

ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS – CERTIFICATE (POST-D.D.S.), M.S.

Orthodontics and dentofacial orthopedics program goals

1. Students will receive coursework in biomedical sciences intended to provide the knowledge required to practice orthodontics and dentofacial orthopedics, as defined by the program's proficiency standards.
2. Students will receive a clinical experience that is varied and demanding, and that will prepare them for the clinical practice of orthodontics and dentofacial orthopedics, with emphasis on bioprospective 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.

All of the above goals are designed to prepare students 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.

Program learning outcomes

By the end of the program, the graduate should be able to:

1. Develop technical competence in orthodontics.
2. Correlate basic natural sciences with the practice of orthodontics.
3. Demonstrate analytical thinking.
4. Perform clinical research.
5. Demonstrate responsibility toward the patient and the community.
6. Contribute to the growth and stature of the profession.
7. Collaborate with individuals in other allied professional disciplines.

The master's degree curriculum requires a minimum of 27 months in residence, beginning in late June. Additional time may be required, depending on the research selected.

Program link: <https://dentistry.llu.edu/admissions/advanced-dental-education-programs> (<https://dentistry.llu.edu/admissions/advanced-dental-education-programs/>)

Chair

V. Leroy Leggitt

Program director

Toufic Jeiroudi

Faculty

Joseph M. Caruso

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Admission

Candidates apply for admission to the Master of Science (M.S.) degree program and also have the option of applying later for a certificate.

All applicants must meet the admission requirements (<http://llucatalog.llu.edu/about-university/admission-policies-information/#admissionrequirements>) of Loma Linda University.

This program does not participate in the Postdoctoral Application Support Service (PASS) of the American Dental Education Association (ADEA), which allows applicants to apply to multiple participating institutions or the MATCH program.

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, fees, and other cost-of-attendance items are located on the Find a Program (<https://llu.edu/academics/programs/>) webpage.

Program requirements

Major

ORDN 524	Introduction to Graduate Orthodontics	12
ORDN 524L	Introduction to Graduate Orthodontics Laboratory	6
ORDN 525	Materials Science and Mechanics	2
ORDN 526	Applied Anatomy	2
ORDN 527	Clinical Photography	1
ORDN 535	Advanced Cephalometrics	2
ORDN 536	Concepts of Physical Anthropology	2
ORDN 545	Growth and Development	3
ORDN 546	Fundamentals of Occlusion	2
ORDN 571	Diagnosis and Treatment Planning I	2
ORDN 574	Diagnosis and Treatment Planning II	2
ORDN 584	Current Orthodontics Literature I	2
ORDN 591	Current Orthodontics Literature II	2
ORDN 597	Orthognathic Surgery Theory and Literature Review	2
ORDN 604	Seminar in Orthodontics	1
ORDN 605	Advanced Seminar in Orthodontics (1)	2
ORDN 606	Craniofacial Genetics	2
ORDN 608	Speech, Language, Breathing, and Orofacial Myofunction	1
ORDN 634	Orthodontics Clinical Conference	2
ORDN 635	Finishing Mechanics I	2
ORDN 636	Finishing Mechanics II	1
ORDN 654	Practice Teaching in Orthodontics	4

ORDN 655	Temporomandibular Function and Dysfunction	2
ORDN 657	Orthodontic Board Preparation	6
ORDN 697A	Research	1
ORDN 697B	Research	1
ORDN 698	Thesis	3
Interdisciplinary		
GRDN 514	Introduction to Biomedical Research	4
GRDN 601	Practice Management	2
GRDN 609	Professional Ethics ²	2
GRDN 623	Biomedical Science II	5
OMFS 608	Surgical Oral and Maxillofacial Pathology Conference (0.5)	2
OMFS 616	Application of Surgical Principles to Orthognathic Surgery	1
REL 5	Graduate-level Religion	3
Total Units		89
Clinical ¹		
ORDN 725	Clinical Practice in Orthodontics (7)	56
Total Units		56

¹ Units for clinic practice courses are in addition to the minimum didactic units required for the degree.

² Fulfills service learning requirement.

Normal time to complete the program

2.25 years (27 months) – full-time enrollment required

Courses

ORDN 524. Introduction to Graduate Orthodontics. 12 Units.

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 Units.

Selected laboratory projects to enhance the didactic portion of the course.

ORDN 525. Materials Science and Mechanics. 2 Units.

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 Units.

Fundamentals of anatomy as applied to a special region or application.

ORDN 527. Clinical Photography. 1 Unit.

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 Units.

Studies cephalometrics from a historical perspective to the present time, including most of the major analyses.

ORDN 536. Concepts of Physical Anthropology. 2 Units.

Basic and classic concepts of physical anthropology as they relate to orthodontics.

ORDN 545. Growth and Development. 3 Units.

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 Units.

The development of the human face and dentition. A concept of dynamic functioning occlusion.

ORDN 571. Diagnosis and Treatment Planning I. 2 Units.

Student diagnoses and treats assigned patients.

ORDN 574. Diagnosis and Treatment Planning II. 2 Units.

Continues ORDN 571, with follow-up of clinical cases with progress records.

ORDN 584. Current Orthodontics Literature I. 2 Units.

Presents current papers in various subspecialties of orthodontics.

ORDN 591. Current Orthodontics Literature II. 2 Units.

Presents current papers in various subspecialties of orthodontics.

ORDN 597. Orthognathic Surgery Theory and Literature Review. 2 Units.

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 Unit.

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 Unit.

Second-year seminar. Design of clinical diagnosis and practice management. Repeated registrations to fulfill the total units required.

ORDN 606. Craniofacial Genetics. 2 Units.

Basic genetics. Introduces craniofacial clinic.

ORDN 608. Speech, Language, Breathing, and Orofacial Myofunction. 1 Unit.

Studies areas related to speech, language, breathing, and behavior affecting the orofacial complex and occlusion.

ORDN 634. Orthodontics Clinical Conference. 2 Units.

Students prepare and present diagnosis, case analysis, and treatment plan—with primary emphasis on difficult and unusual cases.

ORDN 635. Finishing Mechanics I. 2 Units.

Orthodontic treatment modalities, emphasizing finishing mechanics for the patient.

ORDN 636. Finishing Mechanics II. 1 Unit.

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 Units.

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 Units.

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 Units.

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 Unit.

Student identifies a research project, prepares a proposal, and obtains approval for the protocol.

ORDN 697B. Research. 1-4 Units.

Conducting the actual research project, including the data collection. Multiple registrations may be needed to complete these research activities.

ORDN 698. Thesis. 3 Units.**ORDN 725. Clinical Practice in Orthodontics. 7 Units.**

Diagnosis and treatment of assigned patients, including adults. Repeated registrations to fulfill the total units/clock hours required.

ORDN 801. Minor Tooth Movement. 2 Units.

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 Unit.

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.