

BOONE PICKENS SCHOOL OF GEOLOGY

Earth is the residence of all life including humanity; therefore, it is essential to develop a better understanding of its composition, internal, and external processes. Earth is an outdoor laboratory filled with opportunities to observe geologic processes in action. By applying knowledge of forces that shape Earth, geoscientists seek to reconstruct the past and anticipate the future. Geoscientists provide information to society for solving problems and establishing policies for resource management, environmental protection, and public health, safety, and welfare.

Geology addresses how Earth's history helps predict future events, how the evolution of life is recorded in rocks and sediments and how erosion and uplift shape the Earth. Human activities, predominantly on or near the surface, have utilized rocks and rock products, mainly petroleum and metals, to contribute to the quality of life. Because the Earth is dynamic—the land surface is constantly changing—knowledge of earthquakes, volcanoes, plate tectonics, floods, and landslides, is critical to minimize human suffering and economic loss. Within geology, specialties such as environmental geoscience, petroleum geology, ground-water geology (hydrogeology), geomorphology (study of surface processes), structural geology, and paleontology (study of fossils), allow geoscientists to develop exciting careers focusing on the sub-disciplines they love.

Geophysics is a discovery science of the earth and other planets using state-of-the-art technology that integrates geology, mathematics, physics, and computer modeling. Geophysicists explore the earth's natural resources such as oil, gas, minerals, and groundwater, and detect earthquakes, cavities, and contamination hazards aiding societal and environmental sustainability. A Bachelor of Science in geophysics prepares students for graduate school as well as prestigious careers in the environmental, energy, and regulatory industries.

The Boone Pickens School of Geology offers traditional academic degree programs for BS, Accelerated M.S., M.S., and Ph.D. students and conducts various campus and community outreach events. Geology and Geophysics majors are provided with a quality education designed to develop leadership skills and enhance employment opportunities. Research areas for the faculty of the Boone Pickens School of Geology include continental tectonics, conventional and unconventional energy resources, environmental and engineering geology and geophysics, carbon sequestration, paleoclimatology, and satellite remote sensing. In these areas, the school has already established a sound infrastructure—appropriate faculty appointments, advanced laboratories and technologies, and a high volume of scholarly productivity. Full-time Geology and Geophysics undergraduates are eligible for departmental scholarships based on academic achievement and financial need. Teaching assistantships, research assistantships, and fellowships are available for qualifying geology graduate students.

Geologists and Geophysicists are employed extensively in applied and pure research topics as well as in teaching. Applied research includes the exploration for, and development of, oil and gas fields, metallic and nonmetallic mineral deposits, and reservoirs of groundwater. The geologists and geophysicists are well prepared to pursue and direct environmental and energy studies. Careers in research may be found with private employers, government agencies, national laboratories, or universities. Teaching positions in geology and geophysics are available at all levels, beginning with secondary education. As with most other

sciences, more employment opportunities will be available to students with advanced training and a broad background. In general, careers as teachers in a college or university and in research are open only to those with graduate training.