B.S.G.E. in Geological Engineering

Description

The B.S. degree in geological engineering prepares students for productive careers as professional geological engineers engaged in continuous professional growth along their chosen career paths or prepares students for admission into graduate degree programs or professional schools.

Minimum Total Credit Hours: 137

Goals/Mission Statement

The educational goals of the Bachelor of Science in Geological Engineering program are an outgrowth of and consistent with The University of Mississippi Mission. While recognizing that the primary intent is to prepare graduates whose careers will serve the state of Mississippi, it is our objective to prepare graduates who will also serve the needs of the nation and the world in geological engineering and related fields. Past graduates of the program have found professional positions in a range of industries including i) geotechnical, ii) geoenvironmental, iii) geospatial information science and technology, iv) graduate education, and v) earth resources extraction. Future graduates are expected to serve the same range of industries.

Geological Engineering Program Educational Objectives

The Geology & Geological Engineering Department at the University of Mississippi is dedicated to graduating geological engineers who:

1. Practice geological engineering related to geotechnical, geoenvironmental, geospatial information science and technology, or earth resources extraction.
2. Pursue additional education, research and development, or other means of advancing their knowledge and mastery of subjects related to the discipline.
3. Conduct themselves in a responsible, professional and ethical manner.
4. Participate as leaders in activities that support service, stewardship, and economic development of the region, state and nation.

Student Outcomes

Students of the Bachelor of Science in Geological Engineering program will demonstrate achievement of the following student outcomes:

a. an ability to apply knowledge of mathematics, science, and engineering
b. an ability to design and conduct experiments, as well as to analyze and interpret data
c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
d. an ability to function on multidisciplinary teams
e. an ability to identify, formulate, and solve engineering problems
f. an understanding of professional and ethical responsibility
g. an ability to communicate effectively
h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
i. a recognition of the need for, and an ability to engage in life-long learning
j. a knowledge of contemporary issues
k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

General Education Requirements

In addition to the courses specified by the School of Engineering general education requirements, the following are required: Math 263-264 and Math 353; laboratory science to be fulfilled by Chem 105, 106, 115, 116 and Phys 211, 212, 221, 222. Students must complete 18 hours of general education requirements as specified by the School of Engineering, with the added requirement that a student complete at least one two-course sequence from a department. Three of the credit hours in social sciences must be Econ 310.

Course Requirements

Specific requirements for the B.S.G.E. include Csci 251; C E 431; Engr 207, 309, 312, 323, 340, 310 (or 453); Geol 103, 221, 222, 303, 305, 314; G E 234; 405, 440, 420, 421, 437, 450, 470. Two engineering science electives must be selected from Engr 360 or 362; Engr 321; or C E 472.

One geological engineering technical elective must be selected from G E 415, 460, 490, 502, 503, 507, 510, 511, 513, C E 471 or C E 325, Engr 310, Engr 313.

Please see department for advice.

Other Academic Requirements

Students in the Department of Geology and Geological Engineering are required to take the Fundamentals of Engineering examination prior to awarding of the baccalaureate degree.