Twin Cities Campus

Oral Biology Ph.D.

Dent Dean, Office of the
School of Dentistry

Link to a list of faculty for this program.

Contact Information:
School of Dentistry, 17-164 Moos Tower, 515 Delaware Street, S.E., Minneapolis, MN 55455 (612-625-5984; fax:612-626-2651)
Email: oralbio@umn.edu
Website: http://www.oralbiology.umn.edu

- Program Type: Doctorate
- Requirements for this program are current for Spring 2019
- Length of program in credits: 55 to 61
- This program requires summer semesters for timely completion.
- Degree: Doctor of Philosophy

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

The interdisciplinary graduate program in oral biology is offered by the School of Dentistry with cooperating faculty in the Medical School, College of Pharmacy, and Veterinary Medicine. It gives students research skills and a broad understanding of the development, structure, function, and pathology of the orofacial region. Students are encouraged to focus in one of five areas of emphasis: biomaterials and biomechanics; epithelial biology and carcinogenesis; microbiology and immunology; sensory neuroscience; and bone biology, craniofacial development, and tissue engineering. An exceptional student can create his/her own area of emphasis or specialize in topics not listed here; students should discuss their interests with the director of graduate studies before applying. Curricula are designed to allow considerable flexibility in planning individual programs to accommodate specific areas of interest; courses from other disciplines may be included as part of the major.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.00.

Special Application Requirements:
Applicants must submit 1) scores from the General Test of the GRE, 2) three letters of recommendation from persons who can comment authoritatively about the applicant's potential for a research and academic career, 3) a clearly written personal statement (one to two pages) describing career goals, 4) an essay describing research aspirations (one to two pages), and 5) a résumé highlighting research experience and accomplishments. For D.D.S./Ph.D. applicants who are U.S. citizens, resident aliens, or Canadian citizens, U.S. or Canadian Dental Admission Test (DAT) scores at or above the national average will be accepted in lieu of the GRE. Applicants who have graduated from U.S. or Canadian dental or medical schools within three years of their application to the Ph.D. program may request that previous U.S. or Canadian DAT or MCAT scores be considered in lieu of the GRE.

Applicants must submit their test score(s) from the following:

- GRE
  - General Test - Verbal Reasoning: 153
  - General Test - Quantitative Reasoning: 148
  - General Test - Analytical Writing: 4

International applicants must submit score(s) from one of the following tests:

- TOEFL
  - Internet Based - Total Score: 90
  - Internet Based - Writing Score: 25
  - Internet Based - Reading Score: 25
- IELTS
  - Total Score: 6.5

The preferred English language test is Test of English as Foreign Language

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Key to test abbreviations(GRE, TOEFL, IELTS).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

19 to 25 credits are required in the major.
12 credits are required outside the major.
24 thesis credits are required.

This program may be completed with a minor.

Use of 4xxx courses towards program requirements is not permitted.

A minimum GPA of 3.00 is required for students to remain in good standing.

Completion of a minor in a complementary, non-clinical discipline is required.

Program Requirements

Courses may be selected from departments and programs outside oral biology with approval of the advisor and director of graduate studies.

Oral Biology Topics Courses (8 Credits)

Select at least 8 credits from the following list:

OBIO 8012 - Basic Concepts in Skeletal Biology (2.0 cr)
OBIO 8018 - Topics in Oral Pathobiology (2.0 cr)
OBIO 8021 - Oral Microbiology (2.0 cr)
OBIO 8022 - Oral Neuroscience (2.0 cr)
OBIO 8023 - Physical Biology of the Oral Cavity (2.0 cr)
OBIO 8024 - Genetics and Human Disease (1.0 cr)
OBIO 8025 - Topics in Cariology (2.0 cr)
OBIO 8026 - Salivary Glands and Secretions (2.0 cr)
OBIO 8027 - Biomaterials in Regenerative Dentistry (2.0 cr)
OBIO 8028 - Molecular Basis of Cellular and Microbial Adhesion (2.0 cr)
OBIO 8371 - Mucosal Immunobiology (3.0 cr)

Oral Biology Seminar (8 Credits)

Take the following seminar eight times for a total of 8 credits:

OBIO 8030 - Oral Biology Seminar (1.0 cr)

Statistics Course (3 Credits)

Take at least one course from the following list:

STAT 5021 - Statistical Analysis (4.0 cr)
PUBH 6450 - Biostatistics I (4.0 cr)
PUBH 7445 - Statistics for Human Genetics and Molecular Biology (3.0 cr)

Required Minor (12 Credits)

Students must complete a non-clinical minor in the basic sciences or public health. At least 12 minor field credits are required. Confer with the director of graduate studies for the minor field to determine additional requirements.

Thesis Credits (24 Credits)

Take at least 24 doctoral thesis credits.

OBIO 8888 - Thesis Credit: Doctoral (1.0 - 24.0 cr)

Joint- or Dual-degree Coursework: Doctor of Dental Surgery DDS/Oral Biology PhD

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