ENVIRONMENTAL GEOSCIENCE, BACHELOR OF SCIENCE (BA) / PRE-MASTER OF EDUCATION

The environmental geoscience (BA) focuses on providing students with a scientific understanding of the Earth and surrounding environment. The student in geology gains an understanding of the various terrestrial processes and features (mountains, oceans, volcanoes, glaciers); the immenseness of geologic time, the history of the earth and organisms that inhabit it (fossils); the role of water, fuel, and mineral resources in the development of civilization; and the close interaction between the geologic and organic environments.

Students seeking state certification in secondary education must also complete requirements for a Master of Education degree, a one-year program at SRU. All of our programs are designed to steadily develop the quantitative, deductive and inductive reasoning skills that environmental geoscientists must have.

Requirements for the Certification

Teacher certification is earned through the master of education degree at Slippery Rock University. Students seeking secondary school teaching certification in earth and space science must earn a bachelor of arts or a bachelor of science degree in discipline and contact the Department of Secondary Education/Foundations of Education concerning its graduate program in education. Information about this program, including prerequisites for admission, may be obtained from the Secondary Education/Foundations of Education office in 114 McKay Education Building.

Program Learning Outcomes

- **Outcome 1 (EGEO):** Each graduate shall develop general knowledge and understanding of the composition, history, and structure of the planet, and of the physical, chemical, and biological processes involved in the interactions between the geosphere, hydrosphere, atmosphere, and biosphere.
  - Each graduate will demonstrate an understanding of plate tectonic theory and be able to describe how it operates
  - Each graduate will demonstrate an understanding of the geologic time scale and the timing of major events in Earth history
  - Each graduate will demonstrate the ability to characterize and identify important rocks and minerals, and to interpret the processes by which they formed
  - Each graduate will demonstrate an understanding of the history, causes, and effects of global climate change
  - Each graduate will demonstrate an understanding of evolutionary theory and its evidence in the fossil record
  - Each graduate will demonstrate an understanding of the internal structure of Earth
  - Each graduate will be able to explain the fundamental principles of the hydrologic cycle

Geology, Geology, and the Environment, Overall

- **Outcome 1:** Each graduate will develop strong written and oral communication skills, demonstrate the ability to work in a collaborative environment, and exhibit professional attitudes and behavior.
  - Each graduate will deliver oral presentations, demonstrating the ability to effectively communicate discipline-specific concepts
  - Each graduate will write scholarly papers using acceptable format and organization with proper citations to appropriate literature.
  - Each graduate will actively participate in collaborative projects and in academic field trips
  - Each graduate will demonstrate professionalism and integrity in his/her academic conduct
  - Each graduate shall develop the ability to respect and integrate diverse worldviews in problem-solving frameworks
- **Outcome 2:** Each graduate shall possess and apply critical thinking and problem solving skills.
  - Each graduate will demonstrate the ability to develop valid research questions and hypotheses
  - Each graduate will demonstrate the ability to apply proper techniques for data acquisition and interpretation in a problem-solving context
  - Each graduate will demonstrate the ability to solve open-ended problems using scientific methodology
  - Each graduate will develop the ability to make informed, scientifically-based decisions regarding environmental issues
- **Outcome 3:** Each graduate shall develop skills in quantitative, qualitative, technological, laboratory, and field procedures.
  - Each graduate will learn and employ accepted laboratory and field techniques, protocols, and safety procedures
  - Each graduate will learn to read, construct, and comprehend thematic maps and derive perspective output from a map
  - Each graduate will demonstrate the ability to apply knowledge, concepts and techniques from complementary disciplines to solve problems

Related Links

Environmental Geoscience - Pre-Masters of Education, BA Program Page (https://www.sru.edu/academics/majors-and-minors/environmental-geosciences-pre-masters-of-education/)

Professional Licensure/Certification Page (https://www.sru.edu/students/student-consumer-information/professional-licensures/)