Emphasis - Manufacturing

- B.S.Ch.E. in Chemical Engineering
- Emphasis - Manufacturing
- Degree Requirements

B.S.Ch.E. in Chemical Engineering

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

Program Educational Objectives

Graduates from the Department of Chemical Engineering of the University of Mississippi will be: 1. Globally competitive in the professional world; 2. Prepared for leadership and success in their chosen career or in continued education; 3. Equipped with flexible problem-solving skills to address complex professional and societal issues.

Student Outcomes

In accordance with ABET accreditation requirements, BSChE students at the University of Mississippi should demonstrate the attainment of the following student outcomes: (a) an ability to apply knowledge of mathematics, science, and engineering (b) an ability to design and conduct experiments, as well as to analyze and interpret data (c) 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 (d) an ability to function on multidisciplinary teams (e) an ability to identify, formulate, and solve engineering problems (f) an understanding of professional and ethical responsibility (g) an ability to communicate effectively (h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context (i) a recognition of the need for, and an ability to engage in life-long learning (j) a knowledge of contemporary issues (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Course Requirements

Specific requirements for the individualized emphasis in chemical engineering are as follows: Math 261-264, Math 353, Writ 100, Writ 101, Writ 102, or Liba 102; Chem 105, 106, 115, 116, and Phys 211, 212, 221, 222; Chem 221, 222, 225, advanced chemistry (defined below); Engr 310, 313, 321, 322, 360; Ch E 101, 251, 307, 308, 317, 345, 411, 412, 417, 421, 423, 445, 446, 451, 452; technical electives to include three 3-hour electives of 300 or higher course number from among engineering, science, or mathematics. Any of the following will satisfy the advanced chemistry requirement: Chem 334, Chem 471, Chem 472, Ch E 543, Ch E 545, G E 503, and Engr 540. The following alternative courses may satisfy course requirements as specified:

- Alternatives to Ch E 101: Ch E 103 and Che E 104, Engr 100, or Manf 150 and Manf 252
- Alternative to Ch E 452: The combination of Manf 451 and Manf 452
- Alternative to Engr 313: The combination of Manf 251 and 252
- Alternatives for 300-level technical electives: Manf 253, Manf 254, and the combination of Bisc 160, 161, 162, and 163. In the case of the Bisc 160-163 series, the student must take all 8 credits to fulfill the requirement for one 3-credit technical elective. A maximum of 3 credits of Ch E 330 may be used to satisfy one of the technical elective requirements.

Emphases in Chemical Engineering: As alternative to the standard or PreMed options in chemical engineering, a student may choose to obtain a B.S. in Chemical Engineering with one or more of the following five emphases: biotechnology, biomedical engineering, environmental, manufacturing (in collaboration with the Center for Manufacturing Excellence), and materials. The same general education and course requirements (defined above) apply to all emphases in chemical engineering. Taking specific advanced chemistry and elective courses satisfy specific emphasis requirements.

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.

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Course Requirements

Manufacturing	
Manf 150	1 Credit Hour
Manf 251	3 Credit Hours
Manf 252	1 Credit Hour
Manf 253	3 Credit Hours
Manf 254	3 Credit Hours
Bus 250	3 Credit Hours
Manf 350	3 Credit Hours
Manf 351	1 Credit Hour
Manf 450	3 Credit Hours
Manf 451	1 Credit Hours
Manf 452	2 Credit Hours

The University of Mississippi is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award certificates and baccalaureate, master's, specialist, and doctoral degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097, call 404-679-4500, or visit online at www.sacscoc.org for questions about the accreditation.

Other Academic Requirements

Acceptance into the Center for Manufacturing Excellence.

Degree Requirements

The academic regulations for this degree program, as entered in the University of Mississippi Catalog, are in effect for the current or selected academic year and semester. The University of Mississippi reserves the right to 1) change or withdraw courses; 2) change rules for registration, instruction, and graduation; and 3) change other regulations affecting the student body at any time.

B.S.Ch.E. in Chemical Engineering

General Education

REQUIREMENT	HOURS	DESCRIPTION
First Year Writing I	3	Complete Hon 101, Writ 100 or Writ 101 with a passing grade.
First Year Writing II	3	Complete Hon 102, Liba 102, or Writ 102 with a passing grade.
Chem 105	3	Complete Chem 105 with a passing grade.
Chem 106	3	Complete Chem 106 with a passing grade.
Chem 115	1	Complete Chem 115 with a passing grade.
Chem 116	1	Complete Chem 116 with a passing grade.
Math 261	3	Complete Math 261 with a passing grade.
Math 262	3	Complete Math 262 with a passing grade.
Math 263	3	Complete Math 263 with a passing grade.
Math 264	3	Complete Math 264 with a passing grade.
Math 353	3	Complete Math 353 with a passing grade.
Phys 211	3	Complete Phys 211 with a passing grade.
Phys 212	3	Complete Phys 212 with a passing grade.
Phys 221	1	Complete Phys 221 with a passing grade.
Phys 222	1	Complete Phys 222 with a passing grade.
3 hrs fine arts	3	Student must successfully complete 3 hours in the fine arts. The course may be chosen from art history, art appreciation, and criticism of art, dance, music, and theatre arts. Courses emphasizing the enhancement of skills and performance are not acceptable.
Serial humanities	6	Complete 6 hrs (from the same department) of humanities choosing from course work in classics, literature, history, philosophy, religion, Southern Studies, African American Studies, and Gender Studies.
Serial social science	6	Complete 6 hours (from the same department) of social sciences choosing from the following; economics, anthropology, political science, psychology, and sociology.Psy 202 and Econ 230 are excluded from these options.

Major Requirements

REQUIREMENT	HOURS	DESCRIPTION
Ch E 101 or 103/104 or Engr 100	2	Complete Ch E 101 or Ch E 103/104 or Engr 100 with a passing grade.
Ch E 251	3	Complete Ch E 251 with a passing grade.
Ch E 307	2	Complete Ch E 307 with a passing grade.
Ch E 308	2	Complete Ch E 308 with a passing grade.
Ch E 317	3	Complete Ch E 317 with a passing grade.
Ch E 345	3	Complete Ch E 345 with a passing grade.
Ch E 411	1	Complete Ch E 411 with a passing grade.
Ch E 412	3	Complete Ch E 412 with a passing grade.
Ch E 417	3	Complete Ch E 417 with a passing grade.
Ch E 421	3	Complete Ch E 421 with a passing grade.
Ch E 423	3	Complete Ch E 423 with a passing grade.
Ch E 445	2	Complete Ch E 445 with a passing grade.

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REQUIREMENT	HOURS	DESCRIPTION
Ch E 446	2	Complete Ch E 446 with a passing grade.
Ch E 451	4	Complete Ch E 451 with a passing grade.
Ch E 452	3	Complete Ch E 452 with a passing grade.
Enroll in a BSChE emphasis		Enroll in an emphasis in BSChE program.
School of Engineering GPA		Must be at least a 2.0

Major Requirements II

REQUIREMENT	HOURS	DESCRIPTION
Chem 225	1	Complete Chem 225 with a passing grade.
Chem 222	3	Complete Chem 222 with a passing grade.
Chem 221	3	Complete Chem 221 with a passing grade.
Engr 310	3	Complete Engr 310 with a passing grade.
Engr 313 or Manf 251/252	3	Complete Engr 313 or Manf 251/252 with a passing grade.
Engr 321	3	Complete Engr 321 with a passing grade.
Engr 322	3	Complete Engr 322 with a passing grade.
Engr 360	3	Complete Engr 360 with a passing grade.

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REQUIREMENT	HOURS	DESCRIPTION
Bus 250	3	Complete Bus 250 with a passing grade.
Manf 150	1	Complete Manf 150 with a passing grade.
Manf 251	3	Complete Manf 251 with a passing grade.
Manf 252	1	Complete Manf 252 with a passing grade.
Manf 253	3	Complete Manf 253 with a passing grade.
Manf 254	3	Complete Manf 254 with a passing grade.
Manf 350	3	Complete Manf 350 with a passing grade.
Manf 351	1	Complete Manf 351 with a passing grade.
Manf 450	3	Complete Manf 450 with a passing grade.
Manf 451	1	Complete Manf 451 with a passing grade.
Manf 452	2	Complete Manf 452 with a passing grade.

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