

# Chemical and Biochemical Engineering

## Chair

Jun Wang

**Undergraduate major:** chemical engineering (BSE)

**Graduate degrees:** MS in chemical and biochemical engineering; PhD in chemical and biochemical engineering

**Faculty:** <https://engineering.uiowa.edu/cbe/people>

**Website:** <https://engineering.uiowa.edu/cbe>

Chemical and biochemical engineers integrate chemical, physical, biological, and computational elements to solve problems and create products that benefit society. Chemical engineers drive innovation in a wide variety of technologies, including energy and fuels, computer chips, pharmaceuticals, biotechnology, advanced materials, consumer goods, waste treatment, decarbonization, and more. Biochemical engineers work on challenges such as turning crops into sustainable fuels and mass producing vaccines.

The Department of Chemical and Biochemical Engineering has six research areas: air quality and climate, biological and pharmaceutical engineering, machine learning and simulation, polymers and advanced materials, remote and smart sensing, and sustainable energy and clean water. Additionally, the program offers 13 different focus areas for undergraduates to specialize in, providing them with the skills and knowledge to excel in these fields.

The program offers a wide range of opportunities and support to help each student succeed, including personalized mentoring, a strong alumni network, and hands-on learning. Students can enhance their education by participating in co-ops and internships, conducting undergraduate research, pursuing minors and certificates, and choosing a five-year undergraduate to graduate option, earning both a bachelor's and master's degree in just five years.

As part of their training, Iowa chemical and biochemical engineers learn to design things in ways that are ethical and responsible. This includes considering health, employee safety, and global impact. The University of Iowa is a leader in chemical process safety education, teaching effective communication and environmentally conscious design.