

Environmental Systems Analysis Track. Students choosing this track will gain specialized knowledge related to the analysis of environmental data and computing to learn about the computational and laboratory methods, instruments, and other technologies used to collect, analyze, and synthesize information utilized in environmental problem solving. The upper-level curriculum will be focused in computer science, mathematics, and geography (remote sensing, drones, Geographic Information Systems, and geostatistics).

Contact: Dr. Jonathan Thayn

ELECTIVE TRACK C—ENVIRONMENTAL SYSTEMS ANALYSIS

Required Course: choose one

IT 165 Computer Programming for Scientists (4 hrs)

IT 166 Python Programming for Science & Data Analysis (4 hrs)

4 courses from the following:

BSC 311 Rain Forest Ecology (3 hrs)

CHE 215 Analytical Chemistry (3 hrs) (216 lab (1 hr) may also be taken)

CHE 360 Physical Chemistry I (3 hrs) (361 lab (1 hr) may also be taken)

CHE 362 Physical Chemistry II (3 hrs) (363 lab(1 hr) may also be taken)

GEO 304 Advaned Geographic Information Systems (4 hrs)

GEO 305 Remote Sensing (4 hrs)

GEO 306 Regional & Area Studies (3 hrs)

GEO 308 Statistics for Geographers II (3 hrs)

GEO 314 Aqueous Geochemistry (3 hrs)

GEO 319 Watershed Analysis & Modeling (3 hrs)

PHY 318 or CHE 318 Methods of Computational Science (3 hrs)

POTENTIAL CAREERS

Conservation Scientist
Environmental Analyst
Environmental Engineer
Environmental Field and Data Scientist
Environmental Field Technician
Environmental Geographer
Environmental Scientist
Environmental Science and Protection Technician
Environmental Specialist
Forester
Geoscientist
Geospatial Analyst
Geospatial Field Technician
Physical Scientist
Research and Policy Analyst
Sustainability Consultants
Sustainability Manager / Directory
Sustainability Scientist

POTENTIAL EMPLOYERS

National Park Service
Environmental Protection Agency
U.S. Geological Survey
National Oceanic and Atmospheric Administration

POTENTIAL EMPLOYERS (con't)

Soil and Water Conservation Service
Forest Service
Bureau of Land Management Bureau of Reclamations
State government
 Illinois State Geological Survey
 Illinois Water Survey
 Illinois Environmental Protection Agency
Local government
 Park districts
 Forest preserve districts
 Water and Wastewater Treatment Plant
The private sector
 Archer Daniels Midland
 Early Bird Fertilizer
Environmental Consulting Firms
 Civil engineering firms
 Mining and resource extraction firms
Non-governmental organizations
 The Nature Conservancy
 World Wildlife Fund
 Environmental Defense Fund
 Waste management companies
 Energy utilities
 Greenpeace
 FEMA