

Department of Geography-Geology
Illinois State University

Program Learning Objectives

M.S. in Geohydrology

The goal of the MS in Geohydrology is to deliver a balanced set of core courses which, when combined with other required and elective course, will enable students to become knowledgeable in applied environmental and resource Geohydrology. Graduates will enter the job market capable and ready to perform professional responsibilities from a solid academic base needed for career growth. The MS in Geohydrology will prepare students to:

1. become knowledgeable and proficient in theory and significance of sub-surface hydrodynamics;
2. design, implement and evaluate a groundwater exploration program;
3. design and supervise the installation of a monitor-well field and evaluate its results for the purpose of determining the nature and extent of groundwater contamination, in accordance with government regulations.
4. develop skills in the scientific management of water resources areas;
5. gather and evaluate geologic data necessary to prepare environmental impact reports;
6. identify and evaluate potential geologic and hydrologic hazards, such as those associated with seismic activity, volcanism, flooding, subsidence and slope instability; students will be competent to evaluate erosion and sediment depositional problems and will be able to recommend corrective and precautionary procedures to mitigate such hazards and problems;
7. plan and implement de-watering operations for underground construction, storm drainage alignments, foundation stability and pipeline laying;
8. evaluate the subsurface conditions which bear upon shallow burial and deep-well waste disposal;
9. critique the geologic aspects of engineering designs and proposals; and,
10. appreciate the social, ethical and legal implications of environmental issues faced by modern society.