

# Geographical and Sustainability Sciences

## Chair

- David A. Bennett

## Director, Undergraduate Studies

- Silvia Secchi

## Director, Graduate Studies

- Heather A. Sander

**Undergraduate majors:** geography (BA, BS); sustainability science (BS)

**Undergraduate minors:** geographic information science; geography

**Undergraduate certificate:** geographic information science

**Graduate degrees:** MA in geography; PhD in geography

**Faculty:** <https://clas.uiowa.edu/geography/people/faculty>

**Website:** <https://clas.uiowa.edu/geography/>

The importance of geographical and sustainability sciences is rooted in the complexity of social and environmental problems. We live on a dynamic planet, one that is constantly changing in response to human and natural processes that are highly interconnected. Geographers study the interactions between people and their environment to better understand these intricately related processes. At the University of Iowa, the department teaches and conducts research on human and natural systems and how interactions between these systems shape the world we live in. Cutting-edge technologies, such as geographic information systems (GIS), satellite imagery, and Global Positioning System (GPS), are used to help inform decision making at geographic scales and to analyze and visualize geographic processes.

The Department of Geographical and Sustainability Sciences offers undergraduate programs leading to a Bachelor of Arts or Bachelor of Science degree. Undergraduate students with a major in geography select from three tracks: environmental studies, geographic information science (GISci), and health and society. Each track requires introductory and upper-level geography and sustainability courses, as well as coursework from other departments. The department also offers the BS with a major in sustainability science. In addition, the department offers a minor in geography and a minor and certificate in geographic information science. It administers the interdisciplinary environmental policy and planning major and collaborates with other departments to offer the undergraduate Certificates in Social Science Analytics and Sustainability (see below). The department also participates in the university's internship program for students; see Career Center Programs (University College) in the catalog.

Geography and sustainability courses provide a background for many related professions including law, health care, planning (urban, regional, environmental, or transportation), conservation, sustainability, environmental or transportation engineering, and international business, and are commonly required for students preparing to teach at elementary and secondary levels.

Geographical and sustainability science students acquire valuable skills in computer-based geographic information systems (GIS) software used to investigate and solve many environmental and social problems. Opportunities for graduates with GIS training are growing rapidly in both private and governmental organizations. To gain related knowledge, get hands-on experience, and conduct independent research, students have access to the department's state-of-the-art Geographical Information Systems Instructional Lab (GISIL). For more information, see Facilities [p. ] in this section of the catalog.

The Department of Geographical and Sustainability Sciences offers Master of Arts and Doctor of Philosophy degrees. Graduate programs focus on studies that extend understanding of the environmental consequences of human decisions at local, regional, and global scales; processes that lead to geographic patterns in health and disease; technologies that help capture, represent, visualize, and analyze geographic patterns and processes; and processes that produce ecosystem services and sustainable futures. Within this broad domain, the department has strengths in environmental justice, environmental modeling, urban ecology, GIScience and GIS, land use/land cover change, and health geography. The mission of the graduate program is to empower graduates with the ability to conduct significant research. In addition to offering graduate degree programs, the department administers the geoinformatics subprogram of the graduate informatics certificate; see the Certificate in Informatics (Graduate College) in the catalog.

## GE CLAS Core Courses

The Department of Geographical and Sustainability Sciences offers a number of courses that students in other majors may use to satisfy the requirements of the College of Liberal Arts and Sciences GE CLAS Core. Look for courses with the prefix GEOG under "Natural Sciences," "Social Sciences," and "International and Global Issues" in the GE CLAS Core section of the catalog. Nonmajors also may choose geographical and sustainability sciences courses as electives.

## Related Certificates

### Social Science Analytics

The Department of Geographical and Sustainability Sciences collaborates with the departments of Political Science, Sociology and Criminology, and Statistics and Actuarial Science to offer the undergraduate program in social science analytics. The Department of Political Science administers the certificate; see the Certificate in Social Science Analytics in the catalog.

### Sustainability

The Department of Geographical and Sustainability Sciences collaborates with the departments of Biology, Earth and Environmental Science (College of Liberal Arts and Sciences), and Civil and Environmental Engineering (College of Engineering), as well as the School of Planning and Public Affairs (Graduate College) and the Tippie College of Business to offer the undergraduate program in sustainability. The certificate is administered by University College; see the Certificate in Sustainability in the catalog.