

- B.S. in Engineering
- Emphasis Naval Science
- Degree Requirements

## **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
  - $\circ~$  3 hours of which must be above the 200 level and
  - $\circ$  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, El E 235, El 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

# **Emphasis - Naval Science**

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## Description

Students seeking an emphasis in naval science will be assigned an adviser in both the Department of Naval Science and School of Engineering.

#### **Course Requirements**

For an emphasis in naval science, students must complete 21 credit hours chosen from the following:

• NSC 211, 212, 213, 215, 216, 310, 312, 313, 315, 316, 317, 318, 320, 410, 412, 413, 415, 416, 417, or 418,

#### **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 I	3	Sucessfully complete <u>Hon 101</u> , <u>Writ 100</u> , or <u>Writ 101</u> .
First Year Writing II	3	Successfully complete one of the following courses: Liba 1 Writ 102 or Hon 102.
3 hrs humanities	3	Courses may be chosen from African American studies ( <u>AAS 201, 202</u> ); classical civilization (Clc); environmental studies ( <u>Envs 101</u> ); gender studies ( <u>G St 201, 202</u> ); history (Hst); <u>Liba 202, 312, 305</u> ; literature ( <u>Eng 103, 220-226</u> ); philosophy (Phil); religion (Rel); Southern studies 100 level; or <u>Hon 101, 102</u> (if not being used to fulfill composition requirements). Additionally, students of the School of Engineering may count up to 3 credit hours of a language course (modern or Greek or Latin) with a grade of C or better to fulfill a humanities requirement. The course will be entered upon request in the student's degree audit as an approved substitute.
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.
3 hrs social sciences	3	Successfully complete 3 hrs of social science with a passing grade chosen from anthropology (Anth), economics (Econ), political science (Pol), psychology (Psy), sociology (Soc), <u>Liba 203</u> , <u>313</u> , or <u>Hon 101</u> , <u>102</u>
Econ 310	3	Successfully complete Econ 310.
3 hrs gen ed or SS/H/FA	3	Successfully complete 3 hrs General Education work with a passing grade chosen from the following: additional fine art, additional social science, additional humanities, <u>As 301</u> , <u>As 302</u> , <u>Bus 250</u> , <u>Bus 271</u> , <u>EdId 110</u> , <u>EdId 111</u> , <u>EdId 120</u> , <u>EdId 220</u> , <u>Engr 400</u> , <u>Mgmt 371</u> ,
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.
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.
<u>Math 264</u>	3	Complete Math 264 with a passing grade.
Math 353	3	Complete Math 353 with a passing grade.
Chem 105	3	Complete <u>Chem 105</u> with a passing grade.
<u>Chem 106</u>	3	Complete <u>Chem 106</u> with a passing grade.
<u>Chem 115</u>	1	Complete <u>Chem 115</u> with a passing grade.
<u>Chem 116</u>	1	Complete <u>Chem 116</u> 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.

#### Major Requirements

REQUIREMENT	HOURS	DESCRIPTION
Engr 100 or Engr 102	3	Complete Engr 100 or Engr 102 with a passing grade.
<u>CSci 251</u>	3	Complete <u>CSci 251</u> with a passing grade.

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REQUIREMENT	HOURS	DESCRIPTION		
<u>Engr 309</u>	3	Complete Engr 309 with a passing grade.		
Engr 310	3	Complete Engr 310 with a passing grade.		
Engr 312	3	Complete Engr 312 with a passing grade.		
Engr 313	3	Complete Engr 313 with a passing grade.		
Engr 314	1	Complete Engr 314 with a passing grade.		
Engr 321	3	Complete Engr 321 with a passing grade.		
Engr 323	3	Complete Engr 323 with a passing grade.		
<u>Engr 330</u>	3	Complete Engr 330 with a passing grade.		
<u>Engr 360</u>	3	Complete Engr 360 with a passing grade.		
<u>Engr 361</u>	1	Complete Engr 361 with a passing grade.		
<u>Engr 400</u>	1	Complete Engr 400 with a passing grade.		
<u>Engr 450</u>	3	Complete Engr 450 with a passing grade.		
<u>Manf 460</u>	3	Complete Manf 460 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: <u>Engr 340</u> , <u>BME</u> 200, <u>BME 222</u> , <u>BME 301</u> , <u>BME 311</u> , <u>BME 313</u> , <u>BME 314</u> , <u>BME 333</u> , <u>BME 350</u> , <u>BME 370</u> , <u>BME 510</u> , <u>BME 523</u> , <u>BME 524</u> , <u>Ch E 307</u> , <u>Ch E 308</u> , <u>Ch E 413</u> , <u>Ch E 520</u> , <u>Ch E 521</u> , <u>Ch E 522</u> , <u>Ch E 523</u> , <u>Ch E 524</u> , <u>CE 207</u> , <u>CE 208</u> , <u>CE 210</u> , <u>CE 325</u> , <u>CE 471</u> , <u>CE 472</u> , <u>Csci 111</u> , <u>Csci 112</u> , <u>Csci 343</u> , <u>El E 235</u> , <u>El E 331</u> , <u>G E 305</u> , <u>G E 405</u> , <u>M E 324</u> , <u>M E 325</u> , <u>M E 401</u> , <u>M E 406</u> , and <u>M E 421</u>		
Emphasis - Naval Science				
REQUIREMENT	HOURS	DESCRIPTION		
21 hrs from selected courses	21	Complete 24 hrs chosen from the following courses: <u>NSC 211</u> , <u>212</u> , <u>213</u> , <u>215</u> , <u>216</u> , <u>310</u> , <u>312</u> , <u>313</u> , <u>315</u> , <u>316</u> , <u>317</u> , <u>318</u> , <u>320</u> , <u>410</u> , <u>412</u> , <u>413</u> , <u>415</u> , <u>416</u> , <u>417</u> , or <u>NSC 418</u> with a passing grade.		

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