Emphasis - Materials

- B.S.Ch.E. in Chemical Engineering
- Emphasis - Materials
- 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, 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

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.

Emphasis - Materials

Course Requirements
Students in Materials Option must choose ENGR 309 when given the choice in the Foundation/Engineering Science Topic

Materials

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch E 543, 545, or 547</td>
<td>3</td>
</tr>
<tr>
<td>Materials elective*</td>
<td>9</td>
</tr>
<tr>
<td>Engineering elective</td>
<td>3</td>
</tr>
<tr>
<td>Technical elective</td>
<td>3</td>
</tr>
<tr>
<td>Add'l hum/soc sci/gen ed</td>
<td>3</td>
</tr>
</tbody>
</table>

*Materials elective courses: Ch E 540, 543, 545, 547, 550, Engr 309, 312, 340, or M E 534

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

<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>HOURS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year Writing I</td>
<td>3</td>
<td>Complete Hon.101, Writ.100 or Writ.101 with a passing grade.</td>
</tr>
<tr>
<td>First Year Writing II</td>
<td>3</td>
<td>Complete one of the following courses with a passing grade: Liba 102, Writ.102 or Hon.102.</td>
</tr>
</tbody>
</table>

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.

https://catalog.olemiss.edu/2023/fall/undergraduate/engineering/chemical-engineering/bs-chem-eng/bsce-mater
### REQUIREMENT | HOURS | DESCRIPTION
--- | --- | ---
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 | Courses may be 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; Dans 200; Thea 201, 202. Students who have completed 30 semester hours of undergraduate coursework may fulfill the requirement with a 300- or 400-level art history course.
6 hrs 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.
6 hrs Serial Social Sciences | 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 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.
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.
<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>HOURS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engr 310</td>
<td>3</td>
<td>Complete Engr 310 with a passing grade.</td>
</tr>
<tr>
<td>Engr 313</td>
<td>3</td>
<td>Complete Engr 313 with a passing grade.</td>
</tr>
<tr>
<td>Engr 321</td>
<td>3</td>
<td>Complete Engr 321 with a passing grade.</td>
</tr>
<tr>
<td>Enroll in a BSChE emphasis</td>
<td></td>
<td>Enroll in an emphasis in BSChE program.</td>
</tr>
<tr>
<td>School of Engineering GPA</td>
<td></td>
<td>Must be at least a 2.0.</td>
</tr>
</tbody>
</table>

**Emphasis - Materials**

<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>HOURS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch E 543, Ch E 545, or Ch E 547</td>
<td>3</td>
<td>Complete either Ch E 543, Che E 545, or Ch E 547 with a passing grade.</td>
</tr>
<tr>
<td>9 hrs of Materials Emph Elect</td>
<td>9</td>
<td>Complete 3 courses chosen from the following: Ch E 540, 543, 545, 547, 550, Engr 309, 312, 340, or M E 534 with a passing grade.</td>
</tr>
<tr>
<td>3 hrs Engineering elective</td>
<td>3</td>
<td>Complete one of the following engineering technical electives: Engr 309, Engr 330, Engr 360, Engr 573, C E 471, C E 472, Ch E 520, Ch E 535, Ch E 540, Ch E 550, Manf 455, or M E 534.</td>
</tr>
<tr>
<td>3 hrs Technical Electives</td>
<td>3</td>
<td>Complete at least 3 credit hours of technical electives choosing from engineering, science, or mathematics.</td>
</tr>
<tr>
<td>3 hrs add'l hum/soc sci/gen ed</td>
<td>3</td>
<td>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.</td>
</tr>
</tbody>
</table>