

# CHEMICAL ENGINEERING, BS

---

*for the degree of Bachelor of Science in Chemical Engineering (Specialized Curriculum)*

---

The first two years of the Chemical Engineering curriculum provide a strong foundation in basic sciences through Physics, Mathematics, Chemistry, an introduction to what Chemical Engineers do, and the fundamental basis of Chemical Engineering (Mass and Energy Balances and Thermodynamics.)

In the third year, students delve deeper into more specialized Chemistry courses such as Physical and Analytical Chemistry, while exploring fundamental Chemical Engineering courses such as Momentum Transfer, Separations, and Reactor Design. The Senior year incorporates all of this learning through high level technical electives, Process Control, Capstone Lab, and Capstone Design courses. It is through the lab and design class that students apply everything they have learned in previous Chemical Engineering courses to real-world team projects and presentations.

The Chemical Engineering specialized curriculum provides two areas of concentration: Chemical Engineering and Biomolecular Engineering. Each area is based on a strong fundamental understanding of Chemical Engineering, however the Biomolecular concentration's technical electives focus more on bio-applied processing and technology.

## Areas of Concentration

- Chemical Engineering (p. ): The chemical engineering concentration is designed to prepare students for careers in the energy, chemical, food, energy, pharmaceutical, semiconductor processing, personal care, fiber and materials industries.
- Biomolecular Engineering (<http://catalog.illinois.edu/undergraduate/las/chemical-engineering-bs/biomolecular-engineering/#degreerequirementstext>): The Biomolecular Engineering concentration builds upon the traditional principles of chemical engineering, but specializes in biological and biotechnological systems in order to better prepare students who are interested in or seek employment in the food, pharmaceutical, and biotechnology industries.

Current Program Educational Objectives (<https://chbe.illinois.edu/about/accreditation/>)