Earth, Environment, and Sustainability

Chair

Emily Finzel

Undergraduate majors: earth and environmental sciences (BA, BS); environmental policy and planning (BA); geographical and sustainability sciences (BA, BS)

Undergraduate minors: earth and environmental sciences; environmental policy and planning

Undergraduate certificates: geographic information science; sustainability

Graduate degrees: MA in geography; MS in geoscience; PhD in geography; PhD in geoscience

Faculty: https://sees.uiowa.edu/people/faculty

Website: https://sees.uiowa.edu/

Facilities

Research Facilities

Research facilities housed in the School of Earth, Environment, and Sustainability are shared facilities co-managed by faculty. Specific research labs include the Ecoclimatology of Carbon and Water Lab, Geochemistry Lab, Hydrogeology Lab, Lab for Observing and Quantifying Aquatic and Terrestrial Ecosystems, Micropaleontology Lab, Mineral Separation and Processing Facility, Planetary Exploration Lab, Sedimentary Materials Lab, and Thin Section and Sample Preparation Lab. Major analytical instruments for research, including an SEM, electron microprobe, laser ablation ICP-MS, and XRF, are housed in the Iowa MatFab Facility.

Geographic Information Systems Instructional Lab

Students have access to the Geographic Information Systems Instructional Lab (GISIL), a state-of-the art computer lab used to teach GIS, cartography, and remote sensing. The GISIL also supports field-based educational activities using mobile GIS software, UAVs, and GPS to collect and analyze data. This unique training experience builds future researchers and practitioners with the perspective and strong analytical skillset needed to address today's most pressing challenges head-on.

Ashton Prairie Living Laboratory

Ashton Prairie Living Laboratory (APLL) is an eight-acre prairie restoration project located within the University of Iowa's Ashton Cross Country Course. APLL was established in 2019 to educate students and the public about ecosystems, and for faculty and students to explore environmental processes and management at a developing prairie restoration site.

The site includes an initial one-acre pilot plot and a recently added seven-acre area, as well as an adjacent stream. The grounds have been instrumented with twelve groundwater wells, a weather station and eddy flux-tower, soil moisture probes, stream discharge gages, and two soil pits. Other equipment available for the site include a soil respiration meter, water quality probes and sondes, infiltrometers, small flumes, a soil camera, GNSS and Total Station, and thermal cameras. Over the last five years, the site has supported over forty undergraduate students, across multiple departments, working directly on management, monitoring, and research projects. Student activities have included seed gathering, thistle management, pollinator and plant distribution studies, groundwater-surface water-macroinvertebrate interactions, and soil health studies. APLL has also hosted a number of academic courses, such as Intro to Environmental Studies, Entomology, Hydrogeology, and Prairie Restoration, as well as community events, including the annual University of Iowa BioBlitz.

UI Paleontology Repository

The University of Iowa Paleontology Repository (UIPR) is a public research facility developed to support and fulfill the mission of teaching, research, and service of the School of Earth, Environment, and Sustainability and the university. The repository is an international resource that houses type specimens of fossils and makes them accessible to the scientific community as proscribed by the International Code of Zoological Nomenclature. It holds over one million specimens including more than 25,000 type and referred specimens and has been ranked among the top ten collections in North America in terms of size and significance. UIPR is a hub for experiential learning and graduate and faculty research support. Student opportunities include unpaid volunteering and internships, course projects, internally funded Office for Undergraduate Research fellowships or Hawkeye Experience Grants, and externally funded employment (e.g., by Iowa Science Foundation, Historical Research Development Program, U.S. Geological Survey, or National Science Foundation). Projects range from database cataloging, digitization, collection preservation, specimen preparation and conservation (e.g., mastodon bone conservation), and archive management to science education, public outreach, and web development.

Iowa Lakeside Laboratory

Students may have the opportunity to take courses at Iowa Lakeside Laboratory, a field station located on West Lake Okoboji in northwestern Iowa. Run cooperatively by the University of Iowa, Iowa State University, and the University of Northern Iowa, the laboratory offers courses at the undergraduate and graduate levels and provides excellent conditions for summer study in several disciplines. See Iowa Lakeside Laboratory (University College) in the catalog or visit the Lakeside Laboratory website.