

Pre-Med Option

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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, within 3-5 years after graduation, will:

1. Meet or exceed the expectations of employers of chemical engineers;
2. Continue their professional development by pursuing advanced study if they so desire; and
3. Continue their professional development by pursuing leadership opportunities and other positions of service in their profession and/or communities.

Student Outcomes

In accordance with ABET accreditation requirements, BSChE students at the University of Mississippi should demonstrate the attainment of the following student outcomes:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

General Education Requirements

"Students must complete at least 18 hours of general education requirements: 3 hours of fine arts, 6 hours of humanities from the same department, 6 hours of social science from the same department, and 3 additional hours of humanities, social science, or [general education courses as specified by the School of Engineering](#) with the exception that speech and math content courses may not be used to satisfy any of these required 18 credits."

Course Requirements

Alternatives for 300-level technical electives: Chem 222, Manf 253, Manf 254, 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.

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.

Pre-Med Option Course Requirements

Pre-Med

| | |
|-----------------------------------|----------------|
| Bisc 160/161 and 162/163 | 8 Credit Hours |
| Chem 222 and 226 | 4 Credit Hours |
| Chem 471 | 3 Credit Hours |
| Engineering elective | 3 Credit Hours |
| 300 level or higher Bisc elective | 6 Credit Hours |
| Math 115, 375, or Bisc 300 | 3 Credit Hours |
| Add'l hum/soc sci/gen ed | 3 Credit Hours |

We also recommend that students applying to medical schools take Chem 226, Organic Chem. Lab II, which is not required in chemical engineering but may be required for med school entrance.



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 | Complete 3 hrs of fine arts with a passing grade chosen from art history, music, dance, and theatre arts. Studio and workshop courses cannot be used to satisfy this requirement. Courses that satisfy this requirement are any Art History (AH); Liba 130 , 204 , 314 ; Mus 101 , 102 , 103 , 104 , 105 ; Danc 200 ; Thea 201 , 202 . |
| 6 hrs Serial Humanities | 6 | Complete 6 hrs with a passing grade (from the same department) of humanities choosing from course work in classics, literature, history, philosophy, religion, Southern Studies, African American Studies, and Gender Studies. |
| 6 hrs Serial Social Sciences | 6 | Complete 6 hours with a passing grade (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 316 | 3 | Complete Ch E 316 with a passing grade. |
| Ch E 318 | 3 | Complete Ch E 318 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. |



| REQUIREMENT | HOURS | DESCRIPTION |
|---|-------|--|
| Ch E 431 | 1 | Complete Ch E 431 with a passing grade. |
| Ch E 432 | 1 | Complete Ch E 432 with a passing grade. |
| Ch E 433 | 2 | Complete Ch E 433 with a passing grade. |
| Ch E 449 & Ch E 450 | 4 | Complete Ch E 449 & Ch E 450 with a passing grade. |
| Ch E 452 | 3 | Complete Ch E 452 with a passing grade. |
| Chem 221 | 3 | Complete Chem 221 with a passing grade. |
| Chem 225 | 1 | Complete Chem 225 with a passing grade. |
| Engr 310 | 3 | Complete Engr 310 with a passing grade. |
| Engr 313 | 3 | Complete Engr 313 with a passing grade. |
| Engr 321 | 3 | Complete Engr 321 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 |

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| REQUIREMENT | HOURS | DESCRIPTION |
|--|-------|---|
| Bisc 160 | 3 | Complete Bisc 160 with a passing grade. |
| Bisc 161 | 1 | Complete Bisc 161 with a passing grade. |
| Bisc 162 | 3 | Complete Bisc 162 with a passing grade. |
| Bisc 163 | 1 | Complete Bisc 163 with a passing grade. |
| Chem 222 | 3 | Complete Chem 222 with a passing grade. |
| Chem 226 | 1 | Complete Chem 226 with a passing grade. |
| Chem 471 | 3 | Complete Chem 471 with a passing grade. |
| 3 hrs Engineering elective | 3 | Complete one of the following engineering technical electives: BME 305 , Engr 309 , Engr 330 , Engr 360 , Engr 573 , C E 471 , C E 472 , Ch E 520 , Ch E 528 , Ch E 535 , Ch E 540 , Ch E 550 , Manf 455 , or M E 534 . |
| 2 Bisc 300 + electives | 6 | Complete two Bisc courses at the 300-level or higher with a passing grade. |
| Math 115 , 375 or Bisc 300 | 3 | Complete 3 hrs chosen from Math 115 , 375 , or Bisc 300 . |
| 3 hrs add'l hum/soc sci/gen ed | 3 | Complete 3 additional hours of humanities, social science, or a general education course as defined by the School of Engineering with the exception that speech and math content courses such as Psy 202 and Econ 230 may not be used to satisfy any of these required 18 credits. |

