

University Senate

Proposed: April 1, 2016

Adopted: By voice vote with no
abstentions

**RESOLUTION TO APPROVE A DOCTOR OF MEDICAL SCIENCE
IN DENTAL MEDICINE
(COLLEGE OF DENTAL MEDICINE)**

WHEREAS, the next generation of clinicians and scientists in the field of dental medicine will require a solid education in research methodology and a proven track record of original scientific production in their respective fields of study, and

WHEREAS, the program seeks to leverage the rich academic environment of the Medical Center and Columbia University at large in order to create independent investigators and academic leaders capable of producing new knowledge and contributing to evidence-based enhancements in oral health care, and

WHEREAS, the proposed doctorate is an integrated program that builds upon the currently offered specialties (endodontics, pediatric dentistry, oral and maxillofacial surgery, orthodontics, periodontics, and prosthodontics), and

WHEREAS, there is currently a paucity of clinicians and scientists with successful independent research programs in Dental Medicine nationally, and

WHEREAS, the proposed doctorate will enable CDM to provide the advanced education, training, and degree that will prepare graduates for professional careers that focus on research and academia.

WHEREAS, Columbia has received many requests from both American and foreign dentists for a doctoral degree, and

WHEREAS, a number of our peer institutions offer such a degree,

NOW, THEREFORE, BE IT RESOLVED that the College of Dental Medicine establish a program leading to the Doctor of Medical Science degree in Dental Medicine, and

BE IT FURTHER RESOLVED that the program be reviewed by the Senate Education Committee after five years, and

BE IT FURTHER RESOLVED that the proposal be forwarded to the Trustees for appropriate action.

Proponent: Education Committee

1) Purpose

A) Describe the purpose of the proposed program and the professional and educational assumptions that underlie it.

The proposed doctorate is an integrated program that builds upon the currently offered dental specialty programs (Endodontics, Pediatric Dentistry, Oral and Maxillofacial Surgery, Orthodontics, Periodontics, and Prosthodontics) at the College of Dental Medicine (CDM). The program aims at providing additional education to specialists in dental medicine so that they can become independent investigators and academic leaders.

B) Discuss how the proposed program furthers the mission and plans of the department or school.

CDM's mission -to promote an environment for excellence in education, research, patient care, and service- is in concert with the University's mission, which expects all faculties to advance knowledge and learning at the highest level, and to convey the products of these efforts to the world. The proposed program's overall aim is to leverage the rich academic environment of the Medical Center and Columbia University at large to create the next generation of clinicians/scientists in the field of Dental Medicine. Graduates of the program will have a solid education in research methodology and a proven track record of own, original scientific production in their respective fields of study, in addition to the skills of a specialist in one of the above-mentioned areas. The program aspires to create independent investigators and academic leaders, capable of generating new knowledge relevant to the clinical disciplines that will ultimately contribute to evidence-based enhancements in oral health care.

C) Discuss the relationship of the proposed program with the other curricular offerings of the school. Will it replace or duplicate, in full or in part, any existing program?

The doctorate will augment and enhance CDM's current curricular offerings, and will build upon the existing clinical specialty programs. Currently, the highest degree awarded by the College of Dental Medicine is a Master of Science degree in a particular dental specialty. In addition to providing all necessary skills for acquiring specialist status, the proposed doctorate program will offer solid training in research methodology and will actively engage the student in a well-defined research project that will culminate in the authorship and defense of a doctorate thesis.

2) Need

A) Describe the need that the proposed program is designed to meet.

There is currently a paucity of clinicians/scientists with successful independent research programs in Dental Medicine nationally. The proposed doctorate will enable CDM to provide the advanced education, training, and degree that will prepare graduates for professional careers that focus on research and academia.

B) Have you received requests for the program? If so, describe the reasons for those requests and who made them.

CDM is an academic institution with international reputation. Our current roster of dental specialty trainees includes many foreign students. Given that a doctorate-level degree is a prerequisite for an academic career in many institutions outside the US, our trainees need to continue their studies elsewhere to fulfill this requirement, as the highest post-doctoral degree currently offered at CDM is a Master of Science. In addition, CDM receives numerous inquiries per year by both native and foreign prospective students regarding the possibility of obtaining a doctorate at CDM.

C) Do other institutions in the metropolitan area and in the Northeast offer similar programs? If so, describe how the program differs from those at the other institutions.

The Dental Schools of our peer Ivy League institutions in the Northeast (Harvard University and University of Pennsylvania) offer doctorate degrees that combine training in a specialty of Dental Medicine and research training [a Doctorate of Medical Sciences (DMSc) at Harvard, and a Doctorate of Science in Dentistry (DScD) at the University of Pennsylvania]. The proposed doctorate program at CDM is largely modeled after the UPenn DScD program. In order to comply with the currently registered doctorate programs in New York State, we propose that the new CDM program be named Doctor of Medical Science (Med. Sc. D.).

3) Curriculum

A) Provide a brief summary of the program.

The Med. Sc. D. curriculum will consist of four areas: (i) coursework; (ii) clinical training; (iii) research training; and (iv) own research production. Students will take all didactic courses currently required by their respective clinical divisions towards a specialty certificate. In addition, students will take a combination of mandatory and elective courses that are directly relevant to their thesis research project, as deemed necessary by their mentor and the thesis committee (please see description below).

The clinical aspects of the Program will be governed by the requirements of the respective specialty curriculum. The program will meet all Commission on Dental Accreditation (CODA) requirements for each of the aforementioned clinical specialties.

During the first year of study, the student will be expected to undertake rotations in selected laboratories in order to identify a research mentor and a relevant research project. No later than the Fall of the second year of study, the student will have to submit to the Med. Sc. D. Promotions Committee a written NIH-style proposal according to the K08 or K23 format that will become the basis of the qualifying exam and will serve as a roadmap for the student's research training and expected original scientific output. In addition, the student will need to submit a listing of additional elective courses relevant to the specific research plan [i.e., those beyond the ones required for the specialty training and the mandatory courses of the Med. Sc. D. curriculum (in Statistical Methodology, Grant/Scientific writing, and Responsible Conduct of Research)].

After approval by the Promotions Committee and acceptance of the Med. Sc. D. plan, a thesis committee will be assigned. The student will typically meet with the thesis committee twice yearly to review the progress of the research project and associated coursework, as well as the emerging research production. Upon completion of the first three years of study, students will typically spend 70% or more of their time in Med. Sc. D.-related activities (laboratory work/collection of original data, coursework, and manuscript preparation).