ORTHODONTICS, CERTIFICATE

The postgraduate program in Orthodontics integrates basic science and clinical Orthodontics in a comprehensive curriculum, designed to develop clinically proficient specialists who possess a scholarly insight into Orthodontic theory as it relates to patient care. While the basic science courses build upon residents' predoctoral knowledge of oral biology and related areas, the major part of the program consists of clinical education and training.

Several popular corrective orthodontic regimens are taught, giving residents a thorough understanding of the respective merits of each treatment philosophy and the ability to apply them clinically. Since many corrective orthodontic problems involve adolescents, there is a strong emphasis on growth and development. Residents also gain experience in preventive and interceptive orthodontic care with preadolescents. The management of adult patients is also emphasized through courses such as TMJ therapy and orthognathic surgery. Other highlights of the program include:

- Experience in interdisciplinary care of patients requiring complex restorative dentistry or advanced periodontal therapy. A combined faculty from fixed prosthetics and orthodontics presents a one-year course in occlusion.
- Participation in monthly rotations at the Craniofacial Clinic at The Children's Hospital of Philadelphia (https://www.chop.edu/), exposing residents to craniofacial anomalies and treatment and the team approach involved in treating such conditions.
- Instruction in computer applications for diagnosis, treatment planning, and practice management.
- Presentation of a course in gross anatomy of the head and neck.

The highly respected research environment at Penn Dental Medicine and throughout the University of Pennsylvania provides a valuable opportunity for students applying to residency programs to combine their specialty training with advanced research and academic opportunities.

Additional Program Options

Penn Dental Medicine also offers a Master of Science in Oral Biology (MSOB) and a Doctor of Science in Dentistry (DScD) that can be earned concurrent with a specialty certificate, preparing students to successfully enter the field of academic dentistry while also becoming skilled clinicians in specialty care. Through the MSOB and DScD programs, students are encouraged to pursue their individual research interests with projects that can span the diverse disciplines and research labs within Penn Dental Medicine's basic and clinical sciences and across the University.

This degree requires a minimum of 140 Credit Hours.

Curriculum
Program Timeline

- Academic Track
  - MSOB and Certificate: 3 years
  - DScD and Certificate: 5 years
- Clinical Certificate Track
  - Certificate only: 26 months

For more information: https://www.dental.upenn.edu/admissions-academics/graduate-dental-education-programs/orthodonic-program/

All Dental Medicine certificate students share a common core of required courses throughout the first year. In addition, students complete additional courses specific to their particular program.

Program Requirements (Certificate Only)

- Core Graduate Dental Education Courses (Year 1 only)
- Program Specific Courses (Years 1 and 2 Didactic & Clinical)
- Literature Review (Years 1 and 2)
- Case Presentations (Years 1 and 2)
- Program Seminars (Years 1 and 2)
- Clinical Rotations (Years 1 and 2)

Code	Title	Course Units
Required Courses		
GORT 9001	Research Seminars I	0.25-1
GORT 9011	Growth & Development I	0.25-1.25
GORT 9021	Biology of Tooth Movement	0.25-1.5
GORT 9031	Diagnosis and Treatment Planning I	0.25-1.25
GORT 9041	Biomechanics I	0.25-1.25
GORT 9061	TMD Diagnosis & Therapy I	0.25-1.25
GORT 9071	Ortho/Perio & Adult Orthodontics I	0.25-1.5
GORT 9081	Orthodontic Literature Review I	0.25-1.25
GORT 9091	Orthognathic Surgery/TMJ Lecture Series I	0.25-1
GORT 9101	Case Presentation Seminars I	1.5-3
GORT 9111	Craniofacial Orthodontic Seminars I	0.25-1
GORT 9121	Early Treatment I	0.5-1.25
GORT 9131	Six Elements and Adult Orthodontics I	0.25-1
GORT 9141	Clinical Orthodontic Training I	17-20
GORT 9002	Research Seminars II	0.25-1
GORT 9012	Growth & Development II	0.25-1.25
GORT 9032	Diagnosis and Treatment Planning II	0.25-1.25
GORT 9042	Biomechanics II	0.25-1.25
GORT 9062	TMD Diagnosis & Therapy II	0.25-1.25
GORT 9072	Ortho/Perio & Adult Orthodontics II	0.25-1.5
GORT 9082	Orthodontic Literature Review II	0.25-1.25
GORT 9092	Orthognathic Surgery/TMJ Lecture Series II	0.25-1
GORT 9102	Case Presentation Seminars II	1.5-3
GORT 9112	Craniofacial Orthodontic Seminars II	0.25-1
GORT 9122	Early Treatment II	0.5-1.25
GORT 9132	Six Elements and Adult Orthodontics II	0.25-1
GORT 9142	Clinical Orthodontic Training II	32-35
GORT 9003	Research Seminars III	0.25-1
GORT 9033	Diagnosis and Treatment Planning III	0.25-1.25
GORT 9043	Biomechanics III	0.25-1.25
GORT 9073	Ortho/Perio & Adult Orthodontics III	0.25-1.5
GORT 9093	Orthognathic Surgery/TMJ Lecture Series III	0.25-1
GORT 9103	Case Presentation Seminars III	1.5-3
GORT 9143	Clinical Orthodontic Training III	25-28
GORT 9153	Craniofacial Orthodontic Rotations I	0.25-1

GORT 9163	Ethics in Orthodontics I	0.25-1
GORT 9173	Literature Review/ABO I	0.75-1.25
GORT 9183	Orthognathic Surgery and Practice Mgmt Workshop I	0.25-1
GORT 9193	P & I Clinic Teaching I	1-2
GORT 9203	Practice Management I	0.25-1
GORT 9004	Research Seminars IV	0.25-1
GORT 9034	Diagnosis and Treatment Planning IV	0.25-1.25
GORT 9044	Biomechanics IV	0.25-1.25
GORT 9074	Ortho/Perio & Adult Orthodontics IV	0.25-1.5
GORT 9094	Orthognathic Surgery/TMJ Lecture Series IV	0.25-1
GORT 9104	Case Presentation Seminars IV	1.5-3
GORT 9144	Clinical Orthodontic Training IV	33-36
GORT 9154	Craniofacial Orthodontic Rotations II	0.25-1
GORT 9164	Ethics in Orthodontics II	0.25-1
GORT 9174	Literature Review/ABO II	0.75-1.25
GORT 9184	Orthognathic Surgery and Practice Mgmt Workshop II	0.25-1
GORT 9194	P & I Clinic Teaching II	1-2
GORT 9204	Practice Management II	0.25-1
GORT 9224	Introduction to Lingual Orthodontics	0.5
GORT 9214	Clear Aligner Treatment & Temporary Anchorage Devices in Clinical Orthodontics	0.75

Core Graduate Dental Education Courses

Code	Title	Course Units
Year 1		
Fall		
DADE 9330	Ethics, Professionalism and Jurisprudence	1-3
DADE 9340	Evidence-based clinical practice	1.75-3
DADE 9350	Oral and systemic diseases	3.75-5
Spring		
DADE 9360	Oral infection and immunity	4-6
DADE 9370	Conservative and regenerative clinical practice	2-5
DADE 9380	Vulnerable populations across the lifespan	1.5-3.5

Master of Science in Oral Biology

The School of Dental Medicine also offers a Master of Science in Oral Biology (MSOB) (http://catalog.upenn.edu/graduate/programs/oral-biology-msob/). **Enrollment in the MSOB program is limited to individuals concurrently registered in one of the postgraduate specialty training (certificate) programs.** Candidates receive the MSOB degree after completion of both their specialty training and the Master's curriculum, which consists of didactic, seminar, and research practicum courses. The MSOB program is comprised of two tracks designed for outstanding students who are interested in either integrating research or structured evidence-based learning into their post-graduate education.

Depending on the track selected, research activities or a systematic literature review form the core of the MSOB program. Students are expected to participate in a clinical or basic science research project of sufficient scope and intensity or a formally structured and critically evaluated literature review focused on an important oral health-related research or clinical question. A thesis composed of an in-depth review of the relevant literature along with a manuscript reporting the results of the research or a systematic review is required for graduation for the research and evidence-based learning tracks respectively.

Code	Title	Course Units
Additional MSOB Course Requirements		
DENT 9960		
DENT 9970		

For more information: https://www.dental.upenn.edu/academic_programs_admissions/graduate_dental_education_programs/masters_of_science_in_oral_biology (https://www.dental.upenn.edu/academic_programs_admissions/graduate_dental_education_programs/masters_of_science_in_oral_biology/)

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2025 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.