

## Standard Option

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## **B.S. in Engineering** **Description**

The B.S. in engineering provides the student with a fundamental knowledge of 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: 127**

### **Goals/Mission Statement**

#### **Program Educational Objectives**

Graduates from the program, within 3-5 years after graduation, will:

- Meet or exceed the expectations of employers of general engineers;
- Continue their professional development by pursuing advanced study, including licensure and certifications if they so desire; and
- Continue their professional development by pursuing leadership opportunities and other positions of service in their profession and/or communities.

#### **Student Outcomes**

BSE 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**

- Writ 101 and 102
- 3 hours of fine arts
- 3 hours of humanities
- 3 hours of fine arts or humanities
- 3 hours of social science
- 3 additional hours of humanities, social science, or a general education course as defined by the School of Engineering
- Econ 310
- Math 261, 262, 263, 264, and 353
- Chem 105, 106, 115, 116
- Phys 211, 212, 221, 222

## **Course Requirements**

- Engr 100 or Engr 102,
- Csci 251
- Engr 309, 310, 312, 313, 314, 321, 323, 330, 360, 361, 400, and Engr 450
- Manf 460
- 12 hours of approved engineering electives
  - 3 hours of which must be above the 200 level and
  - 9 hours of which must be above the 300 level
- The pre-approved engineering electives are Engr 340, BME 200, BME 222, BME 301, BME 311, BME 313, BME 314, BME 333, BME 350, BME 370, BME 510, BME 523, BME 524, Ch E 307, Ch E 308, Ch E 413, Ch E 520, Ch E 521, Ch E 522, Ch E 523, Ch E 524, C E 207, C E 208, C E 210, C E 325, C E 471, C E 472, Csci 111, Csci 112, Csci 343, EI E 235, EI E 331, G E 305, G E 405, M E 324, M E 325, M E 401, M E 406, and M E 421. Engineering courses not included in this list must be pre-approved by the director of general engineering

## **Standard Option** **Description**

This emphasis is based on individually designed curricula that permit the student to obtain a strong background in engineering while simultaneously giving the student a broad education outside these areas of study. The 21 hours of emphasis courses must be organized around a coherent theme and must be pre-approved by the director of general engineering.



## Course Requirements

- 21 hours of an approved emphasis area

## 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. in Engineering

### General Education

REQUIREMENT	HOURS	DESCRIPTION
First Year Writing	6	Complete <a href="#">Hon 101</a> , <a href="#">Writ 100</a> , or <a href="#">Writ 101</a> . and Complete one of the following courses: <a href="#">Liba 102</a> , <a href="#">Writ 102</a> or <a href="#">Hon 102</a> .
<a href="#">Math 261</a>	3	Complete <a href="#">Math 261</a> with a passing grade.
<a href="#">Math 262</a>	3	Complete <a href="#">Math 262</a> with a passing grade.
<a href="#">Math 263</a>	3	Complete <a href="#">Math 263</a> with a passing grade.
<a href="#">Math 264</a>	3	Complete <a href="#">Math 264</a> with a passing grade.
<a href="#">Math 353</a>	3	Complete <a href="#">Math 353</a> with a passing grade.
<a href="#">Chem 105</a>	3	Complete <a href="#">Chem 105</a> with a passing grade.
<a href="#">Chem 106</a>	3	Complete <a href="#">Chem 106</a> with a passing grade.
<a href="#">Chem 115</a>	1	Complete <a href="#">Chem 115</a> with a passing grade.
<a href="#">Chem 116</a>	1	Complete <a href="#">Chem 116</a> with a passing grade.
<a href="#">Phys 211</a>	3	Complete <a href="#">Phys 211</a> with a passing grade.
<a href="#">Phys 212</a>	3	Complete <a href="#">Phys 212</a> with a passing grade.
<a href="#">Phys 221</a>	1	Complete <a href="#">Phys 221</a> with a passing grade.
<a href="#">Phys 222</a>	1	Complete <a href="#">Phys 222</a> with a passing grade.
<a href="#">Econ 310</a>	3	Complete <a href="#">Econ 310</a> with a passing grade.
3 hrs humanities	3	Complete 3 hrs of humanities choosing from course work in classics, literature, history, modern language, philosophy, religion, Southern studies, African American Studies, and Gender Studies.
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.
3 hrs fine arts/humanities	3	Complete 3 additional hours in any of the humanities or fine arts categories defined by the School of Engineering general education requirements.
3 hrs social sciences	3	Complete 3 hours of social sciences, excluding <a href="#">Econ 310</a> , choosing from the following; economics, anthropology, political science, psychology, and sociology.
3 hrs gen ed or SS/H/FA	3	Complete 3 hrs General Education work chosen from the following: additional fine art, additional social science, additional humanities, <a href="#">As 301</a> , <a href="#">As 302</a> , <a href="#">Bus 250</a> , <a href="#">Bus 271</a> , <a href="#">Edld 110</a> , <a href="#">Edld 111</a> , <a href="#">Edld 120</a> , <a href="#">Edld 220</a> , <a href="#">Engr 400</a> , <a href="#">Mgmt 371</a> , <a href="#">GB 370</a> , <a href="#">Msl 102</a> , <a href="#">Nsc 211</a> , <a href="#">Spch 102</a> or <a href="#">Spch 105</a> .

### Major Requirements

REQUIREMENT	HOURS	DESCRIPTION
<a href="#">Engr 100</a> or <a href="#">Engr 102</a>	3	Complete <a href="#">Engr 100</a> or <a href="#">Engr 102</a> with a passing grade.
<a href="#">CSci 251</a>	3	Complete <a href="#">CSci 251</a> with a passing grade.
<a href="#">Engr 309</a>	3	Complete <a href="#">Engr 309</a> with a passing grade.
<a href="#">Engr 310</a>	3	Complete <a href="#">Engr 310</a> with a passing grade.
<a href="#">Engr 312</a>	3	Complete <a href="#">Engr 312</a> with a passing grade.
<a href="#">Engr 313</a>	3	Complete <a href="#">Engr 313</a> with a passing grade.
<a href="#">Engr 314</a>	1	Complete <a href="#">Engr 314</a> with a passing grade.



REQUIREMENT	HOURS	DESCRIPTION
<a href="#">Engr 321</a>	3	Complete <a href="#">Engr 321</a> with a passing grade.
<a href="#">Engr 323</a>	3	Complete <a href="#">Engr 323</a> with a passing grade.
<a href="#">Engr 330</a>	3	Complete <a href="#">Engr 330</a> with a passing grade.
<a href="#">Engr 360</a>	3	Complete <a href="#">Engr 360</a> with a passing grade.
<a href="#">Engr 361</a>	1	Complete <a href="#">Engr 361</a> with a passing grade.
<a href="#">Engr 400</a>	1	Complete <a href="#">Engr 400</a> with a passing grade.
<a href="#">Engr 450</a>	3	Complete <a href="#">Engr 450</a> with a passing grade.
<a href="#">Manf 460</a>	3	Complete <a href="#">Manf 460</a> with a passing grade.
12 hrs approved engr electives	12	Complete 12 hours of approved engineering electives with 9 hrs at the 300+ level chosen from: <a href="#">Engr 340</a> , <a href="#">BME 200</a> , <a href="#">BME 222</a> , <a href="#">BME 301</a> , <a href="#">BME 311</a> , <a href="#">BME 313</a> , <a href="#">BME 314</a> , <a href="#">BME 333</a> , <a href="#">BME 350</a> , <a href="#">BME 370</a> , <a href="#">BME 510</a> , <a href="#">BME 523</a> , <a href="#">BME 524</a> , <a href="#">Ch E 307</a> , <a href="#">Ch E 308</a> , <a href="#">Ch E 413</a> , <a href="#">Ch E 520</a> , <a href="#">Ch E 521</a> , <a href="#">Ch E 522</a> , <a href="#">Ch E 523</a> , <a href="#">Ch E 524</a> , <a href="#">C E 207</a> , <a href="#">C E 208</a> , <a href="#">C E 210</a> , <a href="#">C E 325</a> , <a href="#">C E 471</a> , <a href="#">C E 472</a> , <a href="#">Csci 111</a> , <a href="#">Csci 112</a> , <a href="#">Csci 343</a> , <a href="#">EI E 235</a> , <a href="#">EI E 331</a> , <a href="#">G E 305</a> , <a href="#">G E 405</a> , <a href="#">M E 324</a> , <a href="#">M E 325</a> , <a href="#">M E 401</a> , <a href="#">M E 406</a> , and <a href="#">M E 421</a>

### Standard Option

REQUIREMENT	HOURS	DESCRIPTION
21 hrs approved by Dir of Gen Engr	21	The 21 hours of emphasis courses must be organized around a coherent theme and must be pre-approved by the director of general engineering.

