College of Dentistry

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• Sherry R. Timmons

Professional degree: D.D.S.
Graduate degrees: M.S.; Ph.D.
Website: https://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, dental specialty residents, and staff provide oral health care to patients at clinics in the Dental Science Building and the Center for Disabilities and Development. 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 predoctoral 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 Office of Postsecondary 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. The college has advanced education programs in nine dental disciplines, each of which may lead to certification in a specialized area of dentistry. In addition, advanced education programs in operative dentistry, geriatrics and special needs dentistry, and post-D.D.S. residency programs in hospital-based dentistry are available. The college has an oral science program, which offers an M.S. or Ph.D. degree with or without a specialty certificate. To emphasize commitment to learning, the College of Dentistry has a wide variety of continuing education programs for dental and allied professions.

Faculty

Iowa's dental faculty are 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 88 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.

Programs

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 the Doctor of Dental Surgery section for a description of the program's curriculum and information about a combined bachelor's degree and a 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 a certificate in Geriatric and Special Needs Dentistry.

The College of Dentistry offers a Doctor of Philosophy and a Master of Science in oral science. The M.S. is only offered in conjunction with a specialty certificate. Students earning the Certificate in Endodontics or the Certificate in Prosthodontics may earn an M.S. or a Ph.D. in oral science. Those earning the Certificate in Operative Dentistry, Certificate in Oral and Maxillofacial Pathology, 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.

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.
Clinical and translational research involving new innovative
by the Division of Biostatistics and Computational Biology.
Caries and microbiome research. All focus areas are supported
craniofacial, oral biology, genetics, and
dental development. The third area includes public health,
encompasses immunology, inflammation, microbiology, and
and biomaterials and materials research. The second area
There are four focus areas of research. The first area
the College of Dentistry.
health care needs.
wing. Laboratories are equipped to support a wide variety of
first and fourth floors of the Dental Science Building's north
chairs.
The north wing houses the simulation clinic and technique
bench teaching laboratory, the electronic classroom, college
administrative offices, technology and media services,
the academic Department of Preventive and Community
Dentistry, and the research laboratories and faculty offices of
the Iowa Institute for Oral Health Research.

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 and Research
Iowa Institute for Oral Health Research
The Iowa Institute for Oral Health Research occupies the
first and fourth floors 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.

There are four focus areas of research. The first area
includes bioengineering, tissue engineering, stem cells,
and biomaterials and materials research. The second area
encompasses craniofacial, oral biology, genetics, and
dental development. The third area includes public health,
edemiology, and behavioral sciences. The fourth area
encompasses immunology, inflammation, microbiology, and
caries and microbiome research. All focus areas are supported
by the Division of Biostatistics and Computational Biology.
Clinical and translational research involving new innovative
methods and products designed in the research laboratories is
carried out in 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 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/dental 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.

Craniofacial Clinical Research
For more than two decades, the College of Dentistry has
offered outpatient research support for National Institutes of
Health (NIH), U.S. Food and Drug Administration (FDA), and
related federally supported research grants. Protocol-based
studies are performed by faculty scientists and supported
by oral health care industries. Scientists also engage in
translational research that involves laboratory-to-clinical-
research outcomes. College of Dentistry faculty use new
technology to improve dental procedures and provide state-
of-the-art methods to obtain the best outcomes for patients.
A biorepository program helps researchers understand the
causes of dental and oral diseases and genetic anomalies. It
benefits Iowans by the potential diagnoses of diseases and
their effects and provides new, improved patient treatment.

Through integrated research, education, and clinical
programs, craniofacial clinical research facilitates the
development of implants and their use as a therapeutic
modality in dentistry. The program also 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. Craniofacial clinical research
also provides vital coordination of dental specialties that
participate in this treatment modality.

Courses
College of Dentistry 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. The college also
offers the following nondepartmental courses.
DENT:4000 Pre-Dental Academy
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:8110 Dental First-Year UI Interprofessional Education
Application of previously learned concepts to relevant health care experiences using interprofessional skills and team-based health care concepts; development of skills related to leadership in health care teams, pain management from an interprofessional team, and application of ethics and professionalism concepts; online modules and group activities.

DENT:8200 Second-Year Continuing Session  arr.
DENT:8210 Dental Second-Year Interprofessional Education
Application of previously learned concepts to relevant health care experiences using interprofessional skills and team-based health care concepts; development of skills related to leadership in health care teams, pain management from an interprofessional team, and application of ethics and professionalism concepts; online modules and group activities.

DENT:8300 Third-Year Continuing Session  arr.
DENT:8371 Quality Assurance I
Patient management, record writing skills, and quality assurance concepts; students coordinate treatment, patient relations, and issues of quality assurance for a group of patients; ethical and moral dilemmas in relation to dental practice.

DENT:8372 Quality Assurance II
Continuation of DENT:8371; patient management, record writing skills, and quality assurance concepts; students coordinate treatment, patient relations, and issues of quality assurance for a group of patients; ethical and moral dilemmas in relation to dental practice.

DENT:8400 Fourth-Year Lectures and Clinics  arr.
DENT:8485 Clinical Admissions Emergency 2 s.h.
Clinical evaluation, diagnosis, and treatment of patients with dental emergencies; patient assessment and referral to appropriate department for treatment.

DENT:8489 Clinical Practice and Professionalism V
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:9000 Advanced Clinical Comprehensive Dentistry 0 s.h.
Clinical experience for professional improvement. Requirements: dental degree.