College of Engineering

Dean
• Harriet Nembhard

Associate Dean, Academic Programs
• Nicole M. Grosland

Interim Associate Dean, Graduate Programs and Research
• H.S. Udaykumar

Undergraduate degree: B.S.E.
Undergraduate certificates: artificial intelligence, modeling and simulation in engineering; naval science and technology; technological entrepreneurship
Graduate degrees: M.S.; Ph.D.
Graduate certificates: artificial intelligence, modeling and simulation in engineering; sustainable water development
Website: https://engineering.uiowa.edu/

Facilities and Resources

College of Engineering Facilities

Seamans Center for the Engineering Arts and Sciences

The Seamans Center for the Engineering Arts and Sciences is home to the College of Engineering. In addition to faculty offices, classrooms, conference rooms, instructional laboratories, and faculty offices, the Seamans Center houses the Lichtenberger Engineering Library, the Hanson Center for Technical Communication, a machine shop, electronic shop, student work spaces, computational facilities, and research laboratories. A number of classrooms and open spaces located throughout the building were designed to readily accommodate collaborative work.

Engineering Student Services

The professional staff of Engineering Student Services administer student services for the College of Engineering, including advising, tutoring, student records, and global engineering. It also is the administrative home of Engineering Career Services and the Hanson Center for Technical Communication.

Engineering Career Services

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college’s co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including engineering career fairs and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University’s online recruiting system, Handshake.

Hanson Center for Communication

The Hanson Center for Communication is an endowed program that works closely with engineering faculty to create, manage, and grade writing assignments across the curriculum. In addition, the Hanson Center for Communication is home to an innovative writing center that conducts hundreds of one-on-one and team tutoring sessions each year. The center helps review lab reports, topical papers, and technical essays each semester.

Peer tutors are undergraduate students who have shown exceptional promise as communicators and provide individualized feedback throughout the writing process. In addressing global concerns (organization, clarity, and relevant analysis), they help their fellow students transform rough drafts into persuasive, logical documents.

Global Engineering

Many of today’s top employers are seeking engineering graduates with global experiences and competencies who can effectively interact with colleagues and customers around the world. Successful engineers are able to communicate across cultures, work on diverse teams, and productively deal with issues and conflicts arising from difference.

University of Iowa engineering students have a variety of opportunities to study, pursue internships, or conduct research abroad. Students can enroll in credit-bearing courses in English to fulfill engineering or general education requirements or earn credits toward a minor in another discipline or world language. In addition to completing coursework abroad, engineering students can pursue experiential opportunities abroad, including global internships, conducting independent research in other countries, and volunteering. For more information, see Global Engineering on the College of Engineering website. The College of Engineering and International Programs support these endeavors by offering students a variety of scholarships and funding.

Engineering Computer Services

Engineering Computer Services (ECS) provides spaces and technology administration for curricular, administrative, and research computing at the College of Engineering. The college has three drop-in computer labs with 225 high-end Linux and Windows computer workstations with graphics processing unit (GPU) support, a 24-seat computer classroom, a 45-seat machine learning and virtual reality-capable computer classroom, and a 400-seat virtual computer lab with GPU support that students can access from the internet. Numerous public domain and commercial engineering applications support the full range of engineering classes. Software is regularly upgraded, and hardware is refreshed at least every four years. The college’s computer labs are open 24 hours a day, every day of the year.

Engineering Electronics Shop

The Engineering Electronics Shop (EES) is a full-service electronics facility that supports sales and service for the College of Engineering and the University. EES provides design, construction, repair, calibration, and preventive maintenance services for teaching and research laboratories. The shop maintains more than 10,000 parts in stock, including electronic components, computer and office supplies,
partnerships with numerous commercial enterprises. The
progression/regression, staging, general machine learning;
disease/treatment outcome prediction. The institute is
sponsored by the College of Engineering and the Carver
College of Medicine.

Iowa Institute for Biomedical Imaging

The Iowa Institute for Biomedical Imaging (IIBI) conducts
research in the following areas: medical imaging (CT, MR,
OCT, PET, SPECT, ultrasound, multimodality imaging),
medical image analysis and computer-aided diagnosis;
cardiovascular image analysis (angiography-intravascular
ultrasound data fusion, MR image analysis of congenital
heart disease, coronary CT image analysis, early detection
of cardiovascular disease); pulmonary image analysis (CT
and MR image analysis of the lung); cell image analysis (cell
tracking, shape analysis); virtual surgery planning (augmented
reality for surgical planning), cancer-related assessment of
tumor progression/regression, staging, general machine
learning; and disease/treatment outcome prediction. The institute
is sponsored by the College of Engineering and the Carver
College of Medicine.

IIHR—Hydroscience & Engineering

IIHR—Hydroscience & Engineering is a world-renowned
center with more than 100 years of education, research,
and public service focusing on hydraulic engineering and
fluid mechanics. Based in the C. Maxwell Stanley
Hydraulics Laboratory, a five-story red brick building on the
banks of the Iowa River, IIHR is a unit of the College of
Engineering. IIHR students, faculty members, research
engineers and scientists, and staff work together to
understand and manage one of
the world’s greatest resources—water. Students from around
the world benefit from IIHR’s comprehensive multidisciplinary
approach, which includes basic fluid mechanics, laboratory
experimentation, and computational approaches.

IIHR research activities include fluid dynamics (turbulent
flows, vortex dynamics, ship hydrodynamics, biological
fluid flow, atmospheric boundary layer, experimental and
computational fluid dynamics); environmental hydraulics
(river mechanics, hydraulic structures, fish passage, sediment
management, heat disposal in water bodies and power
productions, bioremediation of groundwater, computational
hydraulics, water-quality monitoring); water and air resources
(air pollution, hydroclimatology, hydrogeology, hydrology,
hydrometeorology, remote sensing, water resources and
basin-scale processes); environmental engineering and
science (PCBs in the air and water, innovative ways of
removing contaminants from the soil and water, ultra-fine
particles of pollutants in the atmosphere, bioremediation
strategies for persistent groundwater contaminants); and
water sustainability (development of sound strategies and
technological solutions to meet the challenges facing society’s
growing need for water resources). In 2009, the Iowa Flood
Center was founded at IIHR as the only academic center
developed solely to flood-related research and education.

The University of Iowa’s Water Sustainability Initiative (WSI)
brung new interdiscplinary expertise to the institute in
2013 when WSI faculty members (based in the Colleges of
Liberal Arts and Sciences, Engineering, and Public Health)
affiliated with IIHR. The Iowa Geological Survey joined IIHR in
2014, bringing new expertise in Iowa’s subsurface resources,
groundwater modeling, innovative geophysical skills, and
more.

Students gain hands-on experience through close cooperation
with faculty and staff on research projects funded by industry,
government, and other organizations.
Iowa Technology Institute

The Iowa Technology Institute (ITI) conducts basic and applied research. The mission is to cultivate collaboration across disciplines, invent advanced technologies, and conduct trailblazing research in design, simulation, and experimentation that enables a safer and more productive future. ITI provides a unique environment for research and development for faculty, graduate and undergraduate students, research fellows, and professional scientists. ITI spans more than 20 laboratories and centers, led by the Operator Performance Laboratory, the Virtual Soldier Research program, and the Atmospheric and Environmental Research Lab.

Research at ITI focuses on advanced manufacturing and materials, human modeling and simulation, aerospace technology, biotechnology, environment and energy, and systems and sensors. Scientists conduct experiments in flight testing, human performance, robotics, biomedical and biochemical research, machine learning, smart sensors, remote sensing, renewable energy, and modeling of environmental change.

ITI has a satellite office in Orlando, Florida, and has major contracts with the U.S. military and industry partners.