

Required Courses	Credit Hours
Choose two of the following:	6
CRJU 215. Introduction to Criminal Justice	
SOCI/JUST 325. Criminology	
PSYC 250. Introduction to Abnormal Psychology (Non PSYC majors only) or PSYC 335. Abnormal Psychology (PSYC majors)	
Choose five from the following: (Courses must be in at least two different academic disciplines)	15
PHIL 325. Crime, Punishment and Justice	
POSC 326. Civil Rights	
PSYC 250. Introduction to Abnormal Psychology (Non PSYC majors) or PSYC 335. Abnormal Psychology (PSYC majors)	
PSYC 312. Forensic Psychology	
CRJU 215. Introduction to Criminal Justice	
CRJU 328. Criminal Procedure	
CRJU 329. Criminal Investigation and Evidence	
JUST 327. Criminal Law	
JUST 323. Comparative Criminal Justice	
SCOM 231. Introduction to Alternative Dispute Resolution	
SCOM 331. Communication and Conflict	
SOCI 214. Social Deviance	
SOCI/JUST 325. Criminology	
SOCI 327. Juvenile Delinquency	
SOCI 330. Corrections	
Any one of the following ¹ :	
POSC 495. Internship in Political Science	
PSYC 495. Field Placement in Psychology	
PPA 496. Internship in Public Management	
SOCI 485. Internship in Sociology	
Any one of the following ² :	
PSYC 402. Independent Research in Psychology	
SOCI 490. Special Studies in Sociology	

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¹ Internships must be in a criminal justice-related field in order to receive credit for the criminal justice minor. Credit for only one internship will be given toward the minor.

² Readings and research courses must be specifically related to the field of criminal justice. Students may register for only one readings and research class for credit toward the minor.

Transfer Credit

A maximum of three courses may be transferred into the criminal justice minor from other institutions. No transfer credit will be given for any course offered in the minor at the 300 or 400 level.

Environmental Information Systems

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The interdisciplinary minor in environmental information systems is designed for undergraduates interested in using computer and information management technology to solve environmental problems and improve environmental stewardship. Some examples of environmental information systems are database systems to track and report hazardous materials in factories, decision support systems to facilitate risk analysis and management, GIS-based natural resource inventory systems, and automated business management systems to support and document environmental compliance.

The environmental information systems minor requires a minimum of 24 credit hours. Core courses are intended to ensure knowledge of the foundation disciplines. Electives should be chosen in consideration of the student's particular interests within the general field of environmental information systems. At least one elective course must be outside of the student's major. Students are advised to check prerequisites of listed courses.

Required Courses	Credit Hours
Core Courses	
CS 139. Algorithm Development ¹	4
CS 274. Introduction to Databases ¹	3
GEOG 366. Geographic Information Science ¹	3
ISAT 320. Fundamentals of Environmental Science and Technology I	3
ISAT 321. Fundamentals of Environmental Science and Technology II	3
Elective Courses	
CIS/MS 363. Simulation ¹	3
CIS/MS 483. Strategic Decision Making	3
CS 239. Advanced Computer Programming	4
CS 474. Database Design and Application	3
GEOG 230. Spatial Thinking and Problem Solving	3
GEOG 385. Principles of Remote Sensing	3
GEOG 466. GIS and Geographic Databases	3
ISAT 420. Environmental Analysis and Modeling	3
ISAT 426. Environmental Information Systems	3
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¹ Or equivalent by permission of director. Note that: ISAT 242 substitutes for CS 139; ISAT 340 substitutes for CS 274; ISAT 341 substitutes for CIS 363

Environmental Management

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The environmental management program prepares students to apply the principles of environmental science and engineering to contemporary environmental problems in both natural resource and industrial contexts. Students from a variety of majors can pursue an interdisciplinary minor in environmental management. After completing prerequisite foundation courses in science and math, students pursue the minor by completing core courses and a concentration, optionally culminating in a capstone thesis or project.

The environmental management program strives to develop graduates who are literate in and competent with the foundation sciences and mathematics underlying environmental science and engineering, and who can apply science and technology to a broad range of practical environmental problems.

Minor Requirements

The environmental management minor requires a total of 22 credits, excluding prerequisite cognate courses and an optional seminar and thesis. The cognate courses, or their equivalents, must have been completed successfully before the student may be enrolled in the environmental management minor. This may be accomplished as part of the student's major.

Cognate Courses	Credit Hours
BIO 114. Organisms	4
BIO 124. Ecology and Evolution	4
CHEM 131-132. General Chemistry I-II	6
MATH 235-236. Calculus I-II ¹	8
PHYS 240-250. University Physics I-II ²	6

¹MATH 231-232 may be substituted for MATH 235-236.²PHYS 125-126 or PHYS 140-150 may be substituted for PHYS 240-250

Core Courses	Credit Hours
ISAT 320-321. Fundamentals of Environmental Science and Technology I-II	6
ISAT 302. Instrumentation and Measurement of the Environment	1
ENVM 490. Environmental Management Seminar (optional)	2
ENVM 491-492. Senior Thesis/Project I-II (optional)	6
Concentration	
See descriptions below	15
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Concentrations

The environmental management minor concentrates in one of two areas, natural resources and industrial systems. Students should be aware that some of the listed courses may have additional prerequisites.

Natural Resources

ISAT 424. Natural Resource Management

Choose four of the following courses:

- BIO 451. Ecological Systems
- BIO 453. Microbial Ecology
- BIO 459. Freshwater Ecology
- CHEM 355. Geochemistry of Natural Waters
- ECON 340. Economics of Natural Resources
- GEOG 325. Environmental Ethics
- GEOG 327. Climatology
- GEOG 340. Biogeography
- GEOG 385. Principles of Remote Sensing
- GEOL 320. Meteorology
- GEOL 460. Geohydrology
- ISAT 420. Environmental Analysis and Modeling
- ISAT 421. Environmental Policy and Regulation
- ISAT 425. Environmental Hydrology
- ISAT 426. Environmental Information Systems
- ISAT/GEOG 429. Sustainability: An Ecological Perspective

Industrial Systems

ISAT 422. Environmental Management

Choose four of following courses:

- ECON 305. Environmental Economics
- HTH 352. Environmental Health
- HTH 450. Epidemiology
- ISAT 410. Sustainable Energy Development
- ISAT 421. Environmental Policy and Regulation
- ISAT 423. Environmental Remediation
- ISAT 426. Environmental Information Systems
- ISAT 427. Industrial Hygiene
- ISAT 428. Industrial Ecology

Environmental Studies

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The minimum requirement for a minor in Environmental Studies is 18 hours with a maximum of three courses from either discipline (natural or social science).

Required Courses	Credit Hours
Natural sciences (choose three from the following):	
BIO 124. Ecology and Evolution	4
BIO 451. Ecological Systems	4
BIO 452. Population Ecology	4
BIO 453. Microbial Ecology	4
BIO 459. Freshwater Ecology	4
GEOL 211. Introduction to Oceanography	3
GEOL 310. Management of Marine Resources	3
GEOL 320. Meteorology	3
GEOL 340. Soils and Land Use	3
GEOL 355. Geochemistry of Natural Waters	3
ISAT 320. Fundamentals in Environmental Science	3
ISAT 421. Environmental Policy and Regulation	3
CHEM 354. Environmental Chemistry Field Camp	3
PHYS 215. Energy and the Environment	3
Social science (choose three from the following):	
GANTH 196. Biological Anthropology	3
ANTH 355. Culture and Ecology	3
ECON 305. Environmental Economics	3
ECON 340. Economics of Natural Resources	3
GEOG 300. Population Geography	3
GEOG 310A-D. Environmental Issues	1-4
GEOG 325. Environmental Ethics	3
GEOG 327. Climatology	3
GEOG 340. Biogeography	3
GEOG 341. Wilderness Techniques	3
HTH 352. Environmental Health	3
PHIL 395. Philosophy and Scientific Inquiry	3
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A student may not receive dual credit for required courses that apply to both the major and minor. The program encourages students to pursue environmental research topics through participation in the individual research options of the various departments involved.

Family Studies

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The interdisciplinary minor in family studies is designed for undergraduates seeking enhancement of their major, desiring to increase understanding of self and relationships, and seeking to make a positive contribution to society. A substantial knowledge of family-related issues, family processes, policies, laws, services and the interrelationship of families and societies will enhance majors in many fields including anthropology, early and middle education, health sciences, management, nursing, psychology, social work and sociology. The minor encourages students to make connections between their major field and family studies, thereby adding value to the major.

The family studies minor requires a minimum of 18 credit hours with no more than six credit hours in the student's major.