

# Orthodontics

## Head

- Thomas E. Southard

**Professional certificate:** orthodontics

**Graduate degree:** M.S. in orthodontics

**Faculty:** <https://www.dentistry.uiowa.edu/orthodontics-faculty>

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

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

The goal of the 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 programs' 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.

## D.D.S. 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 D.D.S. 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. Experience also is included in the basics of fabricating a limited range of orthodontic appliances.

## Programs

### Professional Program of Study Certificate

- Certificate in Orthodontics

### Graduate Program of Study

#### Major

- Master of Science in Orthodontics

## Courses

### Orthodontics Courses

<b>ORDN:5200 Control Theory and Craniofacial Morphogenetic Systems</b>	<b>0-1 s.h.</b>
<b>ORDN:5201 Orthodontic Theory: Diagnosis and Treatment Plan</b>	<b>0,2 s.h.</b>
Diagnosis, treatment planning implementation.	
<b>ORDN:5202 Diagnosis and Treatment Planning</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 Advanced Orthodontic Technique</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 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:5207 Case Analysis</b>	<b>0-3 s.h.</b>
Literature on diagnosis, treatment of mixed dentition patients; case histories of patients treated by serial extraction procedure.	
<b>ORDN:5209 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:5217 Cephalometrics</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 Anatomy</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 Dental Treatment of Maxillofacial Deformities</b>	<b>0,2 s.h.</b>
<b>ORDN:5700 Orthodontics Clinic</b>	<b>0-1 s.h.</b>
Clinical experience in orthodontics clinic.	
<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.	
<b>ORDN:6216 Practice Management</b>	<b>0-3 s.h.</b>
Business management of orthodontic practice; solo practice, associateship, partnership, practice corporation.	
<b>ORDN:8215 Growth and Development</b>	<b>1 s.h.</b>
Normal human growth and development; emphasis on craniofacial region.	

**ORDN:8235 Orthodontic Laboratory** 1 s.h.  
Limited care case diagnosis and treatment.

**ORDN:8236 Orthodontic Treatment** 1 s.h.  
From patient management to use of appliances for correcting  
some malocclusions in the general practitioner's office.