

Emphasis - Manufacturing

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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 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:

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

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

| Course | Hours |
|------------------|----------------|
| Advanced Science | 3 Credit Hours |
| Bus 250 | 3 Credit Hours |
| Manf 150 | 1 Credit Hour |
| Manf 152 | 1 Credit Hour |
| Manf 251 | 3 Credit Hours |
| Manf 252 | 1 Credit Hour |
| Manf 253 | 3 Credit Hours |
| Manf 255 | 1 Credit Hour |
| Manf 351 | 1 Credit Hour |
| Manf 353 | 3 Credit Hour |
| Manf 355 | 1 Credit Hour |
| Manf 455 | 3 Credit Hours |

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.



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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 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. |



| REQUIREMENT | HOURS | DESCRIPTION |
|----------------------------|-------|---|
| 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 221 | 3 | Complete Chem 221 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. |
| Engr 322 | 3 | Complete Engr 322 with a passing grade. |

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| REQUIREMENT | HOURS | DESCRIPTION |
|--------------------------|-------|--|
| 3 hrs of Adv Science | 3 | Complete at least 3 hrs of Advanced Science with a passing grade chosen from: Engr 340 , 540 , CH E 543 , 545 , 547 , GEOL 314 , G E 415 , 450 , 503 , CHEM 314 , 331 , 332 , 334 , 373 , 401 , 471 , 473 , PHYS 315 , 317 , 318 , 319 , 321 , 401 , 402 BISC 301, 306 , 318 , 320 , 327 , 333 , 335 . |
| Bus 250 | 3 | Complete Bus 250 with a passing grade. |
| Manf 150 | 1 | Complete Manf 150 with a passing grade. |
| Manf 152 | 1 | Complete Manf 152 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 255 | 1 | Complete Manf 255 with a passing grade. |
| Manf 351 | 1 | Complete Manf 351 with a passing grade. |
| Manf 353 | 3 | Complete Manf 353 with a passing grade. |
| Manf 355 | 1 | Complete Manf 355 with a passing grade. |
| Manf 455 | 3 | Complete Manf 455 with a passing grade. |

