CHEMICAL AND BIOLOGICAL ENGINEERING

Administrative Unit: Chemical and Biological Engineering
College/School: College of Engineering
Admitting Plans: Ph.D.
Degrees Offered: M.S., Ph.D.
Minors and Certificates: Doctoral Minor

Graduate study in the department may be directed toward the master of science or the doctor of philosophy in chemical engineering. The graduate courses are planned to train outstanding students for advanced work in research and development.

The Department of Chemical and Biological Engineering has a tradition of excellence dating back to 1905. For a century, the program has consistently ranked as one of the best in the world. The department offers research opportunities in both traditional and emerging areas of research in chemical and biological engineering. These areas include energy-related science and technology, soft and hard materials science and engineering, systems engineering and optimization, catalysis, process control and design, nanotechnology, biotechnology, biomedical engineering, complex fluids, colloid and interfacial phenomena, atomic, molecular, and multiscale modeling, polymers (synthesis and processing), micro- and nano-electronics, environmental engineering and sustainability, reactor design, and atomic-scale design of surface reactivity. These areas of research are advanced by leveraging tools from the fields of applied mathematics, statistical mechanics, kinetics and catalysis, thermodynamics, and transport phenomena.

Research in the department is highly interdisciplinary, capitalizing on programs of national prominence such as the NSF Materials Research Science and Engineering Center (MRSEC), the nation’s largest NIH-funded biotechnology training program, and the Computation and Informatics in Biology and Medicine training program. Interdisciplinary research opportunities are also available through the Materials Science Program, the Center for Nanotechnology, and the Rheology Research Center. Researchers in the department have access to state-of-the-art facilities for research, including facilities for nanofabrication and the life sciences.

Graduate students in the department are encouraged to participate in international research experiences, industry internships, and entrepreneurial activities.

For interests and activities of faculty members, along with a list of selected publications for each, see the department’s faculty directory (http://directory.engr.wisc.edu/che/faculty).

DEGREES/MAJORS, DOCTORAL MINORS, GRADUATE PROFESSIONAL/CERTIFICATES

- Chemical Engineering, Doctoral Minor (http://guide.wisc.edu/graduate/chemical-biological-engineering/chemical-engineering-doctoral-minor)
- Chemical Engineering, M.S. (http://guide.wisc.edu/graduate/chemical-biological-engineering/chemical-engineering-ms)

PEOPLE

Faculty: Professors Abbott, Dumesic, Graham, Huber, Klingenberg, Kuech, Lynn, Maravelias (Assistant Chair), Mavrikakis (Chair), Murphy, Palecek, Rawlings, Root, Shusta, Yin; Associate Professors Pfleger, Reed, Swaney; Assistant Professor Zavala