

B.S.Ch.E. in Chemical Engineering

[Overview](#)[Degree Requirements](#)

Description

The B.S. in chemical engineering provides the student with a fundamental knowledge of chemical engineering science and prepares graduates for a variety of careers in industry and government, or for advanced study in engineering, business, or professional school.

Minimum Total Credit Hours: 128

Goals/Mission Statement

Graduates from the Department of Chemical Engineering of the University of Mississippi are:

1. Globally competitive in the professional world
2. Prepared for success in their chosen career or in continued education
3. Equipped with flexible problem solving skills to address complex issues in society.

As students progress through the B.S. ChE Program, they develop a set of abilities that comprise the program outcomes. These outcomes are consistent with and encompass those proscribed by our accrediting organization.

Program Outcomes - Our students will demonstrate an:

- Ability to apply knowledge of math, engineering, and science
- Ability to design and conduct experiments
- Ability to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- Ability to function on multi-disciplinary teams
- Ability to identify, formulate, and solve engineering problems
- Understanding of professional and ethical responsibility
- Ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- Recognition of the need for, and an ability to engage in life-long learning
- Knowledge of contemporary issues
- Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

General Education Requirements

In addition to the courses specified by the School of Engineering general education requirements, the following are required: Math 263-264 and Math 353; laboratory science to be fulfilled by Chem 105, 106, 115, 116 and Phys 211, 212, 221, 222. Students must also complete 18 hours of humanities/social sciences/fine arts to include 3 hours of fine arts, 6 hours of sequential work in the humanities, 6 hours of sequential work in the social sciences, and 3 additional hours of advanced course work in the area selected for the humanities or social sciences. Courses in the categories of humanities/social science/fine arts acceptable for these 18 hours of credit are specified under the general education requirements for the School of Engineering. Speech courses may not be used to satisfy any of these required 18 credits.

Course Requirements

Specific requirements for the B.S. in chemical engineering are as follows: Chem 221, 222, 225, 331; CSci 251; Engr 309, 310, 313, 321, 322, 362; Ch E 103, 104, 307, 308, 317, 345, 411, 417, 421, 423, 445, 446, 451, 452, 511; technical electives to include two 3-hour electives from among engineering, science, or mathematics.

Other Academic Requirements

Students in the Department of Chemical Engineering are encouraged to take the Fundamentals of Engineering examination prior to awarding of the baccalaureate degree.

Specializations

- [Emphasis - Biotechnology](#)
- [Emphasis - Environmental](#)
- [Emphasis - Materials](#)
- [Pre-Med Option](#)
- [Standard Option](#)

