COURSE WORK REQUIRED FOR THE B.S. in Geological Engineering*

Basic Math and Science

Chemistry (two semesters + two labs) Calculus (four semesters) Physics (two semesters + two labs) Computer Programming Differential Equations

Geology and Geological Engineering

Earth Dynamics Earth History Mineralogy + Elementary Petrology Sedimentology and Stratigraphy Geomorphology Geographic Information Systems Engineering Geophysics Hydrogeology Subsurface Site Characterization Rock Mechanics Geological Engineering Design Soil Mechanics Field Geology (two summer courses)

Geological Engineering Electives

One Geological Engineering Tech elective Two Engineering Science electives

Engineering Science

Statics Engineering Analysis Mechanics of Materials Fluid Mechanics Soil Mechanics Engineering Geology

Liberal Arts

Freshman Composition (two semesters) Humanities course Social Sciences course Fine Arts course Two more Social Sciences/Humanities/Fine Arts courses Engineering Economics

* The UM B.S. in Geological Engineering program is accredited by the Engineering Accreditation Commission of ABET.





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course work required for the **B.S. in Geology**

Basic Math and Science

Chemistry (two semesters + two labs) Calculus (two semesters) Physics (two semesters + two labs) Computer Programming Engineering Analysis

Geology

Earth Dynamics Earth History Environmental Geology Mineralogy + Elementary Petrology Sedimentology and Stratigraphy Engineering Geology Structural and Tectonic Geology Geomorphology Paleontology Optical Mineralogy Hydrogeology Geographic Information Systems Subsurface Site Characterization Field Geology (two summer courses)

Geology Electives

One elective from the following list:

- Environmental Geochemistry
- Engineering Geophysics

One elective from the following list:

• Any Geology/Geological Engineering/Engineering class at the 300 level or above

Two other electives from additional classes

Liberal Arts

Freshman Composition (two semesters) Social Sciences (two semesters) Humanities (two semesters) Applied Writing Fine Arts course Speech course Engineering Economics

Scholarships

In addition to the many scholarships provided by the University of Mississippi (finaid.olemiss.edu/ scholarships), other opportunities include:

- Numerous scholarships and fellowships available from the School of Engineering
- The Academic Common Market, an out-of-state tuition waiver available for B.S. in Geological Engineering students through the Southern Regional Education Board for residents of Alabama, Arkansas, Georgia, Kentucky, Louisiana, Maryland, Oklahoma, South Carolina, Tennessee, Virginia and West Virginia: olemiss.edu/info/acm
- MESG/MTAG scholarships available for Mississippi residents
- C.D. King Memorial Scholarship
- B. Beckman Society of Women Engineers Scholarship
- J.G. Douglas Scholarship
- Department and Field Camp scholarships

Median Salaries*

The median annual wage for geoscientists was \$89,780 in May 2016.

Median annual salaries for geoscientists in the top industries:

Engineering services\$78,250Management, scientific and technicalconsulting services\$74,890State government\$71,820Colleges, universities and professionalschools; state, local and private\$62,270	Oil and gas extraction	\$128,980
Management, scientific and technical consulting services\$74,890State government\$71,820Colleges, universities and professional schools; state, local and private\$62,270	Engineering services	\$78,250
consulting services\$74,890State government\$71,820Colleges, universities and professional\$62,270schools; state, local and private\$62,270	Management, scientific and technical	
State government\$71,820Colleges, universities and professionalschools; state, local and private\$62,270	consulting services	\$74,890
Colleges, universities and professional schools; state, local and private \$62,270	State government	\$71,820
schools, state, local and private \$02,270	Colleges, universities and professional	¢62 270
	schools, state, local and private	Ş02,270

Employment of geoscientists is projected to grow 10 percent from 2014 to 2024, faster than the average for all occupations.

*All statistics taken from: bls.gov/ooh/life-physical-and-social-science/geoscientists



Geologists study Earth's origins and its composition, processes and history. They investigate natural hazards, climate change, natural resources and hydrology.

Geological engineers apply geological science to engineering practice to assure that the geologic factors affecting the location, design and construction of engineering works are considered and adequately interpreted.

Majoring in **geology and geological engineering** requires training in the basic sciences and mathematics and applying these subjects to natural geological systems. Both disciplines teach students how to help identify and clean up environmentally contaminated sites. Students in our undergraduate programs enjoy working with applied sciences and the natural setting.



Career Options

Engineering geologists apply geologic principles to civil and environmental engineering. They investigate geological factors that affect engineering structures such as buildings, bridges, airports and dams. They offer advice on major construction projects and help with other projects, such as environmental cleanup and reducing natural hazards.

Environmental geologists work to solve problems with waste disposal, pollution, urban development and hazards such as flooding and erosion.

Environmental hydrologists identify the extent of groundwater contamination problems and design a system to remove the contamination.

Geotechnical engineers work for consulting companies specializing in environmental remediation.

Petroleum geologists are involved in the exploration and production of oil and natural gas.

Mapping and resource assessment geologists work for state or federal government agencies.

Consulting engineers or geologists assess hazard potential due to an earthquake, flood, landslide or unfavorable site geology.

Hydrologists identify a suitable source for community water needs.

Marine geologists/oceanographers investigate the oceans and continental shelves.

Government inspectors work on construction projects in difficult geological terrains.

Research scientists work for a university-based research institution.

Bankers specialize in resource evaluation as loan collateral.

Attorneys specialize in natural resource or environmental law.

Secondary school teachers or **university professors** teach in any of a dozen geological subdisciplines.

The University of Mississippi does not unlawfully discriminate on the basis of race, color, gender, sex, sexual orientation, gender identity or expression, religion, national origin, age, disability, veteran status, or genetic information. 47881-9/17