The information science and environmental science combined major provides a foundational study of geological processes before focusing on environmental planning, environmental ethics, and sustainability. Because it examines the relationship between human decisions and actions to the environment, the program aligns with the orientation of information science, which utilizes an integrated, people-centered curriculum combining concepts and skills from computer science, behavioral and social science, and system design.

Program Requirements
Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

University-Wide Requirements
All undergraduate students are required to complete the University-Wide Requirements (http://catalog.northeastern.edu/undergraduate/university-academics/university-wide-requirements).

NUpath Requirements
All undergraduate students are required to complete the NUpath Requirements (http://catalog.northeastern.edu/undergraduate/university-academics/nupath).

Information Science Courses

Computer Science Overview
- CS 1200 Computer Science/Information Science Overview 1
- CS 1210 Computer Science/Information Science Overview 2: Co-op Preparation

Computer Science Fundamental Courses
A grade of C– or higher is required:
- CS 1800 Discrete Structures and Seminar for CS 1800
- or CS 1801 Recitation for CS 1800
- CS 2500 and CS 2501 Fundamentals of Computer Science 1 and Lab for CS 2500
- CS 2510 and CS 2511 Fundamentals of Computer Science 2 and Lab for CS 2510

Computer Science Required Courses
- CS 3200 Database Design
- CS 3500 Object-Oriented Design
- CS 4800 Algorithms and Data

Information Science Required Courses
- IS 2000 Principles of Information Science
- IS 3500 Information System Design and Development
- IS 4800 Empirical Research Methods (Integrative course)

Computer Science Elective Courses
With advisor approval, a directed study, project study, or appropriate graduate-level course may also be taken as a computer science elective.

Complete one of the following:
- CS 2500 or higher, except CS 5010
- IS 2000 or higher, except IS 4900
- DS 2000 or higher, except DS 4900

Environmental Science Courses

Required Environmental Science Courses
- ENVR 1101 Environmental Science 4
- ENVR 1200 Dynamic Earth 5
- and ENVR 1201 and Lab for ENVR 1200
- ENVR 5210 Environmental Planning 4
- or ENVR 5250 Geology and Land-Use Planning
- ENVR 4900 Earth and Environmental Science Capstone 1
- or ENVR 4997 Senior Thesis

Sustainability Focus Courses
- PHIL 1180 Environmental Ethics 4

Complete two of the following:
- ECON 3423 Environmental Economics
- ENVR 4515 Sustainable Development
- ENVR 5202 Environmental Science Field Seminar Abroad
- HIST 3412 Global Environmental History
- POLS 2390 Science, Technology, and Public Policy
- POLS 2395 Environmental Politics and Policy
- SOCL 1246 Environment and Society

Environmental Science Electives
Complete three of the following:
- ENVR 1202 History of Earth and Life
- and ENVR 1203 and Interpreting Earth History
- ENVR 3400 Field Geology
- ENVR 3410 Environmental Geochemistry
- ENVR 3418 Geophysics
- ENVR 4106 Coastal Processes
- and ENVR 4107 and Lab for ENVR 4106
- ENVR 4500 Applied Hydrogeology
- and ENVR 4501 and Lab for ENVR 4500
- ENVR 4504 Environmental Pollution
- ENVR 4505 Wetlands
- ENVR 5201 Geologic Field Seminar
- ENVR 5242 Ancient Marine Life
- and ENVR 5243 and Lab for ENVR 5242

Integrative Course
- ENVR 3300 and ENVR 3301 Geographic Information Systems and Lab for ENVR 3300

Supporting Courses

Mathematics and Statistics
- ECON 2350 Statistics 4
- MATH 1251 Calculus and Differential Equations for Biology 1
or MATH 1341  Calculus 1 for Science and Engineering

Chemistry
Complete one of the following: 5
- CHEM 1211  General Chemistry 1
  and CHEM 1212  and Lab for CHEM 1211
  and CHEM 1213  and Recitation for CHEM 1211
- CHEM 1151  General Chemistry for Engineers
  and CHEM 1152  and Lab for CHEM 1151
  and CHEM 1153  and Recitation for CHEM 1151

Economics
ECON 1116  Principles of Microeconomics 4

Computing and Social Issues
Complete one of the following: 4
- PHIL 1145  Technology and Human Values
- SOCL 1280  The 21st-Century Workplace
- SOCL 3485  Environment, Technology, and Society
- ANTH 3418  Wired/Unwired: Cybercultures and Technopolitics
- IA 5240  Cyberlaw: Privacy, Ethics, and Digital Rights
- INSH 2102  Bostonography: The City through Data, Texts, Maps, and Networks

Computer Science Writing Requirement
College Writing
ENGW 1111  First-Year Writing 4

Advanced Writing in the Disciplines
ENGW 3302  Advanced Writing in the Technical Professions 4
or ENGW 3315  Interdisciplinary Advanced Writing in the Disciplines

Required General Electives
Complete five general electives. 20

Major GPA Requirement
Minimum 2.000 GPA required in all CS and IS courses

NUpath Requirements Satisfied
- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Exploring Creative Expression and Innovation
- Understanding Societies and Institutions
- Analyzing and Using Data
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement
135 total semester hours required

Plan of Study
Sample Patterns:
Four Years, Two Co-ops in Summer 2/Fall

Year 1
Fall  Hours  Spring  Hours  Summer 1  Hours  Summer 2  Hours
CS 1200  1  CS 2510  5  IS 2000  4  Vacation
CS 1800  5  ENVR 1200  4  Elective  4
and CS 1802  5  ENVR 1201  (Lab if Offered)
CS 2500  5  CS 3200  4
and CS 2501
ENVR 1101  4  ECON 1116  4
ENGW 1111  4

19  17  8  0

Year 2
Fall  Hours  Spring  Hours  Summer 1  Hours  Summer 2  Hours
CS 3500  4  IS 3500  4  CS 4800  4  Co-op
PHIL 1180  4  CS elective  4  Elective  4
ENVR elective  4  ENVR 3300  and
ENVR 3301  5
CHEM 1211  5  ECON 2350  4
and CHEM 1212  4
and CHEM 1213
CS 1210  1

17  18  8  0

Year 3
Fall  Hours  Spring  Hours  Summer 1  Hours  Summer 2  Hours
Co-op  IS 4800  4  Elective  4  Co-op
ENVR elective  4  MATH 1251  or 1341
ENVR sustainability  4
ENVR 5210  or 5250  4

0  16  8  0

Year 4
Fall  Hours  Spring  Hours  Summer 1  Hours
Co-op  ENVR 4900  1  Elective  4
(ENVR 4997  (if short of credit hours))
ENVR elective  4
Computing and social issues  4  ENGW 3302  4
ENVR elective  4
Elective  4
## Total Hours: 136

### Five Years, Two Co-ops in Summer 2/Fall

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Total Hours: 136