

# MAJOR IN CHEMICAL AND BIOLOGICAL ENGINEERING, MOLECULAR MEDICINE CONCENTRATION

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An education in chemical and biological engineering provides the intellectual foundation for our graduates to work on solutions to society's biggest problems (both current and future problems). For example, our graduates could go on to develop innovative materials and products, to design new devices to improve animal or human health or environmental health, and to design processes for the safe production of chemicals and biochemicals, the production of alternative energy sources, and prevention of hazardous waste. The possibilities are limitless. Chemical and biological engineering is a powerful blend of basic sciences and the skills to quantitatively describe, predict, and control all changes of matter. Our curriculum is based on the sciences of physics, chemistry, biology, and mathematics. It includes engineering science and design methods, as well as humanities and social sciences. The Chemical and Biological Engineering program provides an environment that promotes a sense of professionalism, the development of project management skills, and an appreciation for the value of life-long learning. Graduates of our program are well prepared to enter a variety of professions, or to pursue further advanced education. The broad, strong scientific basis of chemical and biological engineering has kept our graduates consistently near or at the top in salary and demand among B.S. graduates.

## Molecular Medicine Concentration

Molecular medicine is a dynamic field focused on discovering the hidden molecular and genetic abnormalities that give rise to diseases and developing therapies grounded in molecular approaches to correct them. It emphasizes the significance of understanding cellular and molecular events and interventions, moving away from the traditional emphasis on patients and their organs. In the pursuit of this goal, engineers and scientists engaged in molecular medicine utilize a blend of physical, chemical, biological, bioinformatics, and medical methodologies to elucidate molecular structures and processes. Coursework in this concentration will focus on these same areas.

The Chemical and Biological Engineering major is accredited by the Engineering Accreditation Commission of ABET (<http://abet.org/>).