The research focus of the Department evolves based upon the needs of the profession, faculty interests and available funding sources. For example:

**Construction Research** currently is concerned with project management behavior and infrastructure life-cycle cost analysis.

**Environmental Research** recently has been concerned with molecular biological tools and techniques, explosive residuals bioremediation, and water for humanitarian and disaster relief.

**Geotechnical Research** is looking into landslide and rock-fall risks, seismic subsidence and liquefaction.

**Hydraulics/Hydrology Research** has been concerned with tsunami wave run-up/inundation, and bridge scour.

**Structural Research** is concerned with building-health monitoring, energy generation from building vibrations, tsunami wave forces on structures, and seismic and tsunami loadings on bridges and buildings.

**Transportation Research** recently has been concerned with pavement deterioration modeling, and traffic analysis and simulation.
MS Program
This program requires 31 credits, culminating in a written and/or oral exam. Students choose to complete either a thesis or non-thesis option; those who do not pass, a BS in civil and environmental engineering must first fulfill a set of prerequisites.

PhD Program
Students must satisfactorily complete a minimum of 50 credits in course work beyond the bachelor’s degree, with a minimum of one credit in civil and environmental engineering graduate seminars. Students entering the PhD program may be granted an equivalence of up to 30 credits, earned as part of the student’s MS program. The 30 credit-hour equivalents may include up to nine credits for previous MS thesis work, but exclude graduate seminar credits taken as part of the MS program.

All PhD students are required to take a qualifying examination no later than the third semester following admission to the program. Every student also must pass a comprehensive examination no later than the third semester following admission to the program. Every student also must pass a comprehensive examination that will ascertain the student’s comprehension in the chosen specialty. All students must complete a dissertation, which should present results from innovative research that makes a significant contribution to the student’s selected field of specialization. Findings should be publishable in refereed journals and other scientific and engineering forums.

Dual Master’s in CEE and MBA Program
A dual master’s degree in civil and environmental engineering and business administration is available through the Shidler College of Business. Students must apply to and be accepted into both programs. Once accepted, students must take all classes as a business school graduate student while paying business school tuition rates. The intent is for students to take CEE courses during the day and MBA courses in the evening. There are a total of 73 credits for the dual-degree program, which includes nine credits that are double-counted to satisfy MSCE and MBA requirements. Additional details and information can be found at: shidler.hawaii.edu

Funding Support
The Department offers teaching assistantships and individual department faculty offer research assistantships. Once they have applied to the graduate program, students are encouraged to discuss the availability of financial support with the graduate program chair. Prospective students also are encouraged to consult with individual faculty. Please refer to the faculty research guide, available at: www.eng.hawaii.edu/news-publications/publications/

How to Apply
Visit the University of Hawai‘i at Manoa Office of Graduate Education website, or go directly to: manoa.hawaii.edu/graduate/content/how-apply

The College of Engineering and the University of Hawai‘i at Manoa
The College of Engineering is a multifaceted institute comprised of approximately 55 faculty members, 950 undergraduate students, and 180 graduate students, with external funding of $8.5 million per year. The Department of Civil and Environmental Engineering plays a significant role in the broader research interests of the College:

SUSTAINABILITY The College takes inspiration from traditional Native Hawaiian land management systems, once able to sustain large populations, in order to create programs that address the challenges now faced by the islands. Such examples include building and maintaining renewable energy resources, providing clean drinking water, mitigating the effects of sea-level rise associated with global warming, becoming resourceful recyclers and re-manufacturers, minimizing the need for imported goods and sustaining a pristine environment.

INFRASTRUCTURE IN SUPPORT OF THE ENVIRONMENT Graduates of our College are employed throughout the state to manage all aspects of its environment, from its buildings and roadways, to its harbors, sea defenses and water and waste systems, thus making it imperative that we retain capacity in order to continually service Hawai‘i’s future growth.

IT AND CYBER SYSTEMS The College is well known for its contributions to “clean” technologies such as information technology (IT) and communications infrastructure, which will be central to the future of Hawai‘i’s industry.

RESEARCH CLUSTERS The College also has identified eight cross-cutting research clusters that all departments and centers in the College contribute toward:
- Autonomous Systems and Robotics
- Big Data and Cyber Security
- Biomedical Engineering
- Coastal Infrastructure
- Computer and Computational Engineering
- Sustainable Materials and Manufacturing Technology
- Renewable Energy and Island Sustainability
- Waste, Waste and Environmental Engineering

These areas have been chosen to reflect faculty interest and expertise, as well as the evolving needs of Hawai‘i. They also represent some of the main interests of the College’s collaborators in their research efforts inside the University, within the local community and further afield. The College is especially interested in extending these relationships to local and mainland companies, U.S. mainland and Asian universities, as well as other potential partners.

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