

Sustainable Development, MS

As per Iowa Board of Regents approval in Fall 2026, the MS in Sustainable Development has suspended admission to their program and is not currently accepting graduate students.

This interdisciplinary program equips students with higher-order learning skills as well as more practical, applied preparation for a variety of careers in sustainable development. The program's goal is to produce trainees with not only the fundamental and theoretical understanding expected from more traditional graduate degree recipients, but also the highly marketable, professional skills of someone graduating from an applied field of study.

Learning Outcomes

Graduates will be able to:

- analyze problems, conduct research, and make policy recommendations on topics related to the United Nations Sustainable Development Goals (UN SDGs), and anticipate the social, economic, political, technological, human health, and environmental impacts of their proposed interventions;
- communicate science effectively and responsively with diverse audiences, from technical peers to potential employers, policymakers, and the public, as well as communicate across modern forms of media intended for public engagement and dissemination of advances toward sustainable development goals; and
- demonstrate qualities essential to thrive across a range of careers, including interpersonal skills (e.g., collaboration, teamwork, and cultural competence), problem-solving abilities (e.g., inquiry, critical thinking, and creativity), and professional strengths (e.g., work ethic, responsible conduct, management, and leadership).

Requirements

The interdisciplinary Master of Science program in sustainable development requires a total of 30 s.h. of graduate credit to earn the degree without thesis. Students may choose to earn the degree with thesis. All students must maintain a UI cumulative grade-point average of at least 2.75.

With the approval of their faculty advisors, students develop a study plan that satisfies the requirements of their chosen curriculum. All students must successfully complete the core courses and take two analytical and methods courses plus elective coursework that focuses on one of the United Nations Sustainable Development Goals (UN SDGs).

The thesis option requires the completion of a project with a program partner (e.g., a community, nongovernmental organization, public agency, or private sector partner) and culminates in a required project portfolio. Students choosing the thesis option must register for SDG:6325 Thesis: Sustainable Development.

Some grants also require students to complete a responsible conduct of research or research ethics course (ENGR:7270 Engineering Ethics). Students should check with the program director to determine whether this requirement applies to them.

The MS in sustainable development requires the following coursework.

Core Courses

| Course # | Title | Hours |
|-------------------------------------|--|-------|
| All of these: | | |
| SDG:4000/ SEES:4000 | The United Nations Sustainable Development Goals: A Blueprint for a Sustainable Future | 3 |
| SDG:5100/ CEE:5151 | Building Future Leaders in Sustainable Development | 3 |
| SDG:5225/ CEE:5225/ GRAD:5225 | Communicating Data Through Stories | 3 |
| SDG:6000/ URP:6209 | Sustainable Communities Lab I | 3 |
| SDG:6210/ URP:6210 | Sustainable Communities Lab II | 3 |

Analytical and Methods Courses

Students choose two courses (at least 6 s.h.) offered by supporting programs. The courses provide students with training in analytical competencies necessary for sustainable development, including spatial analysis, statistics, informatics, data management, and decision analysis.

| Course # | Title | Hours |
|--------------------------------------|--|-------|
| Two of these: | | |
| CEE:5310/ IGPI:5311/URP:5310 | Informatics for Sustainable Systems | 3 |
| CEE:5460 | Water Quality and Flow | 3 |
| SEES:3050/ IGPI:3050 | Geospatial Programming | 3 |
| SEES:3500/ IGPI:3500 | Introduction to Environmental Remote Sensing | 3 |
| SEES:3520/ IGPI:3520 | GIS for Environmental Applications | 3 |
| SEES:3540/ IGPI:3540 | Geographic Visualization | 3 |
| SEES:4150/ GHS:4150/ IGPI:4150 | Health and Environment: GIS Applications | 3 |
| SEES:4520/ IGPI:4520 | GIS for Environmental Studies: Applications | 3 |
| SEES:4580/ IGPI:4581 | Introduction to Geographic Databases | 3 |
| URP:6200/ PBAF:6200 | Analytical Methods for Evidence-Based Policy | 3 |
| URP:6225/ PBAF:6225 | Applied GIS for Planning and Policy Making | 3 |
| URP:6258/ PBAF:6258 | Systems and Scenario Thinking | 3 |

Electives

Students complete at least 9 s.h. in elective coursework structured around the 2030 Sustainable Development Goals (SDGs). Students are required to focus on one SDG and complete three courses in that specialization area to provide depth in one area.

Students completing a thesis are permitted to apply a maximum of 3 s.h. of SDG:6325 Thesis: Sustainable Development toward elective requirements but are not required to do so.

Affordable and Clean Energy

| Course # | Title | Hours |
|--|---|-------|
| CBE:3405 | Green Chemical and Energy Technologies | 3 |
| CEE:5410 | Politics and Economics of the Food, Energy, Water Nexus | 3 |
| CHEM:4760 | Radiochemistry: Energy, Medicine, and the Environment | 3 |
| SEES:3780/ GHS:3780/ HIST:3240/ POLI:3431 | U.S. Energy Policy in Global Context | 3 |

Clean Water and Sanitation

| Course # | Title | Hours |
|-------------------|---|-------|
| CEE:4102 | Groundwater | 3 |
| CEE:4119 | Hydrology | 3 |
| CEE:4150/CBE:4420 | Environmental Chemistry | 3 |
| CEE:4385 | Water Scarcity in Rural India | 3 |
| CEE:5350 | Watershed Hydrology and Ecosystem Processes | 3 |
| CEE:5440 | Foundations of Environmental Chemistry and Microbiology | 3 |
| CEE:5460 | Water Quality and Flow | 3 |
| OEH:4240 | Global Environmental Health | 3 |

Climate Action

| Course # | Title | Hours |
|--------------------------------------|---|-------|
| CEE:4159/ CBE:4459/IGPI:4159 | Air Pollution Control Technology | 3 |
| CEE:4180 | Fundamentals of Atmospheric Science | 3 |
| SEES:3331 | Human Dimensions of Climate | 3 |
| SEES:4470 | Ecological Climatology | 3 |
| SEES:5800/ PBAF:5800/ URP:5800 | Environmental Policy: Theory and Practice | 3 |

Industry, Innovation, and Infrastructure

| Course # | Title | Hours |
|------------------------|--|-------|
| SEES:3420 | Sustainable and Green Building Concepts | 3 |
| URP:6202 | Land Use Planning: Law and Practice | 3 |
| URP:6266/ PBAF:6266 | Transportation, Urban Form, and Sustainability | 3 |

Responsible Consumption and Production

| Course # | Title | Hours |
|--------------------------------------|---|-------|
| CEE:4158/ OEH:4920 | Solid and Hazardous Wastes | 3 |
| GHS:3560 | Global Garbage and Global Health | 3 |
| SEES:3090/ GHS:3070 | Hungry Planet: Global Geographies of Food | 3 |
| SEES:4750/ URP:4750 | Environmental Impact Analysis | 3 |
| SEES:4770/ AFAM:4770/ GHS:4770 | Environmental Justice | 3 |
| URP:6256/ PBAF:6256 | Environmental Policy | 3 |

Sustainable Cities and Communities

| Course # | Title | Hours |
|------------------------|---------------------------------------|-------|
| CEE:4107/CBE:4410 | Sustainable Systems | 3 |
| SEES:3350 | Urban Ecology | 3 |
| SEES:3400 | Iowa Environmental Policy in Practice | 3 |
| SEES:3760/ GHS:3760 | Hazards and Society | 3 |
| SEES:4210 | Sustainability as a System Science | 3 |
| URP:6245/ PBAF:6245 | Growth Management | 3 |

The Biosphere (Life Below Water and Life on Land)

| Course # | Title | Hours |
|-----------|---|-------|
| CBE:3405 | Green Chemical and Energy Technologies | 3 |
| CEE:5350 | Watershed Hydrology and Ecosystem Processes | 3 |
| SEES:3020 | Earth Surface Processes | 3 |
| SEES:3340 | Ecosystem Services | 3 |
| SEES:4790 | Applied Environmental Geology | 3 |

Graduate Education

Graduate education prepares students with advanced knowledge and skills in specialized fields. At the University of Iowa, the Graduate College advocates for student-centered graduate education and supports equitable application of rules and policies across graduate programs.

Academics

University of Iowa graduate credentials are regulated by policies and requirements found in the Graduate College Manual of Rules and Regulations. This includes minimum grade-point average (GPA) requirements for academic standing and degree conferral. The Graduate College sets the minimum requirement. Individual graduate programs may establish higher GPA requirements.

Admissions

Graduate student applicants must meet admission requirements for both the Graduate College and the program to which they have applied. University of Iowa graduate admission requirements are published by the Graduate College and on the Graduate Admissions website.

Financial Support

Graduate students might be eligible for financial support. Several contingencies apply, including degree program and award type, satisfactory progress toward degree, satisfactory completion of all duties related to an appointment, and availability of funding. Graduate students should inquire directly with their program for more information about funding availability. The Graduate Student Employment Standards govern the employment relationship between the University of Iowa and all graduate teaching and research assistants in all matters except wages, which are covered by an existing collective bargaining agreement or the conditions of an applicable federal grant.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations and the Graduate College Admission Requirements on the Graduate College website and the sustainable development admission requirements.

Prospective students must hold a baccalaureate degree or the equivalent from an accredited institution with preparation appropriate for advanced study in the field of sustainability. Students with an undergraduate degree in natural and social sciences, technology, engineering, and/or mathematics will be well prepared to thrive in this interdisciplinary degree program. The program is intentionally designed to be inclusive for students coming from different and diverse academic backgrounds given the broad range of perspectives and expertise that are needed to move society closer to sustainable development goals.

Application materials must include:

- one- or two-page self-statement describing an applicant's interest in the sustainable development program, how formal and informal experiences make the applicant a good fit for the program, and how the applicant can uniquely contribute to the program; the statement should briefly discuss the career path(s) the applicant intends to pursue upon completion of the degree;
- a résumé; and
- three letters of recommendation.

Career Advancement

Graduates can obtain employment across a variety of sectors that intersect with sustainability and sustainable development, including jobs in public service at the local, state, or federal level in all areas related to the environment (e.g., watershed management coordinators, state natural resource departments, and sustainability directors for cities across the United States, analysts and scientists at governmental agencies such as the U.S. Department of Agriculture or the U.S. Environmental Protection Agency). Graduates may find employment in the private sector as consultants for industries seeking to improve the sustainability of their operations and processes (e.g.,

sustainable supply chain, waste management, minimization, and sustainability reporting, metric development, and management).

Graduates are better qualified for positions in the private sector including chief sustainability officer, director of sustainability, and sustainability project manager or coordinator. Opportunities also exist for careers in global development, working internationally with nongovernmental organizations (NGOs), and other organizations that strive to advance sustainable development goals worldwide, particularly in resource-constrained areas of the developing world. In addition, degree recipients are well-positioned to pursue additional graduate studies toward a PhD, MBA, or JD degree.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Sustainable Development, MS

This sample plan is currently being reviewed and will be added at a later date.