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

Program goals and objectives

The didactic requirements of the Master of Science in Dentistry are combined with the goals of the M.S.D. program to provide the student with a strong clinical background that is supported by a strong background in research methodology.

Program goals

1. To provide an academic environment for inquiry in which expertise and knowledge in basic sciences and clinical pediatric dentistry can be achieved
2. To provide a sound background in medicine as it applies to the pediatric/adolescent patient and to patients with special health care needs
3. To provide a sound background in oral pathology
4. To be able to interpret, critique and apply literature associated with the field of pediatric dentistry
5. To develop sound diagnostic, clinical, nonsurgical and surgical skills in the clinic and in the operating room
6. To provide didactic instruction and clinical training in the area of nonpharmacologic and pharmacologic behavior management
7. To provide instruction and training in growth and development to include clinical interceptive orthodontic care
8. To provide methods of pain and anxiety control, including nitrous oxide and oral conscious sedation
9. To provide an environment for the interpretation and implementation of research
10. Enable successful completion of the American Board of Pediatric Dentistry exam
11. To develop sound lifelong didactic and clinical learning skills
12. To provide specialists in pediatric dentistry for community health care, professional service and dental education

Program objectives

1. To be exposed to the basic sciences and be able to apply concepts to clinical pediatric dentistry
2. To be able to critically critique and interpret the old and new literature
3. To have an understanding of oral pathology and medicine as it applies to management of the pediatric/adolescent patient and patients with special health care needs
4. To have residents become exposed to and proficient in multiple nonsurgical and surgical treatment modalities to include treatment of patients under general anesthesia
5. To become competent in diagnosis and treatment planning
6. To obtain competency and certification in moderate conscious sedation
7. To complete research, M.S.D. and prepare a paper for presentation and publication
8. To prepare the student to successfully complete Part I and II of the ABPD examination
9. To develop communication and presentation skills and lifelong learners

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 pediatric care including
   a. Knowledge – concepts, facts and information
      i. Knowledge and skills in the areas of pediatric medicine and oral medicine, as well as the delivery of dental care and oral surgery for compromised children and adolescents
      ii. In-depth knowledge and skills in the use of pharmacologic and nonpharmacologic behavior management techniques
      iii. Knowledge of hospital protocol, policies, rules, regulations and the ability to treat pediatric dental patients in the hospital environment
      iv. Knowledge of preventive and corrective dental procedures relating to general and oral health and to growth and development of the stomatognathic system
      v. Knowledge and skill in oral and maxillofacial radiology specific to the needs of the child and adolescent
      vi. Preparation for managing a contemporary pediatric dental practice relative to practice administration, efficient auxiliary utilization and marketing
      vii. Understanding of the biomedical sciences related to the practice of contemporary pediatric dentistry: biostatistics/epidemiology, pharmacology, microbiology, embryology, genetics, anatomy and oral and medical pathology
      viii. In-depth knowledge of the physical, psychological and social development of children
      ix. In-depth knowledge of oral and perioral lesions and anomalies in the pediatric dental patient
      x. In-depth knowledge of the management of dental and medical emergencies in the dental setting
      xi. Understanding of normal and abnormal language development
      xii. Understanding of jurisprudence, risk management and biomedical ethics
      xiii. Understanding of office and practice management including the use of contemporary technologies
   b. Clinical competency
      i. Ability to appropriately manage and guide the behavior of the child patient to accept needed treatment and to provide advice or guidance to the parent to enhance the child's acceptance
      ii. Expertise in managing and rendering optimal dental care for the medically, emotionally or physically challenged pediatric dental patient

iii. Ability to perform evaluations of the physical status of children and adolescents
iv. Ability to transform didactic/learned information into appropriate clinical situations
v. Skill in the use of pharmacologic and nonpharmacologic methods for the comprehensive control of pain and anxiety
vi. Ability to recognize, refer and treat children who have sustained abuse and neglect
vii. Expertise in dental surgical procedures for the restoration of the dentition
viii. Skill/dexterity in performing procedures of periodontal, mucocutaneous and associated hard tissues of the oral-maxillofacial region, including in-depth knowledge of biopsy and adjunctive diagnostic tests
ix. Appropriate management of orofacial injuries

c. Diagnostic skills
i. Ability to recognize the early signs of child abuse and neglect
ii. Ability to diagnose dental trauma
iii. Skill in the diagnosis, prevention and treatment planning of pediatric disease in the primary and permanent dentition and periodontal, mucocutaneous and associated hard tissues of the oral-maxillofacial region
iv. Application and understanding of patient monitoring
v. Competence in the skills required to instruct and motivate children and their caretakers in methods of achieving and maintaining optimum oral health
vi. Ability to prepare patients and caretakers for procedures

d. Organizational skills and documentation
i. Coordination of tasks such that diagnosis, case analysis, treatment planning and clinical management of oral-facial health problems of the pediatric dental patient occur in a logical, efficient manner
ii. Ability to present an organized treatment plan to the patient, parent, attending and front desk
iii. Ability to manage time and tasks and to work effectively with people

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 15	National Dental Boards, parts I and II or Integrated National Board

Special requirements

- Applicants from countries where English is not the primary and official language must complete the TOEFL.
- Upon acceptance in the specialty certificate program in pediatric dentistry, applicants must apply to the Graduate School for the M.S.D.

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. D.D.S. or D.M.D. from an American Dental Association-accredited dental school

2. Successful completion of Part I of the National Dental Board Exam at the time of application and completion of Part II by the time of matriculation or successful completion of the Integrated National Board
3. Minimum grade point average of 3.0 (4.0 scale) or equivalent
4. Ranking in the top 50 percent of the class of the dental school attended
5. Personal interview
6. Participation status with American Dental Education Association Postdoctoral Application Support Service and the Postdoctoral Dental Matching Program
7. Agreement to participate in the Postdoctoral Dental Matching Program
8. Agreement to participate in the ADEA PASS
9. Graduation or anticipated graduation from a CODA-accredited U.S. or Canadian dental school
10. Eligibility to obtain a Virginia Temporary Resident's License from the Virginia Board of Dentistry
11. Completion of TOEFL or IELTS for students whose native language is not English

Application to the pediatric graduate program is accepted through the ADEA PASS program. The PASS application should include the following items:

1. Online application form
2. Essay/personal statement: Students should provide a personal history that explains what led them to apply for an educational program in pediatrics 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.
3. 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.
4. Undergraduate college transcripts: Include official transcripts from all colleges or universities attended before dental school.
5. Dental school transcripts
6. Institution Evaluation Form (completed by the dean of the applicant's dental school)
7. Personal potential index report (evaluation of different criteria by three to five evaluators compiled into a single report)
8. Professional evaluations: two 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 pediatrics 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.**

Special admission requirements

International applicants must complete the following requirements and documentation. Permanent U.S. residents and international students are advised to contact VCU International Admissions (https://www.vcu.edu/admissions/apply/international/) to ensure eligibility.

1. D.D.S. or D.M.D. from an international dental school program
2. Provide all information in items 1 through 7 above
3. Test of English as a Foreign Language (http://www.ets.org/toefl/) (minimum score of 600 on paper-based test and 100 on Internet-based test)
4. International English Language Testing System (http://www.ielts.org) (score of 6.5 or greater acceptable; test must be taken within two years of application date)

Degree requirements

In addition to general VCU Graduate School graduation requirements (https://bulletin.vcu.edu/academic-regs/grad/graduation-info/), a cumulative GPA of 3.0 must be maintained. Students must receive a minimum grade of B for all required courses. Students will take written and oral examinations and must obtain a minimum grade of B or a passing grade. If either is not obtained then the examination must be retaken. For research the student must have a thesis defense and present a poster by mid-April of their second year. Extensions may be approved but at the student's own expense.

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		
ORTH 620	Orthodontic Clinic for Non-orthodontic Graduate Students (one credit taken four times)	1
PEDD 511	General Anesthesia Rotation	3
PEDD 512	Growth and Development	1
PEDD 514	Introduction to Pediatric Dentistry	2
PEDD 572	Pediatric Dental Emergency Service (2.5 credits taken twice)	2.5
PEDD 612	Seminar Series: Pediatric Dentistry and Medicine (two credits taken twice)	2
PEDD 620	Pediatric Medicine Rotation	1.5
PEDD 640	Clinical Teaching (two credits taken three time)	2
PEDD 650	Literature Review (two credits taken twice)	2
PEDD 654	Treatment Planning Seminar (one credit taken four time)	1
PEDD 656	Current Literature Review (one credit taken twice)	1
Total Hours		**70.5**

[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 70.5.

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 660	Interdisciplinary Care Conference (no credit earned in fall; continuing course) [1]	0.5
DENS 680	Graduate Dental Clinic	4
ORPT 750	Advanced Oral Diagnostic Sciences	0.5
ORTH 620	Orthodontic Clinic for Non-orthodontic Graduate Students	1
PEDD 514	Introduction to Pediatric Dentistry	2
PEDD 572	Pediatric Dental Emergency Service	2.5
PEDD 612	Seminar Series: Pediatric Dentistry and Medicine	2
PEDD 620	Pediatric Medicine Rotation	1.5
PEDD 654	Treatment Planning Seminar	1
PEDD 656	Current Literature Review	1
	Term Hours:	**17.5**
Spring semester		
DENS 580	Biostatistics and Research Design in Dentistry	2
DENS 660	Interdisciplinary Care Conference [1]	0.5
DENS 680	Graduate Dental Clinic	4
DENS 699	Thesis Guidance	2
DENS 700	Basic Sciences and Graduate Dentistry	3
ORPT 750	Advanced Oral Diagnostic Sciences	0.5
ORTH 620	Orthodontic Clinic for Non-orthodontic Graduate Students	1
PEDD 511	General Anesthesia Rotation	3
PEDD 512	Growth and Development	1
PEDD 572	Pediatric Dental Emergency Service	2.5
PEDD 612	Seminar Series: Pediatric Dentistry and Medicine	2
PEDD 640	Clinical Teaching	2
PEDD 650	Literature Review	2
PEDD 654	Treatment Planning Seminar	1
PEDD 656	Current Literature Review	1
	Term Hours:	**27.5**
Year two		
Fall semester		
DENS 550	Update in Practice Administration	1
DENS 660	Interdisciplinary Care Conference (no credit earned in fall; continuing course) [1]	0.5
DENS 680	Graduate Dental Clinic	2.5
DENS 699	Thesis Guidance	2
ORTH 620	Orthodontic Clinic for Non-orthodontic Graduate Students	1
PEDD 640	Clinical Teaching	2
PEDD 650	Literature Review	2
PEDD 654	Treatment Planning Seminar	1
	Term Hours:	**11.5**
Spring semester		
DENS 660	Interdisciplinary Care Conference [1]	0.5
DENS 680	Graduate Dental Clinic	3
DENS 699	Thesis Guidance	2
ORTH 620	Orthodontic Clinic for Non-orthodontic Graduate Students	1
PEDD 640	Clinical Teaching	2
PEDD 654	Treatment Planning Seminar	1
	Term Hours:	**9.5**
Summer semester		
DENS 680	Graduate Dental Clinic	2.5
DENS 699	Thesis Guidance	2
	Term Hours:	**4.5**
	Total Hours:	**70.5**

[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 one-credit classes.

The minimum total of graduate credit hours required for this degree is 70.5.

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