

ISAT 420. Environmental Analysis and Modeling	3
ISAT 426. Environmental Information Systems	3
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<sup>1</sup> Or equivalent by permission of director.

Note: ISAT 242 and CIS 221 substitute for CS 139; CIS 331 substitutes for CS 239; ISAT 340 and COB 204 substitute for CS 274; CIS 330 substitutes for CS 474.

## Environmental Management

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The interdisciplinary environmental management minor prepares students to apply the principles of environmental science and engineering to contemporary environmental problems in natural resource, industrial and public policy contexts. The minor is particularly suitable for students interested in professional careers in industrial environmental management, natural resources management, and environmental policy and planning. After fulfilling prerequisite requirements in biology and statistics, students pursue the minor by completing core courses and electives.

The environmental management minor strives to develop graduates who can apply science and technology to a broad range of practical environmental problems in a variety of professional settings. Students completing the minor are expected to be literate and competent in the sciences and mathematics underlying environmental problem-solving.

The environmental management minor requires a total of 29 credits, including prerequisite courses. The prerequisites must have been completed successfully before the student may be enrolled in the environmental management minor. Prerequisite courses may be fulfilled as part of the student's major. At least one elective course must be outside of the student's major.

Prerequisites	Credit Hours
BIO 124. Ecology and Evolution	4
Three hours from one of the following:	3
MATH 220. Elementary Statistics	
GISAT 251. Topics in Statistics for ISAT	
MATH 285. Data Analysis	
MATH 318. Introduction to Probability and Statistics	
MATH 307. Principles of Probability and Statistics	

Required Courses	Credit Hours
ISAT 320-321. Fundamentals of Environmental Science and Technology I-II	6
CHEM 221. Concepts of Organic Chemistry <sup>1</sup>	3
ISAT 302. Instrumentation and Measurement of the Environment	1
ENVT 400. Capstone Seminar	3
<b>Concentration</b>	
See descriptions below	9
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<sup>1</sup> May also be fulfilled by CHEM 341-342 sequence

### Concentrations

Students completing the environmental management minor must concentrate in one of the three areas described below: natural resources, industrial systems or environmental policy. Students should be aware that some of the listed courses may have additional prerequisites.

### Natural Resources

ISAT 424. Natural Resource Management

Choose two of the following courses:

- BIO 456. Landscape Ecology
- BIO 457. Biological Applications of Geographic Information Systems
- BIO 459. Freshwater Ecology
- BIO 465. Environmental Toxicology
- CHEM 354. Environmental Chemistry Field Camp
- CHEM/GEOL 355. Geochemistry of Natural Waters
- GEOG 340. Biogeography
- GEOG 341. Wilderness Techniques
- GEOG 342. Management and Protection of Natural Resources
- GEOG 343. Wildlife Management
- GEOL 340. Soils and Land Use
- ISAT 420. Environmental Analysis and Modeling
- ISAT 425. Environmental Hydrology
- ISAT 429. Sustainability: An Ecological Process

### Industrial Systems

ISAT 422. Environmental Management

Choose two of following courses:

- HTH 352. Environmental Health
- HTH 450. Epidemiology
- ISAT 423. Environmental Remediation
- ISAT 427. Industrial Hygiene
- ISAT 428. Industrial Ecology

### Environmental Policy

ISAT 422. Environmental Management or

ISAT 424. Natural Resource Management

ISAT 421. Environmental Policy and Regulation

One of the following courses:

- BIO 465. Environmental Toxicology
- ECON 305. Environmental Economics
- ECON 340. Economics of Natural Resources
- GEOG 325. Environmental Ethics
- GEOG/ISAT 429. Sustainability, An Ecological Process
- HIST 427. US Environmental History
- ISAT 420. Environmental Analysis and Modeling
- ISAT 423. Environmental Remediation
- ISAT 471. Transportation: Energy, Environment, and Society
- ISAT 472. Transportation: Air Quality Monitoring and Regulation
- SCOM 354. Communication, Environment, and Environmentalism
- SOCI 311. Sociology of the Environment

Other courses may apply to the concentration by permission of the coordinator.

## Environmental Science

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The environmental science minor is a multidisciplinary program that can be elected by any student. For example, students pursuing programs ranging from the physical, natural or social sciences, to education, journalism, or business, all benefit from this broadly based environmental curriculum. The program draws from courses that focus on the application of scientific concepts and principles to the understanding of environmental problems and their solutions. The minor draws upon the expertise of faculty in the areas of biology, chemistry, geography, physics, and integrated science and technology.