

# Oral Science

## Director

- Jeffrey A. Banas (Pediatric Dentistry)

**Graduate degrees:** MS in oral science; PhD in oral science

**Faculty:** <https://dentistry.uiowa.edu/directory>

**Website:** <https://dentistry.uiowa.edu/education/specialty-programs/oral-science-graduate-program>

## Courses

### Oral Science Courses

**ORSC:5200 Seminars in Dental Research** 0-1 s.h.

**ORSC:5210 Dental Sciences Research Methodology** 0,2 s.h.

Practical, experimental procedures in dental research; literature and design; writing of research protocols. Offered summer session.

**ORSC:5212 Statistical Methods for Dental Research** 0,3 s.h.

Descriptive methods, elementary probability, distributions, populations and samples, methods for analyzing percentage data and paired and unpaired measurement data, regression, correlation, and analysis of variance.

**ORSC:5215 Research Design in Dentistry** 0,2 s.h.

Types of studies used in dentistry; design validity; sampling methodologies; major descriptive and experimental designs used in dental research; application of statistical tests to these designs. Offered spring semesters.

**ORSC:5240 Pathophysiology of the Pulp-Dentin Complex** 0-3 s.h.

Biology of tissue; emphasis on pathological changes. Offered spring semesters of even years. Prerequisites: ORSC:5210.

**ORSC:5250 Current Concepts of Cariology** 0,2 s.h.

Etiology of dental caries; pathogenesis, development of preventive measures. Offered spring semesters of odd years. Prerequisites: ORSC:5210.

**ORSC:5260 Bone and Tooth Support Structure and Implants** 0,2 s.h.

Biology of bone and periodontal structures; biologic basis for therapeutic use of dental implants. Offered fall semesters of odd years.

**ORSC:5275 Oral Microbiology and Immunology** 0,2 s.h.

Principles of microbiology and immunology, aspects of microbial community development in the oral cavity, basic concepts of host/parasite interactions related to development of oral diseases; biological, immunological, and clinical manifestations induced by major oral pathogens. Offered spring semesters of odd years. Requirements: microbiology, biochemistry, and biology. Recommendations: immunology.

**ORSC:5280 Advanced Dental Therapeutics** 0-1 s.h.

Antimicrobial, analgesic, related therapies; emphasis on drug/drug interactions, dental implications of chronic cardiovascular and central nervous system medications. Offered fall semesters.

**ORSC:5300 Dental Management for Patients with Complex Medical History** 0-1 s.h.

Risk assessment, treatment planning, medically compromised patients, systemic complications, medical emergency in dental offices. Offered fall semesters of odd years.

**ORSC:5600 Research in Oral Science** arr.

Thesis research. Requirements: oral science MS or PhD candidacy.

**ORSC:5610 Independent Study** 0-3 s.h.

Opportunity to pursue in-depth study in a particular area of interest; students meet with faculty member to design plan of study.

**ORSC:5620 Oral Sciences Colloquium** arr.

Presentations, seminars, and discussion sessions on research presentations; career and individual development plans for graduate and postdoctoral students in the oral sciences program.