



INDIANA UNIVERSITY

University Graduate School 2008-2009 Academic Bulletin

Dentistry

School of Dentistry Indianapolis

Dean

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Graduate Faculty

(An asterisk [*] denotes membership in the University Graduate School faculty with the endorsement to direct doctoral dissertations.)

Distinguished Professor

George Stookey* (Emeritus)

Professors

Carl J. Andres, Donald E. Arens (Emeritus), Davis R. Avery (Emeritus), Jeffrey David Bennett, David T. Brown, Timothy J. Carlson, Arden Christen* (Emeritus), Michael A. Cochran, Jeffrey Alan Dean, Edward J. DeSchepper, Lawrence P. Garetto*, Lawrence I. Goldblatt, Richard L. Gregory*, E. Brady Hancock, James Kennedy Hartsfield Jr.*, Steven P. Haug, William F. Hohlt, Michael Josef Kowolik*, Bruce A. Matis, Gerardo Maupome-Carvantes, Chris H. Miller*, B. Keith Moore*, Donald H. Newell, Byron L. Olson*, Yoshiki Oshida* (Emeritus), Edwin T. Parks, W. Eugene Roberts Jr.*, Brian J. Sanders, S. Miles Standish* (Emeritus), Charles Tomich* (Emeritus), Margot L. Van Dis, Gail F. Williamson, Domenick T. Zero*, Susan L. Zunt

Associate Professors

William J. Babler, Cecil E. Brown, Judith R. Chin, T. M. Gabriel Chu, Christianne Guba Cochran, Francisco E. Eraso, Andrea G. Ferreira Zandona, Margherita Ruth Fontana*, Dominique M. Galli*, Carlos Gonzalez-Cabezas*, Suteera T. Hovijitra, Richard D. Jackson, Vanchit John, Thomas R. Katona*, Esperanza Angeles Martinez Mier, Jeffrey A. Platt, Laura Romito-Cera, Jack Schaaf, James A. Weddell, George Philip Willis, L. Jack Windsor*, Karen Masbaum Yoder, Nancy Ann Young

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Associate Dean for Academic Affairs and Graduate Education

Michael J. Kowolik*, School of Dentistry 105, (317) 274-5349

Director of Ph.D. Program

Richard Gregory*, OH 123, (317) 274-5349

Degrees Offered

Master of Science and Doctor of Philosophy. In addition, the School of Dentistry offers the Master of Science in Dentistry; for details see the School of Dentistry Bulletin.

Special School Requirements

(See also general University Graduate School requirements.)

The M.S. and Ph.D. programs are designed principally for students who expect to enter dental education and research upon completion of their programs. The M.S.D. program is intended for students interested primarily in the specialty disciplines of dentistry.

Master of Science Degree

Graduate work in the School of Dentistry leading to the M.S. degree includes advanced laboratory, lecture, library, and seminar courses in dental materials. (See School of Dentistry Bulletin for M.S.D. programs offered in the advanced specialty disciplines in dentistry.)

Admission Requirements

(1) Degree in dentistry from a recognized school of dentistry or bachelor's degree with appropriate concentration in science (for applicants, other than dentists, who wish to pursue advanced degrees in dental science); (2) overall B (3.0) average; (3) appropriate level of achievement in course work in the major area of concentration; and (4) evidence of potential for success in advanced graduate work, as attested by letters of recommendation from major professors or others familiar with the applicant's academic performance or professional background. A personal interview may be required in some instances.

Grades

Students must maintain an academic average of at least 3.0 (B) on a 4.0 scale.

Course Requirements

A minimum of 30 credit hours of approved courses appropriate to one of the major disciplines given above, including 6 credit hours in an approved minor subject and 6 credit hours of research. Consult the (1) Degree in dentistry from a recognized school of dentistry or bachelor's degree with appropriate concentration in science (for applicants, other than dentists, who wish to pursue advanced degrees in dental science); (2) overall B (3.0) average; (3) appropriate level of achievement in course work in the major area of concentration; and (4) evidence of potential for success in advanced graduate work, as attested by letters of recommendation from major professors or others familiar with the applicant's academic performance or professional background. A personal interview may be required in some instances. See School of Dentistry Bulletin and individual program directors for specific details on curricula. A maximum of 6 credit hours may be allowed for clinical courses.

Thesis

Students must submit a thesis or a manuscript for publication in a refereed journal based on the original research conducted.

Final Examinations

A comprehensive oral and written examination is taken any time after the first semester. A "defense of thesis or manuscript" examination is required upon submission of the thesis or manuscript to the student's graduate committee.

Doctor of Philosophy (Ph.D.) Degree in Dental Science

The objective of the Ph.D. in Dental Science Program is to provide a core curriculum that offers a solid scientific base for a career in research and/or teaching in the dental sciences. The Ph.D. degree in Dental Science (Preventive Dentistry, Oral Biology, or Dental Biomaterials track) focuses on basic and clinical science areas as they relate to the human organism and on the effect of dental materials on biological systems. Graduates of this program are ideal candidates for academic teaching and/or research positions in dental schools, medical schools, and other basic science departments as well as for research positions in government institutions and industry.

General Information

Admission Requirements

The program is open to persons who have earned the Doctor of Dental Surgery degree or its equivalent as well as graduates of bachelor of science degree programs. Applicants must have a minimum grade point average of 3.0 or higher on a 4.0 scale (grade point averages from the dental degree in the case of dental school graduates). Candidates for the Ph.D. degree program must have a minimum percentile score on the Graduate Record Examination (GRE) of 600 in the verbal, quantitative, or analytical section. In addition, a TOEFL score of 550 or higher

must be obtained by applicants from non-English-speaking countries.

Program Requirements

The degree requires 90 credit hours with 32–40 required course credits (depending on the choice of track) and 12 credits in a minor. Disciplines included in the program are anatomy, biochemistry, biomedical engineering, biostatistics, cell biology, chemistry, immunology, materials science engineering, mechanical engineering, microbiology, molecular biology, pathology, physics, and physiology.

Minor

The minor consists of 12 credit hours in any one of the advanced basic science courses (anatomy, biochemistry, biomedical engineering, chemistry, materials science engineering, mechanical engineering, microbiology and immunology, pathology, pharmacology, physics, physiology, life science) or their equivalents, as approved by the student's advisory committee and the chairperson of the minor department. Credit hours for the required courses may not count toward the minor courses.

Teaching Experience

All students participate in the predoctoral dental curriculum by tutoring in small problem-based learning (PBL) groups for a total of two PBL blocks after successful completion of the IU School of Dentistry tutor-training program. Students who are non-native speakers of English must demonstrate oral English competency (determined by the IUPUI English as a Second Language [ESL] Program) before they can participate in the PBL sessions. Students are required to enroll in the IUPUI Preparing Future Faculty (PFF) program.

Qualifying Examination (for Admission to Candidacy)

The qualifying exam consists of two parts: 1) writing and presenting an oral defense of a research proposal, and 2) sitting for a comprehensive written examination.

Core Curriculum

Descriptions of the following courses that do not appear on the list of graduate courses in this bulletin can be found in this bulletin or in the School of Medicine or School of Education bulletin.

Oral Biology Track

(The Oral Biology Track core curriculum has a minimum of 44 course credits, composed of 32 required and 12 minor credits.)

Required Courses (32 cr. min.)

Biochemistry (3-5 cr.)

B500 or B800 and G817

Microbiology (3 cr.)

J822 or J510 or J805

General Graduate (16 cr.)

G651, G652, G504, G865, G655, and J500, PSY 608 or EDUC R503 or other teaching method course recommended by the program director.

Dental/Oral Biology (10-15 cr.)

R959 or G910 and R956

Research (remainder of 90 cr.)

R957 and R958

Preventive Dentistry Track

(The Preventive Dentistry Track core curriculum has a minimum of 52 course credits, composed of 40 required and 12 minor credits.)

Required Courses (40 cr. min.)

R909, R910, F911, G974, and G959

Courses from the following list can be used to complete the total hours required for the major subject: C607, G900, G905, G911, G965, G967, G973, or R953

General Graduate (13 cr.)

G651, G652, G504, G655 and J500, PSY 608 or EDUC R503 or other teaching method course recommended by the program director.

Dental/Oral Biology (10-15 cr.)

G910 or R959 and R956

Research (remainder of 90 cr.)

R957 and G930

Required Dental Sciences Courses for Non-Dental Preventive Dentistry Track Applicants

Applicants without a dental degree may apply for the Preventive Dentistry Track, but are required to take the following courses in the first two years of their program: G981, G969, G988 or G935.

Dental Biomaterials Track

(The Dental Biomaterials Track core curriculum has a minimum of 51 course credits, composed of 39 required and 12 minor credits.)

Required Courses (39 cr. min.)

Courses from the following list can be used to complete the total hours required for the major subject: C607, G900, G911, G965, G967, G973 or R953.

Biochemistry-Microbiology (3 cr.)

B500 or G959

General Graduate (16 cr.)

G651, G652, G504, G865, G655 and J500, PSY 608 or EDUC R503 or other teaching method course recommended by the program director.

Dental Materials (20-22 cr.)

G910, G911, G912, G913, and R956

Elective Classes

(determined by the student's advisory committee)

Offered by the Purdue University School of Materials Science and Engineering (MSE) or Indiana University School of Dentistry. MSE 530 or MSE 230, MSE 240, MSE 335, MSE 350, MSE 382, the MSE Graduate Seminar, G865, or M527.

Specialty Courses

(determined by the student's advisory committee)

Polymers (MSE 597Y, MSE 525, and MSE 597B-A and AE 590M)

Ceramics (MSE 510, MSE 512, MSE 523, and MSE 556)

Metals (MSE 508, MSE 522, and MSE 510)

Biomechanics (BME 595C, BME 595J, and MSE 556)

Tissue Engineering (BME 595E, BMS 523, BME 601, BME 602, and BME 595B)

Research (remainder of 90 cr.)

R957 and G921