

# School of Dentistry Administration

## Indiana University School of Dentistry Administration

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## Overview

Welcome to the Indiana University School of Dentistry, one of the oldest and largest public dental schools in the United States. Many of the dental profession's "firsts" took place at Indiana University, including the inventions of the first bitewing X-ray and the stannous fluoride formula that would become Crest<sup>®</sup> toothpaste, as well as authorship of seminal textbooks in pediatric dentistry, biomaterials, and oral radiology.

The Indiana University School of Dentistry (IUSD) is a member of the American Dental Education Association and is fully accredited by the Commission on Dental Accreditation of the American Dental Association. IU's dental school was established as the Indiana Dental

College in 1879 and acquired by Indiana University in 1925. It is the only dental school in the state. The school is located on the campus of IUPUI, adjacent to the Indiana University Medical Center. Clinical facilities in the School of Dentistry were modernized and expanded in 2018 with the addition of the state-of-the-art, 45,000-square-foot James J. Fritts, D.D.S. Clinical Care Center.

Clinic patients are drawn from a population area of about one million people. The great variety of cases treated provides each student with abundant opportunities to master techniques. The school also maintains dental clinics at Riley Hospital for Children; University Hospital at the IU Medical Center; Indiana University Fort Wayne; the Stone Family Health Center in Evansville, Ind., and numerous off-campus sites, many in federally qualified community health centers.

Multiple degrees and certificate programs are available at IUSD, including D.D.S., M.S.D., M.S. in advanced practice specialties, Ph.D., Dental Hygiene and Dental Assisting. Our graduates practice dentistry and allied fields in nearly all of the 50 states and about 30 other countries.

This Academic Bulletin describes the opportunities available at the Indiana University School of Dentistry in Indianapolis and Fort Wayne and outlines the requirements for admission and program completion. Undergraduate programs in allied dentistry are also offered on the Northwest (Gary), and South Bend campuses. Students interested in undergraduate programs at IU Northwest and South Bend should check with a counselor on these campuses for specific requirements, which may vary from the requirements on the Indianapolis and Fort Wayne campuses.

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## Contact Information

The IU School of Dentistry's Office of Academic Programs is open 8 a.m. to 5 p.m., Monday through Friday. The dental school's website is <https://www.dentistry.iu.edu>.

### Doctor of Dental Surgery (DDS)

Requests for application forms or information about Doctor of Dental Surgery (DDS) programs should be directed to:

### Office of Academic Programs

Admissions

Indiana University School of Dentistry

1121 West Michigan Street, Room 105 North

Indianapolis, IN 46202

Telephone: (317) 274-8173

Fax: (317) 278-9066

E-mail: [dsadmit@iu.edu](mailto:dsadmit@iu.edu)

### **Advanced Graduation Certificates**

#### **M.S.D., M.S., and Ph.D. Degree Programs**

##### **Office of Graduate Education**

Gilian Sullivan

Indiana University School of Dentistry  
1121 West Michigan Street, Room 102  
Indianapolis, IN 46202  
Telephone: (317) 274-8408  
Fax: (317) 274-7188  
E-mail: [dsggrad@iupui.edu](mailto:dsggrad@iupui.edu)

#### **Dental Hygiene Education - Indianapolis**

Twyla Rader, LDH, MEd, Interim Director of Dental Hygiene  
Department of Biomedical Sciences and Comprehensive Care  
Indiana University School of Dentistry  
1121 West Michigan St. Rm DS 242  
Indianapolis, IN 46202  
Telephone: 317-274-5109  
Email: [dnthyg@iu.edu](mailto:dnthyg@iu.edu)

#### **Dental Assisting Education - Indianapolis**

Michelle Priest, Interim Director of Dental Assisting  
Department of Biomedical Sciences and Comprehensive Care  
Indiana University school of Dentistry  
1121 West Michigan St. Rm DS 317  
Indianapolis, IN 46202  
Telephone: 317-274-7801  
Email: [dast@iu.edu](mailto:dast@iu.edu)

## **Equal Opportunity/Affirmative Action**

Indiana University pledges itself to continue its commitment to the achievement of equal opportunity within the university and throughout American society as a whole. In this regard, Indiana University will recruit, hire, promote, educate, and provide services to persons based upon their individual qualifications. Indiana University prohibits discrimination based on arbitrary consideration of such characteristics as age, color, disability, ethnicity, gender, marital status, national origin, race, religion, sexual orientation, or veteran status.

Indiana University shall take affirmative action, positive and extraordinary, to overcome the discriminatory effects of traditional policies and procedures with regard to the disabled, minorities, women, and Vietnam-era veterans. An Office of Equal Opportunity on each campus monitors the university's policies and assists individuals who have questions or problems related to discrimination.

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## **Student Organizations & Services**

- Associations & Societies
- Dental Library
- Diversity Support
- Financial Assistance
- Health Service
- Housing

### **Associations & Societies**

#### **American Student Dental Association**

The local chapter of the American Student Dental Association (ASDA) is fully recognized by the American Dental Association (ADA), and membership is required of all IUSD dental students. Membership dues are included with other fees assessed by the school during the fall semester billing process. Associate membership also is available to pre-dental students. ASDA protects and advances the rights, interests, and welfare of students pursuing careers in dentistry. Life insurance and other benefits are available to ASDA members.

#### **Student American Dental Hygienists' Association**

Dental hygiene students may join the Student American Dental Hygienists' Association, which offers experiences similar to those of ASDA.

#### **Omicron Kappa Upsilon (OKU)**

The national honor dental society, Omicron Kappa Upsilon (OKU), is represented by the component chapter of Theta Theta. Candidates are nominated from the upper one-fifth of each graduating class, with faculty voting into membership 12 percent of the class. The key, which is symbolic of the society, is awarded to each newly elected member. OKU awards several scholarships each year to students of high character who demonstrate academic proficiency as well as potential in advancing the profession of dentistry. Modest, interest-free loans are also available to second-, third-, and fourth-year students with a documented need.

#### **Sigma Phi Alpha**

The national honor dental hygiene society, Sigma Phi Alpha, is represented by the component Theta chapter. Candidates are nominated from the upper one-fifth of each graduating class, with faculty voting into membership up to 10 percent of the class. Elected members rank highest in scholarship, service, and leadership. The key, which is symbolic of the society, is awarded to each newly elected

member. Sigma Phi Alpha awards several scholarships to outstanding students each year.

### **American Dental Education Association**

The American Dental Education Association (ADEA) is the voice of dental education. ADEA's mission is to lead institutions and individuals in the dental education community to address contemporary issues influencing education, research, and the delivery of oral health care for the overall health and safety of the public. Members include 76 U.S. and Canadian dental schools, more than 1,000 allied and advanced dental education programs, 60 corporations and more than 20,000 individuals.

### **Student Professionalism and Ethics Association**

The Student Professionalism and Ethics Association (SPEA) in dentistry is a national, student-driven association established to promote and support students' lifelong commitment to ethical behavior in order to benefit the patients they serve and to further the dental profession.

The objectives of the association are to collaborate with leadership of the dental profession to effectively advocate for our members and act as a support system for students in strengthening their personal and professional ethics values by providing a resource for ethics education and professional development; fostering a non-punitive, open-forum environment for ethics communication; and promoting awareness of ethics standards and related issues within dentistry.

### **National Dental Association (NDA)**

Dental students may also join the student branch of the National Dental Association (NDA), the nation's largest and oldest organization for minority oral health professionals. The NDA is dedicated to providing affordable dental care, education, and guidance to underserved members of the community, including racial and ethnic minorities, children, the indigent, the elderly, and the disabled. The Student National Dental Association promotes fellowship and cooperation among its members and aids in the advancement of minority students in dentistry. It has furthered these purposes through publication of a newsletter, annual conventions, and collaborations with other national dental groups such as the American Student Dental Association. More information is available at the following Web site: [www.ndaonline.org](http://www.ndaonline.org).

### **Hispanic Dental Association**

The Hispanic Dental Association provides leadership and represents professionals who share a common commitment to improving the oral health of persons in the Hispanic community through better prevention, treatment, and education. The association's objectives include fostering research and knowledge of Hispanic oral health problems, providing a worldwide source of continuing education for oral health professionals serving the Hispanic community, stimulating interest of Hispanics in oral health, and encouraging their entry into the oral health professions. The association is open to dental professionals, dental students, and students enrolled in

the allied dental programs. More information is available at the following Web site: [www.hdassoc.org](http://www.hdassoc.org).

## **Dental Library**

The mission of the Indiana University School of Dentistry Library is to provide materials and services to support the teaching, research, patient care, and community outreach activities of faculty, staff, and students. In addition, the library provides information services to IU School of Dentistry alumni, Indiana citizens, and dental health professionals around the world.

Established in 1881, the IUSD Library has over 57,000 volumes on dentistry as well as the basic sciences and selected medical specialties. It maintains subscriptions to approximately 450 professional print and 300 online journal titles. Its rich collection of over 25,000 books and 32,000 bound journal volumes, which dates back to the mid-1800s and is international in scope, makes it one of the premier dental libraries in existence. The collection is supplemented through the use of automated interlibrary loan services with libraries throughout the United States.

As part of the Indiana University Library System, the dental school library's collections are included in the systemwide Web-based catalog, IUCAT. IUCAT contains the collections of all of the IU Libraries, including the Indiana University School of Medicine Ruth Lilly Medical Library, the Ruth Lilly Law Library, and University Library, all of which are conveniently located on the IUPUI campus. These libraries maintain extensive print and electronic resource collections in subjects ranging from anthropology to zoology and in combination with the School of Dentistry Library work cooperatively to meet the information needs of faculty, staff, and students.

In addition to the IUCAT online catalog, faculty, staff, and students have access to a number of subject-specific databases and full-text electronic resources. The National Library of Medicine's MEDLINE® database, which includes worldwide coverage of dental journal literature, is available in three versions. Other available selected databases include the Cochrane Library, Lexicomp Online for Dentistry, LexisNexis Academic, Micromedex® 2.0, OvidSP, Science Citation Index Expanded, Web of Knowledge, and WorldCat. Full-text E-book and E-journal resources are available through services such as Journals at Ovid, ScienceDirect, Wiley Online Library, Access Medicine®, Clinical Key, Stat!Ref®, and VisualDx. The library's nine public access computer workstations provide access to library and campus-wide accessible electronic resources. Wireless as well as wired connections are also available throughout the library for laptop and mobile users. Off-campus access to most databases and electronic resources is available through the IUPUI Virtual Private Network (VPN), which allows authorized users with computers in remote locations to be recognized as if they were on campus.

The library's media collection contains interactive CD-ROMs, DVDs, slides, audiocassettes, and videotapes dealing with dentistry.

The library also houses a large collection of historic materials, including an archival collection focusing on the history of the Indiana University School of Dentistry and the dentistry, dental hygiene, and dental assisting professions.

Additional details are available on the [Dental Library website](#).

## Diversity, Equity, and Inclusion

IUSD Statement of Diversity, Equity and Inclusion

Diversity, equity, and inclusion are core values of IU School of Dentistry. We believe that these core values enrich and empower us to provide better education for our students, better care for our patients, a better working environment for our employees, and better citizenship to serve our world.

At IUSD, we are committed to attracting and retaining a diverse faculty, staff, and student population across all areas of learning, research, and patient care. We are committed to removing barriers and empowering current and future members of our community to realize their full potential. We strive to create, celebrate, and uphold work, research, patient care, learning environments and global community engagements that are inclusive, equitable, and welcoming.

The mission of the Office of Diversity, Equity, and Inclusion at the Indiana University School of Dentistry is to develop strategies to improve the diversity of the oral health care workforce and to advance the quality of oral health in Indiana. The office has developed activities to expand the pipeline of qualified underrepresented and disadvantaged applicants for the IU dental school's programs. The office strives to create structured programs to provide mentoring, academic enrichment, and experiential opportunities for students. It also endeavors to establish and enhance relationships with funding agencies, educational institutions, and other health professionals. For more information about the services provided, contact the office at (317) 274-6573; [dsdivsty@iu.edu](mailto:dsdivsty@iu.edu).

## Financial Assistance

Federal financial loans may be obtained for all educational programs on the basis of need through the IUPUI Office of Student Financial Services: Campus Center 250A, 420 University Boulevard, Indianapolis, IN 46205-5145; Web site [www.iupui.edu/finaid](http://www.iupui.edu/finaid).

## Health Service

### Health Insurance

All students -- without exception -- are required to carry health insurance while enrolled at IUSD. Students will not be allowed to participate in any school activity without documentation of current adequate health insurance.

**Option 1:** Students will be enrolled automatically in the Professional Student Plan sponsored by Indiana University. Details of the benefits are available online at <http://www.indiana.edu/~uhrs/benefits/students.html>. Students will be billed for coverage by the IUPUI Office of the Bursar in the fall and the spring. Indiana University Human Resources/Benefits (IUHR/B) directs the automatic enrollment. All communications are conducted between the student and IUHR/B. Students should contact the Student Insurance Coordinator at [studenhc@iu.edu](mailto:studenhc@iu.edu) with any questions.

**Option 2:** Students may be eligible or elect coverage under a plan other than the Professional Student Plan (for example: fellowship, scholarship or grant,

international or private insurance). If so, the student must submit a waiver form indicating nonparticipation in the Professional Student Plan no later than the waiver deadline. The deadline is August 1st; no exceptions will be granted. The waiver form can be completed by following the instructions at the following website <https://www.aetnastudenthealth.com/students/student-connection.aspx?GroupID=812801>.

Students with questions about the waiver requirements should contact the Student Insurance Coordinator at [studenhc@iu.edu](mailto:studenhc@iu.edu).

For information about benefits, please visit <http://www.indiana.edu/~uhrs/benefits/students.html> or [www.aetnastudenthealth.com](http://www.aetnastudenthealth.com).

[Reviewed and Modified 5/16/16]

### Health Services for Students

IUPUI Campus Health Services, located in Coleman Hall, Room 100A and Campus Center E213, offers limited health services for all full-time students at IUPUI and is open Monday through Friday. Immunizations are provided on a fee-for-service basis. When using IUPUI Campus Health Services, those students not on the IU School of Medicine Student Health Insurance plan (see section on Health Insurance in this handbook) must pay prior to being treated and submit the documentation to their insurance companies for reimbursement. Students should contact their health insurance carrier provider prior to treatment. Clinic hours, available services, and other information is available at <https://studentaffairs.iupui.edu/health/medical/index.html>.

COVID-19 information is available through the IU Health portal at <https://coronavirus.iu.edu/guides/students.html>.

### Student Emergency Medical Care

Emergency medical attention is available at Eskenazi Hospital or by calling (317) 880-0000. Limited and emergency outpatient care is available from IUPUI Campus Health Services for students who are injured during their educational activities. More information is available at <http://health.iupui.edu/students/emergency.html>.

### Counseling and Psychological Services Center

The IUPUI Counseling and Psychological Service Center (CAPS) has professional staff available to provide individual or group counseling. CAPS provides direct professional psychological services, including crisis response, counseling, assessment, and referrals that are accessible to, and provide for, the general well-being of all IUPUI students. CAPS is located in Suite 220 in the Walker Plaza, 217 Indiana Avenue and can be contacted at (317) 274-2548 or on their website at <http://studentaffairs.iupui.edu/health-wellness/counseling-psychology/index.shtml>.

In the event of a medical and/or mental health emergency, contact 911 or the following 24-hour crisis resources:  
Crisis and Suicide Hotline: (317) 251-7575  
Midtown Mental Health Center (317) 554-2704  
Aspire Indiana Behavioral Health System 24 Hour Crisis Line: (800) 560-4038

### Immunizations

IUSD students are required to be immunized for protection against a number of infectious diseases, and most of these immunizations must be completed before the student matriculates. Details pertaining to specific immunization requirements are sent by the School of Dentistry to all incoming students.

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## Housing

### Campus Housing

While most IUSD students live off campus, assistance in locating campus housing is available through the Office of Housing and Residence Life at IUPUI. For information on types of housing available and how to apply for housing, please see the website at <https://studentaffairs.iupui.edu/housing/index.html>.

## Policies and Procedures

The Commission on Dental Accreditation (CODA) has approved all IUSD education programs without reporting requirements.

The following policies on academics, personal conduct and professionalism are available in the [IUSD Student Handbook](#):

- Academic Progress
- Academic Misconduct and Professional Behavior
- Assessments
- Attendance
- Academic Misconduct
- Clinic and Laboratory Policies
- Civility and Disorderly Conduct
- Civility on Websites Maintained on University Servers
- Compliance, Immunizations and GIS
- Criminal Background Checks
- Disabilities Accommodation Policy
- Dress Code
- Employment
- Equal Opportunity and Non-Discrimination/Sexual or Racial Harassment
- Grades and Testing
- Graduation Requirements
- Health Service and Health Insurance
- Mobile Device and Security
- Non-Retaliation and Whistleblower Policy
- Organizational Chart and Contact Information
- Patient Confidentiality
- Plagiarism
- Remediation
- Safety and Infection Control
- Scholarships
- Sexual Misconduct/Violence
- Smoking, Drugs and Alcohol
- Suspension or Dismissal for Academic Misconduct/Unprofessional Behavior

- Testing Policy
- Threatening Behavior and Violence
- Weapons Policy
- Work Study

### Complaint Policy

Educational programs at IUSD are fully accredited by the Commission on Dental Accreditation (CODA). It is the policy of this institution and CODA that all students should have an opportunity to file complaints with the Commission. A complaint is defined by the Commission on Dental Accreditation as an entity alleging that a Commission-accredited educational program, a program which has an application for initial accreditation pending, or the Commission may not be in substantial compliance with Commission standards or required accreditation procedures. The Commission on Dental Accreditation will review complaints that relate to a program's compliance with the accreditation standards. The Commission is interested in the sustained quality and continued improvement of dental and dental-related education programs but does not intervene on behalf of individuals or act as a court of appeals for treatment received by patients or individuals in matters of admission, appointment, promotion, or dismissal of faculty, staff or students.

A copy of the appropriate standards and/or the Commission's policy and procedure for submission of complaints may be obtained by contacting the Commission at 211 East Chicago Avenue, Chicago, IL 60611-2678 or calling 1-800-621-8099 extension 4653.

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## Doctor of Dental Surgery (D.D.S.) Program

- Admission
- Program Costs: Tuition and Fees
- Curriculum
- Institutional Competencies

### Admission

- Application Procedure
- Pre-dental Counseling
- Pre-dental Requirements
- Indiana University International Dentist Program
- Coordinated Curriculum for Doctor of Dental Surgery and Master of Public Health Degrees
- Combined Ph.D./D.D.S. Degree Program Requirements
- Program Costs: Tuition and Fees

## Application Procedure

Please refer to the [IUSD D.D.S. admissions website page](#) for the comprehensive description of the admissions process and procedures.

All applicants to IUSD must apply through the American Association of Dental Schools Application Service (AADSAS). Information is then sent in a standardized format to the dental schools as directed by the applicant. AADSAS begins accepting applications in early June each year. All D.D.S. applicants must submit an online application at the [ADEA](#) website. All IUSD applicants must submit applications to AADSAS by October 1, 2022. Applicants are encouraged to apply early in the cycle in order to maximize the opportunity for a fall interview. Depending on individual circumstances spring interviews *may* be granted.

The IUSD Dental Admissions Committee is charged with the responsibility, using a holistic review process, to review and select qualified and diverse candidates for admission to the D.D.S. program who best demonstrate the capability of advancing the oral and general health of diverse patient populations. The committee will consider your academic record (overall GPA and Science GPA), technical skills, Dental Admission Test (DAT) score, letters of academic recommendation, personal interview, CASPer Score, personal statement, short essay, and exposure to the field of dentistry, as well as your motivation, character, personality, and ethics.

Applicants are notified of admission no earlier than December 1 of each year. This date may change this year to December 15 per ADEA.

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## Pre-dental Counseling

Students who would like to discuss their academic programs should arrange appointments with pre-dental advisors on their own campus. Individuals who are not admitted or nontraditional applicants or applicants with unusual circumstances may request an advising appointment with the dental school's Division of Admissions (see Contact Information).

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## Pre-dental Requirements

Although students of all majors and educational backgrounds are encouraged to apply for admittance to the IU School of Dentistry (IUSD), the faculty of IUSD acknowledges that a strong foundation in Biology and Chemistry is essential to meeting the rigors of the curriculum. Therefore, these D.D.S. prerequisites must be completed before matriculation: <https://www.dentistry.iu.edu/index.php/prospective-students/admissions/D.D.S.-prerequisites/>

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## Indiana University International Dentist Program

The Indiana University International Dentist Program (IU-IDP) offers qualified graduates of international dental programs the opportunity to earn a D.D.S. degree at IUSD. The IU-IDP is a unique program with one separate, flat-rate tuition that is charged regardless of Indiana residency status. [Approved by the IU Board of Trustees, 6-7-17]. Applications are submitted through the Centralized Application for Advanced Placement for International Dentists (CAAPID), an online centralized application service managed by the American Dental Education Association (ADEA). Applicants are required to pass the Integrated National Board Dental Examination (INBDE) prior to submission of their CAAPID application. Selected applicants are interviewed. Currently we do not require the tooth preparation practical examination in the simulator unit (bench test).

The program is a minimum of 30 months. Accepted IU-IDP students matriculate in January of each year with the D2 class. Full details about the IDP program and admissions are available on the IUSD International Dentist Program web page at: <https://dentistry.iu.edu/admissions/how-to-apply/international-dentist-program.html>

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## Coordinated Curriculum for D.D.S. and Master of Public Health Degrees

In conjunction with the Richard M. Fairbanks School of Public Health at IUPUI, IUSD offers the option of a dual D.D.S./Master of Public Health (M.P.H.) degree. To learn more about the M.P.H. degree program, visit the School of Public Health's website at [www.pbhealth.iupui.edu](http://www.pbhealth.iupui.edu). The curriculum for the dual-degree program is described at this D.D.S./M.P.H. Coordinated Curriculum web page at: <https://dentistry.iu.edu/academics/degrees-programs/dds-mph/index.html>

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## Combined Ph.D./D.D.S. Degree Program

The objective of the Combined Ph.D./D.D.S. program is to provide a core curriculum that offers a solid scientific base for a career in research and teaching in the dental sciences of today and the future. Graduates from this combined program would be highly recruited to academic positions at Dental Schools. All applicants will need to fulfill all prerequisite dental requirements for admittance to the D.D.S. Program and apply through [AADSAS](#).

The AADSAS application deadline is December 1st. The DAT may be substituted for the GRE Examination. Applicants are also required to fill out the [University online application](#). The University Ph.D. application deadline is November 1. More information is available on the IUSD Combined Ph.D./D.D.S. Program web page at: <https://dentistry.iu.edu/academics/degrees-programs/dds-phd/index.html>.

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## Program Costs: Tuition and Fees for 2022-2023 Academic Year

Academic Year 2022-2023 cost of attendance for all IUSD academic programs is available here:

<https://dentistry.iu.edu/admissions/cost-financial-aid/index.html>

Enrollment in IUSD cannot be considered final until the student has been officially registered and paid the required tuition and fees by the deadlines established by the IUPUI Office of the Bursar. The IUPUI Office of the Bursar (<https://www.pay.iupui.edu/>) offers information regarding payment methods, billing deadlines and payment procedures.

The Division of Admissions block enrolls students each semester. Enrollment cannot be finalized until all previously incurred fees have been paid and students are compliant with IUSD and IU policies regarding health insurance and immunizations. For more information on insurance and immunizations, see the **Health and Safety** section of the [IUSD Student Handbook](#).

The Board of Trustees of Indiana University has established a late enrollment fee for students whose registration and financial obligations are not complete by the scheduled date. The Office of the Bursar also assesses monthly late fees on overdue balances. Students who are not officially enrolled may not attend classes, participate in laboratories or treat patients.

### Instruments

Students are required to make a substantial investment in instruments. All students are required to purchase a necessary consumables kit and rent the designated instruments as a complete set in its entirety. In addition to instruments rented by students, a separate fee is charged for use of IUSD common or shared instruments in the laboratories and the clinics. This fee is payable each semester and is based on the cost to IUSD to provide this service. Instrument purchase and rental fees are divided between the fall and spring semester.

### Financial Aid

Information on financial aid is sent to all incoming students upon their provisional acceptance to the D.D.S. program. Up-to-date information can be found on the IUSD website (<https://dentistry.iu.edu/admissions/cost-financial-aid/index.html>). A representative from the IUPUI Office of Student Financial Services (<https://inbursar.iupui.edu/contact.html>) meets with first-year dental students

during orientation, is routinely available for counseling appointments in IUSD, and is also accessible through email at [dentaid@iupui.edu](mailto:dentaid@iupui.edu). If it is necessary for a student to obtain a credit-based loan, students are encouraged to have their financial affairs in order before enrolling at IUSD.

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## Curriculum

### First-Year Curriculum

#### **DENT D500 Professional School Transitions (1.0 cr.)**

The purpose of this course is to introduce new dental students to the profession of dentistry. Each of the course topics focuses on elements of the practice of dentistry that have a professional dimension. As such, you will have your first experience in the patient care environment of a dental school clinic. You will learn about the development of psychomotor skills in your preclinical laboratory courses. Additionally, you will learn study skills to help you be successful in a rigorous professional school curriculum. Lastly, in collaboration with your colleagues, you will write a mission statement enumerating the expectations you have of yourselves as a professional community.

#### **DENT D501 Introduction to Patient Care I (2.0 cr.)**

This course provides students with the opportunity to apply, in a clinical care setting, the didactic content they are learning in the first year of the predoctoral curriculum. The course consists of lectures, laboratory exercises and partnered patient care experiences. Students will gain experience in preparation and disinfection of the dental operatory, use of personal protective equipment, patient data collection, use of the electronic health record system, conducting a caries risk assessment, providing effective patient education, and fluoride application. Successful completion of this course is a prerequisite for the second semester Introduction to Patient Care course.

#### **DENT D502 Introduction to Patient Care II (1.0 cr.)**

Continuation of Introduction to Patient Care I, with emphasis on application of risk assessment, and preventive therapies in a clinical setting.

#### **DENT D503 Relationship-centered Care: Behavioral Science, Ethics and Professionalism I (2.0 cr.)**

This course takes a relationship-centered care perspective in teaching and reinforcing foundational concepts of healthcare communication theory, humanism, civility, ethics, and professionalism.

**DENT D504 Dental Public Health (1.0 cr.)** This course provides an introduction to dental public health with emphasis on the role of dentistry in our local, national and international communities.

#### **DENT D505 Principles of Ethics and Behavioral Science (1.5 cr.)**

In this course you will learn about the principles of Ethics and Behavioral Science as they relate to the profession of dentistry. You will be introduced to ethical principles and

values, as well as a brief history of the development of dentistry as a profession. You will explore ethical issues related to dental school and dentistry, and the professional responsibilities, ethical standards, and behavioral science considerations involved in the doctor-patient relationship. Additionally, you will actively participate in sessions exploring ethical and behavioral issues related to communication in healthcare. Lastly, you will learn about the culture of IUSD and of your responsibilities to your professional education through practitioner and student panels.

**DENT D506 Evidence-based Dentistry and Information Literacy (1.0 cr.)**

In this course, you will begin to develop information literacy skills, strategies and methods of information acquisition enabling a clinical practitioner to assess the value and validity of the information. These skills will enable you to understand and begin to appropriately implement the practice of evidence-based decision-making in caring for your patients.

**DENT D510 General Microbiology, Infectious Disease, & Antimicrobial Therapy (3.0 cr.)**

This course is designed to expand the students' understanding of microbiology and infectious diseases and to complement student learning in concurrent biomedical and dental sciences courses. It prepares the student for the Systems Approach to Biomedical Sciences (SABS) courses in the following semester. The principles of pharmacology are introduced, including the basics of pharmacodynamics (what the drugs do to the body), pharmacokinetics (what the body does to the drug) and therapeutics (the use of a drug or combination of drugs to treat disease).

**DENT D511 Head and Neck Anatomy (2.0 cr.)**

This course focuses on Human Gross Anatomy (Macroscopic Anatomy) of the head and neck. Students will learn the locations and physical relationships of anatomical structures in the head and neck and be able to critically analyze clinical cases. This knowledge will provide the anatomical basis for specific diagnostic and treatment procedures currently used in dentistry and medicine.

**DENT D512 Molecular Cell Biology (4.0 cr.)**

Introduces dental students to the basic concepts of cellular and molecular biology. Course examines how cellular activity is regulated, how cells are structured, and how cells achieve homeostasis and interact with each other in multicellular systems. Structured to develop critical thinking skills as well as other knowledge acquisition.

**DENT D513 Head and Neck Anatomy Dissection Lab (1.0 cr.)**

This course focuses on Human Gross Anatomy (Macroscopic Anatomy) of the head and neck through the process of dissection. Students will build upon their knowledge of locations and physical relationships of anatomical structures in the head and neck during this laboratory course.

**DENT D514 Normal Oral Histology (2.0 cr.)**

The Normal Oral Histology course is designed to facilitate students' learning of the basic microscopic anatomy of the human body and apply that foundation to the microscopic

anatomy of the oral region. Students will learn the general methods of microscopic examination of tissues and apply it to the study of the oral region. This course provides a foundation for understanding physiology, pathology, pharmacology, oral pathology, periodontology and related clinical courses.

**DENT D515 Systems Approach to Biomedical Sciences I (5.0 cr.)**

This is part I of a two-semester sequence that presents basic sciences organized into specific organ systems. This course presents the first seven modules out of the total of eleven modules in the series. Each organ system module is designed to cover the development, structure, function, pathology and therapy of each system. Critical thinking skills are emphasized.

**DENT D518 Head and Neck Anatomy Dissection Lab (1.0 cr.)**

This course focuses on Human Gross Anatomy (Macroscopic Anatomy) of the head and neck through the process of dissection. Students will build upon their knowledge of locations and physical relationships of anatomical structures in the head and neck during this laboratory course.

**DENT D520 Risk Assessment, Prevention, & Early Management of Dental Disease (2.0 cr.)**

This course introduces students to the biofilm basis of common oral diseases, including caries and periodontal disease. Emphasis is placed on the assessment and identification of these diseases, and on the prevention and non-surgical therapeutics that are available for their treatment.

**DENT D521 Nonsurgical Periodontics (2.0 cr.)**

This course familiarizes the student with the principles and skills required to provide nonsurgical periodontal therapy.

**DENT D530 Tooth Morphology Lecture (1.0 cr.)**

The purpose of Tooth Morphology is to introduce students to the anatomical forms of the human dentition. In the lecture component of the course, students will learn to recognize normal tooth forms, identify permanent and deciduous teeth both individually and within normal jaw relationships, and describe the normal eruption sequence of primary and permanent teeth. Students will be expected to use appropriate nomenclature and terminology when describing teeth, parts of teeth, or other aspects of the oro-facial complex.

**DENT D531 Tooth Morphology Lab (1.5 cr.)**

In the Tooth Morphology Lab, students will begin to develop the manual skills necessary for the practice of Dentistry. Students will be required to reproduce normal tooth forms in wax. Wax is easily shaped and sculpted and is used as an intermediate stop in the fabrication of some types of restorations.

**DENT D532 Single Tooth Direct Restorations Lecture (1.0 cr.)**

Single Tooth Direct Restorations will introduce the student to the art and science of Operative Dentistry. Operative Dentistry has been recognized as the foundation of dentistry and the basis from which most other aspects of



dentistry begin. Operative Dentistry involves the diagnosis, treatment, prognosis and prevention of defects of the teeth. Such treatment should result in the restoration or maintenance of proper tooth form, function, and esthetics while maintaining the physiological integrity of the teeth in relationship with the adjacent hard and soft tissue. It includes direct patient care through diagnosis and prevention of caries and other dental defects followed by treatment planning of restorative options for these areas. This course will focus on treatment options that include executing various single tooth direct cavity preparations and subsequently restoring them with the appropriate dental restorative materials.

#### **DENT D533 Single Tooth Direct Restorations Lab (2.0 cr.)**

The Single Tooth Direct Restorations Lab course is intended to help students develop the manual skills necessary to prepare and restore the diseased or abnormal tooth to proper form and function. The preparation and restoration of a tooth requires the dentist to practice applied human biology and microbiology, use principles of mechanical engineering, possess a high degree of technical skills, and demonstrate artistic ability. Manual skills are a very important component of the proper preparation and restoration of teeth and are the foundation to the practice of dentistry. As such, this lab will require students to execute various single tooth direct preparations and restorations.

#### **DENT D534 Dental Materials (2.0 cr.)**

This course presents the basics of materials science needed by the general dental practitioner. The properties of materials: metals, ceramics, polymers, and composites will be related to their structure using basic laws and principles from physics, chemistry and engineering science. These properties will be related to the performance of the materials in dental applications. While no clinical experience will be gained in this course, students are prepared for understanding the use of specific dental materials in concurrent and later dental courses.

#### **DENT D535 Single Tooth Indirect Restorations Lecture (1.5 cr.)**

The Single Tooth Indirect Restorations course is a direct continuation of Single Tooth Direct Restorations, and students will be responsible for building upon the information and skills learned in that course. Students will be expected to understand the normal morphologic and physiologic characteristics of the dento-facial complex and the etiology, diagnosis and prevention of dental caries within the context of indirect restoration of single teeth.

#### **DENT D536 Single Tooth Indirect Restorations Lab (2.5 cr.)**

The purpose of the Single Tooth Indirect Laboratory is to apply the information acquired in D535 to hand skills developed through tooth preparation and the fabrication of indirect restorations. Students will be expected to become competent in indirect preparations and restorations including inlays, onlays, gold crowns and ceramic crowns. Students will be trained using computer aided design/

computer aided manufacturing technology as well as more traditional methods of fabrication.

#### **DENT D537 Introduction to Operative Dentistry (0.5 cr.)**

Introduction to Operative Dentistry will introduce the student to the art and science of Operative Dentistry which includes use of hand-pieces and rotary instruments, dental terminology, dental histology as it relates to single tooth direct preparations and restorations, cavity classifications, use of rubber dam and other isolation methods, preventive measures such as fluoride and pit & fissure sealants, and utilization of hand instruments to refine the cavity preparation and place direct restorations. After mastering this information, the student should be able to utilize this knowledge for single tooth direct preparations and restorations. Operative Dentistry has been recognized as the foundation of dentistry and the basis from which most other aspects of dentistry begin. Operative Dentistry involves the diagnosis, treatment, prognosis and prevention of defects of the teeth. Such treatment should result in the restoration or maintenance of proper tooth form, function, and esthetics while maintaining the physiological integrity of the teeth in relationship with the adjacent hard and soft tissue utilizing the basics acquired in D537- Introduction to Operative Dentistry. The preparation and restoration of a tooth requires the dentist to practice applied human biology and microbiology, use principles of mechanical engineering, possess a high degree of technical skills, and demonstrate artistic ability. The student will utilize the background knowledge obtained in Introduction to Operative Dentistry, Tooth Morphology, Dental Materials, and Gnathology to prepare and restore the diseased or abnormal tooth to proper form and function.

#### **DENT D540 Removable Prosthodontics Lecture I (1 cr.)**

The Removable Prosthodontics Lecture I is the first in a series of three courses that prepare the student for the examination, diagnosis and treatment of the edentulous or partially edentulous patient. The course is furthersupplemented by a concurrent laboratory course.

#### **DENT D541 Removable Prosthodontics Lab I (2 cr.)**

This laboratory course introduces the student to the fabrication of complete dentures, immediate dentures and overdentures.

#### **DENT D542 Removable Prosthodontics I (3.0 cr.)**

Removable Prosthodontics I is the first in a series of three courses preparing students for the examination, diagnosis and treatment of the edentulous patient. During the laboratory portion of the course, students will be introduced to the fabrication of complete dentures, immediate dentures and overdentures.

**DENT D543 Gnathology Lab (1 cr.)** During the Gnathology laboratory sessions, the student will learn to apply knowledge of head and neck anatomy and biomechanical principles of jaw motion to the maintenance and restoration of the stomatognathic system, assuring proper functions.

#### **DENT D550 Dental Radiography (2.0 cr.)**

Examines the normal form and function of the oral and maxillofacial complex, with emphasis on the fundamentals of intraoral imaging techniques and radiation safety.

**DENT D551 Oral Diagnosis and Treatment Planning (1.0 cr.)**

Introduces the student to the methods of the diagnostic process, including patient assessment and evaluation, interpretation of findings and accurate recording of findings in the electronic health record. Students will be formulating and presenting a treatment plan that addresses the patient's dental needs in an orderly and appropriate sequence.

**DENT D560 Local Anesthesia (1.0 cr.)**

This course prepares the student for the clinical administration of local anesthetic drugs. Course reviews the neurophysiology of local anesthetic action, and the pharmacology of commonly used anesthetic medications. Introduced students to the armamentarium used to deliver local anesthetic, and the techniques of maxillary, mandibular and supplemental injections. Presents local and systemic complications and the management of those complications.

**Second-Year Curriculum**

**DENT D600 Clinical Procedures (2.5 cr.)**

This course is the continuation of the Introduction to Patient Care courses in the first year of the DDS curriculum. Students participate in a variety of clinically focused educational experiences in the IUSD clinics which include, but are not limited to, observations, assisting, and direct patient care.

**DENT D601 Applied Clinical Dentistry I (1.0 cr.)**

The purpose of the Applied Clinical Dentistry courses is to prepare students for the comprehensive care of patients by building upon foundational knowledge and experience gained in the first year of the program. Students will have opportunities for in depth training on document patient assessment and recording data in the electronic health record, with special emphasis on proper documentation of medications, coding and compliance. Additionally, students will be introduced to the foundations of comprehensive treatment planning and have opportunities for expanded laboratory techniques, preclinical exercises, special topics in patient care, and limited direct patient care.

**DENT D602 Applied Clinical Dentistry (1.0 cr.)**

The purpose of the Applied Clinical Dentistry course is to prepare students for the comprehensive care of patients by building upon foundational knowledge and experience gained in the first three semesters of the program. Students will have opportunities for in-depth training on documentation, patient assessment, and recording data in the electronic health record, with special emphasis on proper documentation of medications, coding, and compliance. Students will have opportunities to participate Emergency Clinic, Screening Clinic, and to provide limited direct patient care in their Comprehensive Care Clinic.

**DENT D603 Relationship-centered Care: Behavioral Science, Ethics and Professionalism (2.0 cr.)**

This course takes a relationship-centered care perspective in teaching and reinforcing foundational concepts of healthcare communication theory, humanism, civility, ethics, and professionalism.

**DENT D615 Systems Approach to Biomedical Sciences II (5.0 cr.)**

The purpose of this course is to present basic biomedical science information in an integrated manner across the fundamental systems operating in the human body. Using this educational approach will allow the student to relate the information presented in lectures and laboratories in a comprehensive manner for each system. To this end, rather than presenting the basic sciences in the traditional, individual discipline manner (Embryology, Histology, Anatomy, Biochemistry, Physiology, Microbiology, Pathology and Pharmacology), the course material is organized into individual modules encompassing the various "systems" of the body.

**DENT D618 Craniofacial Growth and Development (1.0 cr.)**

The purpose of the Craniofacial Growth and Development course is to provide foundational knowledge of the processes of craniofacial growth and development and their relationship that can be used to assess, diagnosis, and treat patients. Growth and development of the normal and abnormal craniofacial complex is presented from prenatal development through adulthood. Students will learn normal and some abnormal variations of craniofacial growth and development. Students will be able to relate such basic science information (e.g. developmental biology, clinical genetics) to craniofacial growth and development. When possible, these normal and variants of normal will be related to clinical situations.

**DENT D630 Clinical Applications of Cariology and Operative Dentistry I (1.0 cr.)**

The purpose of the Clinical Applications of Cariology and Operative Dentistry Concepts course is to reinforce and build upon the material introduced in D520 Risk Assessment, Prevention, and Early Management of Dental Disease, D532/D533 Single Tooth Direct Restorations and D535/536 Single Tooth Indirect Restorations courses. Students will be expected to understand the continuum of caries management from detection and diagnosis to surgical intervention, with an emphasis on clinical relevance and application. Course lecture topics will include: caries detection and diagnosis, risk assessment, remineralization, erosion, cavity liners and bases, pulp therapy, secondary caries, ceramic restorations, posterior resin composites, and restoration longevity. Laboratory exercises include: caries detection, risk assessment, preventive techniques, and anterior direct esthetic restorations.

**DENT D631 Clinical Applications of Cariology and Operative Dentistry II (1.0 cr.)**

This course is a continuation of D630 and students will be expected to understand the continuum of caries management from detection and diagnosis to surgical intervention, with an emphasis on clinical relevance and application. Course lecture topics will focus on appropriate selection and use of the variety of restorative modalities

available. Laboratory exercises include anterior and posterior direct esthetic restorations.

**DENT D641 Removable Prosthodontics II (3.0 cr.)**

The Removable Prosthodontic courses continue the preparation of the student for patient care by enhancing the student's foundational and clinical knowledge base and continuing their development of manual skills. The purpose of the Removable Prosthodontics II course is to build upon the foundational content presented in Removable Prosthodontics I by continuing to prepare students for the examination, diagnosis, treatment planning and treatment of the edentulous patient requiring uncomplicated treatment. Accordingly, students will be exposed to didactic and laboratory experiences, which will enable them to achieve the needed knowledge and skills.

**DENT D645 Fixed Prosthodontics I (5.0 cr.)**

The student's knowledge of tooth morphology and occlusion, dental materials and single tooth indirect procedures will be applied to the dentulous patient requiring more extensive treatment. This portion of the curriculum will also integrate basic science concepts into the treatment of the patient. From the information learned prior to and during this course the student will be able to diagnose, treatment plan and treat the uncomplicated fixed prosthodontic patient. During the laboratory sessions of Fixed Prosthodontics I, the student will learn to apply the knowledge of tooth preparation, indirect procedures, oral anatomy, biomechanical principles of jaw motion and dental material concepts to restore the stomatognathic system, assuring proper function and esthetics.

**DENT D646 Fixed Prosthodontics II (5.0 cr.)**

A continuation of Fixed Prosthodontics I, this course further develops students' knowledge of tooth morphology, occlusion, dental materials and indirect procedures in the context of a dentulous patient requiring more extensive treatment. The laboratory component of the course will focus on tooth preparation, indirect procedures, oral anatomy, biomechanical principles of jaw motion and dental material concepts to restore the stomatognathic system, assuring proper function and esthetics.

**DENT D650 Radiographic Interpretation (1.0 cr.)**

This course increases the skills of the dental student in interpreting intraoral and extraoral diagnostic images with emphasis on identifying normal radiographic anatomy, imaging artifacts and commonly occurring oral abnormalities and diseases.

**DENT D651 Oral and Maxillofacial Pathology (4.0 cr.)**

This course continues the concepts of normal form and function of the oral and maxillofacial complex presented earlier in the curriculum. Disease processes that affect this region and their underlying pathophysiology will be discussed.

**DENT D652 Oral and Maxillofacial Pathology: Clinical Pathologic Conference (2.0 cr.)**

This course builds on the basic knowledge gained in the Oral and Maxillofacial Pathology course to enable the student to place the knowledge of oral pathology in the context of clinical presentations of patients.

**DENT D660 Fundamentals of Oral and Maxillofacial Surgery (1.0 cr.)**

Fundamentals of Oral and Maxillofacial Surgery is the didactic introduction to the surgical management of the dental patient. The course is designed to provide the dental student with the basic knowledge to perform minor oral and maxillofacial surgical procedures. Course material will be presented in a lecture format.

**DENT D661 Fundamentals of Clinical Medicine (2.0 cr.)**

This course has been established to prepare the dental student for the practice of clinical dentistry as it applies to the medically complex patient. The process of acquiring a thorough medical history, identifying at-risk patients, application of pharmacology related to and co-existing disease and the proper management of medical emergencies will be explored. Information will be presented using several different formats. (1) Material will be provided in lecture format, (2) material will be provided through "on-line" presentations, (3) material will be presented in a case format, and (4) there will be required texts with assigned reading.

**DENT D670 Endodontics Lecture (1.0 cr.)**

This course is an introduction to basic endodontic procedures and related biological principles. Lectures and laboratory assignments relate to etiology, diagnosis, prevention, and treatment of disease and injuries of the pulp and periapical tissues to prepare students to treat endodontic patients in IUSD clinics. Didactic, laboratory and clinical instruction in endodontics has as its goals the acquisition of clinical knowledge and its biological basis and the acquisition of clinical skills. In presenting this material it is understood that supplementary information and skills will be included in the overall dental curriculum. At the completion of pre-doctoral instruction, the graduating dentist should be well qualified to pass the endodontic portion of the National Board Examination.

**DENT D671 Endodontics Lab (1.0 cr.)**

This course is an introduction to basic endodontic procedures and related biological principles. Laboratory assignments relate to etiology, diagnosis, prevention, and treatment of disease and injuries of the pulp and periapical tissues to prepare students to treat endodontic patients in IUSD clinics. Didactic, laboratory and clinical instruction in endodontics has as its goals the acquisition of clinical knowledge and its biological basis and the acquisition of clinical skills. In presenting this material it is understood that supplementary information and skills will be included in the overall dental curriculum. At the completion of pre-doctoral instruction, the graduating dentist should be well qualified to pass the endodontic portion of the National Board Examination. The scope of the course includes preparing the student to understand, recognize, diagnose and successfully treat pulpally involved or potentially pulpally involved teeth.

**DENT D680 Orthodontics (2.0 cr.)**

The purpose of this course is to introduce the student to the specialty of orthodontics and its role in total patient care. The lectures will introduce students to basic orthodontic terminology, diagnostic techniques, and methods of managing common malocclusions. The laboratory will provide students with an opportunity

to utilize different orthodontic materials in order to complete diagnostic records; trace and measure lateral cephalometric head -plates; perform an orthodontic clinical evaluation; become familiar with diagnosis and treatment planning procedures; construct retainers, and place orthodontic appliances. This course will prepare the student for the clinical treatment of patients needing limited orthodontic tooth movement.

#### **DENT D690 Pediatric Dentistry (2.5 cr.)**

The purpose of the Pediatric Dentistry Didactic and Technique course is to present the fundamentals of diagnosis and treatment modalities for the management of the young patient including the healthy child and those with physical or intellectual disabilities. This course is a prerequisite for the Pre-doctoral Pediatric Dentistry Clinic rotation.

### **International Dental Program Courses**

#### **DENT T642 IDP Transitions (4.0 cr.)**

This course is designed for students newly admitted to the International Dental Program (IDP) and is intended to assist students with acclimating and transitioning into the program. Students will participate in a variety of orientation and educational activities including introductions/reviews of: navigating university systems and resources, intercultural communication, axiUm electronic health record training, Ethics and Professionalism, Behavioral Science, Evidence-based Dentistry, Local Anesthesia, Radiology Technique, Cariology, and hand skill diagnostics.

#### **DENT T643 Dental Sciences for IDP (5.0 cr.)**

The purpose of this course is to assist students enrolled in the IUSD International Dental Program in the development and acquisition of the knowledge, psychomotor skills, critical thinking, problem solving, communication, professional conduct, behavior and self-assessment skills necessary to provide optimal dental treatment to their patients. The course consists of several discipline specific modules each with specific learning objectives and methods of assessment. At the completion of Dental Sciences for IDP, students should be able to: perform to a clinically acceptable standard those techniques and procedures presented in the component modules, gather diagnostic information, diagnose and treatment plan for the uncomplicated dental patient, and self-assess performance and/or simulated patient treatment quality and make appropriate modifications.

**DENT T644 IDP Critical Thinking Skills (1.0 cr.)** IDP Critical Thinking Skills will utilize modules to provide students in the International Dentist Program with required foundational knowledge, skills, and values found in the traditional DDS curriculum, and support the development and enhancement of critical thinking skills

### **Third-Year Curriculum**

#### **DENT D700 Clinical Procedures (4.5 cr.)**

The purpose of the Clinical Procedures Course is to provide clinical patient experiences to students during the summer between the D2 and D3 years. Students will begin the process of comprehensive patient care by participating in screening clinics, diagnosis and treatment planning and the treatment of assigned patients. This course will begin to guide students through their

development of the knowledge, skills and values needed for the competent independent practice of dentistry.

#### **DENT D701 Dental Rounds I (1.0 cr.)**

In third-year Dental Rounds, students will participate in weekly seminars with Clinic Directors to discuss clinical problems in the practice of dentistry. Students will be expected to present a thorough diagnostic work-up and comprehensive treatment plan for a current patient of record. Students will consider relevant biobehavioral, biomedical, ethical and current best evidence related to patient treatment. Additionally, various topics pertinent to the practice of dentistry will be discussed.

#### **DENT D702 Dental Rounds II (1.0 cr.)**

In third-year Dental Rounds, students will participate in weekly seminars with Clinic Directors to discuss clinical problems in the practice of dentistry. Students will be expected to present a thorough diagnostic work-up and comprehensive treatment plan for a current patient of record. Students will consider relevant biobehavioral, biomedical, ethical and current best evidence related to patient treatment. Additionally, various topics pertinent to the practice of dentistry will be discussed.

#### **DENT D703 Applied Clinical Patient Management I (GLA) (1.0 cr.)**

The purpose of the Applied Clinical Patient Management course is to provide an opportunity for students to increase their knowledge and skill in treatment planning and patient management using specially designed patient scenarios. Through mentor facilitation of the scenario presentation and discussion, students improve their ability to identify and apply evidence-based information required to appropriately manage a patient.

#### **DENT D704 Applied Clinical Patient Management II (1.0 cr.)**

The purpose of the Applied Clinical Patient Management course is to provide an opportunity for students to increase their knowledge and skill in treatment planning and patient management using specially designed patient scenarios. Through mentor facilitation of the scenario presentation and discussion, students improve their ability to identify and apply evidence-based information required to appropriately manage a patient.

#### **DENT D705 Practice Administration I (1.0 cr.)**

The purpose of the Practice Administration I course is to introduce dental students to the principles and philosophy of practice administration including essential financial concepts, employment options, a variety of practice models, and to provide an opportunity for identifying those business skills which will enable them to become functional practitioners in their chosen practice setting. Topics which will be addressed over the course of two semesters include: Basic Financial Literacy, Trends in Dentistry, Career Opportunities, Use of Consultants, Obtaining Financing, Associateships, Purchasing a Practice, Staffing and Staff Management, Patient Scheduling/Recall Records, and Financial Operations.

#### **DENT D706 Practice Administration II (1.0 cr.)**

In Practice Administration II, students will continue to be introduced to the principles and philosophy of practice

administration including essential financial concepts, employment options, a variety of practice models, and to provide an opportunity for identifying those business skills which will enable them to become functional practitioners in their chosen practice setting. Topics which will be addressed over the course of two semesters include: Basic Financial Literacy, Trends in Dentistry, Career Opportunities, Use of Consultants, Obtaining Financing, Associateships, Purchasing a Practice, Staffing and Staff Management, Patient Scheduling/Recall Records, and Financial Operations

#### **DENT D707 Comprehensive Care and Patient Management I (1.0 cr.)**

Comprehensive Care and Patient Management I is the first in a series of four clinical courses focused on the comprehensive care and management of dental patients. This course emphasizes the clinical application and integration of knowledge about the principles of basic and dental sciences attained in the first two years of the curriculum. Students will participate in a variety of clinical experiences, and will be expected to consider the comprehensive treatment possibilities for individual patient care situations, from diagnosis and treatment planning through maintenance.

#### **DENT D708 Comprehensive Care and Patient Management II (1.0 cr.)**

Comprehensive Care and Patient Management I is a continuation of D707, and is the second in a series of four clinical courses focused on the comprehensive care and management of dental patients. This course emphasizes the clinical application and integration of knowledge about the principles of basic and dental sciences attained in the first two years of the curriculum. Students will participate in a variety of clinical experiences, and will be expected to consider the comprehensive treatment possibilities for individual patient care situations, from diagnosis and treatment planning through maintenance.

**DENT D710 Applied Biomedical-Clinical Sciences Case Conference (1.0 cr.)** The purpose of this course is to prepare students for the integration and application of biomedical, behavioral, and clinical sciences which is essential for comprehensive evidence-based patient care. Biomedical and behavioral sciences topics will be reinforced through the critical analysis of patient cases and other methods of integration.

#### **DENT D721 Surgical Periodontics I (1.0 cr.)**

This is an introductory course to periodontal surgical procedures. This course will familiarize the student with various surgical procedures that can be utilized when patients have periodontal defects that have not responded to non-surgical periodontal procedures and/or may benefit from surgical procedures to facilitate restorative dental needs. It will be important for the student to understand the indications and contraindications for the various surgical procedures so that the optimal clinical outcome may be achieved for the patient.

#### **DENT D722 Surgical Periodontics II (1.0 cr.)**

The purpose of this course is to familiarize the dental student with advanced periodontal surgical procedures. By knowing the indications and contraindications for periodontal surgical therapy, the dental student will be

able to discuss periodontal treatment modalities with patients and understand the referral process when addressing specific periodontal diseases and conditions.

#### **DENT D723 Clinical Periodontics I (1.5 cr.)**

Clinical Periodontics I is the first in a series of four clinical courses in Periodontics. The primary goal of these courses is to give students the opportunity to learn the basic concepts and develop clinical competency in: periodontal examination, periodontal charting and record keeping, diagnosis of periodontal diseases, periodontal treatment planning, dental prophylaxis, periodontal scaling & root planing, periodontal maintenance, management of periodontal emergencies, and appropriate referral of periodontal patients. A secondary goal of these courses is to teach students the fundamentals of periodontal surgery. Students will be required to assist graduate periodontics students during surgical procedures and, when deemed capable, will have the opportunity to perform periodontal surgeries on their own patients.

#### **DENT D724 Clinical Periodontics II (1.0 cr.)**

Clinical Periodontics II is the second in a series of four clinical courses in Periodontics. The primary goal of these courses is to give students the opportunity to learn the basic concepts and develop clinical competency in: periodontal examination, periodontal charting and record keeping, diagnosis of periodontal diseases, periodontal treatment planning, dental prophylaxis, periodontal scaling & root planing, periodontal maintenance, management of periodontal emergencies, and appropriate referral of periodontal patients. A secondary goal of these courses is to teach students the fundamentals of periodontal surgery. Students will be required to assist graduate periodontics students during surgical procedures and, when deemed capable, will have the opportunity to perform periodontal surgeries on their own patients.

#### **DENT D731 Advanced Restorative Dentistry I (1.0 cr.)**

The purpose of this course is to explore restorative principles in greater depth, review basic principles in light of the third-year students' clinical experiences. It updates information from the restorative literature since their first-year experience. Restorative materials' properties are reviewed in the context of clinical applications. Material choice and handling techniques are taught primarily through case presentations of actual patients. Rationale for material choice and techniques in each case is reviewed in depth and supported with literature when available.

#### **DENT D732 Advanced Restorative Dentistry II (1.0 cr.)**

The purpose of this course is to explore restorative principles in greater depth, review basic principles in light of the third-year students' clinical experiences. It updates information from the restorative literature since their first-year experience. Restorative materials' properties are reviewed in the context of clinical applications. Material choice and handling techniques are taught primarily through case presentations of actual patients. Rationale for material choice and techniques in each case is reviewed in depth and supported with literature when available.

#### **DENT D733 Dental Materials (1.0 cr.)**

This course is designed to broaden student knowledge of dental materials. The dental materials that are in use at IUSD are but a small fraction of those that are available for purchase. One purpose of this course is to advance student knowledge and skill in material selection. In this way, the risk to patients due to poor materials selection will be minimized. Furthermore, the cost of dental care can be better managed.

**DENT D735 Cariology and Operative Dentistry Clinic I (2.5 cr.)**

Cariology and Operative Dentistry Clinic I is the first in a series of four courses that provides students with supervised clinical experiences in Cariology and Operative Dentistry. This courses will enable the student, upon graduation, to be competent and proficient in the diagnosis and management of dental caries and other dental conditions requiring non-surgical (preventive) treatment or direct restorative care using dental amalgam and resin composite, which are required experiences for graduation, and are evaluated by the Caries Risk Assessment Competency in the 3rd year, and the Operative Dentistry Clinical Competency exam in the 4th year. Additionally, students may obtain clinical experiences involving glass ionomer, cosmetic resin bonding, sealants, direct and indirect pulp therapy, control of rampant caries, provisional and sedative restorations, repair of castings, and direct gold.

**DENT D736 Cariology and Operative Dentistry Clinic II (2.5 cr.)**

Cariology and Operative Dentistry Clinic II is a continuation of the Fall Semester course and provides students with supervised clinical experiences in Cariology and Operative Dentistry. This courses will enable the student, upon graduation, to be competent and proficient in the diagnosis and management of dental caries and other dental conditions requiring non-surgical (preventive) treatment or direct restorative care using dental amalgam and resin composite, which are required experiences for graduation, and are evaluated by the Caries Risk Assessment Competency in the 3rd year, and the Operative Dentistry Clinical Competency exam in the 4th year. Additionally, students may obtain clinical experiences involving glass ionomer, cosmetic resin bonding, sealants, direct and indirect pulp therapy, control of rampant caries, provisional and sedative restorations, repair of castings, and direct gold.

**DENT D739 Health Promotion and Disease Prevention Rotation (NONE cr.)**

The IUSD service programs (Community-based Dental Education) aim at connecting meaningful community service experiences with academic and personal growth, as well as civic responsibility. The Health Promotion and Prevention Rotation (SEAL INDIANA) is a part of IUSD 3rd year dental student rotations and a requisite to be eligible towards the Community-based Dental Education Competency. This rotation is based on service-learning methodology and includes broad preparation, and reflection to help students understand the role of dentistry in the community, the nation and the world. The rotation includes a 3 day visit to community sites aimed at preparing future dentists for the growing diversity in the communities of Indiana and other states.

**DENT D740 Prosthodontics Seminar (1.0 cr.)**

Clinically oriented lecture and seminar course, integrating prosthodontics principles of previous courses. Small group seminars discuss diagnosis and treatment planning with combined fixed and removable prosthodontics treatment.

**DENT D741 Advanced Occlusion (1.0 cr.)**

The Advanced Occlusal Studies course is designed to provide students with a clinical orientation to the principles learned in the Gnathology and Complete Dentures courses. This course will provide a historical perspective of the concepts of occlusion and will enable students to enhance their technical skills.

**DENT D742 Introduction to Dental Implants (2.0 cr.)**

The purpose of Introduction to Dental Implants is to provide third-year dental students with the opportunity to become familiar with implant dentistry. Students will be introduced to foundational concepts that will prepare them to recognize when dental implant is an appropriate treatment method and to determine when referral is needed.

**DENT D743 Complete Denture Clinic I (0.5 cr.)**

Complete Denture Clinic I is the first in a series of courses providing clinical instruction and practice in complete denture prosthodontics. Experience is gained in diagnosis, treatment planning, and patient treatment for patients requiring complete denture prostheses.

**DENT D744 Complete Denture Clinic II (0.5 cr.)**

Complete Denture Clinic II is a continuation of D743 Complete Denture Clinic I and provides students with clinical instruction and practice in complete denture prosthodontics. Experience is gained in diagnosis, treatment planning, and patient treatment for patients requiring complete denture prostheses.

**DENT D745 Removable Partial Denture Clinic I (0.5 cr.)**

Removable Partial Denture Clinic I is the first in a series of courses providing clinical instruction and practice in removable partial denture prosthodontics. Experience is gained in diagnosis, treatment planning, and patient treatment for patients requiring removable partial denture prostheses.

**DENT D746 Removable Partial Denture Clinic II (0.5 cr.)**

Removable Partial Denture Clinic II is a continuation of Removable Partial Denture Clinic I and provides students with clinical instruction and practice in removable partial denture prosthodontics. Experience is gained in diagnosis, treatment planning, and patient treatment for patients requiring removable partial denture prostheses.

**DENT D747 Fixed Prosthodontics Clinic I (0.5 cr.)**

Fixed Prosthodontics Clinic I is the first in a series of courses providing clinical instruction and practice in fixed prosthodontics. Students will gain experience in diagnosis, treatment planning, and patient treatment for patients requiring fixed prostheses.

**DENT D748 Fixed Prosthodontics Clinic II (0.5 cr.)**

Fixed Prosthodontics Clinic II is a continuation of Fixed Prosthodontics Clinic I and provides students with clinical

instruction and practice in fixed prosthodontics. Students will gain experience in diagnosis, treatment planning, and patient treatment for patients requiring fixed prostheses.

#### **DENT D749 Implant Clinic I (0.5 cr.)**

Implant Clinic I is the first in a series of three clinical courses designed to provide students clinical experience in dental implants. The purpose of the course is to provide introductory concepts that should allow students to recognize the possibility of implant dentistry as a treatment method, make wise referrals when appropriate, and to provide clinical treatment with dental implants involving simple fixed and removable restorations.

#### **DENT D751 Clinical Radiology I (0.5 cr.)**

Students will gain clinical experience in obtaining and interpreting diagnostic imaging surveys for their patients. In providing care for their patients, students will be expected to select appropriate radiographic surveys, obtain diagnostic images, and demonstrate competence in the interpretation of intraoral and panoramic images in terms of anatomic structures, errors, artifacts, caries, and pathologic processes.

#### **DENT D752 Clinical Radiology II (1.0 cr.)**

Clinical Radiology students will begin implementing CBCT, virtual planning concepts, and 3D printing into the clinical radiology rotation. Students are expected to understand the fundamentals of virtual planning, 3D design, 3D printing and also how to apply this concept into different specialties.

#### **DENT D755 Orofacial Pain (1.0 cr.)**

This course emphasizes proper diagnosis of various orofacial pain manifestations and appropriate treatment approaches. It is designed to provide learners with integrated biomedical and clinical knowledge to assist them in understanding the dentist's role in managing complex orofacial pain disorders. The course also provides an introduction to obstructive sleep apnea.

#### **DENT D760 Pain and Anxiety Management (1.0 cr.)**

Pain and anxiety control is a fundamental skill for successful dental practice. A competent dentist should be able to select an appropriate method of pain and anxiety control for each patient under his/her care. The purpose of this course is to acquaint the student with the basic didactic theories of pain and anxiety control for managing patients in contemporary dental practice.

#### **DENT D761 Advanced Oral Surgery Concepts (1.0 cr.)**

The Advanced Oral Surgery Concepts course exposes the student to advanced aspects of oral and maxillofacial surgery, the dental specialty that is involved in the diagnosis, management and treatment of injuries, deformities, and pathology of the maxillofacial region. The general dentist is the first diagnostician who may be involved in these conditions and as such should have a basic knowledge to diagnose and refer, and the ability to follow the progression of their patient's care once the referral is made. This requires knowledge of the various interventions provided by the oral and maxillofacial surgeon. The course will provide the student with an

understanding of the various management interventions that may be used by an oral and maxillofacial surgeon.

#### **DENT D763 Pharmacotherapeutics (2.0 cr.)**

This course is designed to broaden student knowledge of pharmacology and therapeutics. Patients will be on a variety of medications that will impact dental practice. One purpose of this course is to advance student knowledge of the medications patients are taking for differing medical conditions. In this way, the risk to patients due to drug interactions will be minimized.

#### **DENT D765 Oral Surgery Clinic Rotation I (0.5 cr.)**

Oral Surgery Rotation I is structured for students to gain clinical experience in basic oral and maxillofacial surgery. All predoctoral students will participate in clinical experiences each semester in the Oral Surgery Clinic. The clinical experiences will provide the opportunity for students to use their knowledge from the didactic curriculum and apply it to patient care.

#### **DENT D766 Oral Surgery Clinic Rotation II (0.5 cr.)**

Oral Surgery Rotation II is a continuation of the Oral Surgery Rotation I course. The course is structured for students to gain clinical experience in basic oral and maxillofacial surgery. All predoctoral students will participate in clinical experiences each semester in the Oral Surgery Clinic. The clinical experiences will provide the opportunity for students to use their knowledge from the didactic curriculum and apply it to patient care.

#### **DENT D767 Hospital Dentistry Rotation (0.5 cr.)**

The purpose of the Hospital Dentistry rotation is to expose the student to the management of patients referred for dental treatment within the hospital environment, patients with complex medical conditions and patients with neurodevelopmental disorders (intellectual and developmental disabilities or IDD). This rotation is structured to supplement the knowledge base from the didactic curriculum so that the student will achieve knowledge to manage patients' care. Management of patients' care depends on the specific medical and dental diagnoses and may entail the ability to monitor or coordinate care provided by others, refer the patient to another health care provider, or perform the actual procedure.

#### **DENT D771 Clinical Endodontics I (0.5 cr.)**

The purpose of Clinical Endodontics I is to provide students with initial clinical exposure to endodontics. Students will participate in lecture and laboratory exercises pertaining to isolation, anesthetic, and diagnostic techniques related to endodontic diagnosis and treatment.

#### **DENT D772 Clinical Endodontics II (0.5 cr.)**

Clinical Endodontics II is a continuation of Clinical Endodontics I, and provides students with initial clinical exposure to endodontics. Students will participate in lecture and laboratory exercises whereby clinical skills such as accessing, filing, and obturation of extracted and artificial teeth will be conducted. Furthermore, advanced clinical armamentarium including rotary instrumentation, ultrasonic use, various obturation methodologies and use of microscopic observation for treatment will be completed. Lastly, students will gain exposure to

endodontic care and treatment, which will include topics related to incision and draining procedures, pulpotomy/pulpectomy procedures and management of traumatic cases.

**DENT D790 Pediatric Dentistry Clinical Rotation I (0.5 cr.)**

The purpose of Pediatric Dentistry Clinical Rotation I is to prepare the student dentist for the care of the oral health of the child patient. This course is a supervised clinical experience in the practice of dentistry for children subsequent to the lecture and technique course. Satisfactorily completing the didactic and technique course is a prerequisite. It is comprised of clinical experience in the diagnosis, treatment planning, caries risk assessment and caries risk management with preventive measures and typical treatment procedures for typical children.

**DENT D791 Pediatric Dentistry Clinical Rotation II (0.5 cr.)**

The purpose of Pediatric Dentistry Clinical Rotation II is to prepare the student dentist for the care of the oral health of the child patient. This course is a supervised clinical experience in the practice of dentistry for children subsequent to the lecture and technique course. Satisfactorily completing Pediatric Dentistry Clinical Rotation I is a prerequisite. It is comprised of clinical experience in the diagnosis, treatment planning, caries risk assessment and caries risk management with preventive measures and typical treatment procedures for typical children.

**DENT T771 Community Based Education III, Part I (.5-3-3 cr.)** This elective course aims at connecting meaningful community service experiences with academic and personal growth, as well as civic responsibility. Students have the opportunity to enroll in the elective service learning, international service learning, and community service sections. Repeatable for credit; maximum of 12 credit hours.

**DENT T772 Community Based Education III, Part II (.5-3-3 cr.)** This elective course aims at connecting meaningful community service experiences with academic and personal growth, as well as civic responsibility. Students have the opportunity to enroll in the elective service learning, international service learning, and community service sections. Repeatable for credit; maximum of 12 credit hours.

**Fourth-Year Curriculum**

**DENT D800 Clinical Procedures (4.5 cr.)**

The purpose of the Clinical Procedures Course is to provide clinical patient experiences to students during the summer between the D3 and D4 years. Students continue comprehensive patient care by participating in screening clinics, diagnosis and treatment planning, treatment of assigned patients, and participating in assigned rotations. This course will continue to guide students through their development of the knowledge, skills and values needed for the competent independent practice of dentistry.

**DENT D801 Dental Rounds III (1.0 cr.)**

In fourth-year Dental Rounds, students will participate in weekly seminars with Clinic Directors to discuss clinical problems in the practice of dentistry. Students will be

expected to assess their original treatment plan of a patient of record and determine whether treatment was properly sequenced, what positive and negative outcomes derived from actual treatment, and what maintenance and/or future treatment the patient might require. Students will consider relevant biobehavioral, biomedical, ethical and current best evidence related to patient treatment. In the fourth-year, students will choose one of their case presentations to present as their Outcomes of Treatment Competency exam.

**DENT D802 Dental Rounds IV (1.0 cr.)**

In fourth-year Dental Rounds, students will participate in weekly seminars with Clinic Directors to discuss clinical problems in the practice of dentistry. Students will be expected to assess their original treatment plan of a patient of record and determine whether treatment was properly sequenced, what positive and negative outcomes derived from actual treatment, and what maintenance and/or future treatment the patient might require. Students will consider relevant biobehavioral, biomedical, ethical and current best evidence related to patient treatment. In the fourth-year, students will choose one of their case presentations to present as their Outcomes of Treatment Competency exam.

**DENT D805 Jurisprudence (1.0 cr.)**

The Jurisprudence course will expose students to legal principles that impact dentistry and business. Additionally, this course will familiarize students with the Indiana Dental Law as promulgated by the Indiana General Assembly and Indiana Dental Board.

**DENT D806 Dental Practice Extramural (0.5 cr.)**

The primary goal of the Dental Practice Extramural course is to supplement and enhance the practice management aspect of the curriculum by placing new fourth year dental students in the private practice environment where they can observe, be instructed and participate in office management activities. It will also provide an opportunity for students to explore future private practice opportunities.

**DENT D807 Comprehensive Care and Patient Management III (3.5 cr.)**

Comprehensive Care and Patient Management III is the third in a series of four clinical courses focused on the comprehensive care and management of dental patients. This course emphasizes the clinical application and integration of knowledge about the principles of basic and dental sciences attained in the first two years of the curriculum. Students will participate in a variety of clinical experiences, and will be expected to consider the comprehensive treatment possibilities for individual patient care situations, from diagnosis and treatment planning through maintenance.

**DENT D808 Comprehensive Care and Patient Management IV (3.5 cr.)**

Comprehensive Care and Patient Management IV is the fourth and final clinical course in the DDS curriculum focusing on the comprehensive care and management of dental patients. This course emphasizes the clinical application and integration of knowledge about the principles of basic and dental sciences attained in the



first two years of the curriculum. Students will participate in a variety of clinical experiences, and will be expected to consider the comprehensive treatment possibilities for individual patient care situations, from diagnosis and treatment planning through maintenance.

#### **DENT D810 Intramural Electives (1.0 cr.)**

Intramural electives provide dental students opportunities to gain additional exposure and in-depth training in areas of particular interest, e.g. clinical science, research, teaching and learning, service, etc. The course director is responsible for the overall administration of the course, while individual elective instructors are responsible for teaching their electives and measuring students' attainment of elective goals and learning objectives. Students are responsible for working with instructors to monitor their progress in meeting the expectations for satisfactory achievement of the learning objectives outlined in each elective.

#### **DENT D823 Clinical Periodontics III (1.0 cr.)**

Clinical Periodontics III is the third in a series of four clinical courses in Periodontics. The primary goal of these courses is to give students the opportunity to learn the basic concepts and develop clinical competency in: periodontal examination, periodontal charting and record keeping, diagnosis of periodontal diseases, periodontal treatment planning, dental prophylaxis, periodontal scaling & root planing, periodontal maintenance, management of periodontal emergencies, and appropriate referral of periodontal patients. A secondary goal of these courses is to teach students the fundamentals of periodontal surgery. Students will be required to assist graduate periodontics students during surgical procedures and, when deemed capable, will have the opportunity to perform periodontal surgeries on their own patients.

#### **DENT D824 Clinical Periodontics IV (0.5 cr.)**

Clinical Periodontics IV is the final course in the Clinical Periodontics course series. The primary goal of these courses is to give students the opportunity to learn the basic concepts and develop clinical competency in: periodontal examination, periodontal charting and record keeping, diagnosis of periodontal diseases, periodontal treatment planning, dental prophylaxis, periodontal scaling & root planing, periodontal maintenance, management of periodontal emergencies, and appropriate referral of periodontal patients. A secondary goal of these courses is to teach students the fundamentals of periodontal surgery. Students will be required to assist graduate periodontics students during surgical procedures and, when deemed capable, will have the opportunity to perform periodontal surgeries on their own patients.

#### **DENT D835 Cariology and Operative Dentistry Clinic III (2.0 cr.)**

In Cariology and Operative Dentistry Clinic III students continue their clinical education in Cariology and Operative Dentistry by treating patients during supervised clinical experiences. This courses will enable the student, upon graduation, to be competent and proficient in the diagnosis and management of dental caries and other dental conditions requiring non-surgical (preventive) treatment or direct restorative care using dental amalgam and resin composite, which are required experiences

for graduation, and are evaluated by the Caries Risk Assessment Competency in the 3rd year, and the Operative Dentistry Clinical Competency exam in the 4th year. Additionally, students may obtain clinical experiences involving glass ionomer, cosmetic resin bonding, sealants, direct and indirect pulp therapy, control of rampant caries, provisional and sedative restorations, repair of castings, and direct gold.

#### **DENT D836 Cariology and Operative Dentistry Clinic IV (2.0 cr.)**

Cariology and Operative Dentistry Clinic IV is a continuation of Cariology and Operative Dentistry Clinic III and is the final course in the series. Students will continue their clinical education in Cariology and Operative Dentistry by treating patients during supervised clinical experiences. This courses will enable the student, upon graduation, to be competent and proficient in the diagnosis and management of dental caries and other dental conditions requiring non-surgical (preventive) treatment or direct restorative care using dental amalgam and resin composite, which are required experiences for graduation, and are evaluated by the Caries Risk Assessment Competency in the 3rd year, and the Operative Dentistry Clinical Competency exam in the 4th year. Additionally, students may obtain clinical experiences involving glass ionomer, cosmetic resin bonding, sealants, direct and indirect pulp therapy, control of rampant caries, provisional and sedative restorations, repair of castings, and direct gold.

#### **DENT D838 Community-based Clinics Rotation (1.5 cr.)**

The purpose of the Community Clinics Rotation Course is to provide fourth-year DDS students with an immersive experience in a community-based dental clinic, providing access to oral health care for the underserved populations in the State of Indiana, which may include the medically compromised, patients with special needs, and the uninsured/underinsured. Students will have the opportunity to enhance their clinical skills while providing dental services to a diverse patient population under the supervision of community-based dental faculty, as well as the opportunity to work with dental auxiliary staff and other members of the community-based dental clinic. Through this immersive experience, students will gain first-hand knowledge of the social, cultural, economic, and regulatory issues involved in providing oral health care to underserved populations of our state.

#### **DENT D840 Clinical Prosthodontics (0.5 cr.)**

The purpose of Clinical Prosthodontics is to continue clinical teaching and learning in the areas of fixed, removable, and dental implant prosthodontics. This is the culmination of the DDS Prosthodontics curriculum, whereby students apply the foundational knowledge, simulated experiences, and initial patient-based competency experiences to the comprehensive care of patients. Students will continue to develop the knowledge, skills and values necessary to diagnose, treatment plan, and treat patients requiring dental prostheses. Students' continued competency will be measured by a mock-licensure exam, a Prosthodontics OSCE, and oversight of clinical prosthodontic experiences (CPE).

**DENT D841 Implant Clinic II (0.5 cr.)** D841 Implant Clinic II is a continuation of D749 Implant Clinic II and is designed to provide students clinical experience in dental implants. The purpose of the course is to provide introductory concepts that should allow students to recognize the possibility of implant dentistry as a treatment method, make wise referrals when appropriate, and to provide clinical treatment with dental implants involving simple fixed and removable restorations.

**DENT D842 Implant Clinic III (0.5 cr.)** D842 Implant Clinic III is the final course in the dental implants clinical series. The course is designed to provide students clinical experience in dental implants. The purpose of the course is to provide introductory concepts that should allow students to recognize the possibility of implant dentistry as a treatment method, make wise referrals when appropriate, and to provide clinical treatment with dental implants involving simple fixed and removable restorations.

**DENT D843 Complete Denture Clinic III (1 cr.)** D843 Complete Denture Clinic III is the third in a series of courses providing clinical instruction and practice in complete denture prosthodontics. Experience is gained in diagnosis, treatment planning, and patient treatment for patients requiring complete denture prostheses.

**DENT D844 Complete Denture Clinic IV (1 cr.)** D844 Complete Denture Clinic IV is the final course in the clinical complete denture series. Students receive clinical instruction and practice in complete denture prosthodontics. Experience is gained in diagnosis, treatment planning, and patient treatment for patients requiring complete denture prostheses.

**DENT D845 Removable Partial Denture Clinic III (1 cr.)** D845 Removable Partial Denture Clinic III is the third in a series of courses providing clinical instruction and practice in removable partial denture prosthodontics. Experience is gained in diagnosis, treatment planning, and patient treatment for patients requiring removable partial denture prostheses.

**DENT D846 Removable Partial Denture Clinic IV (1 cr.)** D846 Removable Partial Denture Clinic IV is the final course in the clinical removable partial denture series. Students receive clinical instruction and practice in removable partial denture prosthodontics, and experience is gained in diagnosis, treatment planning, and patient treatment for patients requiring removable partial denture prostheses.

**DENT D847 Fixed Prosthodontics Clinic III (1 cr.)** D847 Fixed Prosthodontics Clinic III is the third in a series of courses providing clinical instruction and practice in fixed prosthodontics. Students will gain experience in diagnosis, treatment planning, and patient treatment for patients requiring fixed prostheses.

**DENT D848 Fixed Prosthodontics Clinic IV (2 cr.)** D848 Fixed Prosthodontics Clinic IV is the final course in the clinical fixed prosthodontics series. Students receive clinical instruction and practice in fixed prosthodontics, and experience is gained in diagnosis, treatment planning, and patient treatment for patients requiring fixed prostheses.

**DENT D863 Hospital Dentistry Rotation (0.5 cr.)**

The purpose of the Hospital Dentistry rotation is to expose the student to the management of patients referred for dental treatment within the hospital environment, patients with complex medical conditions and patients with neurodevelopmental disorders (intellectual and developmental disabilities or IDD). This rotation is structured to supplement the knowledge base from the didactic curriculum so that the student will achieve knowledge to manage patients' care. Management of patients' care depends on the specific medical and dental diagnoses and may entail the ability to monitor or coordinate care provided by others, refer the patient to another health care provider, or perform the actual procedure.

**DENT D865 Oral Surgery Rotation III (0.5 cr.)** Oral Surgery Rotation III is designed for students to expand their clinical experience and refine their knowledge in basic oral and maxillofacial surgery. The rotation is structured to supplement the knowledge base from the didactic curriculum so that students will achieve knowledge and be able to manage their patients' care. Management of patient care will depend on the specific diagnoses and may entail the ability to monitor or coordinate care provided by others, refer the patient to another health care provider, or perform the actual procedure.

**DENT D866 Oral Surgery Rotation IV (0.5 cr.)** Oral Surgery Rotation IV is a continuation of the D865 Oral Surgery Rotation III course, and is designed for students to expand their clinical experience and refine their knowledge in basic oral and maxillofacial surgery. The rotation is structured to supplement the knowledge base from the didactic curriculum so that students will achieve knowledge and be able to manage their patients' care. Management of patient care will depend on the specific diagnoses and may entail the ability to monitor or coordinate care provided by others, refer the patient to another health care provider, or perform the actual procedure.

**DENT D871 Clinical Endodontics III (0.5 cr.)** The objective of Clinical Endodontics III is to provide students with experience in endodontic treatment. Upon completion of this course students will be capable of managing endodontic emergencies and completing uncomplicated endodontic cases.

**DENT D872 Clinical Endodontics IV (0.5 cr.)** Clinical Endodontics IV is the continuation of D871 Clinical Endodontics III, and provides students with experience in endodontic treatment. Upon completion of this course students will be capable of managing endodontic emergencies and completing uncomplicated endodontic cases.

**DENT D890 Pediatric Dentistry Rotation III (1.0 cr.)** The purpose of Pediatric Dentistry Clinical Rotation III is to prepare the student dentist for the care of the oral health of the child patient. This course is a supervised clinical experience in the practice of dentistry for children subsequent to the lecture and technique course. Satisfactorily completing the D790/D791 Pediatric Dentistry Rotations are prerequisites for taking this course.

It is comprised of clinical experience in the diagnosis, treatment planning, caries risk assessment and caries risk management with preventive measures and typical treatment procedures for typical children.

### **Elective Courses (All Program Years)**

#### **DENT T830 Community Service (0.5 cr.)**

This elective Community Service course is part of the IUSD service programs (Community-based Dental Education), which aim at connecting meaningful community service experiences with academic and personal growth, as well as civic responsibility.

#### **DENT T831 Global Service Learning Lecture (0.5 cr.)**

The elective Global Service Learning course is part of the IUSD service programs (Community-based Dental Education), which aim at connecting meaningful community service experiences with academic and personal growth, as well as civic responsibility. Several of these programs utilize the service learning pedagogy, which includes additional components. For those programs, service learning is integrated into the curriculum and so provides structured time for reflection, enhances teaching and learning, and fosters civic responsibility. The global service learning (GSL) programs will enhance students' linguistic and cultural skills through an immersion experience and by informing students about health care systems in other countries. In the GSL lecture course, students will learn about cultural humility through service learning abroad, world health views, the purpose of IUSD service programs, and cross cultural encounters.

#### **DENT T832 Global Service Learning Trip (2.5 cr.)**

The elective Global Service Learning Trip course is part of the IUSD service programs (Community-based Dental Education), which aim at connecting meaningful community service experiences with academic and personal growth, as well as civic responsibility. Several of these programs utilize the service learning pedagogy, which includes additional components. For those programs, service learning is integrated into the curriculum and so provides structured time for reflection, enhances teaching and learning, and fosters civic responsibility. The global service learning (GSL) programs will enhance students' linguistic and cultural skills through an immersion experience and by informing students about health care systems in other countries.

### **Special Clinics and Independent Study**

#### **DENT D900 Clinical Procedures (VAR cr.)**

Required for all students following the fourth year who have not been certified for graduation by the last day for summer registration. Elective for those who have been certified for graduation by the last day for summer registration. Required for those students still not certified for graduation by the first day of the Summer Indiana Dental Board examination. Elective for those students certified for graduation by the first day of the Summer Indiana Dental Board examination.

#### **DENT D901 Clinical Procedures (12 cr.)**

Required for students who have not been certified for graduation by the last day of fall registration following the fourth year.

#### **DENT D902 Clinical Procedures (12 cr.)**

Required for students who have not been certified for graduation by the last day of spring registration following the fourth year.

#### **DENT D925 Predoctoral Independent Study (VAR cr.)**

This course provides students with an individualized study plan to support successful re-entry to the Predoctoral Dental Education Program.

## **Institutional Competencies**

The Doctor of Dental Surgery (DDS) degree program is four academic years in length. The required curriculum is presented over eight semesters and four summer sessions. Intramural electives (40 clock hours) are required and support students' professional growth in areas of personal interest.

The stated goals of the dental education program are focused on educational outcomes and define the competencies needed for graduation, including the preparation of graduates who possess the knowledge, skills, and values to begin the practice of general dentistry.

The curriculum supports the attainment of the following list of institutionally defined competencies expected of a general dentist entering the profession:

1. Graduates must be competent in patient assessment, diagnosis, and referral.
2. Graduates must be competent in treatment planning.
3. Graduates must be competent to communicate and collaborate with individuals and groups to prevent oral disease and promote oral and general health in the community.
4. Graduates must be competent in control of pain and anxiety, clinical pharmacology, and management of related problems, including prescribing practices and substance use disorders.
5. Graduates must be competent in the prevention and management of dental and medical emergencies.
6. Graduates must be competent in detection, diagnosis, risk assessment, prevention, and management of dental caries.
7. Graduates must be competent in the diagnosis and restoration of defective teeth to form, function and esthetics.
8. Graduates must be competent in the replacement of teeth including fixed, removable and dental implant prosthodontic therapies.
9. Graduates must be competent in the diagnosis and management of periodontal disorders.
10. Graduates must be competent in the prevention, diagnosis and management of pulpal and periradicular diseases.
11. Graduates must be competent in the diagnosis and management of oral mucosal and osseous disorders.
12. Graduates must be competent to collect and assess diagnostic information to plan for and perform uncomplicated oral surgical procedures.
13. Graduates must be competent to recognize and diagnose malocclusion and space management needs.

14. Graduates must be competent in discerning and managing ethical issues and problems in dental practice.
15. Graduates must be competent in the understanding and application of the appropriate codes, rules, laws and regulations that govern dental practice.
16. Graduates must be competent in behavioral patient management and interpersonal skills.
17. Graduates must be competent in understanding the fundamental elements of managing a dental practice.
18. Graduates must be competent in performing and supervising infection control procedures to prevent transmission of infectious diseases to patients, the dentist, the staff and dental laboratory technicians.
19. Graduates must be competent in providing evidence-based patient care in which they assess, critically evaluate, and communicate scientific and lay literature, incorporating efficacious procedures with consideration of patient needs and preferences.
20. Graduates must have the ability to recognize the role of lifelong learning and self-assessment to maintain competency.

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## Allied Dental Programs

- Dental Hygiene - Indianapolis
- Dental Assisting - Indianapolis
- Allied Dental Programs - IU Fort Wayne

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## Dental Hygiene - Indianapolis

Indiana University offers a program leading to a Bachelor of Science degree in dental hygiene and a degree completion program leading to a Bachelor of Science degree in public health dental hygiene.

### Bachelor of Science Degree

- Overview
- Student Learning Outcomes
- Admission
- Program Costs: Tuition and Fees
- Curriculum
- Course Descriptions

### Degree Completion Bachelor of Science Degree

- Overview
- Student Learning Outcomes
- Admission
- Program Costs: Tuition and Fees
- Core Courses

## Bachelor of Science Overview

IUSD is the home of the first dental hygiene program in Indiana, which was established in 1950. The IUSD Dental Hygiene Program offers a Bachelor of Science degree in Dental Hygiene and a Bachelor of Science degree completion in Public Health Dental Hygiene for hygienists who have already completed their Associate degree.

The bachelor degree program is a full-time curriculum which is three and one-half years in length and is composed of Prerequisite college course work (30 college credit hours), a core curriculum of professional coursework (69 credit hours) presented over four semesters and summer session, and a specialized track (20 credit hours) in one of two subjects: Public Health Dental Hygiene and Health Administration. Prerequisite college course work must be completed at an undergraduate college or university prior to acceptance to the Dental Hygiene degree program at IUSD. Once accepted into the program, all core, and professional courses are mandatory. The Dental Hygiene program at Indiana University School of Dentistry is fully accredited by the Commission on Dental Accreditation.

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## Bachelor of Science Admission

**GPA and Prerequisite Requirements:** Required prerequisite courses may be taken at any accredited college or university if they are listed as approved courses by the Dental Hygiene program at the Indiana University School of Dentistry.

Remedial courses may not be used to fulfill this requirement. All applicants must maintain a minimum cumulative college grade point average of 2.7 (on a 4.0 scale) and achieve a minimum course grade of 2.5 (on a 4.0 scale) in all prerequisite courses to be considered for admission to the program. In addition, applicants must earn a 3.0 grade point average in the combined prerequisite science courses (chemistry, microbiology, human anatomy, and human physiology). Please note that if prerequisite courses are retaken for an improved grade, all course grades will be included in the computed grade point averages.

Courses taken at institutions other than Indiana University must show a grade of C or above to be accepted as transfer credit by Indiana University. All prerequisite courses must be completed by the end of the spring semester of the year in which the student wishes to enter the program. Required science courses must have been completed within the past five years. Questions about coursework that does not meet these time limits should be directed to the IUSD Director of Dental Hygiene.

**The ADTH** is new for the 2021-2022 Admissions Cycle.

It is:

A nationally administered standardized admission test for individuals applying to dental hygiene programs. Administered to understand the skill levels of the dental hygiene applicants. Used to assist with admissions decisions. Targeted toward college ready high school graduates. The ATDH assesses critical thinking, focusing on candidate skills in the following areas:

- Reading Comprehension
- Language Usage
- Quantitative Reasoning
- Perceptual Ability (Same as DAT)
- Biology
- General Chemistry

All applicants must take the Admission Test for Dental Hygiene (ADTH). The School of Dentistry accepts your highest ADTH score, regardless of whether it is the most recent score. You must have taken the ADTH no more than three years prior to the date you submit your application.

Your score report will be sent directly from the ADA to IUSD. When you fill out the ADTH application, you will receive instructions on how to have the ADA send your score report.

The cost of the exam is \$125. You can request a fee waiver from the ADA for 50% off the cost of the exam at [www.ada.org/atdh](http://www.ada.org/atdh).

You can download the 2021 ATDH Guide at: [www.ada.org/atdh](http://www.ada.org/atdh).

The test is administered at Prometric Testing Locations throughout the United States. The test is administered between September 1 and October 31 each year.

**Other Admission Requirements:** All candidates applying for admission must provide documentation that they have recently completed the prescribed number of hours of **observation of a practicing dental hygienist** in at least two different practice settings. They must also submit a **personal statement**. Specific instructions for documenting observations and the personal statement are available at the [Dental Hygiene website](#) or from the Dental Hygiene program. All eligible candidates will be invited to **interview** with the dental hygiene faculty during the spring semester as part of the application process.

All application materials must be submitted by **February 1**. Applicants who have previously applied must submit a new application when reapplying. Applications to the IUSD dental hygiene program are processed online through the American Dental Education Association's Dental Hygiene Centralized Application Service (DHCAS). Requirements and forms for admission to the IUSD dental hygiene program are specific to this program only and are not acceptable for admission to other dental hygiene programs in the state. Applications for admission to any other Indiana dental hygiene program must be directed to those programs and follow their prescribed procedures. All potential applicants are advised to consult the School of Dentistry's Dental Hygiene Office or its Website for updates or changes in dental hygiene admissions policies that may occur after publication of this bulletin.

Class size is limited, and there are more qualified applicants than can be accepted each year. Applicants are

encouraged to consult with the dental hygiene program director for pre-dental hygiene counseling. Selections are made on an individual basis, upon appraisal of the applicant's established record and potential for development.

Potential applicants are advised to review the list of minimum skill standards for admission and retention in the dental hygiene profession. This document is provided on the Website. In addition to these standards, it is necessary that students enrolled in the dental hygiene program enter with basic computer literacy sufficient to allow them to participate in instruction involving computer-based coursework, Internet searching, basic word processing, and e-mail applications.

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## Program Costs: Tuition and Fees for 2022-2023 Academic Year

Tuition and fees are paid at the time of registration and are subject to change by action of the Trustees of Indiana University.

Students applying for admission to the School of Dentistry dental hygiene program are required to apply online through the [American Dental Education Association's Dental Hygiene Centralized Application Services \(DHCAS\)](#). See the DHCAS fee program page to learn more about the application fee and fee waivers for eligible applicants. Applicants who are not already IUPUI students must also apply to IUPUI.

**Program Costs: Tuition and Fees:** please see the most current tuition and fees at

<https://dentistry.iu.edu/admissions/cost-financial-aid/index.html>

Tuition and all fees are subject to change. Students with cars will also be assessed a parking fee, and health insurance coverage is an additional fee for students who are not already covered under their own policy. Other potential fees (graduation photos, state or regional board exam applications, etc.) are contingent upon the individual plans of each student.

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## Bachelor of Science Curriculum

Full details about required pre-dental hygiene courses, including Gen Ed requirements in preparation for the 3.5 year Bachelor of Science degree program on the Indianapolis campus are posted on the School of Dentistry's Bachelor Degree in Dental Hygiene Admissions Criteria website.

### Dental Hygiene Program, Year 1

**First Semester**

H204 Periodontics  
 H206 General Pathology I  
 H211 Head and Neck Anatomy  
 H214 Oral Anatomy  
 H216 Nutrition  
 H218 Fundamentals of Dental Hygiene  
 H303 Radiology

**Second Semester**

H205 Medical and Dental Emergencies  
 H207 General Pathology II  
 H215 Pharmacology and Therapeutics  
 H217 Preventative Dentistry  
 H219 Clinical Practice I  
 H308 Dental Materials  
 H321 Clinical Periodontics  
 Cultural understanding\*

**Summer Session**

H221 Clinical Dental Hygiene Procedures  
 H250 Local Anesthesia and Pain Control  
 H305 Radiology Clinic I

**Dental Hygiene Program, Year 2****First Semester**

H301 Clinical Practice II  
 H304 Oral Pathology  
 H306 Radiology Clinic II  
 H311 Dental Health Education  
 H252 Introduction to Evidence-Based Dental Hygiene Care  
 E351 Advanced Dental Materials for Dental Auxillaries  
 Analytical reasoning\*\*

**Second Semester**

H302 Clinical Practice III  
 H344 Senior Hygiene Seminar  
 H347 Community Dental Health (practicum)  
 PSY-B 305 Statistics or STAT 30100 Elementary Statistical Methods I

**Second Summer (choose a track)****Track 1 Public Health Hygiene**

PBHL E322 Principles of Epidemiology  
 H411 Clinic  
 Choose one course from list A\*\*\*

**Track 2 Public Health Administration**

PBHL H320 Health System Administration  
 H411 Clinic  
 Choose one course from list A\*\*\*

**Dental Hygiene Program, Year 3****First Semester (choose track)****Track 1 Public Health Hygiene**

H404 Practicum in Community  
 H420 Clinic  
 PBHL A316 Environmental Health Science  
 PBHL E210 Zombie Apocalypse and Domsday Infections  
 PBHL H120 Contemporary Health Issues

**Track 2 Public Health Administration**

H420 Clinic  
 PBHL H120 Contemporary Health Issues  
 Choose 1 Course from List A\*\*\*  
 PBHL H345 Operations Management and Quality Improvement in Health Organizations or PBHL H375 Management of HSO

Any Student Enrolled in **Track 2** can take an additional course from List A to receive a certificate in Public Health Administration.

\*See course listing at <https://due.iupui.edu/undergraduate-curricula/general-education/iupui-general-education-core/cultural-understanding/index.html>

\*\* See course listing at <https://due.iupui.edu/undergraduate-curricula/general-education/iupui-general-education-core/analytical-reasoning/index.html>

\*\*\* List A

- PBHL H375\* Management of Health Services Organizations
- PBHL H411 Chronic and Long Term Care Administration (P: PBHL H120)
- PBHL H345\* Operations Management and Quality Improvement in Health Organization (P: PBHL H320)
- PBHL H420 Health Policy
- PBHL H432\* Health Care Marketing
- PBHL H441 Legal Aspects of Health Care Administration
- PBHL H330 Global Public Health
- PBHL H310 Lean in Healthcare (P: PBHL H120)
- PBHL H325 Health Information Technology, Management and Policy
- PBHL H346 Organizational Behavior and HR Management in Healthcare
- PBHL H305 Medical Group Management (PBHL H120)
- PBHL H315 High Risk Health Behaviors and Harm Reduction
- PBHL H352 Health Finance and Budgeting (P: PBHL H200)

- PBHL H353 Advanced Health Finance and Budgeting
- PBHL H200 Healthcare Accounting
- PBHL H101\* Influencing the Public's Health
- PBHL H361 Leadership in Health Management: Resolving Disputes and Difficult Conversations
- \*These courses are offered online at least one a year.

## Course Descriptions

### **DHYG H204 Periodontics (1 cr.)**

Study of the normal periodontium at the clinical, histologic, and biochemical levels; Procedures involved in carrying out a comprehensive periodontal examination and performing a periodontal prophylaxis.

### **DHYG H205 Medical and Dental Emergencies (1 cr.)**

A study in emergency situations in the dental office, including predisposing factors and drugs, and treatment to include the support of the cardiopulmonary system.

### **DHYG H206 I General Pathology (1 cr.)**

Mechanisms of disease at the cellular, organ, and systematic levels with special reference to specific disease processes; includes general concepts, terminology, and pathology of organ systems.

### **DHYG H207 General Pathology II (1 cr.)**

Mechanisms of disease at the cellular, organ, and systematic levels with special reference to specific disease processes; includes general concepts, terminology, and pathology of organ systems.

### **DHYG H211 Head and Neck Anatomy (2 cr.)**

A detailed study of the anatomy of the head and neck. Some attention is given to oral embryology and the growth of tooth structure.

### **DHYG H214 Oral Anatomy (3 cr.)**

A study of the morphology, structure, and function of deciduous and permanent teeth and surrounding tissues, also including osteology of the maxilla and mandible nerve and vascular supply of teeth, and muscles of mastication, with reinforcing laboratory procedures and clinical application.

### **DHYG H215 Pharmacology and Therapeutics (2 cr.)**

Actions and uses of drugs and theory of anesthetics; emphasis on drugs used in dentistry.

### **DHYG H216 Nutrition (2 cr.)**

Specific ideas in chemistry are correlated with working principles in dentistry- previous knowledge of chemistry assumed.

### **DHYG H217 Preventative Dentistry: Second Year (1 cr.)**

Detection and prevention of dental disease; included is a study of dental surveys, dental indices, and fluoride therapy.

### **DHYG H218 Fundamentals of Dental Hygiene: First Year (4 cr.)**

An introduction to the dental and dental hygiene profession, including the basic didactic and laboratory/ clinic practice for the performance of dental hygiene services.

### **DHYG H219 Clinical Practice I (4 cr.)**

Performance of dental hygiene services in various clinical settings. Included is didactic instruction and application of dental hygiene procedures for providing patient care and an introduction to oral diagnosis.

### **DHYG H221 Clinical Dental Hygiene Procedures (1-3 cr.)**

Clinical assignment for instruction and experience in performing dental hygiene services.

### **DHYG H250 Local Anesthesia and Pain Control (2 cr.)**

This course addresses coverage of pain and anxiety management for conscious dental clients. The indications, contraindications, and pharmacology of topical anesthesia, local anesthesia, and nitrous oxide and oxygen sedation used in dentistry will be discussed. Local anesthesia techniques and the administration of nitrous oxide and oxygen sedation will be studied.

### **DHYG H252 Introduction to Evidence-Based Dental Hygiene Care (1 cr.)**

This course will provide foundational knowledge for the dental hygiene student to implement evidence-based decision-making strategies in the provision of patient/client care. It includes basic knowledge and skills related to research terminology, library and computer-based information retrieval systems, approaches to reviewing and evaluating scientific literature, and dental indices used in the description of oral health and disease.

### **DHYG H301 Clinical Practice II (4 cr.)**

Continued performance of dental hygiene services in various clinical settings. Included are didactic instruction and clinical application of dental hygiene services for providing patient care.

### **DHYG H302 Clinical Practice III (4 cr.)**

Continued performance of dental hygiene services in various clinical settings. Included are didactic instruction and clinical application of dental hygiene services for providing patient care.

### **DHYG H303 Radiology (3 cr.)**

Principles of radiation production, placement of intraoral film, proper exposure and processing of film, radiation safety, and interpretation of radiographs.

### **DHYG H304 Oral Pathology: Second Year (2 cr.)**

Developmental abnormalities and acquired disorders of teeth and surrounding structure.

### **DHYG H306 Radiology Clinic II (1 cr.)**

Clinical application of intraoral and extraoral radiographs.

### **DHYG H308 Dental Materials: First Year (2 cr.)**

Composition, physical, and chemical properties of materials used in dentistry.

### **DHYG H311 Dental Health Education (2 cr.)**

An introduction to basic communication and motivation skills, instructional objectives, learning theory, evaluation of educational materials, and special needs patients.

### **DHYG H321 Periodontics (1-2 cr.)**

A study of periodontal disease, including the anatomy, classification, etiology, treatment, and relationship to systemic conditions.

### **DHYG H344 Senior Hygiene Seminar (2 cr.)**

Ethics, jurisprudence, and practice management concepts, including a study of state practice acts, dental hygiene

employment opportunities, recall systems, and current trends in the dental hygiene profession.

**DHYG H347 Community Dental Health (4 cr.)**

Principles and practice of program planning, implementation, and evaluation for community and school dental health programs.

**DHYG H351 Advanced Dental Materials for Dental Auxiliaries (1 cr.)**

Lecture and laboratory course designed to teach additional concepts of dental materials and their use in intraoral techniques. Included is instruction in dental auxiliary utilization principles and the manipulation of dental materials used in delegated intraoral functions.

**DHYG H411 Clinical Practice IV (1 cr.)**

Continued performance of dental hygiene services in various clinical settings. Included are didactic instruction and clinical application of dental hygiene services for providing patient care.

**DHYG H420 Clinical Practice V (1 cr.)**

Continued performance of dental hygiene services in various clinical settings. Included are didactic instruction and clinical application of dental hygiene services for providing patient care.

**PBHL E120 Contemporary Health Issues (3 cr.)**

An examination of current public health, environmental health, and health service delivery issues in the U.S. Topics include the organization and costs of health systems, access to care, and the interrelationships between risk factors and health; also, environmental challenges facing our society and their impact on health.

**PBHL E210 Zombie Apocalypse and Doomsday Infections (3 cr.)**

The focus is infectious diseases, the possibility of a zombie infection. We will discuss infections that have changed the course of history. Included topics are: disease transmission, outbreak investigations, control measures, assessment, and field investigations.

**PBHL A316 Environmental Health Science (3 cr.)**

The purpose of this course is to familiarize students with human / environment interaction and the potential impact of environmental hazards on human health and safety. This course focuses on the study of disease and injury-causing agents in the environment, where they come from, and their impact on human populations and communities. A variety of man-made and natural environmental agents will be studied. We will focus on biological, chemical, physical, and psychosocial agents and the illnesses and injuries produced by them. A variety of environmental control strategies, including technology, health promotion, and policy, will be examined throughout the course.

**PBHL H320 Health Systems Administration (3 cr.)**

This course explores components of the United States health care system and associated managerial, organizational, financial, insurance, delivery, quality improvement, workforce, performance, structures, issues and challenges. In addition, this course explores the organization and structure of public and private healthcare systems, and how recent changes in regulation and reimbursement are affecting significant change in the healthcare industry. Successful completion of this course will help provide students with a general foundation

of knowledge about the U.S. health care system and major structural and organizational components, and how changes in health policy and regulation, along with changes in reimbursement, are helping to drive the integration of public health, private health, and social service organizations towards population health management.

**PBHL E322 Principles of Epidemiology (3 cr.)**

This course will introduce students to basic epidemiologic concepts including determinants of health and patterns of disease in populations, population health descriptive techniques, use of health indicators and secondary data sources. Students will gain an understanding of the role of Epidemiology in developing prevention strategies and policy. Among the topics to be covered are measures of mortality and morbidity, design and analysis of observational studies, community health assessment and program evaluation.

**PBHL H345 Operations Management and Quality Improvement in Healthcare (3 cr.)**

This course provides an overview of the healthcare operations management (OM), with emphasis on quality improvement. You will apply OM principles to develop more effective operational processes, mitigate risks, and improve quality. Discussions, case studies and assignments will focus on strategies and techniques of quality improvement processes, project management and others.

**PBHL H375 Management of Health Service Organizations (3 cr.)**

This course explores the discipline of management and its major components relating to health service organizations. This course will provide students with a foundation of basic fundamentals, principles and techniques of management which have particular relevance and application in healthcare. Students will learn about management theory and its practical application in healthcare in fundamental areas such as planning, organizing, leading, and controlling. Other key elements of management such as communication, decision making, delegation, participatory management, leadership style, managing staff, teamwork, and change and innovation will be explored. Successful completion of this course will help provide students with a general foundation of knowledge about management and its application in health service organizations. Instructional methods used will include lectures, interactive discussions, readings, in-class exercises and individual and group homework assignments using a wide range of management terms, concepts, fundamentals, theories, methods, techniques, and practices used in managing health service organizations. Special emphasis will be given to the role and application of leadership in the management of a diverse healthcare workforce, in a variety of health service settings. This course is designed to help create a foundation of knowledge and understanding of management that students will use in other courses in the public health undergraduate programs.



## Bachelor of Science in Public Health Dentistry Degree Completion Overview

The Bachelor of Science degree completion program in public health dental hygiene provides an opportunity for graduate dental hygienists to develop further expertise in public health methods or dental hygiene education and includes application of practical experience. It is designed to meet the needs of part-time students who wish to work while completing their bachelor's degree. It prepares hygienists for leadership roles in education, public health, commercial ventures, professional associations, and/or health advocacy. It can enhance career opportunities available to dental hygienists in a variety of areas, including but not limited to state and county health departments, academia, sales and marketing, educational software development, pharmaceuticals, dental education consulting, dental insurance companies, research, and clinical dental hygiene. Program activities promote development of professional leadership skills and prepare hygienists for entry into graduate programs.

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## Bachelor of Science Degree Completion Admission

Prerequisites to the public health dental hygiene program include completion of 90 undergraduate semester hours, graduation from an accredited dental hygiene program, satisfactory completion of the National Board Dental Hygiene Examination, and current licensure as a dental hygienist. Accepted students are expected to have basic computer literacy sufficient to participate in Webbased instruction, computer word processing, and email communication. An application to the program may be obtained by addressing communications to Director, Dental Hygiene Program, Indiana University School of Dentistry, 1121 West Michigan Street Rm 317, Indianapolis, IN 46202-5186. Applications may be received at any time during the academic year, but the completed application must be submitted to the program director at least 60 days prior to the first semester in which the applicant wishes to enroll. Completion of all application requirements and an interview with the program director or admissions committee is required before acceptance into the program can be considered. Upon acceptance, each student must complete a curriculum plan to be approved by the program director before enrollment in required courses. Students in the public health dental hygiene program must complete the following courses that comprise the required core curriculum. In addition to the core courses, students must complete or have previously completed courses needed to satisfy the state General Ed Core Curriculum and any elective courses to fulfill the 120 credit hour requirement of the bachelor's degree.

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## Bachelor of Science Program Costs: Tuition and Fees

Tuition is paid at the time of registration and is subject to change by action of the Trustees of Indiana University.

**Academic Year 2022-2023 cost of attendance for all IUSD academic programs is available here:**

<https://dentistry.iu.edu/admissions/cost-financial-aid/index.html>

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## Bachelor of Science Degree in Dental Hygiene Completion Core Courses Course Descriptions

### STAT 30100 Elementary Statistical Methods (3 cr.)

P: Must enroll in lab. A basic introductory statistics course with applications shown to various fields and emphasis placed on assumptions, applicability, and interpretations of various statistical techniques. Subject matter includes frequency distribution, descriptive statistics, elementary probability, normal distribution, applications, sampling distribution, estimation, hypothesis testing, and linear regression.

### OR

### PSY B305 Statistics (3 cr.)

P: PSY B104 Psychology as a Social Science or PSY B105 Psychology as a Biological Science and 3 credits of math that carry School of Science credit. Introduction to basic statistical concepts; descriptive statistics and inferential statistics.

### DHYG H402 Practicum in Dental Hygiene Education (4 cr.)

P: H403, Z477. Structured practical experience in planning, supervising, coordinating, and evaluating instruction in an educational setting. Emphasis on faculty roles and responsibilities.

### DHYG H403 Advanced Community Dental Hygiene (4 cr.)

Public health principles including a study of the health care delivery system and preventive public health care at the community level.

**DHYG H404 Practicum in Dental Public Health (4 cr.) This course provides the student with practical experience in exploring the Dental Hygiene role of Administrator, Manager, or Corporate Sales. The practicum experience will include involvement in descriptive research defining the role of hygienists in sales, managerial or administrative positions, specifically those related to commercial dental enterprises.**

### DHYG H405 Introduction to Health Care Research (3 cr.)

Review of current literature related to periodontics, oral pathology, preventive dentistry, and the current practices of dental hygiene.

### **DHYG H406 Educational Methodology in Health Sciences (1-3 cr.)**

The purpose of this course is to assist potential educators in the health sciences to understand current theories, concepts, and methodologies in professional health science education. Students will learn to apply effective educational strategies to match learners' needs in didactic, laboratory, and clinical settings. This course will use a variety of delivery systems, including an online component.

### **DHYG H407 Instructional Media and Technology in Health Science Education (1-3 cr.)**

The purpose of this course is to examine the utilization of a variety of instructional technologies that can be used in educational settings for patients, students, and practitioners. Various technologies will be analyzed for appropriateness of use, strengths, and weaknesses. A variety of delivery mechanisms will be used, including an online component.

## **Bachelor of Science Degree in Dental Hygiene Student Institutional Competencies**

The Indianapolis-based Bachelor of Science degree program in dental hygiene is two and one half academic years in length and is composed of a core curriculum of 27 courses presented over four semesters and one summer session. In addition, a specialized track 6 courses over one semester and one summer session. All courses are mandatory.

The curriculum supports attainment of the following list of institutionally defined competencies expected of a dental hygienist entering the profession. The graduate will be prepared to:

1. Apply a professional code of ethics in all endeavors;
2. Adhere to state and federal laws, recommendations, regulations, and safety practices in the provision of dental hygiene care;
3. Provide dental hygiene care to promote patient/client health and wellness using critical thinking and problem-solving in the provision of evidence-based practice;
4. Assume responsibility for dental hygiene actions and care based on accepted scientific theories and research as well as the accepted standard of care;
5. Continuously perform self-assessment for lifelong learning and professional growth;
6. Advance the profession through service activities and affiliations with professional organizations;
7. Provide quality assurance mechanisms for health services;
8. Communicate effectively with individuals and groups from diverse populations both orally and in writing;
9. Provide accurate, consistent, and complete documentation for assessment, diagnosis, planning, implementation, and evaluation of dental hygiene services;
10. Provide care to all clients using an individualized approach that is humane, empathetic, and caring;
11. Provide planned educational services using appropriate interpersonal communication skills and educational strategies to promote optimal oral health;
12. Initiate and assume responsibility for health promotion, health education, and disease prevention activities for diverse populations;
13. Systematically collect, analyze, and record data on the general, oral, and psychosocial health status of a variety of patients/clients using methods consistent with medico-legal principles;
14. Use critical decision-making skills to reach conclusions about the patients'/clients' dental hygiene needs based on all available assessment data;
15. Collaborate with the patient/client and/or other health professionals to formulate a comprehensive dental hygiene care plan that is patient/client-centered and based on current scientific evidence;
16. Provide specialized treatment that includes preventive and therapeutic services designed to achieve and maintain oral health; and
17. Evaluate the effectiveness of the implemented clinical, preventive, and educational services and modify as needed.

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## **Dental Hygiene Bachelor Degree Completion Student Learning Outcomes**

The program's objectives are designed to provide students with the education and skills to:

1. Perform dental hygiene services in a variety of settings (e.g., private dental practice, public health clinics, school systems, institutions, and hospitals);
2. Design, implement, and evaluate effective preventive dental health programs for individuals and for groups in such settings as schools, hospitals, institutions, and community programs;
3. Serve as a resource person and work in cooperation with other health personnel in assessing health care needs and providing health care services to the public;
4. Plan, implement, and evaluate effective teaching methodologies in an educational setting;
5. Supervise the teaching of dental hygiene services in a clinical/public health setting;
6. Prepare for admission to graduate programs; and
7. Continue their professional education and personal growth.

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## **Dental Assisting**

- Overview
- Student Learning Outcomes
- Admission (Campus Program)
- Program Costs: Tuition and Fees

- Course Descriptions

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## Overview

The Indiana University School of Dentistry offers a traditional on-campus certificate program. This program is accredited by the Commission on Dental Accreditation (CODA).

The program is a full-time, two-semester program that requires the completion of 30 credit hours. The curriculum consists of 14 required classes that include approximately 1,000 hours of lectures, labs, and clinical experiences. All instruction takes place at the School of Dentistry, located on the IUPUI campus in downtown Indianapolis. Students are required to complete at least 300 clinical hours in order to earn the certificate.

Dental assisting students are required to take three Dental Assisting National Board (DANB) exams to become a Certified Dental Assistant (CDA).

Graduates can continue their education at IUPUI by pursuing one of six bachelor's degrees that accept the dental assisting course credits. Contact the [Dental Assisting Program](#) for more information.

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## Student Learning Outcomes

Dental Assisting Program Goals and Outcomes

**The dental assisting graduate will be prepared to:**

1. Apply knowledge of the basic sciences, social sciences, clinical practice, and dental technology to deliver comprehensive dental care.
2. Practice and apply safe and aseptic delivery of patient care.
3. Communicate effectively with patients and health care professionals in coordinating and providing patient care including the use of technology and practice management techniques.
4. Utilize critical thinking, decision making, and problem solving skills in the provision of evidence-based practice, under the direction and supervision of the dentist.
5. Apply the Dental Assisting National Board's (DANB) Code of Professional Conduct in all endeavors and conduct themselves with the highest levels of professionalism, ethics and personal integrity.
6. Adhere to state and federal laws, recommendations, and regulations in the provision of oral health care.
7. Provide care to all patients using an individualized approach that is culturally sensitive, compassionate, and patient-centered.
8. Internalize the value of lifelong learning and understand the importance of remaining current

as the dental health care delivery system and technology change.

9. Participate in preventive dental care and support oral health through the promotion of overall health and wellness.
10. Achieve success on DANB's Certified Dental Assistant (CDA) exams.
11. Assume a leadership and collaborative role in the advancement of the dental assisting profession through community activities and professional organizations.

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## Admission (Campus Program)

### Admission requirements

Applicants must meet all minimum criteria to be considered for admission to the dental assisting program.

Enrollment is limited to 20 students in the campus program. All students meeting minimum requirements are encouraged to apply. However, meeting the minimum criteria does not guarantee admission and not all applicants will be accepted. Final selection will be based on a ranking of the applicant pool.

Step 1: Apply to IUPUI

Admission to IUPUI is required to apply to the dental assisting program. Submit your application to IUPUI through the Office of Undergraduate Admissions.

The deadline to apply to IUPUI is May 1.

Step 2: Apply to the Dental Assisting Program

The priority deadline to apply for admission to the Dental Assisting Program is June 15 each year. However, applications submitted after June 15 will receive consideration until the class is full.

### Application

The dental assisting program online application and submission of all official high school and/or college transcripts to the dental assisting program is required.

### GPA

Three GPAs will be evaluated as part of the application process: high school cumulative GPA, English GPA, and life science GPA. All high school and college (if applicable) English and life science courses will be weighted equally to calculate English and life science GPAs. A minimum 2.0 (on a 4.0 scale) is required in each of these areas. Applicants are ranked based on the three GPAs, with a bonus point for bilingual applicants, and a bonus point for applicants with a minimum of 9 or more college credit hours.

### Required coursework

Completion of at least two English courses and two science courses in high school and/or college is required.

Commonly accepted English courses for English GPA: English composition, literature, etymology, speech,

medical terminology, Latin, and journalism. Yearbook credits are not accepted.

Commonly accepted science courses GPA: biology, chemistry, physics, anatomy and physiology, microbiology, and psychology as a biological science. Non-life science courses, for example, earth-space science or astronomy are not accepted.

### English proficiency

If English is not your primary language, English proficiency must be demonstrated. The English for Academic Purposes Exam (EAP) or the Test of English as a Foreign Language (TOEFL) may be required.

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## Admission (Distance Learning Program)

**ATTENTION: WE ARE NOT OFFERING DISTANCE LEARNING AS AN OPTION AT THIS TIME. PLEASE SEE OUR ON CAMPUS PROGRAM FOR MORE INFORMATION.**

Applicants should follow [admission requirements 1 through 4 for the campus program](#) listed below, as well as requirements 5 through 7 also listed below:

### 1. IUPUI Application Process: (STEP 1)

- All dental assisting applicants must first be admitted to IUPUI through the IUPUI Office of Admissions.
- Go to [www.enroll.iupui.edu](http://www.enroll.iupui.edu) to complete the IUPUI undergraduate application and pay the application fee. The Office of Admission must have official transcripts from high schools and colleges you have attended.
- No final dental assisting application decisions will be made before a decision from IUPUI.
- The IUPUI deadline for fall applications is May 1.

#### Application Location

IUPUI Office of Undergraduate Admissions  
420 University Blvd. CE 255 (Located in the Campus Center)  
Indianapolis, IN 46202  
[apply@iupui.edu](mailto:apply@iupui.edu)

(317) 274-4591

Mailing Address for official transcripts to IUPUI:  
IUPUI Office of Undergraduate Admissions  
425 University Blvd. CA 147  
Indianapolis, IN 46202

### 2. Dental Assisting Application Process: (STEP 2)

- The Dental Assisting Program will accept applications for the 2020-2021 year beginning January 2 through June 15, but students that are already accepted to IUPUI have until August 1st to apply. Please see the link for Application on the left side of this page. Under Application, you will find a link to submit your application to the dental assisting program.

- **You must apply to IUPUI first and use your student ID number on the dental assisting application.**
- Everyone must submit an OFFICIAL high school transcript (9-12 grades) of the academic work you have completed. If applicable, submit a copy of TASC scores or a GED Certificate and Scores.
- If you are currently enrolled in your senior year of high school, initial transcript should include fall semester of your senior year. Final official transcripts for all academic work completed must be received in the IUSD Dental Assisting Office, I.U. School of Dentistry, 1121 W. Michigan Street, Rm. S409, Indianapolis, IN 46202 by the deadline before admission decisions can be made.
- If you are currently enrolled in college courses or have attended a college, university, or vocational program, you must submit an OFFICIAL transcript from both high school and college. Final official transcripts of all academic work completed must be received in the IUSD Dental Assisting Office by the deadline before admission decisions can be made.
- Dental Office Observation Documentation: All applicants must observe a dental assistant in a dental office for a minimum of 8 hours. Your hours of observation must be verified by the office. Please ask the office to type a note verifying your observation hours on their office letterhead. This document must include your name, date, time of observation and the dental assistant's name that you observed. This document must be signed by either the doctor or the office manager. This document must be uploaded with your application.

Send all official documents to:

Dental Assisting Program  
IU School of Dentistry  
1121 W. Michigan St., DS S409  
Indianapolis, IN 46202

Phone: (317) 274-7801  
FAX: (317) 274-1363

3. The Admissions Committee reviews all qualified applications. English, Science and the Cumulative GPAs are evaluated for each applicant. The applicant must have earned at least a 2.0 on a 4.0 scale in each of these areas. Both high school and college GPAs are considered. GPAs are considered and the applicants are ranked. The Admissions Committee members meet to review applicant information and vote for the new class members.

The following courses are commonly accepted in the category for English: English Composition, Literature, Etymology, Speech, Medical Terminology, Latin, and Journalism course work. We do not accept Year Book credits.

Common courses accepted in the Science category: Biology, Chemistry for non-majors, Chemistry with a lab, Physics, Anatomy and Physiology, Microbiology, Psychology as a Biological Science. We do not accept non-Life Science Courses.

Applicants must have at least in the category of English and in the category of Science for that category to be considered complete for evaluation.

4. Individuals for whom English is a secondary language must demonstrate proficiency in English before being admitted to the dental assisting program. The dental assisting admissions committee requires an interview and/or writing exercise to determine the applicant's English skills. English for Academic Purposes Exam (EAP) or Test of English as a Foreign Language (TOEFL) may be required and test results will be used as part of the dental assisting admissions evaluation. Students must be able to understand spoken English very well and be able to respond to questions from patients on the clinic floor.

5. Applicants must identify a sponsoring general practice dentist holding an active Indiana dental license who can provide clinical training in the field of general dentistry.

6. Applicants must meet the university's technology requirements:

- Office XP or higher software
- Either Internet access at Explorer IE8 or higher DSL or cable modem access

7. Applicants must be able to travel to the Indiana University School of Dentistry when necessary.

Applications will be accepted by the IUSD Dental Assisting Office from January 1 to June 15 prior to the fall semester the applicant wishes to enter the program. However, applications and documents received after this date will be considered until the class is full.

Applicants should send the note of verification from the dental office where you completed our observation hours and all official transcripts to the Dental Assisting Office, Indiana University School of Dentistry, 1121 W. Michigan Street, DS S409, Indianapolis, IN, 46202-5186. Incomplete applications will not be considered.

All potential applicants are advised to consult the School of Dentistry's [Dental Assisting program web page](#) for updates or changes in dental assisting admissions policies that may occur after publication of this document.

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## Program Costs: Tuition and Fees for 2022-2023 Academic Year

Academic Year 2022-2023 cost of attendance for all IUSD academic programs is available here:

<https://dentistry.iu.edu/admissions/cost-financial-aid/index.html>

Tuition and fees are paid at the time of registration and are subject to change by action of the Trustees of Indiana University. Banded tuition was implemented by the university to help make college more affordable. Refer to the Office of the Bursar's website for more information regarding this reduction in tuition fees.

Students with cars will also be assessed a parking fee, and health insurance coverage is an additional fee for

students who are not already covered under their own policy. Other potential fees (graduation photos, state or regional board exam applications, etc.) are contingent upon the individual plans of each student. Refer to the dental assisting admissions page for more complete information about student fees.

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## Course Descriptions

### Required Courses

#### **DAST A110 Oral Histology and Embryology (1 cr.)**

Development, structure, and function of cells and tissues of the teeth and periodontium; embryologic development of the face, palate, and teeth.

#### **DAST A211 Oral Pathology, Physiology, Anatomy I (1 cr.)**

A111 is an overview of the structures, functions, and selected diseases of the human body, including basic cells, tissues, organs, and organ systems.

#### **DAST A213 Oral Pathology, Physiology, Anatomy II (1 cr.)**

A113 is an introduction to diseases of the oral cavity and its related structures.

#### **DAST A212 Dental Therapeutics and Medical**

**Emergencies (2 cr.)** This course will present the pharmacology of medications that are commonly used by the physician and dentist and the diseases and indications for which these drugs are prescribed. Also, the class will review the systemic diseases and adverse reactions to dental treatment that can result in a medical emergency in the dental office and the armamentarium, medications, and procedures for treating these emergencies.

#### **DAST A214 Oral Anatomy, Histology and Embryology (3 cr.)**

A study of the morphology, structure, and function of deciduous and permanent teeth and surrounding tissues, also including osteology of the maxilla and mandible, nerve and vascular supply of teeth, and muscles of mastication.

#### **DAST A221 Microbiology and Asepsis Technique (2 cr.)**

A study of microbial types, oral microbiology, bloodborne diseases, and infection control including procedures of instrument cleaning and sterilization, surface disinfection, use of protective barriers, waste management, and hazardous materials management.

#### **DAST A231 Dental Materials I (2 cr.)**

Lecture and laboratory courses designed to familiarize the student with the basic mechanical, physical, and chemical properties of dental materials. The role of the assistant in selection, manipulation, and biological considerations of dental materials is stressed.

#### **DAST A232 Dental Materials II (2 cr.)**

Lecture and laboratory courses designed to familiarize the student with the basic mechanical, physical, and chemical properties of dental materials. The role of the assistant in selection, manipulation, and biological considerations of dental materials is stressed.

#### **DAST A241 Preventive Dentistry and Nutrition (2 cr.)**

Etiology of prevalent oral diseases and their preventions

with particular emphasis on plaque, plaque control, and fluorides. The effects of major nutrients on the physiologic body processes; applied nutrition in dental caries and periodontal disease. Clinical and laboratory experiences.

**DAST A303 Radiology Clinic I (2 cr.)** The principles of radiation production, theories and techniques of radiographic imaging, film processing and mounting, radiation safety, and radiographic interpretation are studied in this didactic and preclinical course. (Note: Course has on occasion been designated by the number DAST A115.)

**DAST A252 Radiology Clinic II (1 cr.)** Clinical experience in the placing, exposing, processing, evaluating, and mounting of intraoral and extraoral dental radiographs. Practical application of radiation safety measures is required in the clinical setting.

**DAST A162 Written and Oral Communication (2 cr.)** Instruction and practice in gathering and organizing material for written and oral presentation. Individual and group projects in communication, including table clinics, posters, professional articles for publication, telephone techniques, and resumes.

**DAST A271 Clinical Science I (4 cr.)** A core course in dental nomenclature; the role of the assistant as a member of dental health team in general dentistry and dental specialties to include charting the mouth, identification and utilization of instruments and equipment, principles of dental procedures, instrument transfer, isolation techniques, and asepsis procedures.

**DAST A272 Clinical Science II (4 cr.)** Clinical chairside experience, including an extramural assignment; allows for refining of student skills. A seminar provides students opportunities to share experiences.

**DAST A282 Practice Management, Ethics, and Jurisprudence (2 cr.)** A course designed to emphasize the role of the dental assistant in the management of a dental office through reception procedures, appointment control, record keeping, purchasing, third-party reimbursement, financial systems, and inventory control. Also, the legal and ethical aspects of dentistry are discussed.

### Elective Courses

**DAST A390 Expanded Restorative Dentistry (3 cr.)** Lecture, laboratory, and clinical course designed to teach more extensively certain concepts of dental materials and their use in intraoral techniques. The principles of dental auxiliary utilization and the manipulation and placement of dental materials used in delegated intraoral functions are taught.

**DAST A300 Special Topics in Dental Education (1 cr.)** P: Chairperson's permission and admission to dental assisting, dental hygiene, or dental laboratory technology program. An advanced course for dental education majors. Supervised reading or projects on approved topics in dentistry. Hours, subject matter, and evaluation to be determined by faculty.

## Fort Wayne Allied Dental Program

The Academic Bulletin for the IU Fort Wayne Allied Dental Education Programs may found within the IU Fort Wayne Academic Bulletin available [here](#).

The IU Fort Wayne Academic Bulletin covers the following programs at IU Fort Wayne:

Dental Hygiene  
Certified Dental Assisting  
Dental Technology

## Graduate Programs

The IU School of Dentistry's graduate degree and certificate programs begin during the first week of July, except for the M.S. and Ph.D. programs, which begin in August with the fall semester.

The Master of Science in Dentistry (M.S.D.) program is intended primarily for students who have received the doctorate in dentistry and who wish to go on to obtain an adequate background in one of the various disciplines of dentistry or of the allied basic sciences in order to broaden their dental background or to complete the academic requirements for specialty boards. Under special circumstances, the M.S.D. may be conferred upon outstanding individuals not holding the D.D.S. (or equivalent degree) who have demonstrated ability in dental research and education and who give good evidence of continuing in these fields.

Students may register in IU's University Graduate School and work toward the M.S. degree in dental materials or the Ph.D. degree in dental science. (See Fields of Study.)

In general, students who wish to practice or teach a clinical subject are encouraged to work toward the M.S.D., while those more interested in the basic science courses would be advised to complete the requirements for the M.S. degree. The Ph.D. program in dental science is designed specifically for individuals who want to pursue a career in dental research and/or education.

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## Fields of Study

In addition to the general requirements for the degree program as described in the following pages, the various departments may specify additional didactic or clinical requirements in order for students to qualify for a major or minor in that field. Details regarding specific course requirements for individual graduate (degree) and postgraduate (certificate) programs are available from the School of Dentistry. Contact the Office of Graduate Education (for the M.S., M.S.D., and Ph.D. programs) and the Department of Oral Surgery and Hospital Dentistry for the oral and maxillofacial surgery residency (see

Contact Information). The application deadline for the PhD program is November 1 every year.

### Dental Materials

Available as an M.S. or M.S.D. degree program or as a track offered in the Ph.D. in Dental Science degree program. Minor concentration: operative dentistry or prosthodontics (for M.S.D. degree); chemistry, material science engineering, or mechanical engineering (for M.S. degree). For details about the Ph.D. dental biomaterials track, see the Dental Biomaterials Track Core Curriculum.

### Core Competencies

Graduates of the two-year postdoctoral program in dental materials will achieve core competencies in Materials Knowledge, Critical Thinking, and Effective Communication.

#### Materials Knowledge

The graduate will be prepared to:

1. Describe major classes of dental biomaterials used in clinical dentistry;
2. Explain the differences in the chemical nature of the major classes of materials;
3. Recognize the effects of chemical nature on the mechanical behavior of materials; and
4. Describe the relationship between material characteristics and clinical performance of dental biomaterials.

#### Critical Thinking

The graduate will be prepared to:

1. Identify the physical and chemical principles of major material testing methods;
2. Select and justify appropriate testing methods for major classes of dental biomaterials; and
3. Formulate hypotheses and design the necessary experiments for a given material evaluation scenario.

#### Effective Communication

The graduate will be prepared to:

1. Present research methods and results correctly in oral and written reports;
2. Provide evidence-based arguments on research findings in oral and written reports; and
3. Provide suggestions on dental biomaterial selection based on current dental literature.

### Dental Science

Ph.D. degree program offers tracks in preventive dentistry, oral biology, dental materials and dental biomaterials. For details about the Ph.D. degree, see the Doctor of Philosophy (Ph.D.) Degree in dental Science section.

### Core Competencies

The graduate of the Ph.D. program in dental science will be prepared to:

1. Demonstrate an in-depth understanding of the biology of the oral cavity;
2. Demonstrate the principles/mechanisms pertinent to human physiology and disease;

3. Demonstrate competency in performing complex scientific literature searches;
4. Write a detailed grant proposal;
5. Express scientific material, including original research data, in both oral and written form;
6. Demonstrate skills in critical thinking; and
7. Plan and undertake independent research.

### Endodontics

#### M.S.D. degree program. Minor concentration: oral pathology

### Core Competencies

Students who successfully complete the two-year postdoctoral endodontics program will be able to achieve proficiency in the following areas of clinical science:

1. Diagnosis, treatment planning, and prognosis;
2. Evidenced-based nonsurgical and surgical treatment and retreatment;
3. Outcome evaluation;
4. Radiography and other diagnostic imaging technologies;
5. Management of endodontic treatment of medically compromised patients;
6. Emergency treatment for endodontic conditions;
7. Management of patients with orofacial pain and anxiety;
8. Preparation of space for intraradicular restorations and cores in endodontically treated teeth;
9. Use of enhanced magnification technologies; and
10. Communications with patients and health care professionals.

Students will also be prepared to achieve competency in a variety of endodontic techniques, including, for example: vital pulp management, endodontic management of traumatic dental injuries, and endodontic management of developing permanent teeth.

The postdoctoral endodontic program will also prepare the graduate to conduct all phases of a research project, including protocol development, review of literature, management of all stages of the study, and preparation of a manuscript for publication.

### Maxillofacial Prosthetics

M.S.D program. Maxillofacial prosthetics is a track of the prosthodontics program (listed below) and is hospital-based.

### Core Competencies

Students who successfully complete the four-year postdoctoral program in maxillofacial prosthetics will demonstrate competency in the following areas:

#### Clinical Skills and Knowledge

The successful graduate will be able to:

1. Diagnose, treatment plan, and rehabilitate patients with defects of the maxilla, mandible, and facial structures using biocompatible substitutes;
2. Be competent in a wide variety of treatment modalities used in the pre-prosthetic, prosthetic, and post-prosthetic management and treatment of

patients with defects of the maxilla, mandible, and facial structures;

3. Be competent in all aspects of the utilization of dental implants to restore intraoral and extraoral defects;
4. Be competent in the prosthetic management of both radiation therapy and chemotherapy patients;
5. Be competent in the laboratory procedures associated with the treatment of patients with defects of the maxilla, mandible, and facial structures; and
6. Describe the relationship between material characteristics and clinical performance of dental biomaterials.

### *Critical Thinking*

The successful graduate will be able to:

1. Draw upon evidence-based research to select and justify appropriate treatment methods and biomaterials; and
2. Formulate hypotheses and design the necessary experiments for a given procedure or material evaluation scenario.

### *Effective Communication*

The successful graduate will be able to:

1. Present appropriate treatment plans to patients and referring dentists correctly in oral and written reports;
2. Provide evidence-based agreements on research findings in oral and written reports; and
3. Provide patient education and oral hygiene instructions to patients based upon clinical findings and upon current maxillofacial prosthetic literature.

## **Cariology and Operative Dentistry**

M.S.D. degree program. Minor concentration: dental materials or preventive dentistry.

### **Core Competencies**

Graduates of the two-year postdoctoral program in operative dentistry will be prepared to:

1. Manage caries risk patients based on Caries Management by Risk Assessment (CAMBRA);
2. Discuss current direct and indirect dental restorative materials (gold, dental amalgam, ceramics, glass ionomer cement, and resin-matrix composite) including associated setting reactions, physical properties, and indications and contraindications for their clinical use;
3. Demonstrate clinical proficiency when performing routine and advanced restorative procedures;
4. Demonstrate a broad knowledge base of dental restorative materials and procedures;
5. Demonstrate knowledge of current restorative dentistry scientific literature;
6. Develop and present evidence-based restorative dentistry lectures; and
7. Develop a research protocol and perform controlled dental research.
8. Describe the dental caries process in detail;
9. Describe and contrast the interaction of the etiological factors associated with dental caries;

10. Distinguish and assess the different presentations of dental caries
11. Recognize the epidemiology of dental caries
12. Discriminate populations at high risk for dental caries;
13. Analyze the external and internal risk determinants of dental caries;
14. Compare and contrast the different methodologies utilized for caries detection;
15. Demonstrate diagnosis of dental caries;
16. Assess caries risk status;
17. Assess salivary flow measurements, buffering capacity, and management approaches for patients with low salivary flow;
18. Compare and contrast some of the different strategies utilized for caries management;
19. Discriminate the therapeutics used in caries management;
20. Compare and contrast the use of sealants based on risk assessment, for individuals and populations;
21. Support the values of prevention, evaluation, and reevaluation;
22. Develop an oral health plan to be incorporated by a health professional team;
23. Develop a community health plan;
24. Summarize the basic principles on developing patient education plans;
25. Critically review scientific methodology; and
26. Recognize the different methodologies and techniques related to caries research.

## **Oral and Maxillofacial Surgery**

Four-year hospital-based postgraduate residency leading to a certificate in the specialty. For application forms, admission requirements, and other information about this program, contact the School of Dentistry's Department of Oral Surgery and Hospital Dentistry (see Contact Information).

### **Core Competencies**

Residents who complete the four-year oral and maxillofacial residency will be prepared to:

1. Demonstrate proficiency in the core procedures, treatments, and surgical techniques available to oral and maxillofacial surgeons;
2. Demonstrate familiarity with the full range of procedures, treatments, and surgical techniques available to oral and maxillofacial surgeons
3. Demonstrate competency in the medical management of the surgical patient, including the ability to adequately perform a preoperative assessment;
4. Demonstrate proficiency in the full range of anesthetic techniques available to oral and maxillofacial surgeons;
5. Manage medical emergencies;
6. Demonstrate familiarity with and an understanding of relevant literature as well as an ability to apply critical thinking to their reading; and
7. Participate in scholarly activity, including the ability to develop a research project, write a manuscript, and give scientific and/or case study presentations.



## Orthodontics

M.S.D. degree program. Minor concentration: dental materials, oral pathology, dental education, or life sciences.

### Core Competencies

Students who successfully complete the two-year postdoctoral orthodontics program will demonstrate competency in the following areas:

#### *Clinical Skills and Knowledge*

The graduate will be able to:

1. Correctly identify dental and skeletal problems and discrepancies that contribute to malocclusion;
2. Correctly classify malocclusion;
3. Be competent in selecting, placing, and activating appropriate appliances to treat malocclusion;
4. Describe the relationship between material characteristics and clinical performance of orthodontic biomaterials;
5. Explain the force load that appliances place on the dentition;
6. Use patient management software and imaging software correctly;
7. Identify the need and timing of interdisciplinary care; and
8. Identify the effects of growth and development on malocclusion.

#### *Critical Thinking*

The graduate will be able to:

1. Draw upon evidence-based research to select and justify appropriate treatment methods and biomaterials; and
2. Formulate a hypothesis and design methods to solve a problem.

#### *Effective Communication*

The graduate will be able to:

1. Effectively present appropriate treatment plans in written and oral formats to patients and referring dentists;
2. Explain research results correctly in oral and written formats; and
3. Provide appropriate patient education concerning the need for appliances, the care of appliances, and the effect of diet and hygiene on the dentition.

## Pediatric Dentistry

M.S.D. degree program (hospital-based). Minor concentration: child psychology, dental materials, education, genetics, oral pathology, preventive dentistry, radiology, or speech pathology.

### Core Competencies

Students who successfully complete the two-year postdoctoral pediatric dentistry program will demonstrate competency in the following areas:

#### *Clinical Skills and Knowledge*

The successful graduate will be able to:

1. Diagnose and provide dental treatment to the child and adolescent patient;
2. Manage the dental patient with the use of non-pharmacologic and pharmacologic management techniques; and
3. Provide comprehensive management of the disabled patient.

#### *Critical Thinking*

The successful graduate will be able to:

1. Draw upon evidence-based literature to select and justify appropriate treatment;
2. Learn the dental care systems, both public and private sectors; and
3. Successfully complete and present research relevant to the specialty of pediatric dentistry.

#### *Effective Communication*

The successful graduate will be able to:

1. Present appropriate treatment plans to patients and family members;
2. Present accurate oral and written reports to referring physicians and dentists;
3. Draw upon the latest evidence-based literature to provide education and oral hygiene instructions to patients, and interpret and present the findings of medical and laboratory reports.

## Periodontology

M.S.D degree program. Minor concentration: oral pathology.

### Core Competencies

Students who successfully complete the three-year postdoctoral periodontology program will demonstrate competency in the following areas:

#### *Clinical Skills and Knowledge*

The successful graduate will be able to:

1. Diagnose and treat diseases affecting the periodontium;
2. Demonstrate competency in a wide variety of surgical techniques used in treatment of periodontal diseases;
3. Demonstrate competency in all aspects of surgical placement of dental implants including implant site development; and
4. Describe the relationship between material characteristics and clinical performance of dental biomaterials.

#### *Critical Thinking*

The successful graduate will be able to:

1. Draw upon evidence-based research to select and justify appropriate treatment methods and biomaterials, and
2. Formulate hypotheses and design the necessary experiments for a given procedure or material evaluation scenario.

#### *Effective Communication*

The successful graduate will be able to:

1. Present appropriate treatment plans to patients and referring dentists correctly in oral and written reports;
2. Provide evidence-based arguments on research findings in oral and written reports; and
3. Provide patient education and oral hygiene instructions to patients based on clinical findings and current periodontal literature.

#### Research

The postdoctoral periodontology program will also prepare the graduate to conduct all phases of a research project, including protocol development, review of literature, management of all stages of the study, and preparation of a manuscript for publication.

#### Prosthodontics

M.S.D. degree program. Minor concentration: dental materials.

#### Core Competencies

Students who successfully complete the three-year postdoctoral program in prosthodontics will demonstrate competency in the following areas:

#### Clinical Skills and Knowledge

The successful graduate will be able to:

1. Diagnose, treatment plan, and rehabilitate dentate, partially edentulous, and completely edentulous patients having clinical conditions associated with missing or deficient teeth and/or oral and maxillofacial tissues using biocompatible substitutes;
2. Be competent in a wide variety of treatment modalities utilized in the treatment and/or rehabilitation of dentate, partially edentulous, and completely edentulous patients;
3. Be competent in all aspects of the restoration of dental implants;
4. Be competent in all aspects of occlusion and the prosthodontic management of TMD/TMJ disorders and/or orofacial pain;
5. Be competent in the laboratory procedures associated with the treatment of complete edentulism, partial edentulism, and dentate patients; and
6. Describe the relationship between material characteristics and clinical performance of dental biomaterials.

#### Critical Thinking

The successful graduate will be able to:

1. Draw upon evidence-based research to select and justify appropriate treatment methods and biomaterials; and
2. Formulate hypotheses and design the necessary experiments for a given procedure or material evaluation scenario.

#### Effective Communication

The successful graduate will be able to:

1. Present appropriate treatment plans to patients and referring dentists in oral and written reports;

2. Provide evidence-based agreements on research findings in oral and written reports; and
3. Provide patient education and oral hygiene instructions to patients based upon clinical findings and upon current prosthodontic literature.

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## Master's Degrees

### Master of Science (M.S.) and Master of Science in Dentistry (M.S.D.)

- Admission
- Program Costs: Tuition and Fees
- Faculty Advisory/Research Committees
- Degree Requirements

## Admission

Only students who have a minimum cumulative grade point average of 3.0 (on a scale of 4.0) will be considered for admission, unless, under exceptional circumstances, the prospective student can provide evidence that he or she is capable of successfully completing the graduate dental program. Application forms must be accompanied by transcripts of undergraduate and professional school work together with such additional materials as may serve to determine eligibility and ability to satisfactorily pursue an advanced course of study. Letters of support attesting to the candidate's academic background, professional experience, and character should be requested from at least two individuals who have direct knowledge of the candidate's potential to do graduate-level work. To request application information for one of the M.S. or M.S.D. programs, contact the School of Dentistry's Office of Graduate Education. Application and contact information is available at <https://dentistry.iu.edu/academics/degrees-programs/index.html>.

Deadline dates for completed applications vary among the individual graduate programs. In addition, several of the individual graduate programs participate in the Postdoctoral Application Support Service (PASS<sup>1</sup>) and the Postdoctoral Dental Matching Program (Match<sup>2</sup>), two national services designed to help applicants obtain positions in first-year postdoctoral programs of their choice, as well as to help the programs obtain applicants of their choice. Candidates must register in these services if the program is a participant. For applications for the 2022-2023 academic year, five IU graduate programs are participating in both PASS and Match: oral and maxillofacial surgery, orthodontics, pediatric dentistry, periodontics, and prosthodontics. The endodontics graduate program is participating in PASS. Candidates should contact the dental school's Office of Graduate Education or the appropriate program director to obtain more information about application deadlines, national application services, and other details related to the application process.

<sup>1</sup>[Postdoctoral Application Support Service \(PASS\)](#), offered by the American Dental Education Association.

<sup>2</sup>[Postdoctoral Dental Matching Program \(Match\)](#), administered by National Matching Services, Inc.

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## Tuition and Fees

Tuition and fees are paid at the time of registration and are subject to change by action of the Trustees of Indiana University. All students applying for admission to the School of Dentistry are required to pay an Application Fee of \$80.00. This fee is paid only once, is nonrefundable, and is not applied to other fees. Academic Year 2022-2023 cost of attendance for all IUSD academic programs is available here: <https://dentistry.iu.edu/admissions/cost-financial-aid/msd-cost.html>

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## Faculty Advisory/Research Committees

Each degree candidate is assigned to a faculty advisory committee. The committee is chaired by the chairperson of the candidate's major subject (or the chairperson's designee) and is composed of the chair and at least two additional members of the IU School of Dentistry, IU, or Purdue University graduate faculty, including at least one additional faculty from the student's major department, one from each minor, and one from outside the student's program of study, if deemed appropriate. The functions of the advisory committee are to:

1. Approve the student's program of study
2. Counsel the student until the qualifying (oral and written comprehensive) examination is passed;
3. Compose and grade the qualifying examination.

At Indiana University, students have traditionally submitted a research thesis to complete their M.S.D. degree requirements. Requirements were modified in February 2004 to give program directors the option of permitting M.S.D. degree candidates to prepare their research either as a thesis, or in the form of a manuscript that must subsequently be submitted for publication in a refereed journal. The student's program director determines which option the student will pursue.

Following successful completion of the qualifying examination, the student will be permitted to complete the thesis or journal manuscript research under the direction of his or her research committee. The research committee may or may not have the same composition as the faculty advisory committee. The research committee is chaired by the faculty member who directs the thesis or journal manuscript research (chosen by the student with the consent of the chair of the faculty advisory committee) and is composed of the chairperson and at least two

additional members of the IU School of Dentistry, IU, or Purdue University graduate faculty with at least one additional faculty from the student's major department and one from each minor department. The committee should be selected from the members of the graduate faculty who are best qualified to assist the student in conducting the thesis or journal manuscript research. The research committee is responsible for supervising the research, guiding the preparation of the thesis or journal manuscript, and conducting and approving the thesis or journal manuscript defense.

Once the faculty advisory and research committees have certified that the student has completed the academic and research requirements, the director of the graduate program will certify the student for graduation and direct the graduate recorder to order the diploma.

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## Degree Requirements

Requirements for the M.S. degree are outlined in the Indiana University Graduate School Bulletin. Requirements for the M.S.D. degree are as follows:

### Course Work

The student must complete the required number of credit hours of course work specific to the graduate program. A minimum of 6 credit hours must be earned toward a minor subject outside the major concentration.

Other elective subjects may be selected, based on the student's educational objectives. A total of 6 credit hours must be in research; however, additional research credit cannot be used toward fulfillment of requirements for the degree.

All students enrolled in the IU School of Dentistry's M.S.D. program are required to submit a research proposal to the IUSD Graduate Student Research Committee (GSRC) prior to beginning the experimental or data collection phase of their research projects. Prior to this, the student's research committee must review and approve the proposal. Preliminary review of the literature, selection of a research topic and submission of the research proposal to the GSRC should ordinarily be completed by the end of the first spring semester of the program.

It is the goal of the proposal review process to provide qualified feedback to the principal investigator and student on the scientific merit of the project. The school has a vested interest in encouraging students and faculty to prepare well-justified and competitive proposals, research publications, and both internal and external grant applications related to their work. A secondary goal of this process is to improve the external funding support the school receives by improving the quality of student pilot projects that can provide preliminary data for external grant proposals from principal investigators.

The IUSD GSRC consists of members of the faculty who are active in research and are willing to provide significant guidance in reviewing research proposals.

Each student must present at the IUSD Research Day prior to graduation.

Each student must satisfactorily complete the project and submit an approved thesis or journal manuscript.

### Core Courses

All graduate students enrolled in dental school programs (including M.S. degree candidates) are required to complete six core courses, as designated by the IU School of Dentistry Graduate Program. These courses are:

- G907 Clinical Oral Pathology Conference I
- G909 Clinical Oral Pathology Conference II
- G910 Seminar (Biostatistics)
- G948 Advanced Radiology
- R955 Graduate Oral Biology I
- R980 Research Methodology

The core courses are in addition to courses that are required by individual departments.

Required courses must be taken in the proper sequence, as specified by the student's committee. In most departments there are additional program requirements designed to meet such criteria as may be specified by the several dental specialty boards and the American Dental Association Commission on Dental Accreditation Standards for Advanced Specialty Education Programs. The final credit requirement, including elective course work, is determined by each student's graduate committee and is usually dependent upon the student's previous academic accomplishments.

### Grades

Failure to maintain a minimum grade point average of 3.0 (on a 4.0 scale) in either the major or minor concentration and/or failure to demonstrate evidence of continuing professional growth may subject the student to dismissal from the program.

### Examinations

The members of the student's faculty advisory committee (previously described) will conduct the qualifying (oral and written comprehensive) examination, which essentially covers the candidate's field of study. The exact format of the examination will be determined by the individual faculty advisory committee and described in an educational agreement signed by the student and department chairperson at the beginning of the program. Successful completion of the qualifying examination is required in order to proceed to completion of the thesis or journal manuscript research, defense of the thesis or journal manuscript, and awarding of the degree. In accordance with University Graduate School requirements, students who fail the qualifying examination are normally allowed only one retake. The student must complete the qualifying examination six months prior to the intended date of graduation. The student is eligible but not required to take the examination upon the completion of one-half of the didactic requirements.

### English Proficiency

All graduate students for whom English is not the first language must take the English for Academic Purposes

(EAP) Placement Test at the beginning of their dental school program. This test is offered on the IUPUI campus by the EAP Program in the Department of English. Students must satisfactorily complete all English courses required as a result of performance on the EAP test before a certificate or degree can be awarded. The required English courses must be completed during the first year of study.

All graduate students whose first language is not English must be tested for oral English language competency before they are given any appointment having direct student contact. Students' oral language proficiency will be assessed using the SPEAK Test, a pronunciation test that is also offered by the EAP Program. If the results of the SPEAK test indicate that the student must take one or more English courses, these courses must be paid for by the student and must be satisfactorily completed before the student will be allowed to teach.

For more information about these tests, call the EAP Program at (317) 274-2188 or visit the .

### Continuing Enrollment

Students who have passed the qualifying examination and completed two years as a full-time student must enroll each semester (excluding summer sessions for off-campus students) for any remaining required course work or research credits. Once students have accumulated the number of credit hours required by the particular graduate program, they must enroll for a minimum of 1 hour of graduate credit each semester until the degree is completed. Failure to meet this requirement will automatically terminate the student's enrollment in the degree program. All requirements for the master's degree must be completed within five consecutive years.

### Time Limits and Revalidation

Master's programs in the School of Dentistry comply with IU's University Graduate School requirements regarding time limits and course revalidation. Thus, as a rule, a course may not be counted toward degree requirements if it has been completed more than five years prior to the awarding of the degree for master's students. The advisory committee, however, may recommend to the dean that course work taken prior to the above deadlines be revalidated if it can be documented that the knowledge contained in the course(s) remains current. Examples of such documentation may include (1) passing an examination specifically on the material covered by the course; (2) passing a more advanced course in the same subject area; (3) passing a comprehensive examination in which the student demonstrates substantial knowledge of the content of the course; (4) teaching a comparable course; or (5) publishing scholarly research demonstrating substantial knowledge of the content and fundamental principles of the course. Each course for which consideration for revalidation is being requested should be justified separately.

Students who do not complete all M.S. or M.S.D. requirements within five years will be given a maximum of one additional year to revalidate courses and complete all requirements. The enrollment of any student who fails to fulfill these requirements will be automatically terminated at the end of that year.

In the event the course work cannot be revalidated or the thesis or journal manuscript cannot, in the opinion of the advisory committee, be completed by the deadline stated above, the student, upon the advice of the advisory committee, may be awarded a certificate of completion of a curriculum in postgraduate study, or a certificate of attendance, whichever is deemed appropriate by the IU School of Dentistry. (Please note, however, that programs are not required to grant such certificates. See individual program educational agreements for specifics.)

### **M.S.D. Thesis or Journal Manuscript**

The results of the M.S.D. degree research must be presented to the student's research committee either in traditional thesis form, or as a manuscript that will be submitted to a peer-reviewed journal. The research committee must approve the thesis before the student submits the thesis electronically to the IUPUI digital archive, IUPUI ScholarWorks. Students must also submit a bound thesis to their major and minor departments. If the manuscript option is selected in lieu of the thesis, the research committee and the research mentor must approve both the manuscript and the journal it is intended for before the manuscript can be submitted to the journal.

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## **Ph.D. Degree**

### **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 of today and the future. Ph.D. Dental Science graduates should be ideal candidates for positions not only in any school of dentistry, but should also qualify for positions in laboratories of government and private institutions. The program will be open to dental school graduates with a minimum dental school GPA of 3.0/4.0 (as well as individuals with a B.S. degree) and a minimum GRE percentile score of 160 on the verbal or 148 on the quantitative reason section. In addition, a TOEFL score of no lower than 80 must be obtained for applicants from non-English speaking countries. Ninety credit hours are required for the degree with 32-40 required course credits 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. In addition, a combined Ph.D./D.D.S. program has been established incorporating aspects of both programs.

- Admission
- Program Costs: Tuition and Fees
- Enrollment and Financial Support
- Degree Requirements
- Curricula:
  - Oral Biology Track Core Curriculum

- Preventive Dentistry Track Core Curriculum
- Dental Materials Track Core Curriculum
- Dental Biomaterials Track Core Curriculum

For more information, please contact the Program Director:

Richard L. Gregory, Ph.D.

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Director, Ph.D. Dental Science Program

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317/274-9949 FAX 317/278-1411

[rgregory@iu.edu](mailto:rgregory@iu.edu)

**Short Description of Program:** Currently, the Indiana University School of Dentistry offers two terminal degrees, a D.D.S. degree and a Ph.D. in Dental Science. Both degrees are the only similar ones offered at any school in Indiana. The Ph.D. in Dental Science (Preventive Dentistry, Oral Biology, Dental Materials or Dental Biomaterials tracks) is focused on basic and clinical science areas as they relate to the human organism and on the effect of dental materials on cariology, molecular biology and etiology, and pathogenesis. Individuals with this type of training can be expected to pursue academic teaching and/or research positions in dental schools, medical schools and other basic science departments in addition to training that will be suitable for industrial research positions. Individuals with combined Ph.D./D.D.S. training would be highly recruited to academic positions at Dental Schools. Our Ph.D. tracks contain courses in biostatistics, research ethics, research communications and effective teaching methods. The course in biostatistics emphasizes the important role of appropriate statistical methods used in biological research. The research ethics course addresses the importance of a strong ethical approach to the scientific method and human and animal research. The research communication course is a multidisciplinary course that will increase the ability of the student to write and review scientific papers. The teaching methods course requirement recognizes that most of our students will ultimately teach in an academic environment and may have no previous coursework in education. In addition, students will be required to complete the Preparing Future Faculty and Professionals (PFFP) program (<https://graduate.iupui.edu/support/pffp/index.html>).

The Indiana University School of Dentistry, Division of Dental Biomaterials, in conjunction with the Purdue University School of Materials Science and Engineering and the Indiana University Department of Biomedical Engineering, offers a graduate program leading to a Ph.D. in Dental Sciences with specialization in Dental Biomaterials. Coursework will be taken through the Indiana University School of Dentistry, Purdue University School of Materials Science and Engineering, and

Purdue University Department of Biomedical Engineering. Dissertation research is conducted within the departments mentioned above based on the students area of research interest. Subspecialty areas within dental biomaterials include ceramics, polymers, metals, biomechanics and tissue engineering. However, students are encouraged to combine their specialties with other scientific disciplines, (i.e., biomimetics). This program is designed for individuals who have a background in either engineering or dentistry. Candidates who have backgrounds in both fields, i.e., Bachelors in Materials or Mechanical Engineering and a DMD or a D.D.S. degree, are strongly encouraged to apply. Graduates of this program will be equipped with expertise to pursue an academic career in the fields of dentistry, materials engineering and biomedical engineering. Additional opportunities are available to graduates who are planning to pursue a career in the Dental Materials industry. Students who do not have Material Science Engineering Background must take Introduction to Materials Engineering (MSE 530 or MSE 230) as a graduate student.

**Research Capabilities:** The Indiana University School of Dentistry has significantly increased its commitment to research (for more information please go to <https://dentistry.iu.edu/research/index.html>) and over the past five years has averaged over \$6.0 million in external grant and contract support. In addition, several of our faculty have established jointly funded projects with faculty in the School of Medicine and the School of Engineering along with joint academic appointments for teaching purposes. Multidisciplinary approaches are highly valued at the School of Dentistry. This heavy research emphasis from our faculty has recently led to significant increases in faculty commitment to research, released time for research and recruitment of primarily research-oriented faculty. Since 1993, the School of Dentistry has completely renovated seven research laboratories into state-of-the-art facilities that are occupied by funded investigators in addition to at least 11 others.

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## Admission

**Student Population:** Open to dental school graduates with a minimum dental school GPA of 3.0/4.0 (as well as individuals with a B.S. degree) and a minimum GRE score of 600 in either the verbal, quantitative or analytical sections. In addition, a TOEFL score of no lower than 550 must be obtained for applicants from non-English speaking countries.

**Program Requirements:** All general requirements of the Indiana University Graduate School apply (<https://graduate.iupui.edu/academics-research/bulletin.html>), plus specific requirements of this program, as outlined in the core curricula below.

**Time Limits and Revalidation:** All Ph.D. work offered in partial fulfillment of degree requirements must either have been completed within seven consecutive calendar years of the passing of the qualifying examination or be revalidated.

Any student whose candidacy lapses will be required to apply to the IU Graduate School for reinstatement before further work toward the degree may formally be done. To be reinstated to candidacy in the IU Graduate School, the student must: 1) obtain the permission of the program director; 2) fulfill the program requirements in effect at the time of the application for reinstatement; 3) pass the current Ph.D. qualifying examination or its equivalent (defined in advance); 4) request reinstatement to candidacy from the dean. Such reinstatement, if granted, will be valid for a period of three years, during which time the candidate must enroll each semester for a minimum of one credit hour.

In the fifth semester, students meet with their examination committee to review past performance and to evaluate plans for completing the Ph.D. Includes written, oral, and research components. All full-time Ph.D. students must take the qualifying examination by the end of the fifth semester.

**Satisfactory Progress Toward a Degree:** After passing the qualifying examination, for a student to remain in "good standing", the Program requires that sufficient progress be made toward completing a dissertation. If the research advisory committee judges progress to be unsatisfactory, probation may be recommended. At the end of the probationary period (usually a semester), probation will be lifted if the advisory committee judges the student's progress to be satisfactory. If the advisory committee judges the student's progress to remain unsatisfactory, then the student will be required to leave the program.

**Continuing Enrollment:** Students who have passed the qualifying examination must enroll each semester (excluding summer sessions) for any remaining required course work or dissertation credits. Once such students have accumulated 90 credit hours in completed course work and deferred dissertation credits, they must enroll for a minimum of 1 hour of graduate credit each semester until the degree is completed. Failure to meet this requirement will automatically terminate the student's enrollment in the degree program.

A candidate who will be graduating in June, July, or August of any year must enroll in a minimum of 1 hour of credit in either the current or immediately preceding summer session.

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## Program Costs: Tuition and Fees

Tuition is paid at the time of registration and is subject to change by action of the Trustees of Indiana University. All students applying for admission to the School of Dentistry are required to pay an Application Fee of \$ \$80.00 in U.S. dollars (check or money order). This fee is paid only once, is nonrefundable, and is not applied to other fees.

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## Enrollment and Financial Support

Enrollment in the Ph.D. in Dental Science Program is limited in regard to the number of appropriate faculty available to serve as research mentors. In general, an average ratio of one student to one graduate faculty member is the maximum.

Acceptance criteria will be as described above, with applicants being ranked by grade point averages, GRE scores, previous research experience, and possibly by interviews. Financial support is primarily the responsibility of the student. However, several fellowships may be available.

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## Degree Requirements

### General Information

The degree requires 90 credit hours with required courses depending on the choice of tract 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.

The four Ph.D. tracks contain courses in biostatistics, research ethics, research communications, and effective teaching methods. The courses in biostatistics emphasize the important role of appropriate statistical methods used in biological research. The research ethics course addresses the importance of a strong ethical approach to the scientific method and human and animal research. Research Communications is a multidisciplinary course that will increase the ability of the student to write and review scientific papers. The teaching methods courses recognize that most of our students will ultimately teach in an academic environment and may have no previous course work in education.

All general requirements of IU's University Graduate School apply to the Ph.D. in Dental Science Program, plus specific requirements of the program as outlined in the core curricula below. All Ph.D. work offered in partial fulfillment of degree requirements must either be completed within seven consecutive calendar years of the passing of the qualifying examination or be revalidated. Any student whose candidacy lapses will be required to apply to the University Graduate School for reinstatement before further work toward the degree may formally be done. To be reinstated to candidacy in the University Graduate School, the student must: (1) obtain permission of the program director; (2) fulfill the program requirements in effect at the time of the application for reinstatement; (3) pass a current Ph.D. qualifying examination or its equivalent (defined in advance); and (4) request reinstatement to candidacy from the dean. Such reinstatement, if granted, is valid for a period of three

years, during which time the candidate must enroll each semester for a minimum of 1 credit hour.

### English Proficiency

Students who are nonnative speakers of English must take the English for Academic Purposes (EAP) Placement Test at the beginning of their dental school program. This test is offered on the IUPUI campus by the EAP Program in the Department of English. Students must satisfactorily complete all English courses required as a result of performance on the EAP test before a certificate or degree can be awarded. The required English courses must be completed during the first year of study. For more information, visit the [EAP Program's website](https://liberalarts.iupui.edu/english/pages/eap-program-folder/index.php):

<https://liberalarts.iupui.edu/english/pages/eap-program-folder/index.php>.

### Continuing Enrollment

Students who have passed the qualifying examination must enroll each semester (excluding summer sessions) for any remaining required course work or dissertation credits. Once such students have accumulated 90 credit hours in completed course work and deferred dissertation credits, they must enroll for a minimum of 1 hour of graduate credit each semester (excluding summer sessions) until the degree is completed. Failure to meet this requirement will automatically terminate the student's enrollment in the degree program.

A candidate who will be graduating in June, July, or August of any year must enroll in a minimum of 1 hour of credit in either the current or immediately preceding summer session.

### 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.

### Other Courses

Selection of other courses is determined by requirements of the chosen minor, research committee, and/or advisory committee.

### Research

Laboratory Rotations—R957 Introduction to Research in Oral Biology (3 cr.); at least three separate rotations (two to four months each) conducting small projects in the laboratories of IU graduate faculty members. Projects will be graded. Students in all tracks enroll in this course once. It is expected that the student will choose a dissertation advisor (mentor) from these faculty members.

Laboratory Research—R958 Research: Oral Biology (1-12 cr. hrs./semester); G930 Research: Preventive Dentistry (1-12 cr. hrs./semester); or G921 Research: Dental Materials (1-12 cr. hrs./semester). Credit for research

is directly related to the writing and defense of a Ph.D. dissertation.

G901 Dissertation Research. Once 90 total credits have been accumulated in the appropriate areas, students may enroll in this course for a maximum of six semesters until the dissertation is complete. Students must be enrolled for at least 1 credit hour each semester.

### Research Credits

Remainder of 90 credit hours after required and minor courses.

### Student Advisory Committee

The student chooses the advisory committee, usually by the end of the first spring semester following enrollment in the program. The initial committee is composed of three members of the dental school faculty, two of whom must be members of the [University Graduate School faculty](#). Generally, one member is also the student's intended dissertation mentor. This committee is responsible for monitoring the student's progress and for advising the student with regard to all matters associated with the graduate program.

Prior to the student's qualifying exam (generally by the second summer following enrollment), two additional advisory committee members will be added from the student's minor field and/or from the general area in which the student has decided to conduct his or her dissertation research. This committee of five serves as the qualifying exam committee, with a member other than the dissertation mentor serving as chairperson.

### 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 written exam.

### Research Proposal

The student chooses, with the help and approval of the advisory committee chairperson, a topic for a grant proposal to be written and defended as part of the qualifying exam. This is usually done by the end of the second spring semester following enrollment. The topic may be in the area of the student's intended dissertation research but cannot be prepared as a requirement for another course.

Students should begin with an outline for a proposal that is approved by the committee chairperson. After approval, the student writes a proposal in the style of a National Institutes of Health (NIH) R01 grant proposal including the following sections: Summary, Specific Aims, Background and Significance, Research Design and Methods, Literature Cited, and Budget, but with the length reduced to a maximum of 15 single-spaced, 12-point font pages for the following sections: Summary, Specific Aims, Background and Significance, and Research Design and Methods. There are no page limits for the Literature Cited and Budget sections. The proposal, once written to the satisfaction of the student, is submitted to the committee chairperson, who distributes copies to the rest of the committee. The committee decides whether the proposal is defensible or in need of revisions prior to the defense.

Upon final approval, a time is set for the student to defend the proposal in the presence of the committee.

The defense of the proposal consists of a 30- to 45-minute presentation of the proposed work by the student, followed by a one- to three-hour oral examination consisting of questions arising from the proposal, the student's presentation, or answers to initial questions. Satisfactory defense of the proposal will be followed by a written exam at a date and time convenient to the members of the committee and student (within 60 days after the proposal defense). Students who do not satisfactorily complete the proposal defense may be allowed to retake it with the permission of the advisory committee.

### Written Examination

Each member of the advisory committee submits a comprehensive question in his or her area(s) of expertise to the committee chairperson, who then collates the questions from all five committee members. The exam package is handed to the student on the morning of the exam. The student is provided a room in which to complete the examination, preferably in a typed format. No notes or any other study aids are permitted during the exam, which is expected to be completed within eight hours. The entire exam is returned to the chairperson, who distributes the answers to individual committee members for correction, usually within a week. Students who do not satisfactorily complete the written exam may be allowed to retake it once with the permission of the advisory committee. In addition, students who fail both components of the qualifying exam are normally allowed to retake the exam once. The qualifying exam must be completed at least eight months before the degree is awarded.

### Admission to Candidacy

The student advisory committee submits a Nomination to Candidacy form to the University Graduate School after the student has completed all required didactic courses and passed the qualifying exam.

### Research Committee

Members of the advisory committee may continue to serve as members of the student's research committee. However, the latter committee is chaired by the student's research advisor, who must be a member of the [University Graduate School faculty](#) with endorsement to direct doctoral committees. The research committee is composed of two other members of the University Graduate School faculty in the School of Dentistry, a member of the University Graduate School faculty outside of the School of Dentistry (generally a member of the minor department), and an expert in the student's field of research outside of Indiana University. The outside member must meet the requirements of membership. At least half of the members of the research committee must be members of the University Graduate School faculty with endorsement; others may be members either with or without endorsement.

The research committee is responsible for supervising the student's research, reading the dissertation and providing scientific and editorial comments on its content, and conducting the final examination (defense of dissertation). The research committee, except for the outside member,



typically meets formally with the student twice annually to assess progress and make appropriate suggestions. During one of these assessments, most likely during the third or fourth year but usually at least six months prior to completion of the dissertation, the student gives a 45–50-minute presentation open to all dental school faculty. The dissertation defense consists of a 45–50-minute presentation open to all university faculty followed by a one- to three-hour oral examination on the dissertation that is open to the research committee only.

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## Oral Biology Track Core Curriculum

### Oral Biology Track Core Curriculum

Required courses below and 12 minor credits

#### Required Courses Biochemistry

- BIOC B500 Introduction to Biochemistry (3 cr.) or
- BIOC B800 Medical Biochemistry (3 cr.) and
- GRAD G817 Eukaryotic Cell Biology (2 cr.)

#### Microbiology

- MICR J822 General and Medical Microbiology (3 cr.) or
- MICR J510 Infectious Microbes and Host Interaction (3 cr.) or
- MICR J805 Molecular Immunology (3 cr.)

#### General Graduate

- GRAD G504 Introduction to Research Ethics (2 cr.) or
- GRAD G505 Responsible Conduct of Research (1 cr)
- PBHL B651 Introduction to Biostatistics I (3 cr.)
- GRAD G655 Research Communications Seminar (2 cr.; taken in spring of second year)
- GRAD G865 Fundamental Molecular Biology (3 cr.)
- EDUC J500 Instruction in the Context of Curriculum (3 cr.) or
- PSY 608 Measurement Theory and Data Interpretation (3 ) or
- EDUC W531 Technology for Teaching and Learning (3 cr.) or other teaching method course recommended by the program director

#### Dental

- DENT G910 Seminar: Preventive Dentistry or
- DENT G910 Seminar: Dental Materials or
- DENT R959 Seminar: Oral Biology and
- One IUPUI graduate level seminar course outside of the Dental School (one semester seminar course each year; 1 cr. each)
- DENT R956 Current Topics in Oral Biology (4 cr.)

#### Research (remainder of 90 credits)

- DENT R957 Introduction to Research in Oral Biology (3 cr.; taken once)
- DENT R958 Research: Oral Biology (1-12 cr. each semester)

Information about courses offered by schools and departments other than the School of Dentistry are available at the following links:

[Indiana University Graduate School](#)

[Indiana University School of Medicine Department of Biochemistry & Molecular Biology](#)

[IUPUI Department of Psychology](#)

[IUPUI Richard M. Fairbanks School of Public Health](#)

[IUPUI School of Education](#)

[IUPUI School of Engineering and Technology](#)

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## Preventive Dentistry Track Core Curriculum

Required courses below and 12 minor credits

#### Required Courses

- DENT G959 Oral Microbiology (3 cr.)
- DENT R909 Advanced Preventive Dentistry I (3 cr.)
- DENT R910 Advanced Preventive Dentistry II (3 cr.)
- DENT R911 Advanced Preventive Dentistry III (1-2 cr.)

Courses from the following list can be used to complete the total hours required for the major subject:

- DENT G905 Bone Physiology, Imaging, and Implant Anchorage (2 cr.)
- DENT G911 Dental Materials Science and Engineering (3 cr.)
- DENT G967 Advanced Periodontics (4 cr.)

#### General Graduate

- GRAD G504 Introduction to Research Ethics (2 cr.) or
- GRAD G505 Responsible Conduct of Research (1 cr)
- PBHL B651 Introduction to Biostatistics I (3 cr.)
- GRAD G655 Research Communications Seminar (2 cr.; taken in spring of second year)
- EDUC J500 Instruction in the Context of Curriculum (3 cr.) or
- PSY 608 Measurement Theory and Data Interpretation (3 ) or
- EDUC W531 Technology for Teaching and Learning (3 cr.) or other teaching method course recommended by the program director

#### Dental

- DENT G910 Seminar: Preventive Dentistry or
- DENT G910 Seminar: Dental Materials or

- DENT R959 Seminar: Oral Biology and
- One IUPUI graduate level seminar course outside of the Dental School (one semester seminar course each year; 1 cr. each)
- DENT R956 Current Topics in Oral Biology (4 cr.)

### 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 course in the first two years of their program:

- DENT G935 Dental Pediatrics (2 cr.)

### Research (remainder of 90 credits)

- DENT G930 Research: Preventive Dentistry (1-12 each semester)
- DENT R957 Introduction to Research in Oral Biology (3 cr.; taken once)

Information about courses offered by schools and departments other than the School of Dentistry are available at the following links:

[Indiana University Graduate School](#)

[IUPUI Department of Psychology](#)

[IUPUI School of Education](#)

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## Dental Biomaterials Track Core Curriculum

Required courses below and 12 credit hours

### Biochemistry-Microbiology

- BIOC B500 Introduction to Biochemistry (3 cr.); or
- DENT G959 Graduate Oral Microbiology (3 cr.)

### General Graduate

- PBHL B651 Introduction to Biostatistics I (2 cr.)
- GRAD G504 Introduction to Research Ethics (2 cr.); or
- GRAD G505 Responsible Conduct of Research (1 )
- GRAD G655 Research Communications Seminar (2 cr.)
- EDUC J500 Instruction in the Context of Curriculum (3 cr.); or
- PSY 608 Measurement Theory and the Interpretation of Data (3 cr.); or
- EDUC W531 Technology for Teaching and Learning (3 cr) or other teaching method course recommended by the program director

### Dental/Oral Biology

- DENT G910 Seminar: Dental Materials (1 cr.) or
- DENT G910 Seminar: Preventive Dentistry (1 cr.) or
- DENT R959 Seminar: Oral Biology (1 cr.; taken one semester each year) and one IUPUI graduate level

seminar course outside of the Dental School (one semester seminar course each year, 1 cr. each

- DENT R956 Current Topics in Oral Biology (4 cr.)

### Elective Courses

Offered by the Purdue University School of Materials Science & Engineering (MSE) on the West Lafayette Campus and Indiana University School of Dentistry on the Indianapolis Campus

- MSE 53000 or MSE 23000 Materials Processing in Manufacturing or Structure and Properties of Materials (3 cr.)
- MSE 24000 Processing and Properties of Materials (3 cr.)
- MSE 33500 Materials Characterization Laboratory (3 cr.)
- MSE 35000 Thermodynamics of Materials (3 cr.)
- MSE 38200 Mechanical Response of Materials (3 )
- MSE 69000 Seminar in Materials Engineering (0 cr.)
- DENT G911 Dental Materials Science and Engineering (3 cr.)
- DENT G912 Properties and Test Methods: Dental Materials (3 cr.)
- DENT G913 Clinical Applications of Dental Materials (3 cr.)
- MA 52700 Advanced Mathematics for Engineering and Physics I (3 cr.)

### Specialty Courses (in addition to the Core Courses):

These courses are offered by the Purdue University School of Materials Science & Engineering (MSE) on West Lafayette Campus; Indiana University School of Dentistry on the Indianapolis Campus; and Indiana University Department of Biomedical Engineering (BME) on the Indianapolis Campus.

### Polymers:

- MSE 52500 Structure-Property Relationships of Engineering Polymers (3 cr.)
- MSE 59700Y Polymer Synthesis (3 cr.)
- MSE 59700B-A&AE 590M Manufacturing of Advanced Composites (3 cr.)
- Six credit graduate level coursework chosen by the student's advisory committee

### Ceramics:

- MSE 51000 Microstructural Characterization Techniques (3 cr.)
- MSE 51200 Powder Processing (3 cr.)
- MSE 52300 Physical Ceramics (3 cr.)
- MSE 55600 Fracture of Materials (3 cr.)
- Three credits in graduate-level course work chosen by the student's advisory committee

### Metals:

- MSE 50800 Phase Transformation in Solids (3 cr.)
- MSE 51000 Microstructural Characterization Techniques (3 cr.)
- MSE 52200 Rate Phenomena in Process Metallurgy (3 cr.)

- Six credits in graduate-level course work chosen by the student's advisory committee

#### Biomechanics:

- BME 595C Skeletal Biomechanics (3 cr.)
- BME 595J Molecular and Cellular Mechanics (3 cr.)
- MSE 55600 Fracture of Materials (3 cr.)
- Six credits in graduate-level course work chosen by the student's advisory committee

#### Tissue Engineering:

- BME 595E Tissue Engineering (3 cr.)
- BMS 523 Tissue Engineering (3 cr.)
- BME 601 Principles of Biomedical Engineering I (3 cr.)
- BME 602 Principles of Biomedical Engineering II (3 cr.)
- BME 595B Biomolecular Engineering (3 cr.)

Additional information for Purdue University and IUPUI courses is available at the following links:

[Biochemistry and Molecular Biology](#)

[IUPUI Department of Mathematical Sciences](#)

[IUPUI Department of Psychology](#)

[IUPUI School of Education](#)

[IUPUI School of Engineering and Technology](#)

[Purdue University Graduate School](#)

[Purdue University School of Materials Engineering](#)

[Purdue University Weldon School of Biomedical Engineering](#)

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## Dental Materials Track Core Curriculum

### Required courses below and 12 minor credits

#### Required Courses

##### Biochemistry – Microbiology

- BCHM 500 Introduction to Biochemistry or
- DENT-G 959 Graduate Oral and Microbiology (3 cr.)

##### General Graduate

- PBHL G651 Introduction to Biostatistics (3 cr.)
- GRAD G504 Introduction to Research Ethics (2 cr.) or
- GRAD G505 Responsible Conduct of Research (1 cr.)
- GRAD G865 Fundamental Molecular Biology (3 cr.)
- GRAD G655 Research Communications Seminar (2 cr. – taken in spring of 2<sup>n</sup> year)
- EDUC J500 Instruction in the Context of Curriculum Education (3 cr. – taken during 1<sup>s</sup> year) or
- PSY 608 Measurement Theory and Data Interpretation (3 cr.) or

- EDUC W531 Technology for Teaching and Learning (3 cr) or other teaching method course recommended by the program director

#### Dental Materials

- DENT G 911 Dental Materials Science and Engineering (3 cr.)
- DENT-G 912 Properties and Test Methods: Dental Materials (3 cr.)
- DENT-G913 Clinical Applications of Dental Materials (3 cr.)
- DENT G910 Seminar: Dental Materials (1 cr. Each year enrolled) and one IUPUI graduate level seminar course outside of the Dental School (one semester seminar course each year, 1 cr. each)
- DENT-G 956 Current Topics in Oral Biology (4 cr.)

#### Dental

- DENT G910 Seminar: Preventive Dentistry or
- DENT G910 Seminar: Dental Materials or
- DENT R959 Seminar: Oral Biology and
- One IUPUI graduate level seminar course outside of the Dental School (one semester seminar course each year; 1 cr. each)
- DENT R956 Current Topics in Oral Biology (4 cr.)

#### Research (remainder of 90 credits)

- DENT G957 Introduction to Research in Oral Biology (3 cr.; taken once)
- DENT G921 Research: Dental Materials (1-12 cr. each semester)

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## Graduate Courses

The availability of specific course offerings varies from year to year.

**DENT G905 Bone Physiology, Imaging, and Implant Anchorage (1-3 cr.)** Histology, physiology, pathology of bone with reference to maxilla and mandible; development, growth, maintenance, and functional adaptation of bone; bone in pathologic states such as developmental disturbances, inflammatory disturbances, disturbances of metabolism, and tumors.

**DENT G907 Clinical Oral Pathology Conference I (.5; 1 maximum cr.)** Presentation of cases of diagnostic problems; student prepares several cases for presentation.

**DENT G909 Clinical Oral Pathology Conference II (1 cr.)** Differential diagnosis of oral and maxillofacial pathology. Emphasis on etiology, pathogenesis, and therapeutics.

**DENT G910 Seminar (1 cr.)**

**DENT G911 Dental Materials Science and Engineering (2-3 cr.)** Composition, chemical reactions, physical properties, and clinical significance of metals, resins, and other materials used in dentistry; phases of metallography, physical chemistry, and physics pertinent to this field.

Laboratory experience in specimen preparation, use of metallograph and scanning electron microscope.

**DENT G912 Properties and Test Methods: Dental Materials (2-3 cr.)** Discussion of the basic physical, mechanical, and chemical properties with emphasis on the relationship to dental materials. Methods applicable to testing dental materials for these properties will be discussed along with ADA and ANSI specifications. (Laboratory demonstrations of instruments.)

**DENT G913 Clinical Applications of Dental Materials (2-3 cr.)** P: G912. This is a seminar course in which the clinical behavior and manipulation of dental materials as related to basic physical and chemical properties of the materials are discussed. Specific clinical problems are defined and knowledge of basic properties applied to explain the behavior and/or solve the problem.

**DENT G914 Advanced Complete Denture Theory (1-3 cr.)** Advanced theories of complete denture prosthodontics, including comparison of denture materials and prosthetic teeth.

**DENT G916 Special Problems in Complete Denture Design (1-4 cr.)** Treatment of patients with difficult and unusual prosthetic denture problems.

**DENT G917 Maxillofacial Prosthetics (1-6 cr.)** Lectures on the prosthetic rehabilitation of individuals with congenital, acquired, or developmental intraoral and extraoral defects; hospital routine and multidisciplinary approach to treatment.

**DENT G928 Research: Periodontics (arr. cr.)**

**DENT G921 Research: Dental Materials (arr. cr.)**

**DENT G930 Research: Preventive Dentistry (arr. cr.)**

**DENT G923 Research: Prosthodontics (arr. cr.)**

**DENT G925 Research: Operative Dentistry (arr. cr.)**

**DENT G926 Research: Endodontics (arr. cr.)**

**DENT G927 Research: Orthodontics (arr. cr.)**

**DENT G931 Advanced Pediatric Dentistry (1-3 cr.)** Two-semester course; diagnostic, preventive, and therapeutic phases of pediatric dentistry; evaluation of the literature.

**DENT G934 Advanced Clinical Pediatric Dentistry (1-6 cr.)** Advanced, diagnostic, corrective, and preventive procedures in pediatric dentistry; instruction and clinical experience in restorative dentistry, dental caries control, pulp therapy, periodontics, hereditary and congenital dental anomalies, oral medicine, behavior management, sedation, managing patients with various medically or physically disabling conditions, managing oral trauma, and interceptive orthodontic procedures.

**DENT G935 Dental Pediatrics (1-2 cr.)** Medical and dental problems of the chronically ill or handicapped child; lectures, discussions, and ward rounds cover physical diagnosis, and normal and abnormal physical and emotional growth of the child.

**DENT G936 Advanced Pediatric Dentistry Techniques (1-3 cr.)** Interceptive orthodontic appliance design and fabrication.

**DENT G937 Advanced Clinical Instruction in Removable Partial Prosthodontics (.5-6 cr.)** Clinical experience in extracoronally and intracoronally retained removable partial dentures.

**DENT G938 Advanced Removable Partial Prosthodontics Technique (.5-6 cr.)** Tooth preparation for and fabrication of abutment restorations for extracoronally and intracoronally retained removable partial dentures, and fabrication of the prostheses.

**DENT G941 Advanced Fixed Partial Prosthodontics Technique (.5-4 cr.)** Tooth preparation for and fabrication of extracoronally restorations and fixed prostheses, including partial-veneer gold crowns, full-veneer cast crowns, pin-ledge retainers, metal-ceramic crowns, all-ceramic crowns, metal-ceramic pontics, and sanitary pontics.

**DENT G942 Theories of Occlusion (1-2 cr.)** Review of the literature, philosophies, and techniques of major contributors to the development of modern gnathological concepts.

**DENT G944 The Principles of Gnathology (1-2 cr.)** Lectures, laboratory, and clinical exercises demonstrating the application of gnathological principles to restorative dentistry.

**DENT G945 Pediatric Dentistry Seminar (1 cr.)** Current literature, research design, case analysis, and diagnosis.

**DENT G947 Cephalometrics (1-4 cr.)** Technique of procuring films of living individuals; tracing of important facial landmarks and planes; taking of significant angular and linear readings, and transposing same to a graph.

**DENT G948 Advanced Radiology (2 cr.)** Applications in X-ray production, intraoral and extraoral techniques, film processing, radiographic interpretation, radiation hygiene.

**DENT G950 Advanced Clinical Operative Dentistry (1-6 cr.)** Comprehensive restorative care correlated with modern preventive dentistry principles; current concepts of operative dentistry.

**DENT G951 Interdisciplinary Role of Operative Dentistry (2 cr.)** The interrelationship of operative procedures with other areas of dental and general health care delivery.

**DENT G952 Analysis of Operative Procedures (2 cr.)** Restorative techniques and physical properties of dental materials correlated to properties of tooth structure; pulp protection and permanency of restorations.

**DENT G953 Recent Advances in Operative Dentistry (2 cr.)** Current concepts dictated by research; correlation of reports on the literature.

**DENT G956 Advanced Endodontics (1-8 cr.)** Classroom instruction and clinical experience in developing proficiency in complicated endodontic cases.

**DENT G957 Analysis of Endodontic Theory (1-4 cr.)** Library research and review of literature supporting principles and practice of endodontics.

**DENT G958 Biomechanics (1-4 cr.)** Principles of force application used in altering dento-facial relationship; appliance design, fabrication, and activation; specific

treatment procedures discussed and applied on the tyodont.

**DENT G959 Oral Microbiology (3 cr.)** P: Basic microbiology. Role of oral microorganisms in health and disease states of the host. Emphasis is placed on the biological mechanisms involved in dental caries, periodontal disease, and specific microbial infections of the oral cavity.

**DENT G960 Advanced Orthodontic Clinic (1-6 cr.)** Details of treatment plan based on careful analysis; timing phenomena; reanalysis of treatment; cleft palate, surgical correction, temporomandibular syndrome.

**DENT G963 Advanced Orthodontic Techniques (2 cr.)** Details of wrought and cast appliances used in treatment of malocclusions.

**DENT G964 Dento-Facial Analysis (2 cr.)** P: G947. Methods of determining and evaluating deviation from normal dental, skeletal, muscular, and integumental patterns; treatment objectives with respect to stability, esthetics, and function.

**DENT G966 Advanced Clinical Periodontics (1-4 cr.)** Evaluation and treatment of special advanced cases involving diseases of soft tissue and bony support structures.

**DENT G967 Advanced Periodontics (1-4 cr.)** Periodontal diseases relating to etiology, symptomatology, treatment, and differential diagnosis.

**DENT G976 Advanced Oral Pathology I (1-2 cr.)** All phases of disease of the oral cavity and adjacent structures; oral manifestations of systemic disease; disturbances of growth and development, infections, and neoplasms; microscopic study of tissue sections.

**DENT G977 Advanced Oral Pathology II (2 cr.)** All phases of disease of the oral cavity and adjacent structures; oral manifestations of systemic disease; disturbances of growth and development, infections, and neoplasms; microscopic study of tissue sections.

**DENT G980 Advanced Surgical Endodontics (1-6 cr.)** P: G956 and G957. Classroom instruction in principles and clinical experience in advanced surgical endodontics.

**DENT R901 Oral Surgery Literature Seminar (.5 cr.)** Seminar review of classic and current literature in the field of oral and maxillofacial surgery.

**DENT R905 Advanced Oral Surgery (1-3 cr.)** Major and minor advanced oral surgical procedures, treatment planning, and variable approaches to similar problems; development of surgical judgment. (Enrollment limited to oral and maxillofacial surgery residents, except by special permission.)

**DENT R909 Advanced Preventive Dentistry I (2-3 cr.)** Basic concepts, principles, and techniques relative to the etiology and prevention of oral diseases. Analysis of the components of the oral environment, attacking agents, defense mechanisms, and preventive measures.

**DENT R910 Advanced Preventive Dentistry II (2-3 cr.)** Basic concepts, principles, and techniques relative to the etiology and prevention of oral diseases. Analysis of the

components of the oral environment, attacking agents, defense mechanisms, and preventive measures.

**DENT R911 Advanced Preventive Dentistry III (1-2 cr.)** Basic concepts, principles, and techniques relative to the etiology and prevention of oral diseases. Analysis of the components of the oral environment, attacking agents, defense mechanisms, and preventive measures.

**DENT R921 Maxillofacial Prosthetics Clinic (.5-6 cr.)** Introduction to the clinical management of individuals with congenital, acquired, or developmental intraoral and extraoral defects, with hospital experiences and a multidisciplinary approach.

**DENT R922 Advanced Maxillofacial Prosthetics Clinic (1-6 cr.)** Advanced clinical practice in the treatment of individuals with congenital, acquired, or developmental intraoral and extraoral defects, with hospital experiences and a multidisciplinary approach.

**DENT R923 Maxillofacial Prosthetics Seminar (.5-2 cr.)** Review of fundamentals, multidisciplinary topics, current literature, and case presentation.

**DENT R924 Retention and Post-Retention Analysis (2 cr.)** Problems of retention in orthodontically treated patients; appliances and procedures for prevention and control of relapses; retrospective analysis of long-term post-retention records to assess the results of different approaches to treatment.

**DENT R925 Special Topics in Dentistry (1-14 cr.)** Attendance at lectures, seminars, and special clinics designed to update students' knowledge in clinical and basic science disciplines.

**DENT R928 Advanced Maxillofacial Prosthetic Technique (.5-1 cr.)** Design and fabrication of obturators for partial maxillectomy patients, both edentulous and dentulous. Introduction to the fabrication of extraoral prostheses.

**DENT R929 Advanced Complete Denture Technique (.5-1 cr.)** Dental laboratory procedures for the fabrication of complete and immediate dentures, including setting and equilibrating denture teeth.

**DENT R930 Prosthodontic Literature Review (.5-1 cr.)** Discussion of assigned topics from classic and current prosthodontic and related literature, led by students and moderated by faculty member in charge.

**DENT R931 Advanced Fixed Partial Prosthodontics Seminar and Laboratory I (.5-2 cr.)** Advanced clinical and laboratory procedures with emphasis on metal-ceramic restorations.

**DENT R933 Clinical Prosthodontics Seminar (.5-2 cr.)** Advanced clinical procedures pertinent to the practice of prosthodontics.

**DENT R934 Surgical Orthodontics Seminar I (1 cr.)** Theoretical basis for diagnosis and treatment planning of cases involving both orthodontics and surgery.

**DENT R935 Surgical Orthodontics Seminar II (1 cr.)** Continuation of Surgical Orthodontics Seminar I; theoretical basis for diagnosis and treatment planning of cases involving both orthodontics and surgery; student prepares cases for presentation.

**DENT R936 Advanced Fixed Partial Prosthodontics Seminar and Laboratory II (.5-2 cr.)** Advanced clinical and laboratory procedures with emphasis on all-ceramic restorations.

**DENT R940 Fundamentals of Implant Dentistry I (1-3 cr.)** Two-semester course presenting oral implants as an alternative for removable prostheses. The lecture and class participation course offers biological sciences relating to implantology with emphases on biomaterials, physiology of bone, soft tissue, and wound healing relating to various implants. Includes a review of pathology affecting implant therapy success.

**DENT R941 Fundamentals of Implant Dentistry II (1-3 cr.)** An overview of available implant systems with clinical application including patient selection, diagnosis and treatment planning, implant placement, interim prosthetic management, and definitive restorative procedures. This lecture/clinical course is in conjunction with G915, G937, and G940 (clinics) and will provide hands-on experiences in clinical and laboratory procedures.

**DENT R942 Management of Temporomandibular Disorders and Occlusion (2 cr.)** This course, a weekly two-hour seminar, will give the student a better perspective on the diagnosis and management of temporomandibular disorders. Host speakers will lecture on the perspective of their specialty (e.g., neurology, radiology, psychology, psychiatry, rheumatology, orthopedics, physical medicine, physical therapy). Literature reviews will be prepared by participating students.

**DENT R943 Management of Temporomandibular Disorders and Occlusion--Clinic (1-3 cr.)** P: R942. Weekly three-hour clinical session for clinical management of the TMJ patient with (1) pain of muscular origin; (2) internal derangement; (3) problems associated with inflammation, chronic hypomobility, hypermobility, and deformity.

**DENT R944 Graduate Craniofacial Growth and Development I (2-3 cr.)** Growth and development of the craniofacial complex are presented in descriptive and theoretical terms as they relate to occlusion and orthodontics.

**DENT R946 Prosthodontic Patient Presentation (.5-2 cr.)** Case presentations and discussion of alternative methods of rehabilitation.

**DENT R947 Orthodontics for the Mixed Dentition (1 cr.)** A course designed to familiarize the student with early interceptive orthodontic treatment in the mixed dentition and early first phase of comprehensive orthodontic treatment.

**DENT R948 Private Practice of Prosthodontics (.5-3 cr.)** This seminar will provide guidance and resource materials that would be useful in establishing and promoting a prosthodontic practice. The diversity and similarity of prosthodontic practices will be illustrated. Field trip visits to several prosthodontic offices will be available. An effort will be made to establish a network for continuing support and exchange of ideas.

**DENT R949 Advanced Head and Neck Anatomy (3 cr.)** P: Previous course in gross anatomy of the head and

neck. This course presents an advanced approach to cranial anatomy with special reference to those regions of particular importance to clinical dentistry. Lectures are supplemented with a human cadaver dissection.

**DENT R951 Advanced Minimal and Moderate Sedation (2 cr.)** Prepares students in the use of intravenous light sedation as an adjunct to a comprehensive management program for patients in the private practice setting.

**DENT R955 Graduate Oral Biology I (2.5 cr.)** Basic survey of oral biology, including cell biology; composition of the oral hard tissues; role of saliva in health and disease; systemic and oral microbial diseases important in dentistry; immunology; prevention of oral diseases; nutrition; and infection control.

**DENT R956 Current Topics in Oral Biology (4 cr.)** P: B500 and G865 or equivalents. Purpose is to familiarize students with current areas of research in oral biology through a combination of lectures and literature discussions on topics covered in review articles and original research papers appearing in journals devoted to various aspects of oral biology.

**DENT R957 Introduction to Research (3 cr.)** P: Consent of instructor. Laboratory research instruction in oral biology. Purpose is to introduce students to three different research programs in the field of oral biology.

**DENT R958 Research: Oral Biology (1-12 cr.)** P: Consent of instructor. Data obtained in this course may be used to meet the dissertation requirements for the Ph.D.

**DENT R959 Seminar: Oral Biology (1 cr.)** P: Consent of instructor. Current topics in all fields of oral biology. Discussion and review of current literature in oral biology. Topics vary from year to year. May be repeated for credit.

**DENT R961 Recent Advances in Periodontics (.5-2 cr.)** Discussion of current concepts and recent advances reported in the periodontal literature with emphasis on evidence-based practice. The seminar is led by students and moderated by selected faculty.

**DENT R962 Advanced Periodontal Treatment Planning Seminar (.5-2 cr.)** Selected cases requiring periodontal and/or implant therapy will be presented by students. Various treatment options will be discussed for the particular case. Any completed therapy will be presented with a discussion and evaluation of the results.

**DENT R963 Dental Implantology (1 cr.)** Study of basic and clinical sciences related to dental implantology.

**DENT R964 Pharmacology and Therapeutics for Graduate Dental Students (2 cr.)** This course is a review of the major drug classes that the dental graduate student will encounter in the clinic. Discussion of how the drugs the patient takes impact the practice of dentistry will be included.

**DENT R965 Advanced Clinical Prosthodontics (.5-6 cr.)** Clinical practice of prosthodontics involving complete dentures, removable partial dentures, fixed partial dentures, and/or dental implant-supported prostheses.

**DENT R980 Research Methodology (1 cr.)** Graduate students will learn basic research methodology to prepare them for required research project as part of their

graduation requirements. A fundamental overview of some of the concepts and principles related to the initiation and conduct of laboratory, animal and clinical research.

**DENT R985 Advanced Esthetic Dentistry (2 cr.)** The purpose of this course to provide Graduate Cariology and Operative Dentistry Students the opportunity to further develop esthetic restorative skills and improve predictability of esthetic treatment outcomes using direct and indirect restorative materials. The course will be comprised of lectures presented by faculty and invited expert lecturers, and laboratory activities.

**DENT R978 Introduction to Health Information Technology in Dentistry (1-3 cr.)** This course examines the role of health information technology in dentistry to improve patient care and outcomes. Students assess the dental team's workflow, relate it to system requirements, evaluate and select clinical information systems, and manage their implementation. Students research implementation challenges and create a strategic plan to address them.