

Emphasis - Environmental

- [B.S.C.E. in Civil Engineering](#)
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B.S.C.E. in Civil Engineering **Description**

The B.S.C.E. degree emphasizes engineering sciences and civil engineering design with four proficiency areas: structural engineering, water resources and environmental engineering, transportation and construction management, and geotechnical engineering. The curriculum prepares the student for both professional practice and graduate study.

Minimum Total Credit Hours: 129 **Goals/Mission Statement**

Mission

The Department of Civil Engineering (CE) within the School of Engineering (SoE) at the University of Mississippi (UM) strives to continuously improve the quality of its three functions: teaching, research and service. In so doing, the Department shall:

- prepare students with a broad based education for entering the civil and other related engineering professions, for advanced studies, and for careers in research;
- provide a top quality research program and graduate education in selected areas of science and engineering technology with its impact extending to regional, national, and global communities; and
- provide service to citizens, industry, and government via technological and educational innovations.

Goals

- Improve and maintain effective state-of-the-art graduate and undergraduate programs
- Perform quality research in line with national trends and achieve national recognition in selected areas
- Become a locally and nationally visible department through professional service
- Build stronger ties with civil engineering alumni

Program Educational Objectives

BSCE Graduates of the Civil Engineering Program at the University of Mississippi, within 3-5 years after graduation, will:

- Practice in civil engineering, environmental engineering or a related area to serve society.
- Continue to develop professionally by obtaining advanced degrees, professional registration and/or certification as appropriate for their qualifications and careers.
- Assume leadership roles in their profession and/or communities.

Student Outcomes

In accordance with ABET accreditation requirements, BSCE 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 judgments, 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 judgment 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 semester hours of general education requirements: 3 hours must be in speech or oral communication (Spch 102 or 105), 3 hours in humanities, 6 hours in social science (including Econ 310), and 3 hours in fine arts. The remaining 3 hours can be in any of the humanities/fine arts categories.

Course Requirements

Specific requirements for the B.S.C.E. include Writ 100, Writ 101, or Hon 101; Writ 102, Liba 102, or Hon 102; Math 261-264, Math 353; Chem 105, 115; Phys 211, 212, 221, 222; Csci 251 or 256, Engr 309, 310, 312, 323, 400; C E 101, 102, 205, 207, 208, 305, 311, 315, 371, 401, 405, 412, 413, 417, 431, 433, 455, 456, 472, and 481; 3 hours of basic science elective; at least 6 hours from List A technical electives (C E 414, 435, 495, 500, 513, 514, 516, 536, 541, 572, 574, 575, 581, Engr 573); and no more than 9 additional hours from List B technical electives (Category B.I: any course from List A; Category B.II: C E 511, 521, 531, 570, 578, 585, 590, Engr 321, 360, 497, 541, 547, 555, 571, 591, 593, G E 440, 450; other courses with the approval of the student's adviser and department chair including any relevant independent study course, e.g., Hon 401, C E 497, Engr 596, 597, 598; Category B.III: No more than one course from the approved list of the business minor.

Other Academic Requirements

Students in the Department of Civil Engineering are encouraged to take the Fundamentals of Engineering examination prior to awarding of the baccalaureate



degree.

Emphasis - Environmental Description

The B.S.C.E. degree with the Environmental Engineering emphasis stresses engineering sciences and civil and environmental engineering design with proficiency areas in: environmental and water resources engineering, structural engineering, transportation and construction management, and geotechnical engineering. The curriculum prepares the student for both professional practice and graduate study.

Course Requirements

COURSE REQUIREMENTS FOR ENVIRONMENTAL EMPHASIS Specific requirements for the B.S.C.E. with the Environmental Emphasis include Writ 100, Writ 101, or Hon 101; Writ 102, Liba 102, or Hon 102; Math 261-264, Math 353; Chem 105, 106, 115; Phys 211, 212, 221, 222; Csci 251, Engr 309, 310, 312, 323, 400; C E 101, 102, 205, 207, 208, 305, 311, 315, 371, 401, 405, 412, 417, 431, 433, 455, 456, 472, and 481; 3 hours of basic environmental science elective (Bisc 104, Geol 104, or Geol 105); 12 hours from Environmental Technical Electives (C E 572, 574, 575, Engr 321, Engr 571, Engr 573, Ch E 545, G E 450, G E 503; only one of C E 495, G E 470, G E 510; other courses with the approval of the student's adviser and department chair including any relevant independent study course, e.g., Hon 401, C E 497, Engr 596, 597, 598; no more than one course from the approved list of the business minor).

