DENTISTRY, MASTER OF SCIENCE IN (M.S.D.) WITH A CONCENTRATION IN ORTHODONTICS

Program goal

The Department of Orthodontics offers a 24-month advanced education Master of Science in Dentistry program. The program teaches the latest in clinical care in an environment modeled after private orthodontic practice. The curriculum is composed of seminars and small-group instruction with emphasis on critical thinking and problem-solving. Contemporary concepts of orthodontic treatment are reviewed for substantive and scientific content. Also included are regularly scheduled orthognathic surgery conferences and seminars with other dental and medical specialists.

The postgraduate program is designed to develop skilled practitioners who are prepared to grow with the future and manage busy orthodontic practices. Our goal is not only to familiarize future orthodontists with contemporary techniques but also to teach them how to interpret cutting-edge scientific information and use it to approach clinical challenges logically and practically.

The program's clinical experience consists of a wide variety of orthodontic patients, including complex cases requiring orthognathic surgery and patients with facial clefts and other craniofacial abnormalities.

An original research experience is an integral part of our program with each project intended to produce results suitable for publication in a nationally circulated orthodontic journal. The successful completion of a research project is required. All senior residents present their research at the Virginia Association of Orthodontists' meeting.

The program makes students educationally qualified to take the written portion of the American Board of Orthodontics (http://www.americanboardortho.com) examination in the senior year. Residents are required to pass the written portion of the examination prior to graduation and are encouraged to continue and complete the board certification process. This exam is given prior to the American Association of Orthodontists' meeting.

Students completing the program earn a specialty Certificate in Orthodontics and Master of Science in Dentistry degree. Students must complete the requirements for the master's degree prior to being awarded the specialty certificate.

The program is accredited by the Commission on Dental Accreditation of the American Dental Association.

Student learning outcomes

Graduates of this program will:

1. Be able to formulate and conduct a research project relevant to their discipline
2. Practice evidence-based advanced level dentistry
3. Demonstrate the ability to communicate with patients, colleagues in general dentistry, dental specialties, medicine and other health care practitioners
4. Demonstrate advanced clinical skills in the provision of ethical and informed patient care
5. Be proficient in the delivery of state-of-the-art orthodontic care including:
   a. Diagnosis, treatment planning, treatment, retention and prognosis of dental malocclusions and dento-facial disharmony
   b. Outcome assessment
   c. Diagnostic imaging technologies
   d. Management of patients with craniofacial deformities
   e. Management of combined orthodontic and surgical cases
   f. Use of various fixed and removable appliances, aligner technology
   g. Use of temporary anchorage devices and soft tissue laser
   h. Use of digital technology for records taking and treatments with aligners

VCU Graduate Bulletin, VCU Graduate School and general academic policies and regulations for all graduate students in all graduate programs

The VCU Graduate Bulletin website documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at the university. These policies are established by the graduate faculty of the university through their elected representatives to the University Graduate Council.

It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the VCU Graduate Bulletin as well as the Graduate School website (http://www.graduate.vcu.edu/) and academic regulations in individual school and department publications and on program websites. However, in all cases, the official policies and procedures of the University Graduate Council, as published on the VCU Graduate Bulletin and Graduate School websites, take precedence over individual program policies and guidelines.

Visit the academic regulations section for additional information on academic regulations for graduate students. (https://bulletin.vcu.edu/academic-regs/)

Degree candidacy requirements

A graduate student admitted to a program or concentration requiring a final research project, work of art, thesis or dissertation, must qualify for continuing master's or doctoral status according to the degree candidacy requirements of the student's graduate program. Admission to degree candidacy, if applicable, is a formal statement by the graduate student's faculty regarding the student's academic achievements and the student's readiness to proceed to the final research phase of the degree program.

Graduate students and program directors should refer to the following degree candidacy policy as published in the VCU Graduate Bulletin for complete information and instructions.

Visit the academic regulations section for additional information on degree candidacy requirements. (https://bulletin.vcu.edu/academic-regs/grad/candidacy/)

Graduation requirements

As graduate students approach the end of their academic programs and the final semester of matriculation, they must make formal application to graduate. No degrees will be conferred until the application to graduate has been finalized.

Graduate students and program directors should refer to the following graduation requirements as published in the Graduate Bulletin for a complete list of instructions and a graduation checklist.

Visit the academic regulations section for additional information on graduation requirements. (https://bulletin.vcu.edu/academic-regs/grad/graduation-info/)

Apply online today. (https://www.vcu.edu/admissions/apply/graduate/)

Admission requirements

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.D.	Fall (Jul 1 start date)	Sep 1	NBDE/INDBE, GRE, TOEFL or IELTS if international

In addition to the general admission requirements of the VCU Graduate School (https://bulletin.vcu.edu/graduate/study/admission-graduate-study/admission-requirements/), the following requirements represent the minimum acceptable standards for admission:

1. Agreement to participate in the Postdoctoral Dental Matching Program and to only apply to programs participating in MATCH
2. Agreement to participate in the American Dental Education Association Postdoctoral Application Support Service
3. Graduation or anticipated graduation from dental school
4. Eligibility to obtain a Virginia temporary resident's license from the Virginia Board of Dentistry
5. Completion of National Boards Part I and anticipated completion of Part II or completion of the Integrated National Board
6. Completion of GRE
7. Completion of TOEFL or IELTS (for students whose native language is not English)
8. Application to the orthodontic graduate program through the ADEA PASS program; the PASS application should include the following items:
   a. Online application form
   b. Essay/personal statement: Students should provide a personal history that explains what led them to apply for an educational program in orthodontics and including plans for the future and any factors the applicant believes are important for the school to know in reviewing the application. Please limit comments to one page.
   c. Curriculum vitae/resume: Applicants should include a curriculum vitae/resume to provide more information about themselves, including education and work experiences, awards, honors, research experiences, and personal interests.
   d. Undergraduate college transcripts: Include transcripts from all colleges or universities attended before dental school.
   e. Official dental school transcripts
   f. Institution Evaluation Form (completed by the dean of the applicant's dental school)
   g. Professional evaluations: at least three letters of recommendation from individuals who can personally attest to the applicant's professional and personal qualities (the program director's letter can count as one). A letter from the chair of orthodontics is not required, but may be included if the chair has personal knowledge of the applicant's skills. **Note: Professional evaluations are listed as optional for PASS; however, they must be submitted for VCU's program.**
   h. National Board scores: Have an "official" score report sent directly to ADEA PASS
9. The following supplementary items are to be submitted directly to the VCU Department of Orthodontics:
   a. Application cover page (download and complete or apply online (https://orthodontics.vcu.edu/residency-program/apply-now/pay-online/))
   b. Application fee of $100: U.S. dollars drawn on a U.S. bank, made payable to VCU or pay online in 9.a. above (application fee is nonrefundable)
   c. Transcripts from all colleges or universities attended after dental school, if any (If the applicant has attended a program without a transcript, such as a residency, the department will need a letter from the applicant's program director documenting the experience.)
   d. Additional letters of recommendation: may be submitted if the applicant feels they would be beneficial to the application (optional)
   e. Copy of National Board scores: Submit a photocopy or screen print of the score report with supplementary materials by mail or via email to ddjohnson@vcu.edu (or upload this to the PASS application). If the INBDE has not been taken in time to receive the score report prior to the deadline, please note that acceptance into the program will require the INBDE score report to be provided prior to the start of the program.
   f. GRE scores: A photocopy/screen print of applicant's GRE score report enclosed with the supplementary materials package/envelope (GRE scores are required — even if the applicant is a graduate of a foreign school — no exceptions.)
   g. TOEFL or IELTS scores: required for students whose native language is not English [These scores are not required if the applicant went to dental school or graduate school in an English-speaking environment (U.S.A., Canada, Australia or Great Britain, etc.). Foreign dental school graduates: Graduation from VCU's orthodontic program qualifies the applicant to apply for a dental license in the commonwealth of Virginia; however, other regulations apply. For example, after graduation from VCU's program, graduates will be required to take and pass a regional testing agency dental examination.]

Degree requirements

1. The 24-month certificate program in orthodontics begins July 1 with two weeks of classes to familiarize students with concepts of growth and development, diagnosis and treatment planning, and basic biomechanical principles. First-year residents see new patients in the clinic in mid-July. In August, first-year residents begin a full clinic schedule that includes a morning and afternoon clinic session on most days.

2. Didactic course work in the department consists primarily of small-group seminar sessions for an average of two hours each day.
3. Clinical work simulates a private-practice environment. Each team consists of one junior and one senior orthodontic resident and a dental assistant whose time is dedicated to that team. The orthodontic clinic has its own business manager, practice manager and receptionist. Patient records are computerized, and billing, scheduling and record storage are accomplished using a commercial orthodontic office management system. The objective is to maximize clinical efficiency so residents fully develop the thought processes necessary to master orthodontic principles and treatment techniques. Graduates are prepared to enter into a successful and busy orthodontic practice.

Curriculum requirements

Course	Title	Hours
Core courses		
DENS 550	Update in Practice Administration	1
DENS 580	Biostatistics and Research Design in Dentistry (two credits taken twice)	2
DENS 660	Interdisciplinary Care Conference (0.5 credits earned twice) [1]	0.5
DENS 680	Graduate Dental Clinic (16 credits earned over five semesters)	4
DENS 699	Thesis Guidance (two credits taken four times)	2
DENS 700	Basic Sciences and Graduate Dentistry	3
ORPT 750	Advanced Oral Diagnostic Sciences (0.5 credits taken twice)	0.5
Concentration courses		
DENS 630	Orthodontic-Periodontic-Prosthodontic-AEGD Conference (0.5 credits taken four times) [1]	0.5
ORTH 532	Biomechanics: Theoretical Basis for Tooth Movement	1
ORTH 650	Literature Review (two credits taken four times)	2
ORTH 652	Growth and Development (two credits taken four times)	2
ORTH 654	Orthodontic Diagnosis and Treatment Planning (two credits taken four times)	2
ORTH 656	Current Literature (two credits taken four times)	2
ORTH 658	Analysis of Orthodontic Treatment (1.5 credits taken four times)	1.5
ORTH 660	Orthognathic Conference (one credit taken four times)	1
ORTH 662	Craniofacial Anomalies (one credit taken four times)	1
ORTH 680	Orthodontic Clinic (2.5 credits taken four times)	2.5
Total Hours		**93**

[1]

Students register for .5 credits for both fall and spring semesters for both years of the program. They receive a continuing grade in the fall semester and a pass/fail grade at the end of the spring semester for the entire year. Students take the class four times for .5 credits each time, but they are only graded for two .5 credit classes.

The minimum total of graduate credit hours required for this degree is 93.

Students who complete the requirements for this degree will receive a Master of Science in Dentistry.

Recommended course sequence/plan of study

Year one		
Fall semester		**Hours**
DENS 580	Biostatistics and Research Design in Dentistry	2
DENS 630	Orthodontic-Periodontic-Prosthodontic-AEGD Conference [1]	0.5
DENS 660	Interdisciplinary Care Conference (no credits earned in fall; continuing course) [1]	0.5
DENS 680	Graduate Dental Clinic	4
ORPT 750	Advanced Oral Diagnostic Sciences	0.5
ORTH 532	Biomechanics: Theoretical Basis for Tooth Movement	1
ORTH 650	Literature Review	2
ORTH 652	Growth and Development	2
ORTH 654	Orthodontic Diagnosis and Treatment Planning	2
ORTH 656	Current Literature	2
ORTH 658	Analysis of Orthodontic Treatment	1.5
ORTH 660	Orthognathic Conference	1
ORTH 662	Craniofacial Anomalies	1
ORTH 680	Orthodontic Clinic	2.5
	Term Hours:	**22**
Spring semester		
DENS 580	Biostatistics and Research Design in Dentistry	2
DENS 630	Orthodontic-Periodontic-Prosthodontic-AEGD Conference [1]	0.5
DENS 660	Interdisciplinary Care Conference [1]	0.5
DENS 680	Graduate Dental Clinic	4
DENS 699	Thesis Guidance	2
ORPT 750	Advanced Oral Diagnostic Sciences	0.5
DENS 700	Basic Sciences and Graduate Dentistry	3
ORTH 650	Literature Review	2
ORTH 652	Growth and Development	2
ORTH 654	Orthodontic Diagnosis and Treatment Planning	2
ORTH 656	Current Literature	2
ORTH 658	Analysis of Orthodontic Treatment	1.5
ORTH 660	Orthognathic Conference	1
ORTH 662	Craniofacial Anomalies	1
ORTH 680	Orthodontic Clinic	2.5
	Term Hours:	**26.5**
Year two		
Fall semester		
DENS 550	Update in Practice Administration	1

DENS 630	Orthodontic-Periodontic-Prosthodontic-AEGD Conference [1]	0.5
DENS 660	Interdisciplinary Care Conference (no credits earned in fall; continuing course) [1]	0.5
DENS 680	Graduate Dental Clinic	2.5
DENS 699	Thesis Guidance	2
ORTH 650	Literature Review	2
ORTH 652	Growth and Development	2
ORTH 654	Orthodontic Diagnosis and Treatment Planning	2
ORTH 656	Current Literature	2
ORTH 658	Analysis of Orthodontic Treatment	1.5
ORTH 660	Orthognathic Conference	1
ORTH 662	Craniofacial Anomalies	1
ORTH 680	Orthodontic Clinic	2.5
	Term Hours:	**20**
Spring semester		
DENS 630	Orthodontic-Periodontic-Prosthodontic-AEGD Conference [1]	0.5
DENS 660	Interdisciplinary Care Conference [1]	0.5
DENS 680	Graduate Dental Clinic	3
DENS 699	Thesis Guidance	2
ORTH 650	Literature Review	2
ORTH 652	Growth and Development	2
ORTH 654	Orthodontic Diagnosis and Treatment Planning	2
ORTH 656	Current Literature	2
ORTH 658	Analysis of Orthodontic Treatment	1.5
ORTH 660	Orthognathic Conference	1
ORTH 662	Craniofacial Anomalies	1
ORTH 680	Orthodontic Clinic	2.5
	Term Hours:	**20**
Summer semester		
DENS 680	Graduate Dental Clinic	2.5
DENS 699	Thesis Guidance	2
	Term Hours:	**4.5**
	Total Hours:	**93**

[1]

Students register for .5 credits for both fall and spring semesters for both years of the program. They receive a continuing grade in the fall semester and a pass/fail grade at the end of the spring semester for the entire year. Students take the class four times for .5 credits each time, but they are only graded for two .5 credit classes.

The minimum total of graduate credit hours required for this degree is 93.

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