases that have become problems through the evolution of modern society. Discusses the role of surveillance systems in infection control. Examines the relationship between the epidemiology and ecology of disease and the possibility of preventive measures.

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)

Provides a critical review of the epidemiology of the leading chronic diseases, including cardiovascular disease, cancer, and diabetes. Acquaints students with coding systems for the diseases. Emphasizes research that relates to control and prevention of these diseases. Acquaints students with experimental designs and analytic techniques commonly used in chronic disease epidemiology. Discusses 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 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)

Based on the doctoral research study, student writes a dissertation in submitted-paper format; submits the individual manuscripts to scientific journals; and responds to reviewers' comments.

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)

Provides opportunities for students to integrate the epidemiologic skills they have learned with public health practice in a community setting. Students seeking the M.P.H. degree in epidemiology typically register for at least two, 1-unit EPDM 798 courses, for a minimum of 240 hours of practical experience in public health.

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 for-

mat. 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: MFTH 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 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 426 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 427 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.

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 444 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 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 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 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 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 559 Philosophy of Science and Origins (1)

Studies selected topics in the history and philosophy of science, and applies these principles in analyzing current scientific trends. Provides an advanced update in the topic for students who have had a similar course at the undergraduate level.

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 remediation 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)**

Credit for research and for writing the master's thesis. Grade received does not indicate whether thesis is completed and approved.

GEOL 699 Dissertation Research (1–8)

Credit for research and for writing the doctoral dissertation. Grade received does not indicate whether dissertation is completed and approved.

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 205 Essentials of Microbiology (3)

A one-quarter course specifically designed to meet the needs of global health students. Covers the basic concepts of microbiology, microbes, metabolism, genetics of microorganisms, and communicable diseases. Emphasizes diseases of global public health significance.

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 a variety of disaster case studies both current and historical, familiarizes students with the complex discipline of emergency and disaster management as well as the core principles that form its foundation both nationally and internationally.

GLBH 520 Principles of Disaster Management II (3)

Utilizes a case-study approach to examine the actions and interventions of emergency managers in multiple phases of a disaster. Emphasizes development of an operational understanding of the emergency support functions that have national and global application.

Prerequisite: OR consent of instructor.

GLBH 521 Principles of Disaster Management III (3)

Utilizes a case-study approach to examine the actions and interventions of emergency managers to multiple phases of a disaster. Emphasizes development of an operational understanding of the emergency support functions that have local and regional application.

Prerequisite: 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, socioeconomic, 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 565, GLBH 567, GLBH 569.

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 underly-

ing 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 Fundamentals of Community Health and Development I (2)

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 Interventions in Community Health and Development I (3)

The first in a series of module-based courses 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 or STAT 521.

GLBH 566 Fundamentals of Community Health and Development II (2)

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 Interventions in Community Health and Development II (3)

The second in a series of module-based courses 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: GLBH 565.

GLBH 568 Fundamentals of Community Health and Development III (2)

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 569 Interventions in Community Health and Development III (3)

The third in a series of module-based courses 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: GLBH 567.

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 501 Health Policy and Leadership Seminar (1)

An orientation seminar designed for the first or second quarter of the M.P.H. degree in health policy and leadership. Identifies the expectations of the degree, raises awareness and understanding of academic standards, and promotes cohort and professional loyalty.

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 532 Public Health Law (3)

Introduces students to the broad spectrum of legal issues related to public health, with emphasis on the federal and state legal bases for authority exercised in matters relating to the public's health. Focuses on individual rights, governmental authority, and the inherent tension between the two in regard to public health matters. Addresses federal and state constitutional law, statutory law, and administrative rules, as applicable.

HADM 534 Health Care 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 (4)

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 584 Current Topics in Health Policy and Leadership (1)

Lectures and discussion on current issues in leadership. Specific content varies from quarter to quarter. May be repeated for additional credit.

HADM 585 Policy Development for a Twenty-First Century Health System (3)

Addresses the unique application of leadership theory and best practice to the field of public health, health care, and related areas.

Prerequisite: HADM 595* (*may be taken concurrently).

HADM 586 Building Healthy Communities: Integrative Health Policy (3)

Examines the public health system, how health policy is developed, and the diverse stakeholders involved in the process. Examines effective partnerships with government agencies, the private sector, nongovernmental organizations, communities, and social entrepreneurs. Explores and analyzes in depth how these partnerships have worked together to make positive health improvements through effective policies will be explored.

HADM 587 Statistics to Policy: What Turns the Dial? (3)

Provides students with the skills needed to translate research into policy and practice. Fo-

cuses on collaboration with government agencies and community groups in evaluating outcomes associated with changing policies at the institution, community, and state levels.

HADM 588 Leadership, Policy, and Environmental Change (3)

Examines public health approaches to improve health through environmental and policy change. Explores theoretical and practical applications of legislative advocacy in the area of health policy.

HADM 589 Advanced Practice in Leadership (1–4)

While working closely with leadership specialists, student observes, demonstrates, evaluates specific leadership styles, and explores alternative approaches while working closely with leadership specialists. Permission of instructor required. May be repeated for a total of 4 units.

Prerequisite: Consent of advisor.

HADM 595 Leadership—Past, Present, and Future (3)

An in-depth study of the historical and theoretical foundations of leadership, exploring a wide range of sources across time and culture. Emphasis will be placed on major theories influencing the current understanding of leadership and its relationship to management.

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 685 Preliminary Research Experience (3)

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 the dissertation research project.

Prerequisite: Consent of the instructor.

HADM 686 Writing Seminar (1)

Assists students in understanding the process of organizing and writing dissertation abstracts and/or proposals. Focuses primarily on good writing technique. Gives attention to both critical and creative writing.

Corequisite: HADM 697.

HADM 689 Graduate Seminar in Leadership (2)

While working under the direction of a department faculty member, student applies leadership theory to specific situations and evaluates the effectiveness of such interventions. Limited to doctoral. Permission of instructor required. May be repeated for a total of 8 units.

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 697 Dissertation Proposal (1–4)

Student develops the dissertation proposal. Research adviser develops with the student mutually agreed-upon objectives. Evaluation based on the accomplishment of these objectives. Culminates in a dissertation proposal.

Prerequisite: HADM 686* (*may be taken concurrently).

HADM 698 Dissertation (1–8)

Participant prepares dissertation manuscript presenting the results of doctoral research study.

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 797 Health Policy and Leadership Field Practicum (3)

Serves as the venue for completing the final quarter of field practicum required for graduation. Student presents a summary of his/her experience and demonstrates the seven competencies designed for the M.P.H. degree in health policy and leadership. Requires completion of a reflective essay outlining the student's educational experience, as well as a summary of what it has meant to him/her. Combines application (field practicum), assessment (portfolio), and the recognition of professional readiness (high exit velocity). Provides opportunities for students to attend ten health administration colloquia and ten public health seminars.

Prerequisite: Last two quarters of their program.

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 guid-

ance 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.

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.

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. 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. Improper disclosure and negligence. Reporting requirements. Overview of medical identity theft. The contents of the Health Insurance Portability and Accountability Act (HIPAA), with emphasis on the privacy section and the act's 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—empha-

sizing 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.

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.

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.

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 INFORMATION EXECUTIVE CERTIFICATE

HLEC 411 Health Record Management (3)

Provides the student who has an executive background with foundational knowledge of the health information management profession. Functions of the health information management department and how the department relates to other health care departments across the continuum of care (both acute and ambulatory). Studies external forces affecting health information management (federal, state, and JCAHO). Compares paper, hybrid, and electronic health records and documentation formats/standards. Overview of professional associations and ethics.

HLEC 412 Management and Leadership in Health Information Management (3)

Studies practical aspects of managing health information services. Topics include: ergonomics and the health information department, project management, performance effectiveness and efficiency, change management, review of contemporary legislative movements, and analysis of present-day leadership practices and their effectiveness.

HLEC 423 Clinical Coding and Classification Systems (3)

Studies medical coding and classifications systems based on disease processes and pathology. Focuses on the practical aspects of coding in health care settings and the role of coding in reimbursement, research, and revenue cycle activities. Includes an overview of medical coding guidelines established by the American Hospital Association as they pertain to the various body systems and coding for inpatient settings.

HLEC 434 Health Systems Management for Executives (4)

Studies information management principles, tools, and techniques that support the patient care delivery process. Includes review of SDLC; delineation of categories of information system in health care; data management; and EHR development, technologies, and supporting infrastructure.

HLEC 444 Seminar in Health Information Management (3)

Prepares the student who has an executive background to apply his/her comprehensive knowledge of health information management to scenarios and mock examination questions. Reviews major health information management content areas such as: management, statistics, health care delivery, information systems, and health data management. Study topics also include professional development and career preparation.

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 develop-

ing 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 (6)

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 (6)

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 child-bearing 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 chemi-

cal 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 534A 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 (HPRO 534A, 2 units Winter Quarter; and HPRO 534B, 2 units Spring Quarter).

Prerequisite: STAT 509.

HPRO 534B 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 (HPRO 534A, 2 units Winter Quarter; and HPRO 534B, 2 units Spring Quarter).

Prerequisite: HPRO 534A.

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, occupa-

tional, 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 doctoral graduate degree students. HPRO students must register for 3 units.

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. Limited to doctoral degree students.

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. Limited to doctoral degree students.

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. Limited to health education doctoral degree students.

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 404 Survey of Health Care Narrative (2)

An interdisciplinary literature course in which students examine stories of illness, health, and healing as a way of enhancing understanding and appreciation of the importance of the human/patient's story in the health science profession.

Prerequisite: Completed Freshman Composition Sequence of Courses .

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 (3)

Integrates core values and professional aspirations with specified learning events that are largely extraclassroom. Visual and performing arts provide resources for course discussions.

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.

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 547 Implant Dentistry Grand Rounds (1)

Weekly review of surgeries scheduled for the upcoming week in order to facilitate successful outcomes. Includes analysis of challenges, latest recommendations, techniques for minimizing postoperative side effects, and implementation of strategic surgical procedures.

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 (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.

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.

INTERDISCIPLINARY STUDIES

INTD 515 Curriculum Development, Methods of Teaching, and Evaluation (3)

Engages doctoral candidates pursuing careers in academia in the broad questions related to educational philosophy. Reviews the process and content of curriculum innovation, design, development, and implementation, emphasizing the requirements of assuring educational effectiveness. Addresses methods of teaching and of student evaluation appropriate to baccalaureate and graduate education. Limited to students enrolled in a doctoral degree program.

Corequisite: INTD 715.

INTD 588 Integrative Research (3)

Examines the topic of integrated research, introducing participants to the concepts, concerns, and benefits associated with developing and conducting research across multiple disciplines.

Includes practical development of multidisciplinary research projects focused on the concepts of global health, environmental conservation, and community development through work with communities in Honduras. Facilitates course objectives through invited seminar speakers, discussion, and reading. Includes a reconnaissance team to Honduras, and textual material to be used as grant proposals for the Integrated Honduras Community Development Projects.

INTD 715 Doctoral Teaching Assistantship (1)

Required for doctoral candidates awarded a doctoral teaching assistantship. Provides structured supervision of candidates' teaching experiences. Gives attention to integrating excellence in teaching methods and evaluation. Addresses maintenance of a classroom environment conducive to learning.

Corequisite: INTD 515.

INTERNATIONAL DENTIST PROGRAM—CLINICS

IDPC 815 Clinical Orientation Seminar (2)

Preclinical training in data management covering both general dentistry, with emphasis on periodontal data.

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 (3)

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)

Introduces physical evaluation, data collection, and the problem-oriented dental record. Supervised clinical experience with fellow students as 'patients.' Student develops a treatment plan and presents it to the patient. Continued computer-based treatment plan management.

IDPO 726 Patient Diagnosis and Treatment Planning (2)

Student develops a treatment plan and presents it 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 etiology of periodontal disease, oral hygiene instruction, scaling, root planing, antimicrobial therapy, 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.

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 (1)

Ph.D. degree students develop and refine their dissertation proposals in a workshop format through presentation and discussion with faculty and other students.

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.

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 fac-

ulty 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.

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.

MEDICINE

MEDN 599 Medicine Directed Study (1.5–18)

MEDN 701 Medicine Clerkship (1.5–15)

A ten-week internal medicine third-year rotation that focuses on developing the knowledge, skills, and attitudes necessary to care for adult patients. Two three-week blocks of inpatient experience and three weeks of exposure in the outpatient setting or consult service, plus an additional week spent in comprehensive testing. At midrotation, student meets with the clerkships director to discuss the student's progress to that point, including a faculty member's observation of and feedback on student's clinical skills relevant to a formative session with a standardized patient.

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)

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 pre-clinical 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 pre-clinical 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.

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 trans-

port, 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)****MUSIC HISTORY AND LITERATURE****MUHL 205 Introduction to Music (4)**

Basic music literature, with some attention to other arts.

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.

NEUROLOGY

NEUR 599 Directed Elective Study (1.5–12)

NEUR 701 Neurology Clerkship (1.5–6)

Emphasizes the development of clinical skills and knowledge pertinent to the field of neurology through teaching modalities that include didactic lectures, teaching conferences, video clips, patient care experience, and direct faculty supervision.

NEUR 891 Neurology Elective (1.5–18)

NEUROSURGERY

NEUS 891 Neurosurgery Elective (1.5–18)

NURSING

NRSG 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.

NRSG 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.

NRSG 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: NRSG 214, NRSG 216.

NRSG 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.

NRSG 225 LVN Bridge Course (4)

Designed for the LVN transfer student. Content includes introduction to baccalaureate nursing, physical assessment, and gerontology.

NRSG 244 Strategies for Academic Success (1)

Assessment of student's learning needs, with individualized approaches to learning strategies essential for success in nursing education and practice.

NRSG 299 Directed Study (1–8)

Opportunity for clinical learning in a selected area of nursing.

Prerequisite: Consent of instructor and the associate dean.

NRSG 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.

NRSG 308 Adult Health Nursing I (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: NRSG 214, NRSG 216, NRSG 224.

NRSG 309 Gerontological Nursing (4)

Focuses on older adult 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: NRSG 214, NRSG 216.

NRSG 314 Obstetrical and Neonatal Nursing (6)

Emphasizes primary prevention strategies that promote optimal wellness for the mother and neonate, and identification of stressors that influ-

ence 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.

NRSG 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: NRSG 317.

NRSG 316 The Nursing Role in Health Promotion (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.

NRSG 317 Adult Health Nursing II (8)

Continues NRSG 308. Explores relationships among adult and aging client/family system variables in the development of primary, secondary, and tertiary interventions for chronic stressors that require comprehensive nursing care. Guided practice in acquiring advanced nursing skills and clinical integration.

Prerequisite: NRSG 308, NRSG 217* (*may be taken concurrently).

NRSG 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.

NRSG 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: NRSG 317.

NRSG 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. Limited to RNs returning for B.S. or M.S. degree.

Prerequisite: NRSG 337.

NRSG 408 Critical Care Nursing (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 and his/her family.

Prerequisite: NRSG 314, NRSG 315, NRSG 316, NRSG 317.

NRSG 409 Home Health Nursing (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: NRSG 314, NRSG 315, NRSG 316, NRSG 317.

NRSG 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 NRSG courses.

NRSG 414 Management and Leadership in Nursing (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: EPDM 414; Completion of 200- and 300-level NRSG courses.

NRS 417 Professional Nursing Practicum (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: NRS 408, NRS 409, NRS 410.

NRS 424 Professional Practice for the Experienced RN (7)

Continues the integration of concepts from Neuman's Theoretical Framework. Provides opportunities for the registered nurse to synthesize and apply theoretical knowledge and skills to a selected clinical work environment. Facilitates commitment to lifelong learning. Applies nursing informatics and health care policy to the current work setting. Students identify and explore current professional issues for nurses.

Prerequisite: NRS 337, NRS 407.

NRS 429 Nursing Research (4)

Prepares the novice nurse consumer to identify practice issues and appraise evidence related to the profession of nursing in order to more effectively integrate evidence into learning, understanding, and practice. Provides the knowledge and understanding of qualitative and quantitative systems of inquiry necessary for the novice nurse to facilitate optimal wellness through retention, attainment, and maintenance of client system stability.

NRS 497 Advanced Clinical Experience (100 to 400 hours)

An elective course open to students seeking clinical experience in nursing.

NRS 499 Directed Study (1–8)

Opportunity for clinical experience in a selected area of nursing.

Prerequisite: Consent of instructor and the associate dean.

NRS 509 Guided Study (1–6)

Opportunity for study in a particular area of nursing, under faculty direction.

NRS 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.

NRS 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.

NRS 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.

NRS 544 Teaching and Learning Theory (3)

Explores the components of the teaching-learning process. Opportunity provided for students to practice specific teaching strategies.

NRS 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: NRS 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 549 Assessment of Learning Outcomes (3)

Explores methods of assessing classroom and clinical performance in nursing. Assists students in developing measurement instruments that assess clinical reasoning. Discusses test administration, results analysis, and appropriate feedback. Addresses social, ethical, and legal issues related to evaluation, testing, and grading.

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 555, NRSG 556; 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.

NRSG 556 Pharmacology in Advanced Practice II (2)

Builds on principles discussed in NRSG 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: NRSG 555.

NRSG 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: NRSG 554.

NRSG 560 Neonatal Pharmacology (2)

Builds on the principles of NRSG 555—focusing application to the neonate—with additional overview of specific drug classifications and the therapeutic use of drugs for this population.

Prerequisite: NRSG 555.

NRSG 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: NRSG 555, NRSG 556. Corequisite: Clinical experience.

NRSG 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: NRSG 561. Corequisite: Clinical experience in a variety of primary care settings with diverse adult populations.

NRSG 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: NRSG 562.

NRSG 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: NRSG 563. Corequisite: Clinical experience.

NRSG 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: NRSG 564.

NRSG 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.

NRSG 575 Strategies for Theory Development in Nursing (4)

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 581 Psychiatric Nurse Practitioner I: Models and Theoretical Foundations (4)

Core theoretical content for the psychiatric nurse practitioner, including conceptual models and theories used to frame assessment, diagnosis, planning, intervention, evaluation, and research for this advanced practice registered nurse role.

Prerequisite: NRSG 516.

NRSG 582 Psychiatric Nurse Practitioner II: Disorders (7)

First quarter of a two-quarter sequence. Focuses on the theoretical basis for biological and psychopathologic aspects of psychiatric disorders and

symptoms, and on mastery and integration of concepts from neurophysiology, neuropsychology, and social science for application to practice in the psychiatric nurse practitioner role. Reviews major Axis I and Axis II disorders across the life span in order to enhance assessment and treatment knowledge and skill.

NRSG 583 Psychiatric Nurse Practitioner III: Disorders (7)

Second quarter of a two-quarter sequence. Focuses on the theoretical basis for biological and psychopathologic aspects of psychiatric disorders and symptoms, and on mastery and integration of concepts from neurophysiology, neuropsychology, and social science for application to practice in the psychiatric nurse practitioner role. Reviews major Axis I and Axis II disorders across the life span in order to enhance assessment and treatment knowledge and skill.

NRSG 584 Psychiatric Nurse Practitioner IV: Psychopharmacology (6)

Focuses on advanced concepts in neuroscience, psychopharmacology, and clinical management in the role of the psychiatric nurse practitioner related to psychopharmacological treatment of psychiatric disorders and symptoms. Based on current scientific knowledge, ANA standards, and guidelines from the psychiatric-mental health nurse practitioner competencies.

NRSG 585 Psychiatric Nurse Practitioner V: Treatment Modalities (7)

Focuses on proficiency in the assessment, diagnosis, and management of psychiatric disorders; and the use of psychopharmacology and of individual, family, and group treatment modalities based on theoretical concepts from psychotherapy. Includes integration of consultation and management of professional practice for the psychiatric nurse practitioner.

NRSG 601 DNP Professional Development (2)

Introduces professional DNP role development and issues. Explores development of and rationale for the DNP degree, roles of the DNP-prepared advanced practice nurse—including researcher,

health policy advocate, and nurse leader—and considerations for obtaining the first DNP position.

NRSG 602 Evidence-based Models of Advanced Practice and Healthcare Outcomes (3)

Focuses on the philosophical and scientific foundations of nursing science, theory, empirically based evidence, and relationship to complexity of doctoral-level practice. Examines evidence-based models and theories for use in clinical decision making and program development. Evaluates evidence-based practice impact on quality of health care.

NRSG 603 Nursing Informatics (3)

Applies information science and technology to advanced practice nursing to guide, document, and analyze; as well as to inform practice. Includes instruction on electronic tool selection and use, data acquisition, information management, knowledge development, telehealth, advanced administrative and clinical uses, and ethics in order to enhance basic computer competencies, information literacy, and information management. Computer application required.

NRSG 605 Vulnerable Populations (3)

Analyzes historical, cultural, social, and political factors that render populations vulnerable to ill health. Examines health disparity, diversity, marginalized social status, genetic/genomic, lifestyle, under- and uninsured status, and social justice issues.

NRSG 607 Complex Issues in Nursing Practice (3)

Focuses on complex professional and systems issues facing the advanced clinical nursing practice leader. Provides an understanding of how health care systems function as a whole in the United States. Examines the nature, components, history, stakeholders, dynamics, achievements and deficiencies in large, complex systems. Develops student's conceptual understanding of an effective change agent within the health care environment

NRSG 608 Translational Research for Advanced Nursing Practice (3)

Critical evaluation, translation, and integration of research into nursing practice. Develops a framework within which to review research in terms of theoretical perspectives, selection of methodology, varying schools of thought (contemporary empiricist, interpretive, and critical/post-modern), and contribution to practice. Examines ethical and practical issues associated with practice evaluation and quality improvement methods.

NRSG 609 Policy Development and Advocacy (3)

Principles and methods of policy development and advocacy. Emphasizes strategic planning, policy formation, role of the advocate, coalitions and alliances, consensus building, political messages, and getting messages to the public and to policymakers.

NRSG 611 Assessment, Planning, and Outcomes for Clinical Practice (3)

Methodology and instrumentation that support assessment as a basis for planning, goal setting, formative and summative evaluation, focused data collection and analysis, interpretation of data, and report preparation.

NRSG 612 Health Care Systems Leadership (3)

Focuses on the development of leadership skills in advanced practice nursing and on the facilitation of safe patient care. Explores the role and function of nursing care-delivery systems and their relationship to patient outcomes, disease management, and the future stability of the nursing profession. Examines current and future issues confronting today's nursing leaders.

NRSG 613 Cultural Issues in Nursing Practice (3)

Explores the relationship between culture and health outcomes; as well as cultural awareness and sensitivity and the development of cultural competence. Applies transcultural, theoretical knowledge to culturally appropriate care. Develops skills for the provision of culturally congruent nursing care.

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 618A Writing for Publication (2)

First of a two-course mentored writing experience that includes information, resources, and guidance that facilitate development of a publishable manuscript.

NRSG 618B Writing for Publication (1)

Second of a two-course mentored writing experience that includes information, resources, and guidance that facilitate development of a publishable manuscript.

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 625 The Practice Mentor (3)

Examines the art of mentoring by the advanced practice nurse as it relates to nursing education, practice, and research. Discusses methods of empowering mentees that will increase vision, creativity, risk-taking, and critical thinking while maximizing individual talents. Theory, 2 units; clinical, 1 unit.

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 627 DNP Project Development Seminar: Practice (1)

Using the Johns Hopkins Nursing Evidence-Based Practice Model and Guidelines, systematically develops over seven quarters the approach for implementation of an evidence-based practice project. Includes identification of the EBP question, the search for evidence, and steps for effective translation of the project into the specific practice setting.

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 629 DNP Project Development Seminar: Leadership (1)

Using the Johns Hopkins Nursing Evidence-Based Practice Model and Guidelines, systematically develops over seven quarters the approach for implementation of an evidence-based practice project. Includes identification of the EBP question, the search for evidence, and steps for effective translation of the project into the specific practice setting.

NRSG 634 DNP Project: Practice (3)

Student finalizes plans of clinical EBP project, translates the project into the specific practice setting, and evaluates the results of the project.

NRSG 635 DNP Project: Leadership (3)

Student finalizes plans of clinical EBP project, translates the project into the specific practice setting, and evaluates the results of the project.

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 (0)

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 650 Family Primary Health Care: Children and Adolescents (4)

Introduces the FNP role as related to the holistic assessment and management of infants, children, and adolescents with common chronic and acute illnesses. Emphasizes normal growth and development patterns, along with principles of

anticipatory guidance and health promotion. Per week: theory 3 hours, clinical 3 hours.

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.

Prerequisite: NRSG 555, NRSG 556. Corequisite: Clinical experience.

NRSG 653 Family Primary Health Care II (6)

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 3 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, 4)

Guides the student in understanding the principles of scientific thinking and research methods beyond the introductory level. Uses 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. Total of 4 units required.

Prerequisite: NRSG 517.

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)

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.

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 molecu-

lar 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 531 Community Nutrition Intervention I (2)

Provides training and practice identifying/assessing community health issues. Students collaborate with local associations and faculty advisors to analyze a public health issue and evaluate intervention and/or policy alternatives using an asset-based problem-solving approach.

NUTR 532 Community Nutrition Intervention II (1)

Building on the training and practice of NUTR 531 Community Nutrition Intervention I, focuses on implementation and evaluation strategies to address a community health issue that was identified and analyzed in NUTR 531.

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 537 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.

Prerequisite: HPRO 509.

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 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

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 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 trauma-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 manage-

ment 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 (4)

Evaluates program effectiveness in providing tools to assess, plan, and implement treatment; make referrals; and discontinue occupational therapy services. Develops critical-reasoning skills. Includes supervised fieldwork experience. 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 Professional Transition (3)

Provides the student with an opportunity to explore a variety of topics relevant to transitioning into occupational therapy professional practice.

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 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. Em-

phasize 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 625 Professional Rotation III (4)

Completes clinical aspects of professional rotation. Initiates preparation of a manuscript and participation in online critical discussions with classmates.

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.

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 con-

text 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 occupa-

tional 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 re-

lated to occupational therapy. Regular discussion with the faculty regarding progress and status of assignment.

OPHTHALMOLOGY

OPHM 891 Ophthalmology Elective (1.5–18)

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. Limited to OMFS Honors Program students.

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.

ORAL DIAGNOSIS, RADIOLOGY, AND PATHOLOGY**ODRP 311 General and Oral Pathology DH (5)**

Basic disease processes and selected organ system diseases. Discusses common and important oral mucosal, soft tissue, and jaw lesions. Emphasizes early recognition and differential diagnosis.

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, data collection, and the patient-examination process. 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 and instructors. Introduces computer-based treatment plan management.

Prerequisite: ODRP 751.

ODRP 726 Patient Diagnosis and Treatment Planning (1.5)

Students work on virtual patients in axiUm. Case-based, small-group, treatment-planning exercises. Introduces consent forms, a step-by-step comprehensive examination process, when to do a periodic examination or limited treatment 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, myofacial 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. Introduces cone beam computed tomography.

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 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.

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 I (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 completed orthodontic cases to faculty and other students. 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.

ORTHOPAEDIC SURGERY**ORTH 891 Orthopaedic Surgery Elective (1.5–18)****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.

OTOLARYNGOLOGY**OTOL 891 Otolaryngology Elective (1.5–18)****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)

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 and evidence-based decisions in clinical practice, such as treatment of medically compromised patients, diagnosis, prognosis, perio-endo considerations, preparation of the periodontium for restorative treatment, and surgical wound healing.

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.

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.

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 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 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 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.

RXPS 784 Special Topics in Pharmaceutical Sciences (1–4)

Lecture and discussion on a current topic in pharmaceutical sciences. May be repeated for a maximum of 6 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. Simulations 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)**

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.

RXRX 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 lead-

ers 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.

RXRX 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.

RXRX 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.

RXRX 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.

RXRX 711 Formulary Management, Part I (1)

The first of a two-quarter elective course that introduces students to concepts in formulary man-

agement. 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 PRACTICE—DRUG INFORMATION

RXDI 664 Drug Information and Literature Evaluation (3)

Introduces drug information resources. Trains students to retrieve and critically evaluate litera-

ture 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 (2)

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 571 Pharmacist Guided Self-Care I (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 to simulate patient encounters.

RXPC 572 Pharmacist Guided Self-Care II (3)

Continues RXPC 571.

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 phar-

macy 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 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: P3, SQ standing.

**PHARMACY PRACTICE—
THERAPEUTICS****RXTH 570 IPDM I: Principles of
Pharmacology (2)**

Part of a twelve-course sequence. 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.

**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, pharmaco-

therapy, 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 (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 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 gastrointestinal disorders and various other conditions—including but not limited to arthritis, gout, glaucoma, dermal conditions, incontinence, SLE, MS, and BPH; 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 in-

tegrate 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 (1–4)

Lecture and discussion on a current topic in pharmacy practice. May be repeated for a maximum of 6 units.

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.

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 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 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)

Focuses on models and theories of behavior change, with particular emphasis on primary models of behavior change relative to public health, health education, preventive health, health promotion, and pharmacological practice. Combining pharmacological and public health practice, student gains a broad understanding of the various health-behavior models and theories

that can be applied to assessing a patient's level of behavior change and meeting his/her needs. Students use knowledge to meet the individual needs of the patient.

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.

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.

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.

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 modali-

ties. 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.

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 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 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 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 506 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 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 508 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 509 Physical Therapy Modalities (3)

Introduces fundamental principles, physiological effects, and application techniques in the use of physical therapy modalities. Physical agents including, but not limited to, thermotherapy, cryotherapy, and electrotherapy procedures. Manual modalities including, but not limited, to basic massage techniques, myofascial and trigger point release, and lymphedema management. Lecture and laboratory.

PHTH 510 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 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 513 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 514 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 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 517 Movement Science (2)

An integrative approach to movement impairment and neuromuscular approaches in the evaluation and management of musculoskeletal pain syndromes. Identifies clinical reasoning and examination of movement patterns. Extensive laboratory practice with patient/case studies.

PHTH 518 Aspects of Health Promotion (2)

Dynamics of physical therapy involvement in health promotion for the individual and the community. Factors in the promotion of a healthful lifestyle, including cardiovascular enhancement, stress reduction and coping mechanisms, nutritional awareness, weight management, and substance control. Students design and implement community-based health education program.

PHTH 519 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 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 (3)

Medical and surgical disorders. Basic pathology and/or etiology and clinical manifestations. Medical treatment for conditions within selected specialties: burns, arthritis, oncology, hematology, immunology, and endocrinology.

PHTH 526 Cardiopulmonary (3)

Basic pathology, etiology, and clinical manifestation of cardiopulmonary disorders commonly encountered by the physical therapist. Physical therapy management for cardiopulmonary conditions. Evaluation of cardiorespiratory function. General principles of formal cardiac and pulmonary rehabilitation programs. Basic ECG interpretation. Lecture and laboratory.

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 528 Therapeutic Exercise I (3)

Introduces the principles and foundational concepts of therapeutic exercise. Includes passive ROM, stretching exercises, resistance training, aerobic conditioning, and aquatic rehabilitation. Introduces the Nagi and ICF disablement models to assist the student in selecting appropriate therapeutic exercise.

PHTH 529 Pathokinesiology of Gait (3)

Advanced observational analysis of normal and abnormal human locomotion, with comparison of pathological differences.

PHTH 530 Therapeutic Exercise II (3)

Expands the concepts learned in PHTH 484 Therapeutic Exercise I and PHTH 527 Scientific Foundations for Therapeutic Exercise. Students learn to formulate and implement exercise prescriptions based on impairments and protocols. Uses case studies to design treatment progressions for the extremities. Emphasizes spinal stabilization approaches for the axial skeleton.

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 532 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 533 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 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 – Data Collection (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 & Diathroidal 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 subacute rehabilitation as it applies to the early intervention of physical therapy. Emphasizes wound care management and treatment; cardiopulmonary assessment and treatment; ECG interpretation; and the evaluation process for acute rehabilitation, including spinal cord injury and stroke. Reviews comprehensive team approach, with utilization of neuropsychology and case management.

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 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 556 Cardiopulmonary Approaches to Assessment, Wellness, and Disease (3)

Review of pathology, etiology, and clinical manifestations of cardiopulmonary disorders commonly encountered by the physical therapist. ECG interpretation and assessment. Practical strategies in the management of patients/clients at risk for chronic vascular disease. Comprehensive overview of the epidemiology, risk factor identification, assessment, and intervention to remediate or ameliorate risk and negative health effects of metabolic syndrome. Emphasizes evidence-based research to guide the development of assessment, prevention, and intervention strategies

PHTH 557 Lifespan Studies I: Infant through Adolescent (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 558 Lifespan Studies II: Developmental Disabilities (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 559 Lifespan Studies III: 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 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 563 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 564 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 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 571 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 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 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 (4)

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 – Preliminary Dissertation (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.

PHTH 701A 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 701B 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 702 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 703 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 731 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 732 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 733 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.

**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.

PHYSICIANS ASSISTANT**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 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 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 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 518 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.

PAST 519 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 518.

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, pathophysi-

ology, 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 Physician Assistants 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.

PAST 544 Pharmacology for Physician Assistants I (3)

Part I of a two-part course that covers basic concepts of pharmaceuticals used in the 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 545 Pharmacology for Physician Assistants II (3)

Part II of a two-part course that covers basic concepts of pharmaceuticals used in the 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.

Prerequisite: PAST 544.

PAST 547 Basic Medical Science (2)

Provides an overview of scientific principles as they pertain to the practice of clinical medicine. Emphasizes microorganisms commonly encountered by physician assistants in clinical practice. Provides a foundation for principles of clinical medicine and pharmacology.

PAST 548 Diagnostic Methods (2)

Provides the physician assistant student with an overview of laboratory tests and diagnostic studies regularly performed in the clinical setting. Emphasizes interpretation of results and clinical significance of commonly ordered laboratory tests. Includes observation and performance of laboratory testing routinely performed in primary care offices and hospital settings.

PAST 549 Topics in Physician Assistant Practice (3)

Reviews current topics in the physician assistant profession. Includes discussion of strategies for providing culturally competent care in clinical practice.

PAST 551 Pathology for Physician Assistants I (4)

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 552 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.

Prerequisite: PAST 551.

PAST 554 Clinical Skills for Physician Assistants (5)

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. Includes participation in clinical simulations for enhanced skill development.

PAST 556 Preventive Medicine and Health Promotion (2)

Selected topics dealing with aspects of disease prevention. Relevance of statistics, epidemiology, research designs, and clinical trials; as well as selected disease trends and lifestyle modification. Includes the role of physical activity, nutrition, immunization, and public health approaches to communicable diseases. Provides practical information about how to perform clinical preventive services and allows the physician assistant student to gain skills in designing a tailored health maintenance plan for the individual patient.

PAST 558 Psychiatry for Physician Assistants (3)

Focuses on diagnosis and treatment of major psychiatric and mental disorders. Topics include depression, anxiety, phobias, substance and eating disorders, somatoform, psychoses, neuroses, and personality disorders.

PAST 561 Physical Diagnosis I (3)

Part I of a three-part sequence of lecture, demonstration, and practice in the art and science of obtaining a complete medical history and performing the physical examination.

PAST 562 Physical Diagnosis II (3)

Part II of a three-part sequence of lecture, demonstration, and practice in the art and science of obtaining a complete medical history and performing the physical examination.

Prerequisite: PAST 561.

PAST 563 Physical Diagnosis III (3)

Part III of a three-part sequence of lecture, demonstration, and practice in the art and science of obtaining a complete medical history and performing the physical examination.

Prerequisite: PAST 561, PAST 562.

PAST 564 Research for Physician Assistants I (3)

Part one of a two-part series designed to increase the student's knowledge and understanding of research as it relates to the physician assistant profession. Emphasizes the value of research in physician assistant education and clinical practice.

PAST 565 Research for Physician Assistants II (3)

Part-two of a two-part series designed to increase the student's knowledge and application of research in physician assistant education, clinical practice, and the profession.

Prerequisite: PAST 564.

PAST 701 Rotation I (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 702 Rotation II (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 703 Rotation III (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 704 Rotation IV (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 705 Rotation V (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 706 Rotation VI (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 707 Rotation VII (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 708 Rotation VIII (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 709 Rotation IX (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medi-

cine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 710 Rotation X (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 711 Rotation XI (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

PAST 712 Rotation XII (4)

A required four-week rotation in outpatient and/or inpatient settings in any of the following areas of concentration: family medicine, internal medicine, pediatrics, obstetrics and gynecology, general surgery, emergency medicine, psychiatry/behavioral medicine; and elective rotations through a medical or surgical service of choice.

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 (4)

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. Empha-

sizes 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)

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.

PRVM 515 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.

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)

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.

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, dy-

ing 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.

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 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: 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: 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 visuocognitive 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.

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, electromyo-

graphic, 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. Doctoral Research (1-8)

Course covers both the Psy.D. research proposal through to the final Psy.D. project defense and completion.

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.

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.

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 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.

RADIATION MEDICINE**RDMN 891 Radiation Medicine Elective (1.5–18)****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: Students are required to complete an approved Statistics and Research Methods course prior to starting the Bachelor's co re.

RTCH 472 Applied Research Methods (1)

Applies research methods to radiation sciences. Directed experience with a research project. Continues RTCH 471.

Prerequisite: RTCH 471; Students are required to complete an approved Statistics and Research Methods course prior to acceptance in the BSRS pro gram and are required to complete RTCH 471 prior to entering .

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 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 students with a challenging introduction to and basic overview of computer fundamentals. Offers In-depth insight into the components that comprise a picture-archiving and communication system (PACS), including but not limited to basic terminology, computed radiography, digital radiography, hospital information systems, radiology information systems, DICOM, and HL-7. Online instruction utilizing Blackboard exposes students to topics via reading, PowerPoint, videos, and other interactive resources. Challenges students to demonstrate critical problem-solving skills required to create and design basic models of a PACS system, as well as to troubleshoot issues related to such systems.

RTII 356 Information Technology in Radiology (3)

Introduces the basic principles behind developing and maintaining a network within a radiology health care enterprise. Topics include, but are not limited to: basic terminology, network components, network design and implementation, storage and archive assessment, hard- and software implementation databases, IT standards, and IT replacement schedules. Online instruction utilizing Blackboard exposes students to topics

via reading, PowerPoint, videos, and other interactive resources. Challenges the student to create and design basic models of a network. Requires the student to demonstrate the critical problem-solving skills required to troubleshoot issues in a network.

RTII 358 PACS Planning and Implementation (3)

Studies the steps needed to successfully procure a picture-archiving and communications system (PACS) in a radiology department of any size. Focuses on organizational readiness, proposal requests, vendor selection, contracts, and cost strategies. Online instruction utilizing Blackboard, group discussions, and various online learning mediums challenge students to demonstrate not only critical-thinking skills in the planning environment, but also team-building and project management abilities. Includes two major projects.

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)

Focuses on issues in informatics faced by a picture-archiving and communications system (PACS) administrator. Facilitates understanding of the architecture of a PACS and the details of running the business aspects of such a system. Topics include, but are not limited to; project management, operations management, relationships

in health care, quality-improvement procedures, emergency protocols, and compliance with federal regulations.

RTII 368 Communication and Education in Imaging Informatics (3)

Focuses on the basic communication skills a picture-archiving and communications systems (PACS) administrator should possess. Topics include, but are not limited to: relationships in health care, medical terminology, educational concerns, feedback mechanisms, evaluation processes, effective communication, and quality education and training programs. Online instruction utilizes Blackboard, text, video, PowerPoint, and other interactive online resources.

RTII 374 Image Management in Informatics (3)

Focuses on basic image-management tasks that a picture-archiving and communications system (PACS) administrator must complete on a daily basis. Topics include but are not limited to: environmental design, human-computer interface evaluation, database retrieval, and problem solving. Online instruction using Blackboard incorporates text, video, PowerPoint, and other interactive resources.

RTII 378 Systems Management in Informatics (3)

Focuses on basic systems management tasks that a picture-archiving and communications system (PACS) administrator must complete on a daily basis. Topics include but are not limited to: capacity and throughput, disaster recovery and continuity, problem management, data migration, and data security. Online instruction using Blackboard incorporates text, video, PowerPoint, and other interactive resources.

RTII 384 Advanced Imaging Informatics (3)

An in-depth study of the advanced imaging informatics skills required of a picture-archiving and communications system (PACS) administrator. Topics include but are not limited to: medical imaging standards, integrated health care, enterprise guidelines, image architecture and design, modality integration, quality control, and

environmental hazards. Online instruction using Blackboard incorporates text, video, PowerPoint, and other interactive resources.

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 oppor-

tunity 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)

Addresses patient care issues specific to radiographic procedures. Emphasizes patient care in the ER and OR, as well as contrast procedures. Other topics covered include: radiographic professional organizations, ARRT code of ethics, staying balanced and healthy, critical thinking and problem solving, pharmacology, medical abbreviations, spirituality in health care, dealing with challenging patient situations, immobilization techniques, and overview of patient care topics on the ARRT board examination.

RTMR 224 Legal Issues in Medical Radiography (1)

Presents an overview of legal issues in radiologic technology. Topics include: standards of care, pa-

tient rights, informed consent, civil liability, legal doctrines, documentation, confidentiality, scope of practice, and ethical theories.

RTMR 246 Professional Communications (2)

Provides an understanding of the professional communication skills needed to succeed as an entry-level radiographer. Addresses radiologic technology accreditation and University-required student learning outcomes in oral, written, and health care team communication.

RTMR 253 Medical Radiography Procedures I (2)

Introduces students to various radiographic procedures, which include anatomy, patient positioning, geometric factors, exposure techniques, and patient shielding.

Corequisite: RTMR 253L.

RTMR 253L Medical Radiography Procedures Laboratory I (1)

Applies principles of patient positioning in a laboratory setting. Students practice optimum positioning practices on classmates. Anatomy covered includes: chest, upper extremity, lower extremity, bony thorax, and shoulder girdle.

Corequisite: RTMR 253.

RTMR 254 Medical Radiography Procedures II (2)

Introduces students to various radiographic procedures, which include anatomy, patient positioning, geometric factors, exposure techniques, and patient shielding. Continues RTMR 253.

Prerequisite: RTMR 253. Corequisite: RTMR 254L.

RTMR 254L Medical Radiography Procedures Laboratory II (1)

Applies principles of patient positioning in a laboratory setting. Students practice optimum positioning practices on classmates and volunteers. Anatomy covered includes: abdomen, spine, skull, and pelvis.

Corequisite: RTMR 254.

RTMR 255 Medical Radiography Procedures III (2)

Introduces students to various radiographic procedures, which include anatomy, patient positioning, geometric factors, exposure techniques, and patient shielding.

Prerequisite: RTMR 254. Corequisite: RTMR 255L.

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)

Provides a background for understanding the physics of man-made radiation production. Addresses the interaction of radiation with matter for both radiation protection and the creation of radiographic images. Covers the electrical circuitry of diagnostic x-ray equipment.

RTMR 284 Radiation Protection and Biology (2)

Addresses the fundamental concepts of radiation protection and biological effects of radiation on patients and occupationally exposed personnel. Topics include: radiation safety procedures, radiation quantities and units, legal exposure standards, and radiation monitoring.

RTMR 285 Principles of Radiography I (3)

Introduces the principles of radiographic theory and technique. Covers the physical factors involved in image exposure and processing, auxiliary equipment used in producing the radiographic exposure, and techniques for obtaining the optimum image under any situation. Weekly laboratory sessions required.

RTMR 286 Principles of Radiography II (4)

Provides advanced instruction in the principles of radiographic theory and technique. Examines the role of image-intensified fluoroscopy in radiology. Weekly laboratory sessions required.

RTMR 287 Principles of Radiography III (2)

Provides advanced instruction in the use of digital imaging technology in radiology, including: digital imaging equipment, picture archival and communications systems, radiology information systems, hospital information systems, and various other radiology-related applications. Advanced techniques focus on operation, quality assurance, and radiation safety.

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 Image Evaluation (2)

Expands upon the fundamental image evaluation knowledge acquired in RTMR 253, 254, and 255. Advances understanding of image evaluation with reference to radiographic anatomy, patient positioning, geometric factors, exposure techniques, and patient shielding.

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)

Provides an overview of the radiologic specialties and the computerized technology used to generate images and treat patients. Examines the online state and national radiography organizations, continuing education requirements/opportunities, and services available to students and technologists.

RTMR 345 Radiologic Pathology (2)

Reviews the pathologic processes most commonly viewed by radiographers 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 six affiliation courses that total eighteen months of clinical experience. Students gain hands-on experience in basic patient care, radiographic procedures and positioning, radiation protection, radiographic exposure and techniques, critical thinking and problem solving, and patient and health care team communication. The combined six-part affiliation sequence fulfills state requirements for clinical hours in medical radiography.

RTMR 372 Medical Radiography Affiliation II (7)

Continues RTMR 371.

RTMR 373 Medical Radiography Affiliation III (12)

Continues RTMR 371 and 372.

RTMR 374 Medical Radiography Affiliation IV (10)

Continues RTMR 371, 372, and 373.

RTMR 375 Medical Radiography Affiliation V (10)

Continues RTMR 371, 372, 373, and 374.

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)

Continues RTMR 371, 372, 373, 374, and 375.

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)

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—
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—
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.

**RADIATION TECHNOLOGY—
RADIOLOGIST ASSISTANT****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 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, anti-neoplastic 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, anti-neoplastic 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 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— 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 365 MRI Patient Care and Procedures (2)

Includes patient care, safety, pharmacology, quality control, and procedures involved with magnetic resonance imaging (MRI) for MRI technologists.

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.

**RADIOLOGIC TECHNOLOGY
ADVANCED PLACEMENT****RTAP 221 Patient Care and Education (1)**

Presents an overview of legal issues in radiologic technology. Legal topics include: informed consent, confidentiality, patient rights, civil liability, legal doctrines, and standards of ethics. Provides an understanding of professional communication skills needed to succeed as an entry-level radiographer. Other topics covered include: infection control, contrast media, patient transfers, and medical emergencies.

RTAP 255 Radiographic Procedures (2)

Introduces students to various radiographic procedures and anatomy, patient positioning, geometric factors, exposure techniques, and patient shielding.

RTAP 283 Equipment Operation and Quality Control (1)

Provides a background for understanding the physics of man-made radiation production. Ad-

dresses the interaction of radiation with matter for both radiation protection and the creation of radiographic images. Covers the electrical circuit of radiation equipment.

RTAP 284 Radiation Protection (1)

Provides a background for understanding the physics of man-made radiation production. Addresses the interaction of radiation with matter for both radiation protection and the creation of radiographic images. Covers the electrical circuit of radiation equipment.

RTAP 287 Image Production and Evaluation (2)

Provides instruction in the principles of radiographic theory and technique. Covers the physical factors involved in imaging processing, as well as techniques for obtaining the optimum radiography under any situation. Examines the role of image-intensified fluoroscopy in radiology. Provides instruction in the use of digital imaging technology in radiology, including: digital imaging equipment, picture archival and communications systems, radiology information systems, hospital information systems, and various other radiology-related applications. Focuses advanced techniques on operation, quality assurance, and radiation safety.

RTAP 971 Clinical Affiliation (2)

Students gain hands-on experience in basic patient care, radiographic procedures and positioning, radiation protection, radiographic exposure and techniques, critical thinking, problem solving, and patient and health care team communication.

RTAP 972 Clinical Affiliation (2)

Students gain hands-on experience in basic patient care, radiographic procedures and positioning, radiation protection, radiographic exposure and techniques, critical thinking, problem solving, and patient and health care team communication.

RADIOLOGY**RADS 891 Radiology 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.

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: RESC 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)

Must be repeated to complete the required total of 24 units.

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 Bioethics and Society (3, 4)

Explores—from Christian and philosophical perspectives—issues confronting both society and patients. Uses case studies to illustrate such

themes as health disparities, AIDS policy, end-of-life care, and organ transplantation. Additional project required for fourth unit.

RELE 525 Ethics for Scientists (3, 4)

Ethical aspects of scientific research, with emphasis on Christian contributions. Additional project required for fourth unit.

RELE 534 Ethical Issues in Public Health (3, 4)

Ethical issues encountered by public health administrators, educators, and investigators. Additional project required for fourth unit.

RELE 535 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 536 Ethics, Leadership, and Advanced Nursing (3)

Equips nursing leaders and advanced practice nurses to address complex ethical issues. Includes philosophical and theological foundations for professional responsibility and ethical decision-making regarding contemporary examples from nursing practice.

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 564 Ethics and Health Disparities (3, 4)

Focuses on causes of health disparities and responses to reduce these causes. Gives attention to key health disparities based on race, ethnicity, gender, sexual orientation, and disability. Provides a context for analyzing and understanding health disparities and for ethically evaluating inequalities in health status and responses to them. Additional project required for fourth unit.

RELE 565 The Good, the Bad and the Ugly: Moral Aspects of Art and Illness (3, 4)

Explores health, illness, and the human body through the mediums of art, photography, personal drawings, sculpture, and visual medical tests such as x-rays, MRIs, and other scans. Using visual representations of the body, students explore various views of health and illness as they relate to concepts of the good, the bad, and the ugly. Additional project required for fourth unit.

RELE 566 Heroes of Health Care (3, 4)

Focuses on the lives of noteworthy figures in the health care professions. Biographies, diaries, literature, and film used by students to identify and analyze the moral virtues and vision of heroic physicians, nurses, and public health advocates from the ancients to the present. Additional project required for fourth unit.

RELE 567 World Religions and Bioethics (3, 4)

Asks questions pertaining to the relationship between beliefs and ethical decisions, with the aim of clarifying ethical principles that guide decision making within the context of religious diversity. Explores ethical issues related to sickness, health, birth, and death among various religions of the world, such as Christianity, Judaism, Buddhism, Hinduism, Sikhism, Confucianism, and Islam. Additional project required for fourth unit.

RELE 568 Bioethics and the Law (3, 4)

Introduces legal and regulatory issues relevant to the heavily regulated field of health care. Explores the relationship between health care and basic bioethical principles. Topics include negligence, malpractice, child/elder abuse, HIPAA, forced

treatment, and professional license/discipline. Discusses classic cases and current biolaw events. Utilizes mock depositions, presentations by visiting lecturers, and visits to selected live hearings. Additional project required for fourth unit.

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 Resources for Bioethics (3, 4)

Critically assesses the various theoretical approaches to ethics in Western culture—types of utilitarianism, deontological theories, pragmatism, casuistry, ethics of care, virtue ethics, and the bioethical principles of autonomy, beneficence, nonmaleficence, and justice. Applies theoretical ideas to cases illustrating such dilemmas as poverty and health, health care justice, and informed consent. Additional project required for fourth unit.

RELE 589 Bible, Theology, and Bioethics (3, 4)

Explores ways—old and new—that the Bible and theology inform moral thought and action. Uses contemporary cases to illustrate the assigned reading and class discussion. Additional project required for fourth unit.

RELE 598 Masters Seminar I (2)

Integrates theological/philosophical presuppositions, ethical themes, and accepted ethical principles. Student demonstrates mastery of a comprehensive knowledge of the field through an examination to be assessed by ethics faculty. Restricted to bioethics graduate students who have completed 36 units of their program.

RELE 599 Masters Seminar II (2)

Requires refinement of a previously submitted class paper for submission to a peer-review journal. Student demonstrates the ability to identify an issue, analyze it, appropriately use literature, and creatively conceptualize or even advance the discussion. Involves effective oral presentation of research results. Restricted to bioethics graduate

students who have completed 36 units of their program.

Prerequisite: RELE 598.

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 (3, 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 527 The Bible and Ecology (3, 4)

Explores the ecology crisis, factory farming, and the extinction of countless species within the context of the Bible's message of promise and hope for nonhuman creation. 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.

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 post-professional 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 post-professional 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 post-professional 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.

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 a removable prosthesis. Covers concepts of anatomy, function, and occlusion. Student performs practical hands-on treatment and simulations of immediate complete dentures, removable partial dentures, and treating the completely edentulous patient. 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 planning and sequencing of treatment for 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 restorations.

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.

**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.

**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 (4–12)**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.

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.

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 non-verbal 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)

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 prac-

tice 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.). Per-

mission 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-psychosocial-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: Pass 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 appli-

cation 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).

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.

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.

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.

STATISTICS

STAT 414 Introduction to Biostatistics I (3)

Introduces the student to statistical methods of summarizing, analyzing, presenting, and interpreting data, with emphasis on health-related data. Topics include normal and binomial distributions, probability, central limit theorem, confidence intervals; as well as hypothesis testing using t-tests, ANOVA, correlation, linear regression, and chi-square. Includes a brief introduction to multivariate analysis. Provides considerable practice in reading and interpreting statistical summaries in peer-reviewed literature. Emphasizes the practical application of biostatistics. Includes extensive laboratory exercises using SPSS.

Prerequisite: Competency in introductory level mathematics. Corequisite: STAT 415.

STAT 415 Computer Applications in Biostatistics (1)

Student uses the personal computer to apply appropriate statistical methods in the summary and analysis of public health-related data, including

descriptives as well as hypothesis testing using t-tests, correlation, linear regression, chi-square, and ANOVA. Uses the statistical application SPSS.

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. Topics covered include: survey and research designs, questionnaire construction, validity techniques, sampling methods, sample size determination, minimum effects hypotheses, 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 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 the student to statistical methods of summarizing, analyzing, presenting, and interpreting data, with emphasis on health care and finance-related data. Topics include the normal and binomial distributions, probability, central limit theorem, confidence intervals; as well as hypothesis testing using ANOVA, t-tests, correlation, linear regression, and chi-square. Introduces multivariate analysis. Practice in reading and interpreting statistical summaries in peer-reviewed literature. Emphasizes the practical application of biostatistics, using Excel as the primary application for analysis.

Prerequisite: Competency in introductory level mathematics.

STAT 509 General Statistics (4)

Introduces statistical methods of summarizing, analyzing, presenting, and interpreting data, with emphasis on health-related data. Topics include normal and binomial distributions, probability, central limit theorem, confidence intervals; as well as hypothesis testing using t-tests, ANOVA, correlation, linear regression, and chi square.

Introduces multivariate analysis. Practice in reading and interpreting statistical summaries in peer-reviewed literature. Emphasizes the practical application of biostatistics. Includes extensive laboratory exercises using SPSS.

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 (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, minimum effects hypotheses, nonresponse problems, data collection, coding, processing, evaluation, and presentation of results. Presents hands-on experience 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: EPDM 509, STAT 521; or 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.

SURGERY

SURG 599 Surgery Directed Study (1.5–18)

SURG 701 Surgery Clerkship (1.5–15)

Third-year clerkship that includes six weeks of general surgery, three weeks of subspecialties, and one week of evaluation/tests.

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

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

AAEN, GREGORY S. Instructor, Department of Pediatrics SM
 M.D. Loma Linda University 2003

ABBATE, MATTY F. Professor, Department of Restorative Dentistry SD
 D.D.S. University of California, San Francisco 1958

ABBEY, DAVID E. Professor, Department of Preventive Medicine SM and Department of Epidemiology and Biostatistics PH
 Ph.D. University of California, Los Angeles 1972

ABBOY, RAMADAS. Assistant Clinical Professor, Department of Medicine SM
 M.B.B.S. Stanley Medical College, India 1967

ABD-ALLAH, SHAMEL A. Associate Professor, Department of Pediatrics SM; Assistant Professor, Department of Emergency Medicine SM
 M.D. Loyola Stritch Medical School, Chicago, Illinois 1989

ABDEL-SALAM, NOHA. Clinical Instructor, Department of Pediatric Dentistry SD
 D.D.S. Loma Linda University 2008
 B.D.S. Cairo University 2000

ABEDI, HAMID R. Assistant Professor, Department of Endodontics SD
 B.D.S. Royal London Hospital, England, UK 1991

ABIDIN, CAROL J. Clinical Instructor, Department of Nutrition PH
 B.S. California State Polytechnic University 1991

ABOGADO, ELVA J. Clinical Instructor SN
 M.H.A. California State University, San Bernardino 2000

ABOU-ZAMZAM, AHMED MOHAMMED, JR. Associate Professor, Department of Cardiovascular and Thoracic Surgery SM
 M.D. Yale University School of Medicine 1992

ACACIO, BRIAN D. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM
 M.D. George Washington University 1993

ADAMICH, THOMAS S. Assistant Professor, Department of Periodontics SD
 D.D.S. Case Western Reserve University, Cleveland, Ohio 1983

ADAMS, JANE E. Assistant Professor, Department of Health Administration PH
 M.H.A. University of La Verne, Los Angeles, California 1991

ADAMS, JOHN F. Adjunct Assistant Professor, Department of Dental Educational Services SD
 D.D.S. Loma Linda University SD 1980

ADAMS, TRACY R. Assistant Professor, Department of Dental Hygiene, SD
 B.S. Loma Linda University SD 2005

ADELMAN, TRAVIS B. Instructor, Department of Family Medicine SM
 M.P.A. Loma Linda University AH 2007

- AFIFI, GHADA YOUSSEF. Assistant Clinical Professor,
Department of Plastic and Reconstructive Surgery SM
M.D. Albany Medical College, New York 1990
- 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
- AHMAD, IMDAD. Assistant Professor, Department of
Medicine SM
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
- AJA, GODWIN N. Assistant Professor, Department of
Global Health PH
Dr.P.H.
- AJUMOBI, ADEWALE B. Assistant Professor,
Department of Medicine SM
M.B.B.S. University of Ilorin, Nigeria
- 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
- ALATTAS, ABDULKADER. Assistant Professor,
Department of Radiation Technology AH
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
- ALBANO, FELIX A. Assistant Clinical Professor,
Department of Physician Assistant Sciences, AH
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
- ALEXANDER, WIL. Emeritus Professor, School of Religion SR; Professor, Department of Family Medicine SM
M.Th. Edinburgh University, Scotland, UK 1966
Ph.D. Michigan State University 1962
- ALIPOON, ALAN. Instructor, Department of Cardiopulmonary Sciences AH
B.S. California State University, San Bernardino 2000
- ALIPOON, LAURA LYNN. Professor, Department of Radiation Technology AH
Ed.D. La Sierra University 2001
- ALLARD, MARTIN W. Professor, Department of Anesthesiology SM
M.B.Ch.B. University of Capetown, South Africa 1971
- AL-MUTARI, YOUSEF S. Adjunct Instructor, Department of Cardiopulmonary Sciences AH
B.S. Indiana University 2003
- ALSOWAYEGH, KHALID S. Assistant Professor, Department of Cardiopulmonary Sciences AH
M.S. Georgia State University 2007
- ALTMAN, ALAN F. Adjunct Assistant Professor, Department of Dental Educational Services SD
D.D.S. Loma Linda University SD 1982
- ALTUWAIJIRI, ALI SULAIMAN. Professor, Department of Cardiopulmonary Sciences AH
Ph.D. Tulane University, New Orleans, Louisiana 1981
- ALVAREZ, LOUIS R. Assistant Clinical Professor, Department of Psychiatry SM
M.D. Autonomous University of Guadalajara, Mexico 1986
- ALVAREZ, RICARDO. Assistant Clinical Professor, 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
M.D. Loma Linda University SM 1996
- ALZAYAT, SAMEH F. Instructor, Department of Pediatric Dentistry SD
D.D.S. Loma Linda University SD 2004
- AMAAR, YOUSEF G. Associate Research Professor, Department of General and Trauma Surgery SM
Ph.D. Simon Fraser University, British Columbia, Canada 1997
- AMINIKHARRAZI, TAHER. Assistant Clinical Professor, Department of Restorative Dentistry SD
D.M.D. Boston University 2001
- ANDERSEN, BRADLEY T. Assistant Clinical Professor, Department of Medicine SM
M.D. Loma Linda University SM 2003
- ANDERSON, DENNIS K. Assistant Clinical Professor, Department of Plastic and Reconstructive Surgery SM
M.D. Loma Linda University SM 1966
- ANDERSON, DONALD LEE. Associate Professor, Department of Psychiatry SM
M.D. Loma Linda University SM 1971
- ANDERSON, DONALD LYNN. Associate Professor, Department of Anesthesiology SM
M.D. Loma Linda University SM 1973
- ANDERSON, DUANE R. Assistant Professor, Department of Orthopedic Surgery SM
M.D. University of Minnesota 1979
- ANDERSON, JEANNIE. Clinical Instructor, Department of Radiation Technology AH
M.S. University of California, Riverside 2005
- ANDERSON, NANCY J. Professor, Department of Medicine SM
M.D. Loma Linda University SM 1976
- ANDERSON, ROGER M. Clinical Instructor, Department of Periodontics SD
D.D.S. Loma Linda University SD 2005

- ANDERSON, S. ERIC. Associate Professor, Department of Health Administration PH
Ph.D. University of North Texas 1992
- ANDO, NAOKI. Adjunct Instructor, Department of Allied Health Studies AH
M.A. Nagoya University, Japan 1997
- ANDREASEN, TROY J. Assistant Clinical Professor, Department of Surgery SM
M.D. University of Utah Medical School 1995
- ANDREIKO, CRAIG A. Assistant Professor, Department of Orthodontics and Dentofacial Orthopedics SD and Orthodontics and Dentofacial Orthopedics Program FGS
D.D.S. Loma Linda University SD 1988
- ANDREWS, D. JEANNE. Associate Professor, Department of Pediatrics SM
M.D. Loma Linda University SM 1950
- ANDREWS, JENNIFER. Adjunct Associate Professor, Department of Counseling and Family Science ST
Ph.D. The Union Institute of Cincinnati 1989
- ANGELES, DANILYN MAG-AKAT. Associate Professor, Department of Basic Sciences SM and Associate Professor, School of Nursing SN
Ph.D. Loma Linda University GS 2000
- ANGELOV, NIKOLA. Associate Professor, Department of Periodontics SD
D.D.S. University of St. Cyril and Methodius, Slovakia 1993
- ANGELOVA, DRAGANA. Assistant Professor, Department of Restorative Dentistry SD
D.D.S. Loma Linda University 2009
D.D.S. St. Cyril and Methodius, Macedonia 1993
- ANHOLM, J. MILFORD. Professor, Department of Orthodontics SD
D.D.S. University of the Pacific 1946
- ANHOLM, JAMES D. Associate Professor, Department of Medicine SM
D.D.S. Loma Linda University SD 1976
- AOYAGI, PAUL Y. Assistant Clinical Professor, Department of Family Medicine SM
M.D. Loma Linda University SM 1973
- APPEL, JAMES ERIC. Assistant Professor, Department of Family Medicine SM
M.D. Loma Linda University SM 2000
- APPLEGATE, PATRICIA JEAN. Associate Professor, Department of Medicine SM
M.D. University of Southern California 1980
- APPLEGATE, RICHARD LEE II. Professor, Department of Anesthesiology SM
M.D. Loma Linda University SM 1982
- APPLETON, CAROL J. MUTH. Assistant Professor, Department of Physical Therapy AH
M.P.H. Loma Linda University PH 1974
- APPLETON, STANTON SHERWOOD. Clinical Professor, Department of Oral Diagnosis, Radiology, and Pathology SD
M.P.H. Loma Linda University PH 1973
D.D.S. Loma Linda University SD 1972
- AQEEL, ADNAN AL. Assistant Professor, Department of Cardiopulmonary Sciences, AH
M.H. I.S. King Saud bin Abdulaziz College, Saudi Arabia 2005
- ARAKAKI, SHIGENOBU. Adjunct Assistant Professor, Department of Allied Health Studies AH and Adjunct Assistant Professor, School of Religion SR
D.Min. San Francisco Theological Seminary 1974
- ARBABI, ZARSHID. Assistant Professor, Department of Medicine SM
M.D. Iran University 1990
- ARCHAMBEAU, JOHN O. Professor, Department of Radiation Medicine SM
M.D. Stanford University School of Medicine 1955
- ARECHIGA, ADAM L. Assistant Professor, Department of Psychology ST
Psy.D. Loma Linda University ST 2006
Dr.P.H. Loma Linda University PH 2006

- ARIUE, BARBARA K. Assistant Professor, Department of Pediatrics SM
M.D. University of Vermont 1993
- ARMIJO, JAVIER ALONSO. Assistant Clinical Professor, Department of Family Medicine SM
M.D. University of California, Irvine 1991
- ARMSTRONG, DANIEL REID. Assistant Professor, Department of Restorative Dentistry SD
D.D.S. Loma Linda University SD 1972
- ARMSTRONG, DARLENE A. Assistant Professor, Department of Dental Hygiene SD
M.A. Azusa Pacific University 2005
- ARNETT, WILLIAM G. Adjunct Assistant Professor, Department of Orthodontics SD
D.D.S. University of Southern California 1972
- ARNETT, R. LESLIE, JR. Professor, Department of Periodontics SD and Periodontics Program FGS
M.S.N Loma Linda University GS 1968
D.D.S. University of Southern California 1959
- ARNETT, MARJORIE R. Assistant Professor, Department of Dental Educational Services SD
M.S. California State University, Fullerton 1997
- ARNOLD, LORI. Assistant Clinical Professor, Department of Pharmacotherapy and Outcomes Science SP
Pharm.D. University of Montana School of Pharmacy 2000
- ARORA, NAVNEET S. Assistant Clinical Professor, Department of Periodontics SD
M.P.H. Loma Linda University PH 2005
- ASAI, YUJI. Adjunct Assistant Professor, Department of Allied Health Studies AH
B.S. National Institution for Academics, Japan 2000
- ASGARZADIE, FARBOD. Assistant Professor, Department of Neurosurgery SM
M.D. University of Chicago 1999
- ASGEIRSSON, ARNI G. Adjunct Assistant Clinical Professor, Department of Dental Educational Services SD
D.D.S. Loma Linda University SD 1964
- ASHLEY, EDD J. Professor, Department of Physical Therapy AH
Ed.D. Boston University 1971
- ASHWAL, STEPHEN. Distinguished Professor, Department of Pediatrics SM
M.D. New York University 1970
- ASK, MIHRAN N. Assistant Professor, Department of Medicine SM, Department of Preventive Medicine SM, and Department of Health Promotion and Education PH
M.D. Loma Linda University SM 1979
- ATIGA, ROLANDO, A. JR. Assistant Clinical Professor, Department of Physician Assistant Sciences AH
M.D. Ross University 1999
- ATKIN, ROY D. Assistant Professor, Department of Orthodontics SD
D.D.S. Marquette University 1966
- ATKINS, GORDON J. Adjunct Assistant Professor, Department of Earth and Biological Sciences ST and Biology Program FGS
Ph.D. McGill University 1987
- AUNE-NELSON BETH. Clinical Instructor, Department of Occupational Therapy AH
B.S. Loma Linda University AH 1998
- AUSTIN, CRAIG EUGENE. Instructor, Department of Clinical Laboratory Science AH
B.S. Loma Linda University AH 1983
- AVANTS, TERESA PFIEFLE. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM
M.D. Loma Linda University SM 1984
- AVELING, D. LEIGH. Associate Professor, School of Religion SR
D.Min. Claremont School of Theology 1996
- AVILA, KAROLE S. Assistant Professor, Department of Psychiatry SM
M.D. Albany Medical College 1978

- AVILA-GNAU, VIVIANA D. Assistant Professor,
Department of Restorative Dentistry SD
D.D.S. Loma Linda University SD 2007
D.D.S. Javeriana University, Columbia 1997
- AVINA, ROBERT L. Assistant Professor, Department of
Family Medicine SM
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
M.D. Assiut University Faculty of Medicine, Egypt 1972
- BABA, NADIM. Associate Professor, Department of
Restorative Dentistry SD and Prosthodontics Program
FGS
M.S. Boston University 1999
D.M.D. University of Montreal, Quebec, Canada 1996
- BACKSTROM-GONZALES, MELISSA KATHERINE.
Clinical Instructor, Department of Communication
Sciences and Disorders AH
M.S. University of Redlands 1987
- BADAUT, JEROME. Adjunct Assistant Professor,
Department of Basic Sciences SM; Adjunct Professor,
Department of Pediatrics SM
Ph.D. Universite Pierre et Marie Curie, France 1999
- BAE, WON-CHUL. Assistant Professor, Department of
Radiology SM
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
- BAHK, THOMAS. Assistant Professor, Department of
Pediatrics SM
M.D. University of California, Los Angeles 1997
- BAHJRI, KHALED A. Assistant Professor, Department
of Epidemiology and Biostatistics PH
M.P.H. Loma Linda University PH 2001
M.D. Fatima College of Medicine, Manila, Philippines 1999
- BAILEY, LEONARD L. Distinguished Professor,
Department of Cardiovascular and Thoracic Surgery
SM
M.D. Loma Linda University SM 1969
- BAKER BRIGGS, CAROL S. Assistant Clinical
Professor, Department of Nutrition and Dietetics AH
M.B.A. University of Redlands 2002
M.S. Loma Linda University GS 1983
- BAKER, GRACE T. Instructor, Department of Clinical
Laboratory Science AH
B.S. University of California, Riverside 1991
- BAKER, SUSAN M. Adjunct Assistant Clinical
Professor, Department of Physical Therapy AH
D.P.T.Sc. Loma Linda University AH 1999
- BAKLAND, LEIF KRISTIAN. Professor, Department of
Endodontics SD
D.D.S. Loma Linda University SD 1963
- BALAGOPALAN, MOHAN. Clinical Instructor,
Department of Environmental and Occupational
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 of Urology SM
M.D. Loma Linda University SM 1980
- BARNES, DONALD T. Assistant Professor, Department of Radiology SM
M.D. Howard University, Washington D.C. 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 of Ophthalmology SM
M.D. Montemorelos University, Mexico 1995
- BARRETT, DWIGHT. Assistant Professor, Department of Health Policy and Management PH
M.A. La Sierra University 2002
- 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 2002
- BARTON, LORAYNE. Adjunct Associate Professor, Department of Health Promotion and Education PH
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
- BASICAL-OLIVER, NOVE A. Instructor, Department of Clinical Laboratory Science AH
B.S. Loma Linda University AH 1986
- BASTA, SAEDA H. Assistant Professor, Department of Restorative Dentistry SD
D.D.S. Damascus University Dental School, Syria 1994
- BATESOLE, MARK KENNETH. Assistant Professor, Department of Orthodontics SD
D.D.S. University of Southern California 1998
- BATES, NERIDA T. Assistant Professor, Department of Pediatrics SM
M.D. Loma Linda University SM 1997
- BATIN, FRANCES P. Assistant Professor, Department of Medicine SM
M.D. Loma Linda University 1988
- BAUGH, WILSON B., JR. Assistant Clinical Professor, Department of Oral and Maxillofacial Surgery SD
D.D.S. University of Southern California 1981
- BAUM, MARTI F. Assistant Professor, Department of Pediatrics SM
M.D. Loma Linda University SM 1979
- BAYDALA, LARYSA O. Assistant Clinical Professor, 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

BAZ, SAMUEL. Assistant Professor, Department of
Medicine SM
M.D. University of Southern California School of Medicine
1997

BEAL, WILLIAM S. Instructor, Department of
Orthopedic Surgery SM
D.P.M. California College of Podiatric Medicine 1976

BEARDSLEY, LISA M. Professor, Department of Health
Promotion and Education PH; Adjunct Assistant
Professor, School of Religion SR
Ph.D. University of Hawaii, Manoa 1989

BECK, JIMMY B. Assistant Professor, Department of
Pediatrics SM
M.D. University of Washington 2004

BECKWITH, J. BRUCE. Adjunct Professor, Department
of Pathology and Human Anatomy SM, Department
of Surgery SM, and Department of Pediatrics SM
M.D. University of Washington School of Medicine 1958

BEDASHI, ALLAN M. Assistant Professor, Department
of Physician Assistant Sciences AH
M.S. Western University of Health Sciences 1997

BEDDOE, RANDY A. Adjunct Assistant Professor,
Department of Family Medicine SM
M.D. Loma Linda University SM 1984

BEDROS, ANTRANIK A. Associate Professor,
Department of Pediatrics SM
M.D. University of Damascus, Syria 1970

BEE, DAVID M. Assistant Professor, Department of
Medicine SM
M.D. University of Southern California 1967

BEELER, LAUREN M. Clinical Instructor, Department
of Physical Therapy AH
B.S. Indiana University 1979

BEESON, W. LAWRENCE. Associate Professor,
Department of Epidemiology and Biostatistics PH and
Epidemiology and Biostatistics Program FGS
Dr.P.H. Loma Linda University PH 2002

BEHRENS, B. LYN. Emerita Professor, Department of
Pediatrics SM
M.B.B.S. Sydney University, Australia 1963

BEKENDAM, PAMELA Y. Assistant Professor,
Department of Ophthalmology SM
M.D. Loma Linda University SM 1994

BEKENDAM, PETER D. Instructor, Department of
Ophthalmology SM
M.D. Loma Linda University SM 2004

BELCHER, TERRY K. Clinical Instructor, Department
of Clinical Laboratory Science AH
B.S. University of Washington 1971

BELÉN, NENITA P. Assistant Clinical Professor,
Department of Psychiatry SM
M.D. University of Santo Tomas, Philippines 1967

BELIN, LYNNA SUE. Adjunct Assistant Professor,
Department of Health Administration PH
Ph.D. Claremont Graduate School 1994

BELLIARD, JUAN C. Associate Professor, Department of
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M.D. Loma Linda University SM 1962
- BERGENDAHL, KELLIE R. Assistant Professor, Department of Dental Hygiene SD
B.S. Loma Linda University SD 2002
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Dr.P.H. Loma Linda University 1981
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M.D. Indiana Medical School 2001
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M.B.B.S. Baroda Medical College, India 1963
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Ph.D. Loma Linda University GS 2002
- BIAN, JIE-YI. Instructor, Department of Anesthesiology SM
D.O. Chicago College of Osteopathy 2004
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M.D. University of Buenos Aires School of Medicine, Argentina 1993
- BIELITZ, IRENE M. Clinical Instructor, Department of Radiation Technology AH
B.S.N. University of Phoenix 2008
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- BILLIMORIA, PHIROZE E. Professor, Department of Radiology SM
M.B.B.S. Grant Medical College, Bombay University, India 1951
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- BOLTON, STEPHANIE L. Assistant Professor,
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- BOUNDS, JEFFREY ALLEN. Associate Professor,
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Psychology ST and Clinical Psychology Program FGS
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M.S. Loma Linda University GS 1991
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D.D.S. University of Iowa 2003
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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, KEVIN N. Assistant Professor, Department of Dental Educational Services SD
D.D.S. Loma Linda University 2007
B.S. Southern Adventist University 2000
- BROWN, LANCE A. Associate Professor, Department of Emergency Medicine SM and Department of Pediatrics SM
M.D. Harvard University 1994
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- BROWN, LAURA DENISE. Assistant Librarian, Library Faculty
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M.D. College of Medical Evangelists 1952
- BROWN-HARRELL, VICKIE D. Assistant Professor, Department of Medicine SM
M.D. University of Iowa 1992
- BROWN, JULIA E. Assistant Clinical Professor, Department of Pediatric Dentistry SD
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M.D. Stanford University 1958
- BRUNO, RICHARD. Assistant Clinical Professor, Department of Health Administration PH
M.B.A. Woodbury University, Burbank, California 1972
- BRUNT, JOHN C. Professor, School of Religion SR
Ph.D. Emory University, Atlanta, Georgia 1978
- BRUTTOMESSO, SAMUEL D. Assistant Clinical Professor, Department of Pediatrics SM
M.D. Hahneman Medical College, Philadelphia, Pennsylvania 1970
- BRYAN, PATRICK J. Associate Clinical Professor, Department of Radiology SM
M.B.Ch.B. University College at Galway, Ireland 1967
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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
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M.S.N. St. Louis University, Missouri 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, Philadelphia, Pennsylvania 1968
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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
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M.S. College of St. Francis, New York 1989
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M.D. Loma Linda University SM 1992
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M.D. Texas A and M College of Medicine 1992
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M.B.A. Charles Stuart University, Alberta, Canada 1999
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Dr.P.H. University of California, Los Angeles 1986
- BYRNE, JOHN MAURICE. Assistant Professor, Department of Medicine SM
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- CABANSAG, ROGER J. Assistant Professor, Department of Psychiatry SM
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- CAO, JEFFREY D. Professor, Department of Pathology and Human Anatomy SM
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- CARNAHAN, CLARENCE E., JR. Clinical Professor, Department of Psychiatry SM
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Ph.D. University of Minnesota 1992
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Pharm.D. University of Utah 1995
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Ph.D. University of Texas, Houston 2007
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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, WAYNE K. Associate Professor, Department of Orthopedic Surgery SM
M.D. Loma Linda University SM 1995
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Pharm.D. University of Southern California 2002
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M.P.H. Loma Linda University PH 1995
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D.D.S. University of Milan, Italy 1989
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M.D. Loma Linda University SM 1977
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M.D. Loma Linda University SM 1982
- CHINTE, ZANDY W. Instructor, Clinical Laboratory Science AH
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- 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
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- CHITSAZAN, MORTEZA. Assistant Professor, Department of Medicine SM
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M.S. University of British Columbia 2004
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- CHO, EUN-HWI, ELIZABETH. Assistant Professor, Department of Oral and Maxillofacial Surgery SD
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B.A. Jones International University, Chicago, Illinois 2006
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M.D. Loma Linda University 2001
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Pharm.D. University of the Pacific 1975
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- CORSELLI, JOHANNAH. Assistant Professor, Department of Gynecology and Obstetrics SM
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M.D. Loma Linda University SM 1996
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M.D. Hahnemann Medical College 1982
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M.D. Loma Linda University SM 1967
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- COWAN, GLORIA E. Adjunct Professor, Department of Psychology ST
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M.D. Loma Linda University SM 1982
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D.O. University of New England College of Osteopathic Medicine 1991
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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

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M.S.N. Whitworth College, Intercollegiate Center for Nursing Education, Washington 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
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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
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M.S.P.H. Loma Linda University PH 1992
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D.D.S. University of St. Joseph, Lebanon 1977
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Ph.D. University of Iowa 1990
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M.D. University of Saigon Faculty of Medicine, South Vietnam 1974
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Ph.D. University of Southern California 1994
- DAKA, SMITHA. Assistant Professor, Department of Medicine SM
M.B.B.S. Rajiv Gandhi University, India 2002
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M.S.L.S. University of Southern California 1980
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M.D. University of Madras, India 1982
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M.D. University of California, Los Angeles/Drew Medical School 1988
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M.D. Loma Linda University SM 1991
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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
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Ph.D. Kobe University, Japan 2004
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Ph.D. Ancana University 1999
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- DAVIDIAN, MARILYN HOPKINS. Assistant Professor, Department of Health Information Management AH
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Rehabilitation SM
M.P.H. Loma Linda University PH 1994
Ph.D. United States International University, Nairobi,
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- DRINKARD, JAMES PHILLIP. Clinical Professor,
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M.D. Georgetown University, Washington D.C. 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, Atlanta, Georgia 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. Associate Professor, Department of Earth and Biological Sciences ST
Ph.D. Central Queensland University, Australia 2002
- DUNN, ROBERTA J. Assistant Clinical Professor, Department of Cardiopulmonary Sciences AH
M.D. Texas A&M University 2005
- DUONG, CHRISTINE A. Assistant Professor, Department of Medicine SM
M.D. Ross University 2000
- DUPPER, BRENT D. Assistant Professor, Department of Restorative Dentistry SD
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, Department of Family Medicine SM; Assistant Professor, Department of Preventive Medicine SM and Department of Health Administration PH
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M.D. Loma Linda University SM 1986
- EARLL, ART CHARLES. Assistant Professor, School of Religion SR
M.Div. Andrews University 1971
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- 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
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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
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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
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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
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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
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D.D.S. Loma Linda University SD 1975
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D.D.S. Indiana University 2002
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D.D.S. Loma Linda University SD 1980
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D.D.S. Loma Linda University SD 1997
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M.D. University of Oslo, Norway 1983
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M.D. University of Calgary 1989

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FITZGERALD, GARRY J. Assistant Professor, Department of Health Administration PH

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FITZPATRICK, MICHAEL J. Professor, Department of Restorative Dentistry SD

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FITZSIMMONS, BETTY M. Clinical Instructor, Department of Clinical Laboratory Science AH

M.S. California State University, Fullerton 1987

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B.S. Southern Adventist University 2001

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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

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Ph.D. Temple University, Philadelphia, Pennsylvania 1990
- FLETCHER, MADELYN LUCILLE. Assistant Professor,
Department of Restorative Dentistry SD
D.D.S. Loma Linda University SD 2000
- FLOREA, NAOMI R. Assistant Professor, Department
of Pharmacotherapy and Outcomes Science SP
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
- FLORES, DANIEL ALEXANDER. Assistant Professor,
Department of Orthodontics SD
M.S. Loma Linda University GS 1988
D.D.S. Loma Linda University SD 1982
- FLORES, LUIS A. Adjunct Professor, Department of
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
- FLORES, MARIO M. Assistant Professor, Department
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D.D.S. University of Mexico, Puebla state, Mexico 1977
- FLORIDIA, ROSARIO. Instructor, Department of
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
- FOGELSON, STEPHANIE K. Instructor, Department of
Dermatology SM
M.D. Mount Sinai, New York City 2004
- FOLEY, JAMES A. Assistant Clinical Professor,
Department of Orthopaedic Surgery SM
M.D. Medical College of Wisconsin 2003
- FONG, SHIRLEY A. Assistant Clinical Professor,
Department of Gynecology and Obstetrics SM
M.D. St. Louis University, Missouri 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 of
Medicine SM
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
- FORRESTER, TERRENCE JOHN. Associate Professor,
Department of Social Work and Social Ecology ST
M.S.S.W. University of Louisville 1979
- FOSTER, GARY PAUL. Associate 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
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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

FRANCISCO, BENJAMIN. Instructor, Department of Medicine SM
M..D. University of the East , Manila, Philippines 2003

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

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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
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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; Professor, Department of Pediatrics SM and Department of Health Promotion and Education, PH
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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
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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

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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
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FRITZSCHE, PEGGY J. Professor, Department of Radiology SM
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B.S. Walla Walla College 2002
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M.D. New York Medical College 2004
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- GIEBEL, HERBERT N. Adjunct Assistant Professor,
Department of Family Medicine SM
M.D. Loma Linda University SM 1988
- GILSON, GEORGE J. Associate Clinical Professor,
Department of Gynecology and Obstetrics SM
M.D. Northwestern University, Illinois 1970
- GIERZ, MONIKA S. Associate Professor, Department of
Psychiatry SM
M.D. Medical School University of Wuerzburg, Germany
1978
- GILBERT, BRADLEY PAUL. Assistant Clinical
Professor, Department of Health Administration PH
M.D. University of California, San Diego 1983
- GILBERT, DAVID H. Assistant Clinical Professor,
Department of Oral and Maxillofacial Surgery SD
D.D.S. Loma Linda University SD 1995
- GILBERT, MONIQUE. Instructor, Department of
Clinical Laboratory Science AH
B.S. Loma Linda University AH 1989
- GILBERT, ROGER N. Assistant Professor, Department
of Restorative Dentistry SD
D.D.S. Loma Linda University SD 1991
- GILEWSKI, MICHAEL J. Assistant Professor,
Department of Physical Medicine and Rehabilitation
SM
Ph.D. University of Southern California, Los Angeles 1983
- GILL, MICHELLE R. Associate Professor, Department
of Emergency Medicine SM
M.D. Northeastern Ohio University College of Medicine
1995
- GILLESPIE, ANNE MARIE. Assistant Clinical
Professor, School of Nursing SN
M.S.N. Boston University 1981
- GIMBEL, HOWARD V. Professor, Department of
Ophthalmology SM
M.P.H. Loma Linda University PH 1978
M.D. Loma Linda University SM 1960
- GILSON, GEORGE J. Associate Professor, Department
of Gynecology and Obstetrics SM
M.D. Northwestern University 1970
- GIORDANO, EUGENIA. Assistant Professor,
Department of Health Administration PH
M.P.H. Loma Linda University PH 2000
M.D. La Plata National University, Argentina 1985
- GIORDANO, OSCAR. Associate Professor, Department
of Health Administration PH
M.P.H. Loma Linda University PH 2000
M.D. La Plata National University, Argentina 1978
- GIRGIS, RAAAFAT W. Assistant Professor, Department
of Psychiatry SM
M.D. Cairo University, Egypt 1981
- GLASGOW, CYNTHIA J. Instructor, Department of
Family Medicine SM
M.S.N. Azusa Pacific University 2004
- GLAVAZ, GERALD A. Assistant Professor, Department
of Physician Assistant Sciences AH
M.P.A. University of Nebraska 2003
- GLOSSBRENNER, DAVID F. Assistant Clinical
Professor, Department of Family Medicine SM
M.D. University of Cincinnati 1981

- GMCAROVSKI, ANDREJCO. Visiting Professor,
Department of Periodontics SD
M.S. University of Cyril and Methodius, Slovakia 2006
D.D.S. University of Cyril and Methodius, Slovakia 1993
- GNANADEV, APPANNAGARI. Clinical Professor,
Department of Cardiovascular and Thoracic Surgery
SM
M.D. Kurnool Medical College, India 1972
- GOBER, CARLA GAYLE. Assistant Professor, School of
Religion SR
M.S. Loma Linda University GS 1994
M.P.H. Loma Linda University PH 1985
- GODFREY, THOMAS E. Associate Professor,
Department of Medicine SM
M.S. University of Minnesota 1961
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,
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- GOLKAR, LINDA. Assistant Professor, Department of
Medicine SM
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- GOLLES, DEE. E. Adjunct Assistant Professor,
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- GOLLIN, GERALD. Associate Professor, Department of
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- GOLLIN, YVONNE G. Assistant Professor, Department
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- GOMES, MARSHALL E. Assistant Professor,
Department of Medicine SM
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- GONZAGA, ALMA ALMARIO. Assistant Professor,
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M.D. Far Eastern University, Philippines 1979
- GONZALEZ, WILBERTH. Associate Clinical Professor,
Department of Gynecology and Obstetrics SM
M.D. Loma Linda University SM 1967
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Restorative Dentistry SD
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- GOODLOW, GERALD ROSS. Assistant Clinical
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Rehabilitation SM
M.D. Wayne State University 1984
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Ph.D. University of Kansas 1990
- GOODRICH, SHARON ANNE. Assistant Clinical
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- GORDON, BRENT. Assistant Professor, Department of Pediatrics SM
M.D. The Chicago Medical School at Rosalind Franklin University 2002
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M.D. Loma Linda University SM 1986
- GORENBERG, DANIEL. Associate Clinical Professor, Department of Medicine SM
M.D. University of Illinois 1955
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M.H.A. Chapman University, Orange County, California 2006
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D.D.S. Loma Linda University SD 1976
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- GRAMES, BARRY S. Assistant Clinical Professor, Department of Orthopaedic Surgery SM
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- GRANGAARD, LUELLE MARIE. Clinical Instructor, Department of Occupational Therapy AH
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- 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
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- GRAY, PAUL E. Assistant Professor, Department of General and Trauma Surgery SM
M.D. University of Louisville, Kentucky 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
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- 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
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- GRIFFIN, MARGARET ANN SLAUGHTER. Assistant Professor, Department of Medicine SM
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- GRIFFIN, RONALD ALPHONSO. Assistant Professor, Department of Medicine SM
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GRYTE, CRYSTAL D. Assistant Clinical Professor, Department of Dental Hygiene SD
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GURULE, DONNA LYNNE. Assistant Professor, Department of Environmental and Occupational Health PH
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GUSTAFSON, G. ALLEN. Associate Clinical Professor, Department of Orthopedic Surgery SM
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GUSTAFSON, BRENNAN L. Assistant Professor, Department of Anesthesiology SM
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- GUSTAVSSON, LARS G. Assistant Clinical Professor,
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M.B.A. Andrews University 1990
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M.D. Loma Linda University SM 1973
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M.D. Loma Linda University SM 1973
- GUTHRIE, GEORGE E. Adjunct Assistant Professor,
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M.D. Loma Linda University SM 1981
- GUTHRIE, IVANNA K. Assistant Clinical Professor,
Department of Psychology ST
Ph.D. Arizona State University 2002
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- GUZEK, JAMES P. Associate Clinical Professor,
Department of Ophthalmology SM
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- GUZMAN, ERNIE. Assistant Professor, Department of
Pediatrics SM
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- 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
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M.D. Loma Linda University SM 1991
- HADDOCK, BRYAN LEROY. Assistant Clinical
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Education PH
Dr.P.H. Loma Linda University PH 1997
- HADLEY, DEAN A. Assistant Professor, Department of
Urology SM
M.D. Loma Linda University 1975
- 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, New York 1997
D.D.S. New York University, College of Dentistry 1994
- HALAS-LIANG, MELISSA. Clinical Instructor,
Department of Nutrition and Dietetics AH
M.A. University of Redlands 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,
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- 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, Missouri
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, Minnesota 1984

HAMADA, NORMAN M. Professor, Department of
Pharmacotherapy and Outcomes Science SP

Pharm.D. University of the Pacific 1980

HAMANN, CURTIS P. Assistant Clinical Professor,
Department of Dental Educational Services SD

M.D. Loma Linda University 1988

HAMERSLOUGH, RHONDA D. Adjunct Assistant
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M.A. Azusa Pacific University 2000

HAMILTON, NALO M. Assistant Professor of Nursing,
SN

M.S.N. Vanderbilt University, Nashville, Tennessee 2005

Ph.D. Meharry Medical College, Nashville, Tennessee 2003

HAMMOND, PAUL G. Associate Clinical Professor,
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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, Oregon 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 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

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, LISA M. Clinical Instructor, Department of
Nutrition and Dietetics AH

M.S. California Poly University-Pomona 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. Associate Professor,
Department of Psychology ST
Ph.D. Washington University, St. Louis 2001

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

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
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M.A. University of Redlands 1986

HAYCOCK, KORBIN H. Assistant Professor,
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M.D. Loma Linda University SM 2000

HAYES, WILLIAM K. Professor, Department of Earth
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Ph.D. University of Wyoming 1991

HAYNES-LEE, JOAN E. Assistant Professor,
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M.D. Howard University, Washington D.C. 1994

HAYTON, SHELLEY L. Assistant Professor,
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B.S. Loma Linda University 1982

HAYWOOD, L. JULIAN. Clinical Professor,
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M.D. Howard University, Washington D.C. 1952

HEGSTAD, DOUGLAS R. Associate Professor,
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M.D. Loma Linda University SM 1980

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M.D. Albert Einstein College of Medicine, New York 1981

HEINE, NANCY J. Assistant Professor, Department of
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M.Ed. University of Southern California 1996

HEINRICH, BRUCE SCOTT. Assistant Professor,
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HEINRICH, CHERRIE A. Assistant Professor,
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HEISKELL, LAWRENCE E. Assistant Clinical Professor,
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HEISLER, WILLIAM HENRY. Professor, Department of
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HENKEN, HEATHER E. Assistant Professor,
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HENKIN, JEFFREY M. Associate Professor, Department
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HEREDIA-MILLER, FROYLANA. Assistant Professor,
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- HEUSTIS, DARRYL G. Professor, Department of Pathology and Human Anatomy SM and Department of Clinical Laboratory Science AH
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- HEWES, GORDON E. Assistant Professor, Department of Health Administration PH
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- HILLS, RENEE L. Assistant Clinical Professor, Department of Health Administration PH
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D.D.S. Loma Linda University SD 1990
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M.D. Loma Linda University SM 1975
- LIM, JENNIFER J. Instructor, Department of Emergency SM
D.O. Western University of Health Sciences at Pomona 2002
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B.S. Southern Adventist University 1999
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Ph.D. Osmania University, India 2004
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M.D. Ohio State University 2000
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M.S. Loma Linda University 1997
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M.D. Dartmouth Medical School, New Hampshire 1999
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Gynecology and Obstetrics SM
M.D. Loma Linda University 2005
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Anesthesiology SM and Department of Pediatrics SM
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M.D. Jefferson Medical College, Philadelphia 2000
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Ph.D. University of Illinois 2000
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M.P.A. Loma Linda University AH 2004
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Ph.D. North Carolina State University at Raleigh 1971
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- MILLER, THEODORE R. Assistant Professor, Department of Radiology SM
M.D. Loma Linda University SM 1964
- MILLS, DANIEL C. II. Assistant Clinical Professor, Department of Plastic and Reconstructive Surgery SM
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M.S. University of Nebraska 2006
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- MODY, AMEER P. Assistant Professor, Department of
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M.D. Albany Medical College, New York 1999
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- MURDOCH, WILLIAM GORDON C., JR. Associate Professor, Department of Psychiatry SM
M.D. Loma Linda University SM 1973
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B.S. Pacific Union College 2001
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M.D. Loma Linda University SM 1975
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M.D. Loma Linda University SM 1995
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M.D. University of California, Los Angeles 1972
- NAHOUM, HENRY ISSAC. Professor, Department of Orthodontics SD
D.D.S. Columbia University, New York 1943
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D.M.D. Boston University Dental School 2003
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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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- 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, Washington D.C. 1978
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D.D.S. Espahan University, Iran 1986
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Dr.P.H. Loma Linda University PH 2006
- NEERGAARD, JOYCE B. Assistant Professor, 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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M.P.H. Adventist International Institute of Advanced Studies, Philippines 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
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B.A. Alameda University 2003
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NELSON, SCOTT C. Assistant Professor, Department of
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NELSON, WILBUR K. Adjunct Assistant Professor,
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FGS
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NEUFELD, TIMOTHY E. Associate Clinical Professor,
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M.S. Loma Linda University GS 1985

NEWELL, DANIEL W.H. Assistant Professor,
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M.S. Loma Linda University 2000

NEWTON, FREDERICK A. Adjunct Professor,
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NGUYEN, HIEU T.M. Assistant Professor, Department
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Pharm.D. Loma Linda University 2009
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Pharm.D. University of Arkansas Medical Sciences 2000
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Ph.D. Polish Academy of Science Med Research Center Warsaw, Poland 2001
M.D. Medical University of Warsaw, Poland 1994
- OSUR, MICHAEL. Assistant Clinical Professor, Department of Cardiopulmonary Sciences AH
M.B.A. University of Phoenix 1998
- OTA, LEH C. Clinical Instructor, Department of Nutrition and Dietetics AH
M.P.H. Loma Linda University 1978
- OTA, MARLENE M. Assistant Professor, Department of Clinical Laboratory Science AH
B.S. University of Redlands 1981

- OTERO, JAY M. Assistant Professor, Department of Psychiatry SM
M.D. Medical College of Virginia 1989
- OTSUKA, TAKAHIRO. Assistant Professor, Department of Medicine SM
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. Associate Professor, Department of Psychology ST
Ph.D. University of Alabama at Birmingham 2003
M.P.H. University of Alabama at Birmingham 2001
- OWENS, JOHN E. Assistant Professor, Department of Physical Medicine and Rehabilitation SM
M.D. Loma Linda University 2004
- OYAMA, KOTARO. Assistant Clinical Professor, Department of Restorative Dentistry SD
D.D.S. Nippon Dental University, Japan 1997
- OYAS, NICOLE M. Instructor, Department of Pediatrics SM
M.D. University of Nevada 2006
- 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 Clinical 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
- 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, Pomona, California 1995
- PALMER, LINDA MARGARET. Clinical Instructor, Department of Health Information Management AH
B.S. Loma Linda University AH 1979
- PANDIT, IVY C. Assistant Professor, Department of Medicine SM
M.B.B.S. Christian Medical College and Hospital, India 1978
- 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
- PAREKH, HEMAL. Assistant Professor, Department of Medicine SM
M.B.B.S. Seth GS Medical College, India 1995
M.B.B.S. Pravia Medical Trust College, India 1990
- PARK, CHAN M. Instructor, Department of Oral and Maxillofacial Surgery SD
M.D. Loma Linda University 2008
D.D.S. University of California, Los Angeles 2005
B. S. University of California, San Diego 2000
- PARK, PAULINE A. Clinical Instructor, School of Nursing SN
B.S. Loma Linda University SN 1969
- PARK, HYOUNG J. Assistant Clinical Professor, Department of Periodontics SD
M.S. Loma Linda University 2007
D.D.S. Yonsei University, Japan 1992
- 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
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- 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,
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- PATCHIN, REBECCA J. Assistant Professor,
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- PATEL, ASHISH. Instructor, Department of Clinical
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B.S. Loma Linda University AH 2004
- PATEL, BIPIN L. Assistant Clinical Professor,
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- PATEL, GAUTTAM. Assistant Professor, Department of
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- PAULIEN, JON. Professor of Religion, School of
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- PAYNE, KIMBERLY J. Assistant Professor, Department
of Pathology and Human Anatomy SM and
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B.S. Oakwood College 1998
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Sciences SM and Department of Gynecology and
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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
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B.S. Loma Linda University 1983
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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
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D.D.S. Universidad del Valle, Columbia 1990
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D.D.S. Loma Linda University SD 2005
- PIERSON, KENNETH W. Adjunct Assistant Professor, Department of Dental Educational Services SD
D.D.S. Loma Linda University 1971
M.P.H. Loma Linda University 1971
- PILLAR, EDWARD A. Assistant Professor, Department of Emergency Medicine SM
D.O. College of Osteopathic Medicine of the Pacific 1988
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J.D. William Howard Taft University, California 2008
M.B.A. National University, California 2004
- PIYA, BINA. Instructor, Department of Medicine SM
M.B.B.S. Manipal College of Medical Sciences, Pokhara, India 2001

- PLUNK, LESLIE B. Clinical Instructor, Department of Pediatric Dentistry SD
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- 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, Philadelphia 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
- PRALL, FREDERICK R. Instructor, Department of Ophthalmology SM
M.D. Indiana University 2002
- PRATTE, JOHN E. Assistant Professor, Department of Endodontics SD
D.D.S. University of Southern California 1987
- 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, New York 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
- PRYSTOWSKY, JASON. Assistant Professor, Department of Emergency Medicine SM
M.D. Northwestern University Medical School, Chicago 2002
- PRZEKOP, PETER R. Assistant Professor, Department of Surgery SM
D.O. Western University of Health Sciences, Pomona, California 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, Washington D. C. 1978
- PUTNOKY, GILBERT JOHN. Associate Clinical Professor, Department of Medicine SM
M.D. St. Louis University School of Medicine, Missouri 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, Boston, Massachusetts 1977
- QUILICHE, RUTH B. Assistant Professor, Department of Nutrition PH
Doctoral Equivalent Universidad de San Martin de Porres, Lima Peru 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

- 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, Indiana 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
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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
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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
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- 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
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- RAZZOUK, ANEES J. Professor, Department of Cardiovascular and Thoracic Surgery SM
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- REA, RONALD MILTON. Assistant Professor,
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- REEVES, MICHELLE E. Assistant Professor,
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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
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- ROBINSON, MAGDA L. Assistant Clinical Professor, Department of Family Medicine SM
M.D. Universidad de Montemorelos, Mexico 1973
- ROBINSON, MICHAEL J. Assistant Professor, Department of Family Medicine SM
M.D. Loma Linda University 1995
- 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 FGS
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
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- ROOS, PHILIP J. Associate Professor, Department of Medicine SM and Department of Physiology and Pharmacology SM
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- 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
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- ROTH, KENNETH. Associate Clinical Professor, Department of Orthopaedic Surgery SM
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Psy.D. Biola University, Los Angeles, California 1986
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- ROY-CHOWDHURY, SHARMILA. Assistant Professor, Department of General and Trauma Surgery SM
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- SCHARFFENBERG, JOHN A. Adjunct Professor, Department of Nutrition PH
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- SCHEER, PETER MATTHIAS. Assistant Clinical Professor, Department of Oral and Maxillofacial Surgery SD
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- 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
- SCHLAERTH, KATHERINE R. Associate Professor, Department of Family Medicine SM
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- SCHLUNT MICHELLE L. Assistant Professor, Department of Anesthesiology SM
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- SCHMIDT, MERRILL E. Associate Clinical Professor, Department of Endodontics SD
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- SCHNEIDER, KIMBER L. Assistant Clinical Professor, Department of Ophthalmology SM
M.D. Loma Linda University SM 1971
- SCHNEIDER, LOUISE E. Associate Professor, Department of Nutrition PH and Department of Nutrition and Dietetics AH
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- SCHNEIDER, STUART BENJAMIN. Clinical Instructor, Department of Clinical Laboratory Science AH
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- SCHOENE, HERMAN R. Associate Clinical Professor, Department of Orthopaedic Surgery SM
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- SCHRODER, HOBE J. Associate Research Professor, Department of Physiology and Pharmacology SM
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M.D. New York Medical College 1963

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Department of Medicine SM
M.D. Loma Linda University SM 1954

SCOFIELD, N. MICHAEL. Adjunct Assistant Professor,
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SCOTT, KENDALL G. Assistant Clinical Professor,
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SCOTT, LOREEN KAY. Clinical Instructor, Department
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B.A. California State University, San Bernardino 1996

SCOTT, MICHAEL D. Assistant Professor, Department
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Medicine 1989

SEABAUGH, VALERIE A. Assistant Professor,
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M.D. Loma Linda University SM 1998

SEALE, STUART A. Adjunct Assistant Professor,
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M.D. Loma Linda University 1979

SEAVEY, TIMOTHY. Instructor, Department of
Radiation Technology AH
B.S. Loma Linda University AH 2007

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SEDRAK, JOSEPH F. Assistant Professor, Department
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M.D. University of South Alabama 1976

SEGURA, GEORGE A. Assistant Professor, Department
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M.D. Universidad de Montemorelos, Mexico 1981

SEGURA, STEWART D. Clinical Instructor, Department
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D.D.S. Loma Linda University SD 2007

SEGURA, THOMAS R. JR. Assistant Professor,
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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,
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Surgery SM
M.D. Northwestern University, Illinois 2002

SELLAS, JAMES P. Assistant Professor, Department of
Oral and Maxillofacial Surgery SD
D.D.S. Loma Linda University 1983
B.S. University of California, Irvine 1978

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

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Department of Medicine SM
M.D. Stanford University 1974
- SERVIN-ABAD, LUIS A. Assistant Professor,
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City 1997
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Department of Psychiatry SM
M.D. De La Salle University College of Medicine,
Philippines 1987
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Professor, Department of Health Information
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M.A. Central Michigan University 1982
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Pediatrics SM
M.B.B.S. University of Baroda, India 1978
- SHAH, PRAFUL C. Assistant Clinical Professor,
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M.B.B.S. Grant Medical College, India 1976
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Laboratory Science AH
B.S. Loma Linda University AH 1981
- SHAKESPEARE, BRENT E. Assistant Clinical
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D.D.S. Loma Linda University SD 1988
- SHANK, AUDREY CHAPIN FISHER. Assistant
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M.D. Loma Linda University SM 2001
- SHANK, GREGORY SCOTT. Assistant Professor,
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M.D. Loma Linda University SM 1999
- SHANKEL, TAMARA MICHELLE. Associate Professor,
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Medicine SM
M.D. Loma Linda University SM 1988
- SHARBINI, WAYEL A. Assistant Professor, Department
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M.P.H. Loma Linda University PH 1999
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M.D. Medical College of Pennsylvania 1993
- SHARKEY, JEANNINE. Adjunct Assistant Professor of
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M.S.N. California State University, Long Beach 1995
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M.S. University of Redlands 1995
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M.P.H. Loma Linda University PH 1997
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- SHAW, DOMINIQUE M. Assistant Professor,
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- SHAW, KATHRYN J. Assistant Clinical Professor,
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- SILVIA, MARY. Assistant Professor, Department of Pediatrics SM
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SMALL, MARY L. Associate Clinical Professor,
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SMITH, DOUGLAS C. Professor, Department of
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SMITH, DUSTIN DAVID. Assistant Professor,
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SMITH, JASON C. Associate Professor, Department of
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SMITH, JODI O. Assistant Clinical Professor,
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SNIDER, DOUGLAS H. Assistant Professor,
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SODERBLOM, ROBERT E. Associate Professor,
Department of Medicine SM
M.D. Loma Linda University SM 1963

SOEPRONO, FRED F. Assistant Professor, Department
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Allied Health Studies AH
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M.D. New York University 2002
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M.D. Loma Linda University SM 1999
- SONG, ELISA H. Assistant Professor, Department of Restorative Dentistry SD
D.D.S. Loma Linda University 2008
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D.D.S. Loma Linda University 2009
Ph.D. West China University 1993
- SONNE, JANET L. Adjunct Professor, Department of Psychology ST
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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
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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
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- SOWERS, LAWRENCE C. Professor, Department of Biochemistry and Microbiology SM and Department of Medicine SM
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- SPARKS, STEVEN R. Associate Professor, Department of Cardiovascular and Thoracic Surgery SM
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- SPEARMAN, CHARLES B. Assistant Professor, Department of Cardiopulmonary Sciences AH
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- SPENCER-SMITH, E. LAURENCE. Assistant Clinical Professor, Department of Gynecology and Obstetrics SM
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- SPINT, KENNETH RILEY. Assistant Professor, Department of Oral and Maxillofacial Surgery SD
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- SPRENGEL, JEAN E. Assistant Clinical Professor, Department of Anesthesiology SM
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M.D. Chicago Medical School 1988
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- TANAKA, CHIHARU. Adjunct Instructor, Department of Allied Health Studies AH
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- TANG, HONG-MING. Assistant Professor, Department of Endodontics SD
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- 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
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- TANZER, DAVID J. Adjunct Associate Professor, Department of Ophthalmology SM
M.D. Georgetown University 1990
- TARAR, AHMAD K. Assistant Clinical Professor, Department of Psychiatry SM
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- TAYLOR, BARRY L. Professor, Department of Biochemistry and Microbiology SM
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Ph.D. Hebrew Union College 1989
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M.D. Loma Linda University 2000
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M.D. Loma Linda University 1981
- TESTERMAN, JOHN K. Associate Professor, Department of Family Medicine SM
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B.A. Southern Adventist University 2003
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- 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
- TSAO, BRYAN E. Associate Professor, Department of Neurology SM
M.D. Loma Linda University SM 1996

TSAO, JUNA. Assistant Professor, Department of Preventive Medicine SM
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TUdTUD-HANS, LEAH ANGELICA. Assistant Professor, Department of Medicine SM
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TULLY, RICHARD J. Associate Professor, Department of Radiology SM
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TUPAS, WILFREDO M. Assistant Clinical Professor, Department of Medicine SM
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TURNER, RODNEY L. Assistant Clinical Professor, Department of Dental Educational Services SD
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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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UBER-ZAK, LORI D. Associate Professor, Department of Neurology SM
D.O. UMDNJ School of Osteopathic Medicine 1995

UFFINDELL, SARAH H. Instructor, Department of Neurology SM
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
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UNIAT, JOHN S. Assistant Clinical Professor, Department of Medicine SM
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UNIS, JOSEPH S. Assistant Clinical Professor, Department of Radiology SM
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UNWALLA, KHUSHRO B. Assistant Clinical Professor, Department of Psychiatry SM
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URBAN, ISTVAN. Adjunct Assistant Professor, Department of Restorative Dentistry SD
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URQUIZO ARESTEQUI, RAUL. Assistant Professor, Department of Health Promotion and Education PH

VALADEZ, BARBARA H. Instructor, Department of Periodontics SD
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VALENTINI, PASCAL. Adjunct Associate Professor, Department of Restorative Dentistry SD
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VALENZUELA, ANTONIO. Assistant Professor, Department of Physical Therapy AH
Ed.D. Loma Linda University SE 1990

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VAN CLEVE, LOIS H. Emeritus Professor, School of Nursing SN
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VAN NIEUWENHUYSEN, NICHOLAAS-JOHN. Adjunct Assistant Professor, Department of Psychiatry SM
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M.D. Loma Linda University SM 1986
- VANNIX, ROBERT S. Assistant Clinical Professor,
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SM
M.D. Loma Linda University SM 1953
- VAN STRALEN, DAVED W. Assistant Professor,
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M.D. University of California, Irvine 1984
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1993
- VARGAS, EDWARD J. Instructor, Department of
Emergency Medicine SM
M.D. Albany Medical College 1997
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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
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Ph.D. Princeton Theological Seminary 1979
- VERCIO, CHAD J. Instructor, Department of Pediatrics
SM
M.D. Loma Linda University 2005
- 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,
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Ph.D. Brigham Young University, Idaho 1998
- VETSA, MADHAVI. Instructor, Department of
Medicine SM
M.B.B.S. Osmania Medical College, India 2002
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- VILLALOBOS, RICARDO E. Assistant Professor,
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B.A. Brandeis University, Massachusetts 1994
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Anesthesiology SM
M.D. University of Capetown, South Africa 1958
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M.D. Loma Linda University SM 1985
- VIPOND, BERTRAND H. Assistant Clinical Professor,
Department of Medicine SM
M.D. Loma Linda University SM 1982
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Radiation Medicine SM
Ph.D. Slovak Academy of Sciences, Republic of Slovak 1999
- VOGEL KATHERINE. Clinical Instructor, Department
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M.A. University of Redlands 1984
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M.S.N. University of California, Los Angeles 2000
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Emergency Medicine SM
M.D. Loma Linda University SM 2001
- VYHMEISTER, EDWIN E. Emeritus Associate
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- WACKER, CHRISTOPHER ERIC. Assistant Professor,
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D.D.S. Loma Linda University SD 1995
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of Emergency Medicine SM
M.D. University of Southern California 1986
- WAGNER, JUSTIN B. Instructor, Department of
Medicine SM
M.D. Loma Linda University 2006
- WAGNER, ROBERT J., JR. Associate Professor,
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- WAGNER, WILLIAM. Assistant Professor, Department
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M.D. Loma Linda University SM 1944
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Ph.D. Wayne State University, Michigan 2000
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M.D. Loma Linda University SM 1956
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M.S. California State University, Fullerton 1983
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M.D. University of Miami 1997
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Ph.D. Shanghai Institute of Optics and Fine Mechanics 1997
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Ph.D. Flinders University, South Australia 1983
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D.D.S. Loma Linda University SD 1990
- WARNELL, RONALD L. Associate Professor, Department of Psychiatry SM
M.D. Loma Linda University SM 1972
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M.D. University of California, Los Angeles 1990
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M.D. Loma Linda University SM 2002
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M.D. College of Medical Evangelists 1948
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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
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Ph.D. University of Sydney, Australia 2001
- WATSON, JAMES R. Clinical Instructor, Department of Orthopaedic Surgery SM
M.D. Hahnemann Medical College, Philadelphia 1971
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M.D. Loma Linda University SM 2000
- WAZDATSKEY, ARDIS RUSSELL. Assistant Professor, Department of Allied Health Studies AH
M.A. La Sierra University 1998
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B.S. Ohio State University 1988
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B.S. Loma Linda University 2007
- WEIN, MICHELLE A. Assistant Research Professor, Department of Nutrition PH
Dr.P.H. Loma Linda University PH 2002
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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, Washington D.C. 1965
- WELCH, MARK A. Instructor, Department of Psychiatry SM
D.O. Western University of Health Science, Pomona, California 2003

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J.D. University of Southern California 1965
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Ph.D. University of Mississippi 2008
- WELSH, DAVID B. Assistant Clinical Professor,
Department of Surgery SM
M.D. Tufts University, Boston, Massachusetts 1966
- WENGER, ROGER S. Instructor, Department of
Psychiatry SM
Psy.D. Pepperdine University 2003
- WERGEDAL, JON E. Research Professor, Department of
Medicine SM
Ph.D. University of Wisconsin 1963
- WERNER, LEONARD S. Professor, Department of
Medicine SM; Associate Professor, Department
of Family Medicine SM and Department of and
Department of Basic Sciences SM
M.D. University of Oklahoma 1978
- WERNICK, BRYAN G. Assistant Professor, Department
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M.D. Loma Linda University 2001
- WESSELS, IZAK F. Adjunct Associate Professor,
Department of Ophthalmology SM
M.D. University Witwatersand, South Africa 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
- WESTERBERG, MARYELLEN. Assistant Clinical
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Dr.P.H. Loma Linda University PH 1988
- WETTERGREEN, DAVID V. Assistant Clinical
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Outcomes Science SP
Pharm.B. South Dakota State University College of
Pharmacy 1986
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Dr.P.H. Loma Linda University PH 1977
- WHITING, LINDA J. Instructor, Department of
Nutrition and Dietetics AH
B.S. Loma Linda University AH 1985
- WHITT, COLLEEN A. Assistant Professor, Department
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B.S. Loma Linda University SD 1979
- WHITTAKER, JOHN M. Professor, Department of
Restorative Dentistry SD
B.D.S. University of Otago, New Zealand 1967
- WHYTE, RICARDO J. Instructor, Department of
Psychiatry SM
M.D. University of Connecticut 2004
- WIAFE, SETH A. Assistant Professor, Department of
Environmental and Occupational Health PH and
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M.P.H. Loma Linda University PH 2004
- WICK, BRYAN M. Instructor, Department of Psychiatry
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M.D. University of Kansas School of Medicine 2004
- WIEG, THOM. Adjunct Assistant Professor,
Department of Dental Educational Services SD
D.D.S. Loma Linda University 1980
B.S. Pacific Union College 1976
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of Nutrition PH
Dr.P.H. Loma Linda University 2002
- WIESSEMAN, GEORGE J. Associate Clinical Professor,
Department of Orthopaedic Surgery SM
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
- WILBER, LORETTA J. Assistant Professor, Department
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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
- WILDER-SMITH, PETRA EEB. Lecturer, Department of Endodontics SD
L.D.S. Guy's Hospital at London University, England, UK 1983
- WILKINS, DAVID L. Associate Clinical Professor, Department of Ophthalmology SM
M.D. Loma Linda University SM 1970
- WILKINS, KRISTI J. Associate Professor, Department of Dental Hygiene SD
M.A. Loma Linda University GS 1980
- WILKINS, ROBERT L. Professor, Department of Dental Educational Services SD
Ph.D. University of Southern California 1996
- WILL, BRIAN R. Assistant Clinical Professor, Department of Ophthalmology SM
M.D. Loma Linda University SM 1985
- WILLARDSEN, JOHN E. Assistant Clinical Professor, Department of Restorative Dentistry SD
D.D.S. Loma Linda University SD 1997
- WILLIAMS, DAVE A. Assistant Clinical Professor, Department of Environmental and Occupational Health PH and Department of Preventive Medicine SM
M.P.H. Loma Linda University PH 2000
M.D. Montemorelos University, Mexico 1990
- WILLIAMS, LINDA. Instructor, Department of Pharmacotherapy and Outcomes Science 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. Assistant Professor, 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
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- 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

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Ph.D. University of California, Davis 1998
M.S. University of California, Davis 1993
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M.D. University of Chicago 1998
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- WINSLOW, GERALD R. Professor, School of Religion SR and Department of Dental Educational Services SD
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- WINSTON, KAREN A. Assistant Professor, Department of Pediatrics SM
M.D. Michigan State University 1987
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M.B.Ch..B..University of Zimbabwe 1983
- WISE, JAMES R. Associate Professor, Department of Orthodontics SD SD and Orthodontics and Dentofacial Orthopedics Program FGS
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- WITTLAKE, WILLIAM A. Associate Professor, Department of Emergency Medicine SM and Department of Pediatrics SM
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- 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
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B.A. San Diego State College 1970
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D.D.S. University of California, Los Angeles 1979
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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. Assistant Professor, Department of Restorative Dentistry SD
D.D.S. Loma Linda University SD 2005
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M.D. University of Michigan 2003
- 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
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M.D. Albert Einstein College of Medicine, New York 1998
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- WOOD, VIRCHEL EDGAR, JR. Professor, Department
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- WOODHOUSE, ERNEST S. Assistant Professor,
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Dr.P.H. Loma Linda University PH 2005
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M.D. Loma Linda University SM 1969
- WRIGHT, DOLORES. Associate Professor, School of
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- WRIGHT, KENNETH R. Associate Professor,
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M.P.H. Harvard University School of Public Health 1974
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- WROE, ANDREW. Assistant Professor, Department of
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M.D. Texas A & M College of Medicine 2002
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Pediatrics SM and Assistant Professor, Department of
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M.D. Loma Linda University SM 2000
- WURANGIAN-CAAN, NELIA C. Associate Librarian,
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M.S. Loma Linda University GS 1995
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- YOUNG, LIONEL W. Professor, Department of Radiology SM
M.D. Howard University, Washington D. C. 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
- YOUNG, RONALD L. Assistant Professor, Department of Restorative Dentistry SD
D.M.D. Fairleigh Dickinson University, New Jersey 1981
B.S. University of Southern California 1977
- YOUNG-SNODGRASS AMY D. Assistant Professor, Department of Pediatrics SM
M.D. Loma Linda University 2001
- 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
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D.M.D. Washington University 1983
- YU, JACK N. Associate Professor, Department of Family Medicine SM
M.D. Boston University 1984
- YU, LEISURE. Associate Clinical Professor, Department of Orthopaedic Surgery SM
M.D. State University of New York at Buffalo 1981
- YUAN, YUAN. Assistant Professor, SM
Ph.D. University of California, Riverside 2002
M.D. Xu Zhou Medical College, China 1994
- YUHAN, ROBERT M. Assistant Clinical Professor, Department of General and Trauma Surgery SM
M.D. Northwestern University Medical Center, Chicago 1990
- YUKL, ANN EKROTH J. Assistant Professor of Nursing SN
M.S. Loma Linda University GS 1976
- YUSUFALY, YASMIN A. Assistant Professor, Department of Medicine SM
M.B.B.S. Dow Medical College, Pakistan 1984
- ZAFT, DARLENE M. Assistant Professor, Department of Pediatrics SM
M.D. Loma Linda University SM 2000
- ZAHARAKIS, TOMMY. Assistant Professor, Department of Medicine SM
M.D. New York Medical College 1998
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M.B.B.S. Aga Khan University, Pakistan
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Ph.D. University of Pennsylvania 1994
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M.D. Loma Linda University SM 1990
D.D.S. Loma Linda University SD 1983
- ZAMORA, ZELNE LU. Assistant Professor, School of Nursing SN
M.S.N. Azusa Pacific University 1998
- ZAND, SARVENAZ. Instructor, Department of Dermatology SM
M.D. Harvard Medical School 2005

ZANE, ERNEST SUI SUNG. Associate Professor,
Department of Ophthalmology SM
M.D. College of Medical Evangelists 1956

ZANE, STEVEN E. Assistant Clinical Professor,
Department of Ophthalmology SM
M.D. Loma Linda University SM 1990

ZANINOVIC, PERIZA. Assistant Clinical Professor,
Department of Dental Educational Services SD
D.D.S. Loma Linda University SD 2000

ZAPPIA, JANE NEWMAN. Instructor, Department of
Clinical Laboratory Science AH
B.S. University of Central Florida 1977

ZARRINKELK, HOOMAN M. Assistant Clinical
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ZASKE, MERLIN R. Associate Clinical Professor,
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Department of Dermatology SM
M.D. SUNY Upstate College of Medicine, Syracuse, New
York 1973

ZHANG, JOHN H. Professor, Department of Pathology
and Human Anatomy SM and Department of Basic
Sciences and Neurosurgery SM
Ph.D. University of Alberta, Canada 1992
M.D. Chongqing University of Medical Science, China 1983

ZHANG, KANGLING. Associate Professor,
Department of Basic Sciences SM
Ph.D. University of the Pacific/University of California,
San Francisco 2000
M.S. University of the Pacific/University of California, San
Francisco 1997

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Ph.D. Iowa State University 1986

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Dental Educational Services SD
M.D. Norman Bethane University of Medical Sciences,
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ZHANG, XIAO-BING. Assistant Research Professor,
Department of Medicine SM
Ph.D. East China University of Science and Technology
1999

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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 Assistant
Professor, Department of Pediatrics SM
M.D. Bush Medical College, Chicago 1983

ZOGRAFOS, KARA N. Adjunct Assistant Professor,
Department of Health Promotion and Education PH
Dr.PH. Loma Linda University PH 2007

ZOUROS, ALEXANDER. Associate Professor,
Department of Neurosurgery SM
M.D. Dalhousie University, Canada 1996

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Ph.D. California Institute of Technology 1974

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Global Health PH

M.B.A. La Sierra University 1993

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Pathology and Human Anatomy SM

M.D. Loma Linda University SM 1980

VI

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School of Dentistry

School of Medicine

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Faculty of Graduate Studies

School Alumni Associations

Accreditation Status

Accrediting Agencies

To Communicate with LLU Personnel by

Telephone, FAX, Web site, Mail, Email

Maps and Legends

Index

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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

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 RENEE STONE, M.A., Associate Department Chair; Program Director for Bachelor of Science, Radiation Sciences; Program Director for the Master of Science, Radiologist Assistant
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 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

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 Dental Research
 Diversity
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 Faculty Development
 Faculty Promotions
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Admissions
 Curriculum
 Diversity
 Faculty Affairs

Rank And Tenure
 Research
 Spiritual Life and Wholeness
 Today's Nursing Technology (TNT)

Clinical Facilities—SN

Ace Pediatrics, Hemet
 ACTS, Loma Linda
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 Asian-American Resource Center, San Bernardino

Beaver Medical Clinic, Redlands

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 Charter Hospice, Colton
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 Children's Hospital of Orange, Orange
 Children's Hospital of San Diego, San Diego
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 Citrus Valley Medical Center, Covina
 City of Colton Early Childhood Education, Colton
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 Colton Joint Unified School, Bloomington
 Community Health System, Moreno Valley
 Coram Specialty Infusion Services, Ontario
 Cornerstone Hospice, Inc, Colton
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Linda
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Health Services, Loma Linda
Loma Linda University Medical Center, Loma
Linda
Loma Linda University Pediatrics, Loma Linda
Loma Linda University SAC Health System, San
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Loma Linda Academy, Loma Linda
Lone Tree Family Practice, Lone Tree, CO

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Mary's Mercy Center, Inc., San Bernardino
Mission Family Care, Fallbrook
Moreno Valley Urgent Care, Moreno Valley
Mountains Community Hospital, Lake
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Riverside County Regional Medical Center,
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 San Bernardino
 St Joseph Heritage Medical Center, Santa Ana
 St. Joseph Hospital, Orange
 St. Mary's Medical Clinic, Riverside

Talal R. Muhtaseb, M.D., San Bernardino
 Tenet Health System Desert Inc., Palm Springs
 The Palms at Loma Linda, Loma Linda
 The Village at University Part, Palm Desert
 Timothy Mackey, MD, Riverside
 Tonda Bradshaw, D.O., Inc., Yucaipa
 Totally Kids, Loma Linda

VA Hospital, Loma Linda
 VA Hospital Long Beach Health Care System,
 Long Beach
 VA Medical Center West Los Angeles, Los Angeles
 Vista Community Clinic, Vista
 Visiting Nurse Association of Inland Counties,
 Riverside
 VNA of Southern California, San Bernardino

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
 American Lung Association
 AmerisourceBergan
 Arcadian Health Plan
 Arrowhead Regional Medical Center, Colton

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
 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
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 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. KNUTSEN, 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

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 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

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 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
 ROY BRANSON, Interim Director, Center for
 Christian Bioethics
 ROBERT ORR, Clinical 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
 Associate Dean of the School of Religion
 LLUAHSC Vice President for Educational Affairs
 LLUAHSC Vice President for Research Affairs
 Vice President for Enrollment and 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 BIOETHICS

James Walters, Chair

Ivan Blazen

Roy Branson

Mark Carr

Debra Craig

Andy Lampkin

David Larson

Jon Paulien

Richard Rice

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

Richard Rice, Chair

Ivan Blazen

Mark Carr

DEAN'S COUNCIL

Dean, Chair

Associate Dean

Director of Center for Christian Bioethics

Director of Center for Spiritual Life and Wholeness

Director of Bioethics Program

Director of Clinical Ministry Program

Director of Religion and Sciences Program

Director of Humanities Division

ADMISSIONS COMMITTEE

Associate Dean, Chair

Director of Enrollment Management, Secretary

Director of Bioethics Program

Director Clinical Ministry Program

Director of Religion and Sciences Program

Director of Student Services

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

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 Curtis Fox
 Stephen Dunbar
 Kimberly Freeman
 Paul Haerich
 Louis Jenkins
 Henry Lamberton
 Karen Lesniak
 Carmen Knudson-Martin
 Froylana Miller
 Mary Moline
 Cheryl Simpson
 Susan Walters
 David Vermeersch
 Ignatius Yacoub

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 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

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Beverly Buckles, Chair
 Leonard Brand
 Kim Freeman
 Louis Jenkins
 Mary Moline

INSTITUTIONAL REVIEW BOARD (IRB)

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 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

SACHS-Norton Mental Health Clinic, San Bernardino
 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

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 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 Edu-
cation (CADE) of the American Dietetic Associa-
tion

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 Radio-
logic 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 Diag-
nostic 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 Radio-
logic 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/
RadiologicHealthBranch.aspx](http://www.cdph.ca.gov/programs/Pages/RadiologicHealthBranch.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 Cre-
dentialing, 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.

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.

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.

To Communicate with LLU

MAIL:

Loma Linda University
 11060 Anderson Street
 Loma Linda, CA 92350

WORLDWIDE WEB:

<www.llu.edu>

PHONE:

Switchboard: 909/558-1000, 909/558-4300
 Area code: 909/

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
Faculty of Graduate Studies				
558-1800	81800	Admissions	558-4528	44528
558-9485	83374	Dean	558-0908	80908

The Schools

Allied Health Professions				
558-4599	44599	Admissions	558-4291	44291 attn. Admissions
558-4545	44545	Dean	558-4291	44291 attn. Dean
558-4932	44932	Cardiopulmonary Sciences	558-4701	44701 attn. CPSC
558-4966	44966	Clinical Laboratory Science	558-0458	80458 attn. CLSC
558-4998	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
Dentistry				
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	558-0632	80632
558-4621	44621	Dentistry Program	558-0195	80195
558-4621	44621	Dental Hygiene Program	558-0195	80195

558-4621	44621	International Dentist Program	558-0195	80195
558-4790	44790	SD Student Affairs	558-0150	80150
558-4601	44601	SD Academic Affairs	558-0730	80730
Medicine				
558-4462	44462	Medicine	558-4146	44146
558-4467	44467	Admissions	558-0359	80359
558-4481	44481	Dean	558-4146	44146
Nursing				
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
Pharmacy				
558-1300	41300	Pharmacy	558-4859	44859
558-1300	41300	Admissions	558-4859	44859
558-4745	44745	Dean	558-7973	87973
Public Health				
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

Religion

651-5952	15952	Admissions and Academic Records	558-4856	44856
558-8434	88434	Dean	558-4856	44856
558-4536	44536	Bioethics M.A. program	558-4856	80336
558-4956	44956	Center for Christian Bioethics	558-0336	80336
558-7786	87786	Center for Spiritual Life and Wholeness	558-7988	87988
558-4536	44536	Clinical Ministry M.A. program	558-4856	44856
558-4536	44536	Religion and the Sciences M.A. program	558-4856	44856
651-5097	15097	Division of Humanities	558-4856	44856
Science and Technology				
558-1900	41900	Admissions and Records	558-7967	87967
558-4528	44528	Dean	558-0441	80441

	Web site	Email
Student Services	<www.llu.edu/central/ssweb/index.page>	
University Records		<registrar@univ.llu.edu>
Faculty of Graduate Studies	<www.llu.edu/science-technology/grad/index.page>	<azuccarelli@llu.edu>
Admissions	<www.llu.edu/science-technology/grad/index.page>	<admissions.gs@llu.edu>
The Schools		
Allied Health Professions	<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. OCTH
Physical Therapy		<admissions@sahp.llu.edu> attn. PPTH
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

Dentistry		
Academic Affairs		<sdacademicaaffairs@llu.edu>
Admissions	<www.llu.edu/dentistry/>	<admissions.sd@llu.edu>
Graduate Programs	<www.llu.edu/dentistry/gradprograms/index.page>	<advanceddentaedu@llu.edu>
Anesthesiology	<www.llu.edu/dentistry/anesthesia/graduateprogram.page>	<advanceddentaedu@llu.edu>
Endodontics	<www.llu.edu/dentistry/endo/graduateprogram.page>	<advanceddentaedu@llu.edu>
Implant Dentistry	<www.llu.edu/dentistry/implant/graduateprogram.page>	<advanceddentaedu@llu.edu>
Oral and Maxillofacial Dentistry	<www.llu.edu/dentistry/oms/graduateprogram.page>	<advanceddentaedu@llu.edu>
Orthodontics	<www.llu.edu/dentistry/ortho/graduateprogram.page>	<advanceddentaedu@llu.edu>
Pediatric Dentistry	<www.llu.edu/dentistry/pediatrics/graduateprogram.page>	<advanceddentaedu@llu.edu>
Periodontics	<www.llu.edu/dentistry/perio/graduateprogram.page>	<advanceddentaedu@llu.edu>
Prosthodontics	<www.llu.edu/dentistry/prostho/graduateprogram.page>	<advanceddentaedu@llu.edu>
Medicine	<www.llu.edu/medicine/>	<ledwards@llu.edu>
Nursing	<www.llu.edu/nursing/>	<admissions_sn@sn.llu.edu>
Pharmacy	<www.llu.edu/pharmacy/>	
Admissions		<admissions.sp@llu.edu>
Public Health	<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>
Public Health Practice		<publichealthpractice@llu.edu>
Recruitment and Marketing	<www.llu.edu/public-health/>	<sphinfo@llu.edu>
Religion	<www.llu.edu/religion/index.page>	
Program Director of M.A. in Bioethics	<www.llu.edu/religion/ethics.page>	<jwalters@llu.edu>
Program Director of M.A. in Clinical Ministry	<www.llu.edu/religion/clinical-ministry.page>	<ssorajakool@llu.edu>
Program Director of M.A. in Religion and the Sciences	<www.llu.edu/religion/ma-religion-sciences.page>	<rrice@llu.edu>

Center for Christian Bioethics	 <www.llu.edu/central/bioethics/index.page>	 <bioethics@llu.edu>
Center for Spiritual Life and Wholeness	 <www.llu.edu/wholeness/>	 <innerweave@llu.edu>
Director, Division of Humanities		 <rhyman@llu.edu>
Science and Technology	 <www.llu.edu/science-technology/>	 <admissions.sst@llu.edu>

Index

About the Schools, Section III, 63

About the University—Section II, 17

Academic authority, 48
 Academic calendar—2010-2011, 10
 Academic integrity, 48
 Academic policies and information, 50
 Academic residence, 57
 Academic standing, 55
 Acceptance deposit, 59
 Accommodation for disability, 9
 Accreditation overview, 7
 Accreditation status, 1142
 Accrediting agencies, 1144
 Admission policies and information, University, 27
 Admissions classifications, 31
 Advisement, student, 32
 Affirmative action, 8
 Alumni associations, 1149
 Application and admissions, University policies, 27
 Attendance at appointments (e.g., class, clinic, laboratory, chapel), 52

Background check, 31

Buy-in provision, student health plan, 44

Cars and transportation, 47

Catalog in effect, 57

Century of service, A (Loma Linda University), 22

Certificates offered, 4

Change in registration, 50

Chapel services, 24

Check made payable to Loma Linda University, 59

CLEP (College-Level Examination Program), 52

Coat of arms, University, 21

Codes, key to program, 4

College-Level Examination Program (CLEP), 52

Combined degrees programs of the University, 684

Commencement exercises, 57

Communication devices, 50

Conduct, expectations for students, 49

Confidentiality (HIPAA), 47

Continuous enrollment, 29

Copyright violations, 50

Core values, University, 20

Correspondence course (*see* Independent study)

Counseling and health services, University, 45

Course numbers, 51

Course waiver, 53

Courses, The—Section IV, 715

Credit by examination, 52

Criteria for general education courses, University, 35

Cultural studies certificates, 39

Degrees, 4

Deposits, 59

Diploma, 57

Disability insurance, 45

Division of General Studies, 34

Drayson Center (recreation/wellness), 42

Eligibility, student health plan, 43

Employment for international students, 34, 48

Employment, general policy, 48

English composition requirements in non-Seventh-day

Adventist colleges, 40

English composition requirements in Seventh-day

Adventist colleges, 39

English proficiency, 32

Extension study, 53

Facilitating the transfer of currently registered students, 56

Faculty of Graduate Studies, 679

Academic information, 682

Dean's welcome, 680

Financial information, 682

Additional requirements, 682

General financial practices, 682

On- and off-campus student housing, 682

Foundations of graduate study, 681

Objectives, 681

Philosophy, 681

Graduate degrees overseen by the Faculty of

Graduate Studies, 683

General regulations, 681

Application and admissions, 681

From master's to Ph.D. degree, 682

Scholarship, 681

Student life, 682

Faculty, The [University]—Section V, 997

Financial aid applications, 60

Financial clearance, 59

Financial policies and information, 57

Foundations, University, 22

From University to student, 41

- General education requirements, 34
 - General education courses offered at Loma Linda University, 36
 - General education courses—online and booklet, 40
 - Communication, 36, 38
 - Electives, 36, 38
 - Health and wellness, 36, 38
 - Humanities and religion, 35, 37
 - Scientific inquiry and analysis, 36, 37
- General Information—Section VI, 1123**
- General practices, financial, 58
- Governing practices, University, 46
- Grade change, 55
- Grades and grade points, 53
- Graduation, 57
- Grievance procedure, 49

- Health/Immunizations, 31
- Health Professions Education, 132
- Health service, student, 42
- HIPAA (Health Insurance, Portability, and Accountability Act), 43
- History, University, 22
- Housing, student, 59

- Identification card, 46
- Identification number, 46
- Independent study, 53
- International students, 32, 59
- Introduction—Section I, 1**
- Key deposit, 59
- Key to program codes, 4

- Learning environment, University, 24
- Learning outcomes, student, 20
- Learning resources, University, 26
- Leave of absence, personal, 56
- Legal notice, ii
- Libraries, University, 25
- LLUAHSC (Loma Linda University Adventist Health Sciences Center) centers, 27
- LLUAHSC institutes, 27
- LLU school centers, 27
- Loans, 60

- Mace, University ceremonial, 21
- Malpractice coverage, 45
- Maps and legends, 1156

- Marriage, 47
- Mission, University, 19
- Monthly financial statement, 58

- Name change, student, 47
- Nondiscrimination policy, 9
- Non-LLU courses as part of total load for financial aid, academic policies and information, 51

- Officers of the University Board of Trustees, 1125
- On-campus housing, 59

- Payments, 59
- Personal appearance, 47
- Personal leave of absence, 56
- Personal property, 47
- Personal qualities, 27
- Philosophy, University, 20
- Philosophy of general education, University, 34
- Pre-entrance examinations, 30
- Prescription drug coverage, student health plan, 44
- President's welcome, 3
- Privacy rights of students in academic records, 55
- Professional apparel, 47
- Programs offered by the University, 4

- Recreation/Wellness (Drayson Center), 42
- Re-entrance, 30
- Refunds, 58
- Registration, 50
- Religion classes, 24
- Repeating a course, 56
- Residence hall, 46
- Room deposit, 59

- Scholastic standing, 53
- School administrations, committees, and affiliations, 1126
 - Faculty of Graduate Studies, 1141
 - School of Allied of Health Professions, 1126
 - School of Dentistry, 1129
 - School of Medicine, 1130
 - School of Nursing, 1131
 - School of Pharmacy, 1133
 - School of Public Health, 1135
 - School of Religion, 1137
 - School of Science and Technology, 1138
- School and program-specific GE requirements, 40

School of Allied Health Professions, 65

- Academic policies and information, 71
- Academic probation, 70
- Academic residence, 71
- Additional requirements, 87
- Admissions policies and information, 68
- Allied Health Studies, department of, 73
- Applicant's records, 69
- Application and acceptance, 69
- Application-review process, 69
- Apply early, 69
- Awards and scholarships, 82
- CPCER (Center for Prehospital Care, Education, and Research) information, 74
- CPCER courses and programs, 74
- Dean's welcome, 66
- Development Practicum, 68
- Entrance requirements, 70
- Evaluation of mission and goals, 68
- Extended campus programs, Allied Health Studies, 73
- Financial policies and information, 76
- General financial practices, 76
- General regulations, 68
- Goals, 67
- Grade requirement for entrance, 70
- Graduation ceremonies, 71
- Learning resource/Center for Prehospital Care, Education and Research (CPCER), 73
- Mission, 67
- On- and off-campus student housing, 82
- Online application, 69
- Personal grooming, 70
- Procedure, application, 69
- Professional standards (personal grooming), 70
- Programs, degrees, and certificates offered
 - Cardiac Electrophysiology Technology—A.S., certificate, 95
 - Clinical Laboratory Science—B.S., 87
 - Coding Specialist—certificate, 93
 - Communication Sciences and Disorders (formerly Speech-Language Pathology and Audiology)—B.S., M.S., 97
 - Cytotechnology—B.S., certificate, 108
 - Diagnostic Medical Sonography—certificate, 113
 - Dietetic Technology—certificate, A.S., 115
 - Emergency Medical Care—B.S., 119
 - Health Care Administration—B.S., 122
 - Health Information Administration—B.S., PB certificate, HIT-Progression, 124

- Health Professions Education—PB certificate, M.S., 132
- Medical Dosimetry—certificate, 133
- Medical Radiography—A.S., 136
- Nuclear Medicine Technology—certificate, 139
- Nutrition and Dietetics—B.S., M.S., 141
- Occupational Therapy—M.O.T., O.T.D., 150
- Orthotics and Prosthetics—M.S., 158
- Physical Therapist Assistant—A.S., 159
- Physical Therapy—M.P.T., D.P.T., D.Sc., 164
- Physician Assistant—M.P.A., 173
- Radiation Sciences—B.S., M.S., 177
- Radiation Therapy Technology—B.S., certificate, 182
- Radiologist Assistant—M.S. online/blended program, 183
- Rehabilitation Science—Ph.D., 186
- Respiratory Care—certificate, B.S., 189
- School certificates, 198
 - Computed tomography (CT), 198
 - Dietary management, 201
 - Imaging informatics, 200
 - Magnetic resonance imaging (MRI), 202
 - Phlebotomy, 204
 - Radiography advanced placement, 205
- Speech-Language Pathology and Audiology (see Communication Sciences and Disorders)
- Combined degrees programs (see end of Section III.)
- Promotion and probation, 72
- Repeating a course, 72
- Schedule of charges, 77
 - Allied health sciences, 77
 - Cardiopulmonary sciences, 77
 - Clinical laboratory science, 77
 - Communication sciences and disorders (formerly Speech-language pathology and audiology), 78
 - CPCER (Center for Prehospital Care, Education, and Research), 77
 - Health information management, 78
 - Miscellaneous expenses, 82
 - Nutrition and dietetics, 78
 - Occupational therapy, 79
 - Physical therapy, 79
 - Physician assistant sciences, 80
 - Radiation technology, 80
 - Special charges, 81
 - Special tuition charges, 81
 - Supplies, 81

- Scholastic standing, 72
- School foundations, 67
- Standard of student progress (time framework), 72
- Student life, 70
- Subject/diploma requirements, 70
- Transcripts, 70
- Where to write, 69
- Wholeness portfolio-development practicum, 68
- School of Dentistry, 207**
 - Academic criteria for academic advancement and program completion (postdoctoral student/resident), 236
 - Academic criteria for promotion, 228
 - Dental hygiene, 229
 - Graduate student/resident, 229
 - International Dentist Program, 229
 - Predoctoral, 228
 - Academic disciplinary policy (predoctoral, IDP, and dental hygiene), 232, 237
 - Academic discontinuation, 234
 - Academic information, 227
 - Academic leave of absence, 234
 - Academic probation, 232, 237
 - Academic requirements for graduation, 229
 - Dental Hygiene, 229
 - Dentistry, 229
 - Academic standards for advanced dental education programs, 235
 - Grading system, 235
 - Grades and grade points for postdoctoral students/residents, 235
 - Advanced dental education programs, 213
 - Admission requirements for advanced dental education programs/postdoctoral programs, 214
 - Admissions criteria for advanced dental education programs, 215
 - Application and program dates, 216
 - Dual major option, 215
 - General requirements, 214
 - Publishable paper, 214
 - Residence, 214
 - Stipends, 214
 - Thesis, 214
 - Tuition, 214
 - Alumni-student convention, 227
 - Attendance, 227
 - Awards, 244
 - Basic sciences, 239
 - Behavioral and social attributes, 226
 - Clinic probation (predoctoral), 232
 - Code of ethics, 226
 - Cognitive abilities, 225
 - Combined degrees programs, 212
 - D.D.S./M.P.H, 212
 - D.D.S./M.S., 212
 - D.D.S./Ph.D., 213
 - Communication, 225
 - Continuation, 238
 - Conventions, 227
 - Core values, 211
 - Course waiver, 228
 - Criteria for discontinuation, 239
 - Criteria for placement on academic probation, 232
 - Dean's list, 227
 - Dean's welcome, 209
 - Dedication service, 227
 - Dental Hygiene Program, 222
 - Admission requirements, 222
 - Application and admission, 222
 - General education requirements (B.S.), 223
 - General education requirements (A.S.), 223
 - Disabled applicants and students, 226
 - Disciplinary actions, 238
 - Discontinuation, 238
 - Doctor of Dental Surgery (D.D.S.) Program, 217
 - Admission requirements, 217
 - Application and admission, 217
 - Application procedure, 218
 - Transfer, 220
 - Financial information, 240
 - Financial policies, 240
 - General financial practices, 240
 - General information, 212
 - General policies, academic, 227
 - General regulations, 212
 - History, 210
 - International Dentist Program, 220
 - Admission requirements, 220
 - Application and admission, 220
 - Application procedure, 221
 - Learning environment, 239
 - Learning outcomes
 - Advanced dental education programs, 224
 - Dentistry, 224
 - Dental Hygiene, 224
 - Length of academic residence, 227
 - Level of academic probation, 232
 - Mission, 211
 - Motor skills, 225

- National Dental Boards, 230
- Observation, 225
- On- and off-campus student housing, 244
- Policies for this school, 226
- Probation, 238
- Procedures for academic review (predoctoral, IDP, and dental hygiene), 231
- Programs, degrees, and certificates offered
 - Postdoctoral programs, 277
 - Dental Anesthesiology, advanced—M.S.D., certificate, 277
 - Endodontics, advanced—M.S., M.S.D., certificate, 279
 - Implant Dentistry, advanced—M.S., M.S.D., certificate, 280
 - Oral and Maxillofacial Surgery, advanced—M.S., M.S.D., certificate, 283
 - Orthodontics and Dentofacial Orthopedics, advanced—M.S., certificate, 285
 - Pediatric Dentistry, advanced—M.S., M.S.D., certificate, 287
 - Periodontics, advanced—M.S., M.S.D., certificate, 289
 - Prosthodontics, advanced—M.S., M.S.D., certificate, 291
 - Combined degrees programs, advanced (*see also* end of Section III),
 - Dental Hygiene—A.S., B.S., 266
 - Dentistry, International Dental Program—D.D.S., 274
 - Dentistry, General—D.D.S., 247
 - Dual major option, 293
 - Master of Science degree, advanced—M.S., 297
 - Master of Science in Dentistry degree, advanced—M.S.D., 295
- Programs and degrees, 212
- Registration, 227
- Remedial action or remediation, 234
- Repeating/remediating a course (predoctoral, IDP, and dental hygiene students), 228
- Restrictions for a student on academic probation, 233
- Schedule of charges, 241
- School foundations, 210
- Service learning, 239
- Special examination, 228
- Special opportunities, 227
- Specific program requirements, 212
- Student association, 226
- Student financial aid, 241
- Student housing, on- and off-campus,
 - Student life, 225
 - Student-initiated academic grievance procedure, 235
 - Technical standards, 225
 - Vision, 211
- School of Medicine, 298**
 - Academic information, 306
 - Academic probation, 308
 - Additional requirements, 316
 - Application and admissions, 301
 - Application procedure and acceptance, AMCAS, 301
 - Deadline, 302
 - Fees, 302
 - Pre-entrance health requirement and health insurance, 302
 - Procedure, 302
 - Where to write, 301
 - Awards, 314
 - Class standing, 307
 - Clinical facilities, 310
 - Communications, 306
 - Continuing medical education, 310
 - Course exemptions, 306
 - Curriculum, 305
 - Deadlines, 303
 - Dean's welcome, 299
 - Doctor of Medicine degree requirements, 308
 - Doctor of Medicine/Oral and maxillofacial surgery degree requirements, 309
 - Early decision program, application and admissions, 303
 - Examinations, 306
 - Fees, 314
 - Financial Information, 313
 - General entrance information, 301
 - General financial practices, 313
 - General Regulations, 300
 - Grading policy, 307
 - Graduate combined degrees programs, 309
 - Combined degrees (M.D./M.S. or M.D./Ph.D.), 309
 - Medical Scientist (M.D./Ph.D.), 309
 - Graduate specialty medical education residencies, 310
 - History, 300
 - Instructional resources, The, 311
 - Learning outcomes for medical student education, 305
 - Length of academic residence, 306
 - Licensing examinations, 309
 - Living expenses, 314

- Mission, 300
- On- and off-campus student housing, 314
- Postgraduate training, 310
- Practices and regulations, 306
- Programs, degrees and certificates offered
 - Anatomy—M.S., Ph.D., 317
 - Biochemistry—M.S., Ph.D., 321
 - Biomedical Sciences—Postbaccalaureate certificate, 327
 - Medicine—M.D., 328
 - Medical Scientist—M.D. with Ph.D., 325
 - Microbiology and Molecular Genetics—M.S., Ph.D., 356
 - Pharmacology—M.S., Ph.D., 360
 - Physiology—M.S., Ph.D., 364
 - Combined degrees programs (*See end of Section III.*)
- Promotion, 307
- Required supplies, 306
- Research centers, 312
 - Center for Health Disparities and Molecular Medicine, 312
 - Center for Perinatal, 312
 - Neurosurgery Center for Research, Training, and Education, 312
- Schedule of charges, 314
- School Foundations, 300
- Special Charges, 2010–2011, 314
- Student life, 304
- Student organizations, 304
- Study of medicine, The, 301
- Supplies and instruments, 314
- Technical standards, 303
- Transfer from another school of medicine, 303
- Tuition, 314
- USMLE Steps I and II policy, 308
- Veteran's benefits, 313
- Whole-person formation, 305
- Withdrawal, 308
- School of Nursing, 369**
 - Academic policies and practices, 378
 - Academic residence, graduate department, 380
 - Academic residence, undergraduate department, 378
 - Academic standing, graduate department, 381
 - Additional requirements/policies, financial information, 385
 - Admission criteria
 - Programs/requirements for students with nursing licenses, 376
 - Undergraduate department
 - Accelerated baccalaureate nursing program, 375
 - Generic baccalaureate nursing program, 375
 - Admission requirements, 375
 - Agency membership, 371
 - Application and admissions, 374
 - Application, 374
 - Application deadlines, graduate department, 374
 - Application deadlines, undergraduate department, 374
 - Application and class scheduling, graduate department, 393
 - Application for candidacy, graduate department, 382
 - Associated Students of Nursing (ASN), student organization, 378
 - Awards honoring excellence, 385
 - Class organizations, student organizations, 378
 - Clinical probation, graduate department, 382
 - Combined degrees programs (*See end of Section III.*)
 - Comprehensive examination, graduate department, 382
 - Credit by examination, academic policies and practices for, 379
 - Advanced placement, 379
 - Challenge/equivalency examination, 379
 - Dean's welcome, 371
 - Financial information, 383
 - General financial practices, 383
 - General regulations, 374
 - Grade scale, graduate department, 382
 - Graduate department admissions criteria, 376
 - Doctor of Nursing Practice, 377
 - Doctor of Philosophy, 377
 - Master of Science, 376
 - Post-master's certificate programs, 377
 - Graduation requirements, graduate department, 383
 - History, 372
 - Honor society, Sigma Theta Tau International, 378
 - Learning outcomes
 - Graduate department, 372
 - Doctor of Nursing Practice, 373
 - Doctor of Philosophy, 373
 - Master of Science, 372
 - Undergraduate department, 372
 - Loans, nursing and government, 384
 - Loma Linda University Student Association (LLUSA), student organization, 378

- Mission, 372
 - Nondegree student credit, graduate program
 - academic policies for, 381
 - Nursing course grades, undergraduate department, 378
 - Nursing courses, academic policies and practices for, undergraduate department
 - Clinical experiences, 379
 - Credit by examination, 379
 - Graduation requirements, 380
 - Licensure, 379
 - Nursing course grades, 378
 - Percentage breakdown for grading, 379
 - Probation status, 380
 - Repeating a course, 380
 - Nursing and government loans, 384
 - Nursing education loan repayment program, 384
 - On- and off-campus student housing, 384
 - Philosophy, 373
 - Practicum experiences, graduate department, 382
 - Programs/Requirements for students with nursing licenses, 376
 - Licensed vocational nurse, 376
 - Registered nurse, 376
 - Programs, degrees and certificates offered
 - Nursing—A.S., B.S., M.S., Ph.D., certificate, 386
 - Graduate department
 - Doctor of nursing practice, 414
 - Doctor of philosophy in nursing, 415
 - Dual degree: M.S./M.A., 413
 - M.S. degree program, 392
 - Adult nurse practitioner certificate, 393
 - Adult nurse practitioner concentration, 393
 - Certified advanced practice registered nurse concentration, 396
 - Clinical nurse specialist: adult and aging family certificate, 406
 - Clinical nurse specialist: adult and aging family concentration, 404
 - Clinical nurse specialist: growing family certificate, 408
 - Clinical nurse specialist: growing family concentration, 407
 - Family nurse practitioner certificate, 398
 - Family nurse practitioner concentration, 397
 - Neonatal nurse practitioner certificate, 404
 - Neonatal nurse practitioner concentration, 402
 - Nurse educator concentration, 410
 - Nurse educator: adult and aging family, 412
 - Nurse educator: growing family, 410
 - Nursing administration concentration, 409
 - Pediatric nurse practitioner certificate, 400
 - Pediatric nurse practitioner concentration, 399
 - Psychiatric nurse practitioner concentration, 401
 - Undergraduate department
 - Accelerated B.S. degree programs, 390
 - B.S. for the licensed vocational nurse (LVN) program, 387
 - Generic B.S. program, 387
 - Intensive B.S. degree program, 391
 - Returning RN/B.S. program, 387
 - RN licensure option, 391
- Programs of study, student life, 377
- Schedule of charges, 383
 - Other charges, 384
 - Tuition, 384
- Scholarships, 385
- Scholastic standing, graduate department, 382
- School foundations, 372
- Sigma Theta Tau International honor society, 378
- Statistics and research prerequisites, graduate department, 382
- Student involvement, 378
- Student life, 377
- Student organizations, 378
- Student policies, 374
- Thesis and dissertation, graduate department, 382
- Time limits, graduate department, 382
- Transfer credits, graduate department, 381
- School of Pharmacy, 417**
 - Academic dismissal, 432
 - Academic policies and procedures, 427
 - Academic probation, 432
 - Acceptance process, 421
 - Additional requirements, financial practices, 437
 - Admission deadline, 422
 - Advanced pharmacy practice experience, 435
 - Application and admissions—general entrance information, 420
 - Application and acceptance requirements, 421

Application procedure, 421
 Application process, 421
 Awards honoring excellence, 431
 Background check, 426
 Chapel, 431
 Class attendance, 430
 Class leadership, 427
 Code of conduct, 426
 Computer competency, 422
 CPR and first aid certification, 426
 Curriculum outcome objectives, 427
 Dean's list and honor roll, 431
 Dean's welcome, 418
 Deposits, 437
 End-of-year assessment examinations, 428
 Experiential education requirements, 434
 Experiential education, 433
 Financial information, 436
 General expectations, 425
 General financial practices, 437
 General regulations, 420
 Goals, 419
 Good academic standing, 431
 Grade appeals, 429
 Grade changes, 429
 Grades and grade points, 428
 Grading system, 428
 Graduation requirements, 436
 Health check requirements, 425
 History, 419
 Honors and awards, 431
 Immunizations, 425
 Incomplete grade, 429
 International applicants, 421
 Introductory pharmacy practice experience, 435
 Licensing, 436
 Mission, goals, and values, 419
 Mission, 419
 On- and off-campus student housing, 437
 Organization membership by invitation, 427
 Performance levels, 431
 Pharmacy forum, 431
 Pharmacy intern hours, 436
 Pharmacy intern license, 426, 436
 Pharmacy practice experience, 434
 Physical examination, 426
 Prerequisites for advanced pharmacy practice experiences, 435
 Professional development, 427
 Professional integrity, 426

Professional organizations, 427
 Program and degree offered
 Pharmacy— Pharm.D, 438
 Readmission of dismissed students, 432
 Rolling admission, 422
 Schedule of charges, 437
 Fees, 437
 Miscellaneous, 437
 Other charges, 437
 Tuition, 437
 School foundations, 419
 Student grade appeal process, 430
 Student life, 425
 Student organizations, 427
 Student progression, 428
 Technical standards for admission, promotion, and graduation, 422
 Applicable technical standards requirements, 425
 Behavioral and social attributes, 424
 Communication, 423
 Ethical values, 424
 Intellectual, conceptual, integrative, and quantitative abilities, 424
 Motor coordination and function, 423
 Observation, 423
 Technical standards, 422
 Transfer credit hours, 422
 Values, 419
 Withdrawal from the program, 433

School of Public Health, 442

Academic policies and general regulations, 454
 Academic probation, 455
 Accreditation, 445
 Advanced standing, 454
 Application and admissions, 453
 Bachelor of Science in Public Health, 453
 Elegibility, 453
 Program entrance requirements, 453
 Subject/diploma requirements, 453
 Bachelor's degree program, academic policies and regulations, 457
 Bachelor of Science in Public Health, 457
 Campus facilities, 446
 Certificate programs, academic policies and regulations, 464
 Certificates in Biostatistics and Epidemiology, 465
 Emergency preparedness and response, 466
 General certificate information, 464

- General certificate requirements, 464
- Health geoinformatics, 465
- Reproductive health, 466
- Tobacco-control methods, 466
- Combined degrees programs, 471
- Combined degrees programs (*See* end of Section III)
- Computer literacy, 453
- Continuing education and extension programs, 457
- Convocation attendance, 455
- Course attendance, 455
- Dean's welcome, 444
- Degrees offered, 457
- Departments and centers, 446
 - Center for Health Promotion, 452
 - Center for Health Research, 452
 - Computer Center, 452
 - Department of Environmental and Occupational Health, 446
 - Department of Epidemiology and Biostatistics, 447
 - Department of Global Health, 448
 - Department of Health Policy and Management, 449
 - Department of Health Promotion and Education, 450
 - Department of Nutrition, 451
 - Health Geoinformatics Resource Laboratory, 453
- Distance learning programs, 463
 - Distance learning financial information, 463
 - General degree requirements, 463
 - Online Executive Master of Public Health, 463
- Doctor of Public Health, 454
 - Eligibility, 454
- Doctoral degree programs, 467
 - Doctor of Philosophy, 468
 - Doctor of Public Health, 467
- Financial Information, 471
 - Additional requirements, 473
 - Application for financial aid, 471
 - Assistantships, 471
 - Awards and honors, 472
 - Graduation with honors, 473
 - Loans, 472
 - Refund policy, 472
 - Schedule of charges, 472
 - Student housing, on- and off-campus, 472
 - Traineeships, 471
- General regulations, 446
- Goals, 445
- Graduate degree programs—M.B.A., M.P.H., M.S.P.H., 453
 - Admission requirements, 453
 - Eligibility, 454
 - Entrance tests, 454
 - Prerequisite courses, 454
- Graduation requirements, 456
- Grievance policy, 456
- History, 445
- Individual doctoral degree programs, 470
- Learning environment, 446
- Master of Science, 454
- Master's degree programs, 458
 - Master of Business Administration, 460
 - Master of Public Health, 459
 - Master of Science, 460
 - Master of Science in Public Health, 460
 - Peace Corps Master's International Program/ Master of Public Health, 458
- Medical/dental leadership program, 462
- Mission, 445
- Mission, goals, and values, 445
- Programs and degrees, 456
- Programs, degrees and certificates offered,
 - Biostatistics—M.P.H., M.S.P.H., certificates, 474
 - Environmental and Occupational Health—M.P.H., 477
 - Epidemiology—M.P.H., Dr.P.H., Ph.D., certificates, 481
 - Global Health—M.P.H., Dr.P.H., certificates, 494
 - Health Care Administration—M.B.A., 502
 - Health Education—M.P.H., online M.P.H., Dr.P.H., 505
 - Health Geographics and Biomedical Data Management—B.S.P.H., 510
 - Health Policy and Leadership—M.P.H., Dr.P.H., 513
 - Lifestyle Medicine—M.P.H., 520
 - Maternal and Child Health—M.P.H., 522
 - Nutrition—M.P.H., M.S., Dr.P.H., 524
 - Preventive Care—Dr.P.H., 531
 - Public Health Practice—M.P.H., online M.P.H., 534
- Certificates
 - Biostatistics, 538
 - Emergency Preparedness and Response, 539
 - Epidemiology, 540
 - Epidemiology Research Methods, 542

- Health Geoinformatics, 543
- Lifestyle Intervention, 546
- Maternal and Child Health, 547
- Tobacco Control Methods, 548
- Combined degrees programs (*See end of Section III.*)
- Religion course requirement, 454
- Residencies for physicians, 461
 - Addiction-medicine fellowship, 462
 - Family and preventive medicine residence, 461
 - Occupational medicine residence, 462
 - Preventive medicine residency, 461
- Residency requirements, 456
- School foundations, 445
- Shared units, 455
- Student classification, 455
- Technology facilities, 446
- Time limit, 455
- University email accounts, 446
- Values, 445
- Vision, 445
- School of Religion, 550**
 - Additional requirements, 554
 - Admission requirements, 553
 - Academic probation, 553
 - Concurrent admission, 553
 - Application and acceptance, 552
 - Application procedure, 553
 - Application and admissions, 552
 - Combined degrees programs (*See end of Section III.*)
 - Dean's welcome, 551
 - Division of Humanities—Humanities Program, 561
 - Financial information, 553
 - General regulations, 552
 - Programs, degrees, and certificates offered
 - Bioethics—M.A., PB certificate, 554
 - Clinical Ministry—M.A., PB certificate, 556
 - Religion and the sciences, 559
 - Religion and the Sciences—M.A., 561
 - Combined degrees programs (*See end of Section III.*)
 - On- and off-campus student housing, 554
 - Philosophy, 552
 - Scholarship, 553
 - School foundations, 552
 - History, 552
 - Mission statement, 552
 - Where to apply, 552
- School of Science and Technology, 563**
 - Academic information, 574
 - Academic probation, 575
 - Academic residence, 574
 - Conditions of registration, residence, attendance, 574
 - Transfer credits, 575
 - Application and admissions, 565
 - Acceptance procedure, 566
 - Application and acceptance, 565
 - Graduate degree requirements, 567
 - Admission requirements, 567
 - English-language competence, 568
 - Graduate Record Examination (GRE), 567
 - Re-entrance, 568
 - Scholarship, 567
 - Undergraduate programs, 566
 - Admission requirements, 566
 - General studies requirements, 566
 - High school graduation requirement, 566
 - Major field and cognate requirements, 567
 - Minimum required grades, 567
 - Minor field, 567
 - Transcripts, 566
 - Undergraduate degree requirements, 566
 - Application procedure,
 - Combined degrees programs, 573
 - Dean's welcome, 564
 - Doctor of Philosophy, 571
 - Advisor and guidance committee, 571
 - Candidacy, 573
 - Comprehensive examinations, 572
 - Dissertation, 573
 - Final oral examination, 572
 - Minimum required grade-point average, 572
 - Professional performance probation, 572
 - Project, 573
 - Religion requirement, 573
 - Residence, 572
 - Scholarly competence, 572
 - Specific program requirements, 573
 - Study plan, 571
 - Subject prerequisites and deficiencies, 571
 - Time limit, 571
 - Financial information, 575
 - Schedule of charges, 575
 - Special charges, 575
 - Tuition, 575
 - Master's to Ph.D. degree, From, 568
 - Bypassing master's degree, 568

- Certificate programs, 568
- Combined degrees, 568
- Concurrent admission, 568
- Second master's degree, 568
- Master of Arts/Master of Science/Master of Social Work, 569
 - Advisor and guidance committee, 569
 - Candidacy, 570
 - Combined degrees programs, 570
 - Comprehensive and final examinations, 570
 - Minimum required grade-point average, 569
 - Professional performance probation, 570
 - Religion requirement, 570
 - Research competence, 570
 - Residence, 569
 - Specific program requirements, 570
 - Study plan, 569
 - Subject prerequisites and deficiencies, 569
 - Thesis, 570
 - Time limit, 569
- Objectives, school, 565
- Philosophy, school, 565
- Programs, degrees, and certificates offered
 - Biology—M.S., Ph.D., 576
 - Case Management—PB certificate, 581
 - Child Life Specialist—M.S., PB certificate, 582
 - Clinical Mediation—PH certificate, 585
 - Counseling—M.S., 587
 - Criminal Justice—M.S., 591
 - Drug and Alcohol Counseling—PB certificate, 595
 - Earth Science—Ph.D., 597
 - Environmental Sciences—B.S., 601
 - Family Counseling—PH certificate, 607
 - Family Life Education—PB certificate, 608
 - Family Studies—M.A., Ph.D., 610
 - Geology—B.S., M.S., 617
 - Gerontology—M.S., 625
 - Marital and Family Therapy, California and Canadian campuses—M.S., 629
 - Marital and Family Therapy—Ph.D., D.M.F.T., 637
 - Natural Sciences—M.S., 648
 - Program Evaluation and Research—PB certificate, 650
 - Psychology—M.A., Psy.D., Ph.D., 652
 - School Counseling—PM certificate, PPS credential, 658
 - Social Policy and Social Research—Ph.D., 662
 - Social Work—M.S.W., 665
 - Social Work, Clinical—Ph.D., 673
 - Spanish Studies for Health Care Professionals—certificate, 677
 - Student life, 574
 - Thesis and dissertation, 570
 - Format guide, 571
 - Binding, 571
 - Schedule of charges,
 - School foundations, 565
- Seal, University, 21
- Section I—Introduction, 1**
- Section II—About the University, 17**
- Section III—About the Schools, 63**
- Section IV—The Courses, 715**
- Section V—The Faculty, 997**
- Section VI—General Information, 1123**
- Seventh-day Adventist heritage, 23
- Sexual harassment, 48
- Spiritual life, 23
- Student aid, 40
- Student fees, 58
- Student Health Plan, 42
 - Buy-in provision, 44
 - Eligibility, 43
 - Enrollment, 42
 - Plan year, 43
 - Pre-existing condition exclusion, 43
 - Preferred provider plan, 42
 - Prescription drug coverage, 44
- Student health service, 42
- Student learning outcomes, 20
- Student level, 51
- Student life, 40
- Student mission-focused learning opportunity, University, 24
- Study deferral, 30
- Study load, 34
- Substance abuse, 48
- To communicate with LLU, 1150
- Transcripts, 28
- Transfer credit, 30
- Transfer of currently registered students, 56
- Transportation, 47
- Tuition payments/refunds, 58
- Unique features of the University, 23
 - Chapel services, 24
 - Religion classes, 24
 - Learning environment, University, 24

- Seventh-day Adventist heritage, 23
- Spiritual life, 23
- Student service-learning opportunities, University,
24
- Unit of credit, 52
- University administration, 1125
- University board and administration, 1125
- University Board of Trustees, 1125
- University coat of arms, 21
- University core values, 20
- University foundations, 22
- University history, 22
- University learning resources, 26
- University libraries, 25
- University ceremonial mace, 21
- University mission, 19
- University philosophy, 20
- University seal, 21
- University student service-learning opportunities, 24

- Values of the University, Fundamental, 20
- Veterans benefits, 55
- Visas, international students, 33
- Vision, University, 19

- Whole-person health, 41
- WICHE, 61
- Withdrawal from a course(s), 56
- Withdrawal, administrative, 56
- Work-study program, 60