

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

Program accreditation

Commission on Dental Accreditation of the American Dental Association

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. Formulate and conduct a relevant research project as evidenced in the completion of a master's thesis in a publishable format for a refereed journal
2. Be equipped to practice evidence-based orthodontics

3. Have demonstrated the ability to communicate with patients, colleagues in general dentistry, dental specialties, medicine and other health care practitioners in the provision of ethical and informed patient care
4. Be proficient in:
 - a. Diagnosis, treatment planning, treatment, retention and prognosis of dental malocclusions and
 - b. dento-facial disharmony
 - c. Outcome assessment
 - d. Diagnostic imaging technologies
 - e. Management of patients with craniofacial deformities
 - f. Management of combined orthodontic and surgical cases
 - g. Use of various fixed and removable appliances, aligner technology
 - h. Use of temporary anchorage devices and soft tissue laser
 - i. Use of digital technology for records taking and treatments with aligners
5. Be eligible to sit for the Diplomate Boards of the American Board of Orthodontists

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. (<http://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. (<http://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. (<http://bulletin.vcu.edu/academic-regs/grad/graduation-info/>)

Apply online at graduate.admissions.vcu.edu (<http://www.graduate.admissions.vcu.edu>).

Admission requirements

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
M.S.D.	Fall (Jul 1 start date)	Sep 2	NBDE, GRE, TOEFL or IELTS if international

In addition to the general admission requirements of the VCU Graduate School (<http://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
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
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: Please tell us about your personal history that led you to apply for an educational program in orthodontics. Include your plans for the future and any factors you believe are important for us to know in reviewing your application. Please limit your comments to one page.
 - c. Curriculum vitae/resume: Include a curriculum vitae/resume to give us more information about yourself. Include your education and work experiences, awards, honors, research experiences, and personal interests.
 - d. Undergraduate college transcripts: Include official transcripts from all colleges or universities you have attended before dental school.
 - e. Dental school transcripts

- f. Institution Evaluation Form (completed by the dean of your dental school)
 - g. Personal potential index report (evaluation of different criteria by three to five evaluators compiled into a single report)
 - h. Professional evaluations: two letters of recommendation from individuals who can personally attest to your 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 your skills. **Note: Professional evaluations are listed as optional for PASS; however, they must be submitted for VCU's program.**
9. The following supplementary items are to be submitted directly to the VCU Department of Orthodontics:
 - a. Application cover page
 - b. Application fee of \$50 (U.S. dollars drawn on a U.S. bank) made payable to VCU (Application fee is nonrefundable.)
 - c. Official transcripts from all colleges or universities you have attended after dental school, if any (If you have attended a program without a transcript, such as a residency, we will need a letter from your program director documenting the experience.)
 - d. Additional letters of recommendation may be submitted if you feel they would be beneficial to your application (optional).
 - e. National Board scores: Have an original score report sent directly to the Department of Orthodontics from the National Board office in addition to enclosing a copy in your supplementary materials package/envelope. If you have taken other exams (or if you wish to add to your file), you may send any item of this type for our consideration. The National Board scores, Part I, are required (even if you are a graduate of a foreign school) no exceptions.
 - f. GRE scores: Have an original score report sent directly to the Department of Orthodontics from the Educational Testing Service office in addition to enclosing a copy in your supplementary materials package/envelope. The GRE scores are required (even if you are a graduate of a foreign school) no exceptions.
 - g. TOEFL or IELTS scores are required for students whose native language is not English. These scores are not required if you 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 our orthodontic program qualifies you to apply for a dental license in the commonwealth of Virginia; however, other regulations apply. For example, after graduation from our program, you 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
DENS 550	Update in Practice Administration	1
DENS 580	Biostatistics and Research Design in Dentistry (two credits taken twice)	4
DENS 630	Orthodontic-Periodontic-AEGD Conference (0.5 credits taken four times) ¹	2
DENS 660	Interdisciplinary Care Conference (0.5 credits earned twice) ¹	1
DENS 699	Thesis Guidance (two credits taken four times)	8
DENS 700	Basic Sciences and Graduate Dentistry	3
ORTH 532	Biomechanics: Theoretical Basis for Tooth Movement	1
ORTH 650	Literature Review (two credits taken four times)	8
ORTH 652	Growth and Development (two credits taken four times)	8
ORTH 654	Orthodontic Diagnosis and Treatment Planning (two credits taken four times)	8
ORTH 656	Current Literature (two credits taken four times)	8
ORTH 658	Analysis of Orthodontic Treatment (1.5 credits taken four times)	6
ORTH 660	Orthognathic Conference (one credit taken four times)	4
ORTH 662	Craniofacial Anomalies (one credit taken four times)	4
ORTH 680	Orthodontic Clinic (6.5 credits taken four times)	26
Total Hours		92

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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 92.

Plan of study

Year one

Fall semester	Hours
DENS 580 Biostatistics and Research Design in Dentistry	2
DENS 630 Orthodontic-Periodontic-AEGD Conference ¹	0.5

DENS 660 Interdisciplinary Care Conference (no credits earned in fall; continuing course) ¹	-
DENS 699 Thesis Guidance	2
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	6.5
Term Hours:	23.5

Spring semester

DENS 580 Biostatistics and Research Design in Dentistry	2
DENS 630 Orthodontic-Periodontic-AEGD Conference ¹	0.5
DENS 660 Interdisciplinary Care Conference ¹	0.5
DENS 699 Thesis Guidance	2
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	6.5
Term Hours:	26

Year two

Fall semester

DENS 550 Update in Practice Administration	1
DENS 630 Orthodontic-Periodontic-AEGD Conference ¹	0.5
DENS 660 Interdisciplinary Care Conference (no credits earned in fall; continuing course) ¹	-
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	6.5
Term Hours:	21.5

Spring semester

DENS 630 Orthodontic-Periodontic-AEGD Conference ¹	0.5
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DENS 660	Interdisciplinary Care Conference ¹	0.5
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	6.5
	Term Hours:	21
	Total Hours:	92

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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 92.

Graduate program director

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