

MAJOR IN GEOSCIENCES, ENVIRONMENTAL GEOLOGY CONCENTRATION

The Environmental Geology Concentration within the Geosciences major enables students to develop expertise in processes that occur at the surface and in the shallow-subsurface of the Earth and address environmental implications of geological process and human activities.

The curriculum emphasizes courses spanning the fundamentals of geology, surface, and shallow-subsurface processes, field-based methodologies, and environmental geology.

Learning Objectives

Upon successful completion of this program, students will be able to:

1. Demonstrate foundational skills and knowledge in all sub-disciplines of geology (physical and historical geology, earth materials, sedimentology and stratigraphy, structural geology)
2. Exhibit valuable skills in scientific reasoning, quantitative data analysis and reasoning; field, analytical, and remote sensing skills; spatial thinking and map use enabling them to contribute effectively to professional work and engage in original research.
3. Use visualization tools, theory, computation, and simulations to explain field observations and experimental results, make interpretations and test hypotheses.
4. Obtain, organize, and critically evaluate geologic information, and effectively present it through oral and written discourse with specialists and non-specialists.
5. Ethically and responsibly engage their knowledge of geology to address current global and scientific challenges.
6. Apply sustainability principles that incorporate complex environmental, economic, and social factors.
7. Demonstrate proficiency in investigating human interactions with Earth, its climate, and ecosystems, particularly from depths of groundwater to the top of the vegetation canopy.
8. Exhibit valuable professional skills related to environmental resource management and protection.