

MAJOR IN ENVIRONMENTAL STUDIES AND ENVIRONMENTAL SCIENCE - ENVIRONMENTAL STUDIES CONCENTRATION

The Environmental Studies Concentration is for students who are interested in environmental planning, regulation and policy, environmental health and educating others about environmental issues. Students interested in environmental sustainability are also typically Environmental Studies students.

Along with completing the common required courses, students in the Environmental Studies Concentration complete additional units as they complete one of five tracks. The tracks are:

- Environmental Geographical Analysis
- Environmental Policy/Management
- Environmental Health
- Directed Environmental Studies
- Informal Environmental Education

All students in the program will complete the required courses establishing the scientific principles and mathematical skills needed as a foundation for more specialized study. They also will complete additional courses in the social sciences, an upper-level internship or research course and additional course work appropriate to the selected track.

Required Courses (37-39 units)

| Code | Title | Units |
|---------------------------------------------------|---------------------------------------------------------|-------|
| Natural Sciences | | |
| BIOL 201 | | 4 |
| BIOL 202 | INTRODUCTION TO ECOLOGY AND EVOLUTION | 4 |
| CHEM 104 | INTRODUCTION TO ENVIRONMENTAL CHEMISTRY | 4 |
| GEOL 121 | PHYSICAL GEOLOGY | 4 |
| Mathematics and Statistics | | |
| MATH 119 | PRE-CALCULUS | 3-4 |
| or MATH 211 | CALCULUS FOR APPLICATIONS | |
| Select one of the following: | | 3-4 |
| MATH 231 | BASIC STATISTICS | |
| MATH 237 | ELEMENTARY BIostatISTICS | |
| GEOG 375 | QUANTITATIVE METHODS IN GEOGRAPHY | |
| ECON 205 | STATISTICS FOR BUSINESS AND ECONOMICS I | |
| Additional Writing Course | | |
| ENGL 318 | TECHNICAL AND SCIENTIFIC WRITING | 3 |
| or GEOG 383 | NATURAL RESOURCES AND SOCIETY: A GEOGRAPHIC PERSPECTIVE | |
| Environmental Geography, Ethics and Health | | |
| GEOG 101 | PHYSICAL GEOGRAPHY | 3 |
| GEOG 410 | ENVIRONMENTAL GEOGRAPHY | 3 |
| HLTH 451 | INTRODUCTION TO ENVIRONMENTAL HEALTH | 3 |

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| PHIL 255 | ENVIRONMENTAL ETHICS | 3 |
| Total Units | | 37-39 |

Environmental Geographical Analysis Track (34–35 units)

| Code | Title | Units |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------|
| Required Courses | | |
| ECON 201 | MICROECONOMIC PRINCIPLES | 3 |
| ECON 375 | ENVIRONMENTAL ECONOMICS | 3 |
| or ECON 376 | NATURAL RESOURCE ECONOMICS | |
| POSC 103 | AMERICAN NATIONAL GOVERNMENT | 3 |
| or POSC 207 | STATE GOVERNMENT | |
| POSC 421 | POLITICS AND ENVIRONMENTAL POLICY | 3 |
| GEOG 221 | INTRODUCTION TO GEOSPATIAL TECHNOLOGY | 3 |
| GEOG 232 | INTRO TO GEOGRAPHIC INFORMATION SCIENCE | 4 |
| GEOG 416 | PRINCIPLES OF REMOTE SENSING AND DIGITAL IMAGE PROCESSING | 3 |
| GEOG 481 | ENVIRONMENTAL IMPACT ANALYSIS | 3 |
| Select one of the following: | | 3 |
| ENVS 482 | ENVIRONMENTAL RESEARCH | |
| ENVS 485 | ENVIRONMENTAL INTERNSHIP | |
| ENVS 491 | SENIOR SEMINAR | |
| Electives | | |
| Select two additional courses, one from any Environmental Studies track AND one from any Environmental Science and Studies track | | 6-7 |
| Total Units | | 34-35 |

Environmental Policy / Management Track (33–34 units)

| Code | Title | Units |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------|-------|
| Required Courses | | |
| ECON 201 | MICROECONOMIC PRINCIPLES | 3 |
| ECON 375 | ENVIRONMENTAL ECONOMICS | 3 |
| or ECON 376 | NATURAL RESOURCE ECONOMICS | |
| POSC 103 | AMERICAN NATIONAL GOVERNMENT | 3 |
| or POSC 207 | STATE GOVERNMENT | |
| POSC 421 | POLITICS AND ENVIRONMENTAL POLICY | 3 |
| Select one of the following: | | 3 |
| ENVS 482 | ENVIRONMENTAL RESEARCH | |
| ENVS 485 | ENVIRONMENTAL INTERNSHIP | |
| ENVS 491 | SENIOR SEMINAR | |
| Electives | | |
| Select five of the following (additional prerequisites may be required) | | 5-16 |
| BIOL 306 | HUMAN ECOLOGY AND SUSTAINABILITY | |
| ECON 326 | ECONOMIC DEVELOPMENT | |
| ECON 337 | PUBLIC FINANCE | |
| ECON 351 | URBAN ECONOMICS | |
| ECON 375 | ENVIRONMENTAL ECONOMICS (if not taken as part of required courses) | |
| ECON 376 | NATURAL RESOURCE ECONOMICS (if not taken as part of required courses) | |

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| ECON 470 | ADVANCED TOPICS IN ECONOMICS (with approval of program director) | |
| PHIL 319 | SCIENCE, TECHNOLOGY & VALUES | |
| POSC 304 | POLITICS OF METROPOLITAN GROWTH AND CHANGE | |
| POSC 305 | URBAN GOVERNMENT AND POLITICS | |
| POSC 470 | SPECIAL TOPICS IN POLITICAL SCIENCE (with approval of program director) | |
| POSC 481 | SEMINAR IN AMERICAN GOVERNMENT AND PUBLIC POLICY (requires approval of the director) | |
| POSC 482 | SEMINAR IN COMPARATIVE POLITICS (requires approval of the director) | |
| WMST 345 | WOMEN, ENVIRONMENT, AND HEALTH | |
| Select one additional elective from any of the Environmental Science and Studies track | | 3-4 |
| Total Units | | 33-35 |

Environmental Health Track (33–34 units)

| Code | Title | Units |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------|
| Required Courses | | |
| ECON 201 | MICROECONOMIC PRINCIPLES | 3 |
| ECON 375 | ENVIRONMENTAL ECONOMICS | 3 |
| or ECON 376 | NATURAL RESOURCE ECONOMICS | |
| POSC 103 | AMERICAN NATIONAL GOVERNMENT | 3 |
| or POSC 207 | STATE GOVERNMENT | |
| POSC 421 | POLITICS AND ENVIRONMENTAL POLICY | 3 |
| Select one of the following: | | 3 |
| ENVS 482 | ENVIRONMENTAL RESEARCH | |
| ENVS 485 | ENVIRONMENTAL INTERNSHIP | |
| ENVS 491 | SENIOR SEMINAR | |
| Electives | | |
| Select five of the following: | | 15-16 |
| GEOG 232 | INTRO TO GEOGRAPHIC INFORMATION SCIENCE | |
| GEOG 329 | MEDICAL GEOGRAPHY | |
| GEOG 385 | POPULATION GEOGRAPHY | |
| or SOCI 329 | DEMOGRAPHY | |
| GEOG 411 | STUDIES IN NATURAL HAZARDS | |
| GEOG 470 | SEMINAR: SELECTED TOPICS IN GEOGRAPHY | |
| HLTH 435 | INTRODUCTION TO EPIDEMIOLOGY | |
| POSC 481 | SEMINAR IN AMERICAN GOVERNMENT AND PUBLIC POLICY (requires approval of the director) | |
| WMST 345 | WOMEN, ENVIRONMENT, AND HEALTH | |
| Select one additional course from any Environmental Science and Studies track | | 3-4 |
| Total Units | | 33-35 |

Directed Environmental Studies Track (33–34 units)

All students selecting this track should, in consultation with their adviser, develop a coherent course of study that includes six electives.

| Code | Title | Units |
|-------------------------------|----------------------------------------------------------------------------------------------------|-------|
| Required Courses | | |
| ECON 201 | MICROECONOMIC PRINCIPLES | 3 |
| ECON 375 | ENVIRONMENTAL ECONOMICS | 3 |
| or ECON 376 | NATURAL RESOURCE ECONOMICS | |
| POSC 103 | AMERICAN NATIONAL GOVERNMENT | 3 |
| or POSC 207 | STATE GOVERNMENT | |
| POSC 421 | POLITICS AND ENVIRONMENTAL POLICY | 3 |
| Select one of the following: | | 3 |
| ENVS 482 | ENVIRONMENTAL RESEARCH | |
| ENVS 485 | ENVIRONMENTAL INTERNSHIP | |
| ENVS 491 | SENIOR SEMINAR | |
| Electives | | |
| Select five of the following: | | 15-16 |
| BIOL 306 | HUMAN ECOLOGY AND SUSTAINABILITY ¹ | |
| ECON 326 | ECONOMIC DEVELOPMENT | |
| ECON 337 | PUBLIC FINANCE | |
| ECON 351 | URBAN ECONOMICS | |
| ECON 375 | ENVIRONMENTAL ECONOMICS (if not selected above) | |
| ECON 376 | NATURAL RESOURCE ECONOMICS (if not selected above) | |
| ECON 470 | ADVANCED TOPICS IN ECONOMICS (requires approval of the director) | |
| ENVS 431 | SPECIAL TOPICS IN ENVIRONMENTAL SCIENCE AND STUDIES | |
| ENVS 432 | SPECIAL TOPICS IN ENVIRONMENTAL SCIENCE AND STUDIES | |
| ENVS 438 | SPECIAL TOPICS IN ENVIRONMENTAL SCIENCE AND STUDIES | |
| ENVS 471 | INDEPENDENT STUDY IN ENVIRONMENTAL SCIENCE AND STUDIES | |
| GEOG 221 | INTRODUCTION TO GEOSPATIAL TECHNOLOGY | |
| GEOG 232 | INTRO TO GEOGRAPHIC INFORMATION SCIENCE | |
| GEOG 317 | ENERGY RESOURCES | |
| GEOG 319 | SOILS AND VEGETATION | |
| GEOG 329 | MEDICAL GEOGRAPHY | |
| GEOG 383 | NATURAL RESOURCES AND SOCIETY: A GEOGRAPHIC PERSPECTIVE (if not taken as part of required courses) | |
| GEOG 385 | POPULATION GEOGRAPHY | |
| SOCI 329 | DEMOGRAPHY | |
| GEOG 393 | TRANSPORTATION AND INFRASTRUCTURE PLANNING | |
| GEOG 405 | COMPREHENSIVE PLANNING | |
| GEOG 411 | STUDIES IN NATURAL HAZARDS | |
| GEOG 414 | GIS APPLICATIONS | |
| GEOG 415 | GEOGRAPHICAL ASPECTS OF POLLUTION | |
| GEOG 416 | PRINCIPLES OF REMOTE SENSING AND DIGITAL IMAGE PROCESSING | |
| GEOG 470 | SEMINAR: SELECTED TOPICS IN GEOGRAPHY | |
| GEOG 481 | ENVIRONMENTAL IMPACT ANALYSIS | |
| GEOG 484 | LAND USE PLANNING | |

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| GEOG 495 | DIRECTED READINGS IN GEOGRAPHY (Requires approval of the director) | |
| GEOG 496 | INDEPENDENT STUDY IN GEOGRAPHY (Requires approval of the director) | |
| HLTH 435 | INTRODUCTION TO EPIDEMIOLOGY | |
| HLTH 491 | HEALTH DIRECTED READINGS (Requires approval of the director) | |
| PHIL 319 | SCIENCE, TECHNOLOGY & VALUES | |
| PHIL 380 | PHILOSOPHICAL TOPICS (Requires approval of the director) | |
| POSC 304 | POLITICS OF METROPOLITAN GROWTH AND CHANGE | |
| POSC 305 | URBAN GOVERNMENT AND POLITICS | |
| POSC 375 | PUBLIC ADMINISTRATION | |
| POSC 470 | SPECIAL TOPICS IN POLITICAL SCIENCE (requires approval of the director) | |
| POSC 481 | SEMINAR IN AMERICAN GOVERNMENT AND PUBLIC POLICY (Requires approval of the director) | |
| POSC 482 | SEMINAR IN COMPARATIVE POLITICS (Requires approval of the director) | |
| PSYC 341 | ENVIRONMENTAL PSYCHOLOGY | |
| WMST 345 | WOMEN, ENVIRONMENT, AND HEALTH | |
| Select one additional elective from any Environmental Science and Studies track | | 3-4 |
| Total Units | | 33-35 |

Informal Environmental Education (37–39 units)

| Code | Title | Units |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------|
| Required Courses | | |
| BIOL 205 | GENERAL BOTANY | 4 |
| BIOL 207 | GENERAL ZOOLOGY | 4 |
| BIOL 301 or BIOL 304 | FIELD AND NATURAL SCIENCE NATURAL HISTORY INTERPRETATION AND PUBLIC ENVIRONMENTAL EDUCATION | 3 |
| ENVS 485 | ENVIRONMENTAL INTERNSHIP | 3 |
| SCIE 380 | TEACHING SCIENCE IN THE SECONDARY SCHOOLS | 3 |
| Select one two-course sequence in one discipline consisting of one lower-level and one upper-level course: | | 6 |
| Sequence 1 | | |
| ECON 201 & ECON 375 | MICROECONOMIC PRINCIPLES and ENVIRONMENTAL ECONOMICS | |
| ECON 201 & ECON 376 | MICROECONOMIC PRINCIPLES and NATURAL RESOURCE ECONOMICS | |
| Sequence 2 | | |
| POSC 103 & POSC 421 | AMERICAN NATIONAL GOVERNMENT and POLITICS AND ENVIRONMENTAL POLICY | |
| POSC 207 & POSC 421 | STATE GOVERNMENT and POLITICS AND ENVIRONMENTAL POLICY | |
| Select one of the following: | | |
| BIOL 402 or BIOL 435 | GENERAL ECOLOGY PLANT ECOLOGY | |
| Electives | | |

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| Select three of the following: | | 10-12 |
| BIOL 306 | HUMAN ECOLOGY AND SUSTAINABILITY | |
| BIOL 353 | INVERT ZOOLOGY | |
| BIOL 432 | VASCULAR PLANT TAXONOMY | |
| BIOL 455 | FISH BIOLOGY | |
| BIOL 456 | ORNITHOLOGY | |
| BIOL 458 | MAMMALOLOGY | |
| BIOL 461 | ENTOMOLOGY | |
| BIOL 467 | HERPETOLOGY | |
| ENVS 382 | ENVIRONMENTAL EDUCATION AND SERVICE LEARNING IN THE TROPICS | |
| GEOG 319 | SOILS AND VEGETATION | |
| GEOL 305 | ENVIRONMENTAL GEOLOGY | |
| Total Units | | 33-35 |

Suggested Four-Year Plan

Based on course availability and student needs and preferences, the selected sequences will probably vary from those presented below. Students should consult with their adviser to make the most appropriate elective choices.

Freshman

| Term 1 | Units Term 2 | Units |
|-----------------------------|------------------------------|-------|
| BIOL 200 & 200L (Core 8) | 4 BIOL 202 | 4 |
| CHEM 104 (Core 7) | 4 GEOL 121 | 4 |
| MATH 119 or 211 (Core 3) | 4 ECON/GEOG/POSC Lower-Level | 3 |
| Core 1 (or Core 2) | 3 Core 2 (or Core 1) | 3 |
| | Core 13 | 3 |
| | 15 | 17 |

Sophomore

| Term 1 | Units Term 2 | Units |
|-------------------------------------|------------------------------|----------|
| ECON/GEOG/POSC Lower-Level | 3 ECON/GEOG/POSC Upper-Level | 3 |
| GEOG 101 | 3 PHIL 255 | 3 |
| Track Requirement | 3 Track Requirement | 3 |
| Select one of the following: | 3-4 Track Requirement | 3 |
| MATH 231 | Core 5 | 3 |
| MATH 237 | | |
| GEOG 375 | | |
| ECON 205 | | |
| Core 4 | 3 | |
| | 15-16 | 15 |

Junior

| Term 1 | Units Term 2 | Units |
|----------------------------|---------------------------------|-------|
| ECON/GEOG/POSC Upper-Level | 3 ENGL 318 or GEOG 383 (Core 9) | 3 |
| Track Requirement | 3 HLTH 451 | 3 |
| Track Requirement | 3 Track Requirement | 3 |
| Core 6 | 3 Track Requirement | 3 |
| Core 10 | 3 Core 11 | 3 |
| | 15 | 15 |

Senior

| Term 1 | Units Term 2 | Units |
|-------------------------------------|---------------------------------------------------|--------------|
| Select one of the following: | 3 Track Requirement (if needed) / Elective | 3 |
| ENVS 482 | Track Requirement (if needed) / Elective | 3 |
| ENVS 485 | Track Requirement (if needed) / Elective | 3 |
| ENVS 491 | Track Requirement (if needed) / Elective | 3 |
| GEOG 410 | 3 Core 14 | 3 |
| Track Requirement | 4 | |
| Track Requirement | 3 | |
| Core 12 | 3 | |
| | 16 | 15 |

Total Units 123-124

1. Apply their knowledge of the sciences and the scientific method to collect, analyze and interpret data that they have collected or to critique the methods used by others to collect, analyze and interpret data.
2. Identify the cultural, economic, geographic and/or political facets of environmental problems/situations and relate their understanding of these components to particular situations.
3. Relate the theoretical background materials presented in natural science, social science or humanities courses to specific current environmental problems/dilemmas.
4. Students will display competency in essential skills required of a college graduate by reading, interpreting, analyzing and evaluating written discourse.
5. Students will display competency in essential skills required of a college graduate by researching a topic, develop an argument and organize supporting details (ILTC)