

# Orthodontics

## Head

Lina M. Moreno Uribe

**Professional certificate:** orthodontics

**Graduate degree:** MS in orthodontics

**Faculty:** <https://dentistry.uiowa.edu/directory/?cohort=449167>

**Website:** <https://dentistry.uiowa.edu/departments/orthodontics>

The Department of Orthodontics educates predoctoral, professional, and resident/graduate students for careers as practicing dentists, orthodontists, researchers, and teachers. The department also conducts major research programs and receives significant funding from the National Institutes of Health (NIH). It delivers state-of-the-art treatment to patients—adults, children, and adolescents—with a range of orthodontic, craniofacial, and related issues.

The goal of the resident/graduate program in orthodontics is to educate competent individuals to initially practice orthodontics and dentofacial orthopedics. Additional goals include providing clinical services for citizens of Iowa and educating students in methods of scientific inquiry. The program's objectives are to provide students with an in-depth education in biological and biomechanical principles related to orthodontics; to teach students to diagnose, plan, and deliver comprehensive orthodontic health care service; and to develop students' research and service skills.

Opportunities are available for research and independent study in the department, and there are special facilities for research in biomechanics and craniofacial growth. Interaction with other departments provides learning and research opportunities in surgical orthodontics, cleft lip and palate treatment, speech pathology, animal experimentation, and human growth.

## DDS Student Training

The Department of Orthodontics prepares Doctor of Dental Surgery students to competently recognize malocclusions of teeth in preparation for decision-making regarding treatment or referral. The lecture course guides DDS students in learning concepts of dental development and facial growth to maturity, as well as treatment-oriented subject matter ranging from limited, interceptive treatment through possible comprehensive treatment options. In a laboratory course, case-based material is utilized to give students experience with evaluating diagnostic casts, radiographs, and clinical findings for space management decision-making purposes.

## Programs

### Professional Program of Study

- Certificate in Orthodontics

### Graduate Program of Study

- Master of Science in Orthodontics

## Courses

### Orthodontics Courses

<b>ORDN:5200 Temporomandibular Joints and Advanced Topics in Orthodontics</b>	<b>0-1 s.h.</b>
<b>ORDN:5202 Advanced Case Analysis</b>	<b>0,2 s.h.</b>
Literature concerning orthodontic diagnosis; treatment of particular problems; case histories of patients treated in graduate clinic.	
<b>ORDN:5203 Clinical Orthodontics</b>	<b>0-3 s.h.</b>
Skills for treatment of disfiguring malocclusions; use of edgewise biomechanical therapy; laboratory focus on typodont exercises.	
<b>ORDN:5204 Applied Biomechanics</b>	<b>0-3 s.h.</b>
<b>ORDN:5205 Facial Growth</b>	<b>0-2 s.h.</b>
Theories, processes; use of accepted facial growth concepts in treatment of individuals with malocclusions during active growth period.	
<b>ORDN:5209 Pediatric Orthodontic Practicum</b>	<b>0-3 s.h.</b>
Clinical practice.	
<b>ORDN:5210 Orthodontic Seminar</b>	<b>0-3 s.h.</b>
Evaluation, discussion, criticism, defense of diagnostic and treatment approaches to orthodontic cases that need, are undergoing, or have completed orthodontic treatment.	
<b>ORDN:5211 Orthodontic Clinical Skills and Laboratory Techniques</b>	<b>1 s.h.</b>
A survey of current technology and techniques for the application of tooth moving appliances to patient care.	
<b>ORDN:5212 Pediatric Orthodontic Treatment Theory</b>	<b>1 s.h.</b>
Provides didactic knowledge of early-phase orthodontic treatment indications and educates on orthodontic treatment modalities.	
<b>ORDN:5217 Cephalometrics and Lab Skills</b>	<b>0-3 s.h.</b>
Use of skull X-ray (lateral and/or postero-anterior) in formulating orthodontic diagnosis, treatment plans for malocclusions; cephalometrics as a tool for craniofacial structure research.	
<b>ORDN:5220 Craniofacial Diagnosis, Treatment, and General Topics in Orthodontics</b>	<b>0-3 s.h.</b>
Literature on anatomy, phylogeny, ontogenesis, physiology of craniofacial structures.	
<b>ORDN:5221 Surgical Orthodontic Seminar</b>	<b>0-1 s.h.</b>
Evaluation, discussion, criticism, defense of diagnostic and treatment approaches to orthodontic cases that need, are undergoing, or have completed surgical-orthodontic treatment.	
<b>ORDN:5400 Craniofacial Practicum</b>	<b>0,2 s.h.</b>
<b>ORDN:6211 Problems: Orthodontics</b>	<b>0-3 s.h.</b>
<b>ORDN:6212 Research: Orthodontics</b>	<b>0-3 s.h.</b>
<b>ORDN:6215 Orthodontic Journal Club</b>	<b>0-3 s.h.</b>
Current biological, technical publications.	

**ORDN:6399 Advanced Orthodontic Appliance Fabrication** **2 s.h.**

Design and fabrication of orthodontic appliances used in clinical practice; orthodontic laboratory techniques and appliance fabrication, from impression to delivery. Students gain skills in fabricating vacuum-formed retainers, acrylic appliances, soldered band and wire appliances, and welded metallic appliances. Training includes use of lab instruments such as model trimmers, dental lathes, sand blasters, handpieces, steam cleaners, and welders.

**ORDN:8215 Growth and Development** **1 s.h.**

Normal human growth and development; emphasis on craniofacial region.

**ORDN:8235 Orthodontic Laboratory** **1 s.h.**

Application of the terminology, methodology, and principles of orthodontic diagnosis using case-based studies and patient examinations in a clinical setting. Corequisites: ORDN:8236.

**ORDN:8236 Orthodontic Treatment** **1 s.h.**

Terminology, methodology, and principles used in orthodontic diagnosis. Corequisites: ORDN:8235.