College of Dentistry

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• Scott Arneson

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• Catherine Solow

Professional degree: D.D.S.
Graduate degrees: M.S.; Ph.D.
Web site: http://www.dentistry.uiowa.edu/

The College of Dentistry is an integral part of the University of Iowa and its health sciences campus. Its mission, which embraces the University’s academic values as well as the ethical responsibilities implicit in educating future members of a profession, rests on a foundation representing every aspect of collegiate activity: education of students as general practitioners and specialists; research into all aspects of oral and dental disease and the delivery of health care; and service to the community, the state, and the profession.

Faculty members, D.D.S. students, and dental specialty residents provide oral health care to patients at clinics in the Dental Science Building, the Center for Disabilities and Development, and dentistry clinics at University of Iowa Hospitals and Clinics and Iowa City Veterans Affairs Medical Center. Faculty, staff, and students participate in interdisciplinary research and training activities involving the University’s five health science colleges as well as other University colleges and departments.

Dentistry at the University of Iowa began in 1882 as a single department. In 1900 the University underwent general reorganization and the Dental Department became the College of Dentistry. Today the college is Iowa’s only provider of dental education and ranks as a leader in dental education nationwide.

The college and its educational programs are accredited by the Commission on Dental Accreditation of the American Dental Association, an independent tripartite commission authorized and recognized by the Commission on Post-Secondary Education.

Programs offered by the college cover the full spectrum of dentistry and closely integrated fields. They include the Doctor of Dental Surgery program (D.D.S.), which prepares general dentists; advanced education programs in all dental specialties, each of which may lead to certification in a dental specialty; several advanced education programs in other areas of dentistry, including the oral science program, which offers M.S. and Ph.D. degrees; post-D.D.S. residency programs in general dentistry and hospital-based dentistry; and a wide variety of continuing education programs for dental and allied professions.

Professional Program of Study (D.D.S.)
The Doctor of Dental Surgery program prepares students to practice general dentistry. It requires a minimum of three years of preprofessional study and four years of study in the College of Dentistry. See Doctor of Dental Surgery for a description of the program’s curriculum and information about a joint bachelor’s degree/D.D.S., the dentistry licensure examination, student organizations, expenses, admission, financial support, and academic rules and procedures.

Post-D.D.S. and Graduate Programs of Study
Several College of Dentistry departments offer professional certificate programs designed to prepare dentists for clinical specialty practice: Endodontics; Operative Dentistry; Oral Pathology, Radiology, and Medicine; Orthodontics; Pediatric Dentistry; Periodontics; and Prosthodontics. Students who complete these programs satisfactorily are awarded a certificate. The Department of Oral and Maxillofacial Surgery offers a four-year residency program that culminates in a certificate. The college also offers the Certificate in Geriatric and Special Needs Dentistry.

The College of Dentistry offers a Master of Science and a Doctor of Philosophy in oral science. Students earning the Certificate in Endodontics or the Certificate in Prosthodontics may earn an M.S. or a Ph.D. in oral science concurrently with the certificate; those earning the Certificate in Operative Dentistry, Certificate in Oral and Maxillofacial Pathology or Certificate in Oral and Maxillofacial Radiology (Department of Oral Pathology, Radiology, and Medicine), or the Certificate in Periodontics may earn an M.S. in oral science concurrently with the certificate.

In addition, the Department of Orthodontics offers a Master of Science in orthodontics, and the Department of Preventive and Community Dentistry offers a Master of Science in Dental Public Health.

For information about post-D.D.S. and graduate programs of study, see the College of Dentistry department sections of the Catalog.

Faculty
Iowa’s dental faculty is predominantly full-time. In addition, more than 100 part-time adjunct faculty members assist with clinical teaching in the D.D.S. and advanced residency programs. Approximately 80 percent of the college’s faculty members hold D.D.S. or D.M.D. degrees and 12 percent represent other disciplines. The vast majority of faculty dentists have advanced education past the D.D.S., generally with master’s degrees in specialty areas; about one-fifth hold a Ph.D.

The College of Dentistry is committed to the principle that diversity is essential to a strong educational environment—one that prepares new generations of dentists to provide...
high-quality care to patients from many backgrounds. The college’s full-time faculty reflects that commitment.

Facilities

The College of Dentistry is located in the Dental Science Building on the University of Iowa health sciences campus, in proximity to the Roy J. and Lucille A. Carver College of Medicine, College of Nursing, College of Pharmacy, College of Public Health, and University of Iowa Hospitals and Clinics. The Bowen Science Building and the Hardin Library for the Health Sciences also are nearby.

The south wing of the Dental Science Building is devoted to clinical teaching. There are 268 operatories in departmental clinics, student laboratories, clinical research space, and a cafeteria. The three clinical floors of the south wing are being remodeled in a sequenced four-year project that began in summer 2012. The north wing houses the simulation clinic and technique bench teaching laboratory, the electronic classroom, college administrative offices, educational media service, computer support services, the academic Department of Preventive and Community Dentistry, and the research laboratories and faculty offices of the Dows Institute for Dental Research.

A 33,000-square-foot addition that opened in fall 2011 features an ADA-compliant entrance, two floors of patient treatment areas, and one floor of space for students. The clinical spaces include 46 dental operatories in the Geriatric and Special Needs Clinic, the Endodontic Clinic, Faculty General Practice, and the Craniofacial Clinical Research Center. Student areas include a classroom that accommodates 80 people, small-group study rooms, a seminar room, a student lounge, lockers, and showers.

Dental Education and Patient Care

Patient care is integral to dental education. Students and faculty members deliver oral health care in clinics on the health sciences campus and at several off-campus sites, including nursing homes. More than 45,600 people receive oral health care yearly in the college's clinics. Patients from throughout Iowa as well as from western Illinois and northern Missouri account for most of the 167,300 patient visits each year.

Interdisciplinary Centers

Dows Institute for Dental Research

Established in 1976, the Dows Institute for Dental Research occupies the first and fourth floor of the Dental Science Building's north wing. Laboratories are equipped to support a wide variety of research projects reflecting the complex nature of modern health care needs. Research at the institute is coordinated by the College of Dentistry. Focus areas include oral soft tissue and oral cancer; cariology and microbiology; epidemiology, behavior, health policy, and outcomes; and biomaterials, bone, and tissue engineering. Clinical and translational research is carried out at the Craniofacial Clinical Research Center.

Although research is concentrated in these program areas, one of the unit's strengths has been the consistent level of interaction and collaboration among individuals and programs across the college and the University.

Craniofacial Clinical Research Center

For more than two decades, the Office of Clinical Research has offered outpatient research support for National Institutes of Health, Food and Drug Administration, and related federally supported research grants. The office's Craniofacial Clinical Research Center conducts protocol-based studies performed by faculty scientists and supported by oral health care industries. It also engages in translational research involving laboratory-to-clinical-research outcomes. The center is allied with the Carver College of Medicine's General Clinical Research Center and the University's Institute for Clinical and Translational Science.

Center for Oral and Maxillofacial Implants

Through integrated research, education, and clinical programs, the Center for Oral and Maxillofacial Implants facilitates the development of implants and their use as a therapeutic modality in dentistry. The center integrates basic and clinical research with technology transfer to the clinical setting, enhancing predoctoral, postgraduate, and continuing education and expanding treatment options available to patients served by the college. The center also provides vital coordination of dental specialties that participate in this treatment modality.

Craniofacial Anomalies Research Center

The role of the Craniofacial Anomalies Research Center is to understand the molecular mechanisms of genes and gene interactions that contribute to craniofacial anomalies and birth defects. These genetic defects arise from inherited and somatic gene mutations due to environmental effects. The center researchers use mouse, ferret and zebrafish models, human genetic material, cell lines, and molecular/biochemistry approaches to understand gene function. With the advent of human genome sequencing and the decreasing costs of genomic analyses, it has become somewhat more efficient to identify genetic defects associated with human genetic defects and diseases. The use of these genetic screening approaches provides invaluable data and resources in the search for new genes involved in human craniofacial development and associated anomalies. The center collaborators reside in the Carver College of Medicine, and the Colleges of Dentistry, Pharmacy, and Public Health.

Courses

Most College of Dentistry courses are offered by the college's departments and programs. They are listed and described in the corresponding General Catalog sections; see the links under "Index: Academic Programs" on this page. The college also offers the following nondepartmental courses.
DENT:4000 Pre-Dental Academy 0 s.h.
Hands-on experience for undergraduate students interested in dentistry; interaction with faculty, residents, and current students in simulation clinic; didactic sessions; admissions information; changing health care environment, digital dentistry, dental esthetics, introduction to dental specialties, drilling and filling. Offered summer session.

DENT:8100 First-Year Continuing Session arr.

DENT:8118 Foundations for Critical Thinking I 2 s.h.
Problem and case-based small group sessions covering evidence-based dentistry and treatment planning integrating information taught concurrently in dental curriculum.

DENT:8119 Behavioral Science I and Ethics 2 s.h.
Introduction to patient-centered care, interpersonal and professional communication with patient, information exchange, preventive treatment plan formulation in patient encounters, and ethics.

DENT:8200 Second-Year Continuing Session arr.

DENT:8218 Foundations for Critical Thinking II 1 s.h.
Continuation of DENT:8118; evidence-based dentistry, critical thinking and treatment planning sessions; online and small group sessions. Prerequisites: DENT:8118.

DENT:8219 Behavioral Science II and Interprofessional Education 2 s.h.
Continuation of DENT:8119; assessing patient understanding of practices for improving/maintaining oral health; overview of patient challenges to effective communication; application of behavioral science principles in dentistry and behavior theories. Prerequisites: DENT:8119.

DENT:8300 Third-Year Continuing Session arr.

DENT:8319 Behavioral Science III 1 s.h.
Continuation of DENT:8219; standardized patient exercises with chairside feedback and evaluation of communication skills; participation in small group discussions regarding application of communication skills and behavioral science principles in patient encounters.

DENT:8355 Introduction to Geriatric Dentistry 2 s.h.
Biological, psychological, and social aspects of aging; normal aging and disease processes associated with aging; pathological changes that affect oral health treatment of dental diseases and patient management. Requirements: D.D.S. enrollment or completion of dental hygiene program. Same as ASP:8355.

DENT:8368 Applied Dental Pharmacology 2 s.h.
Patients' medications and their implications for dental treatment; clinical use of medications that dentists may prescribe; guidelines for dental prescribing.

DENT:8370 Application of Critical Thinking 1 s.h.
Continuation of DENT:8219; evidence-based dentistry, critical thinking, treatment planning sessions; online and small group sessions.

DENT:8371 Introduction to Quality Assurance 2 s.h.
Patient management, record writing skills, quality assurance concepts; students coordinate treatment; patient relations, issues of quality assurance for a group of patients; ethical, moral dilemmas in relation to dental practice.

DENT:8400 Fourth-Year Lectures and Clinics arr.

DENT:8485 Clinical Admissions Emergency 1 s.h.
Clinical evaluation, diagnosis, and treatment of patients with dental emergencies; patient assessment and referral to appropriate department for treatment.

DENT:8489 Advanced Topics in Quality Assurance 2 s.h.
Quality assurance from viewpoint of practicing dentist, dental educator, dental epidemiologist, court system; analysis of senior dental practice in relation to quality assurance criteria.

DENT:8500 Dental Student Research Honors Program arr.
Experience in conducting research. Requirements: D.D.S. enrollment and approval of mentor and program director.

DENT:9000 Advanced Clinical Comprehensive Dentistry 0 s.h.
Clinical experience for professional improvement. Requirements: dental degree.

Professional Degree
Doctor of Dental Surgery

Departments and Programs
Endodontics
Family Dentistry
Hospital Dentistry
Operative Dentistry
Oral and Maxillofacial Surgery
Oral Pathology, Radiology, and Medicine
Oral Science
Orthodontics
Pediatric Dentistry
Periodontics
Preventive and Community Dentistry
Prosthodontics

Certificate Programs
Geriatric and Special Needs Dentistry