

Geology

Curriculum

Geology is a discipline that involves understanding Earth processes, interpreting the history of Earth, discovering and using natural resources to promote the quality of human life, and occupying the planet through awareness of events that contribute to shape its surface. The mission of the OSU Boone Pickens School of Geology, at the undergraduate level, is to provide a broad perspective of the Earth, and develop skills and knowledge to successfully advance a career in geology.

Geology majors develop the following skills:

- Carry out field work in various environments
- Make precise observations
- Collect field samples
- Use instruments and technology in the laboratory
- Perform microscopic and chemical analyses
- Extract information about rock and water samples
- Make interpretations of quantitative data
- Predict the behavior of Earth systems
- Review findings and summarize results
- Test hypotheses to evaluate results
- Refine interpersonal skills
- Work independently and as a member of a team
- Develop methods of creative thinking
- Enhance problem solving skills
- Put ideas into action

Get Involved

American Association of Petroleum Geologists (AAPG)
 Association of Women in Geosciences (AWG)
 Society of Exploration Geophysicists (SEG)
 Geological Society of America (GSA)
 OSU Geology Graduate Student Association

<https://campuslink.okstate.edu>

College of Arts & Sciences Career Services

213 Life Science East
 Tel: 405 744 5658

For appointments and resources:
<http://cascareers.okstate.edu>

Job and Internship Websites

- American Geosciences Institute
<http://www.agiweb.org/workforce/careers.html>
- Association for Women Geoscientists
<http://www.awg.org/eas/jobweb.htm#studentops>
- Earth Works
<http://earthworks-jobs.com/>
- Geology Jobs
<http://geology.com/jobs.htm>
- GIS Jobs Clearing House
<http://www.gjc.org/>
- Geo and GIS Jobs
<http://www.geojobs.org/>
- The Geological Society of America
<http://geosociety.org/>
- National Science Foundation
http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517&from=fund
- Oklahoma Energy Resource Board
<http://www.oerb.com/>
- Oklahoma Geological Survey
<http://www.ogs.ou.edu/>
- US Army Corps of Engineers
<http://www.usace.army.mil/careers.aspx>
- U.S. Department of Energy
<http://energy.gov/jobs/jobs>
- Geological Survey
<http://www.usgs.gov/ohr/>
- USA Jobs
<https://www.usajobs.gov/>
- Carl Albert Public Internship Program
http://ok.gov/opm/State_Jobs/Carl_Albert_Public_Internship_Program.html
- Net Impact
<https://netimpact.org/careers/find-opportunities/job-board>

Economic geologists explore for and develop metallic and nonmetallic resources; they study mineral deposits and find environmentally safe ways to dispose of waste materials from mining activities.

Engineering geologists apply geological data, techniques, and principles to the study of rock, soil surficial materials and groundwater; they investigate geologic factors that affect structures such as bridges, buildings, airports, or dams.

Environmental geologists study the interaction between the geosphere, hydrosphere, atmosphere, biosphere, and human activities. They work to solve problems associated with pollution, waste management, urbanization, and natural hazards.

Geochemists use physical and inorganic chemistry to investigate the nature and distribution of major and trace elements in groundwater and Earth materials; they use organic chemistry to study the composition of fossil fuel deposits.

Geologists study materials, processes, products, physical nature, and the history of Earth.

Geomorphologists study Earth's landforms and landscapes in relation to the geologic and climatic processes and human activities.

Geophysicists apply the principles of physics to studies of the Earth's surface and interior.

Hydrogeologists study the occurrence, movement, abundance, distribution, and quality of subsurface water and its interactions with surrounding geology.

Hydrologists study surface water, including its relationships with geologic landforms.

Mineralogists study mineral formation, composition, and properties.

Paleoecologists study the function and distribution of ancient organisms and their relationships to their environment.

Paleontologists study fossils to understand past life forms and their changes through time as well as to reconstruct past environments.

Petroleum geologists are involved in exploration for, and production of, oil and natural gas resources.

Petrologists determine the origin and natural history of rocks by analyzing mineral composition, rock textures and other grain relationships.

Sedimentologists study the nature, origin, distribution, and alteration of sediments and sedimentary rocks. Fossil fuels, groundwater, and many mineral deposits occur in sedimentary rocks.

Seismologists study earthquakes and analyze the behavior of earthquake waves to interpret the structure of the Earth.

Stratigraphers investigate the time and space relationships of rocks, on a local, regional, and global scale throughout geologic time -- especially the fossil and mineral content of layered rocks.

Job Titles

Atmospheric Scientist
Earth Science Teacher
Ecologist
Environment Consultant
Environmental Engineer
Field Geologist
Geological Technician
Geochronologist
Naturalist
Natural Resource Manager
Marine Geologist
Oceanographer
Planetary Geologist
Soil Scientist
Structural Geologist
Science Librarian
Technical Writer
Volcanologist
Testing and Inspection Professional

Types of Employers

Natural History Museums
Testing Labs
Minerals Industry
Energy Industry (Oil, Gas, Coal)
Mining Companies
Engineering Consulting Firms
Environmental Consulting Firms
Environmental Advocacy Groups
Waste Management Companies
U.S. Bureau of Reclamation
U.S. Bureau of Land Management
U.S. Forest Service
USDA Soil Conservation Services
OK Dept. of Environmental Protection
US Environmental Protection Agency
Peace Corps
OK Dept. of Transportation
US Geological Survey
OK Geological Survey
National Oceanographic & Atmospheric Administration (NOAA)
City planning offices
Secondary schools/Universities
State and Federal Highway Depts.