

University of Indianapolis – Shaheen College of Arts & Sciences
2025-2026 Curriculum Guide for Environmental Science Majors (ENSC)
 Bachelor of Science

Environmental Science Core Courses (46 hours):

Freshman Year - Semester I

- **ESCI 105** Orientation to Earth & Environmental Science (1)
- **CHEM 150** General Chemistry I (3) and **CHEM 151** General Chemistry I Lab (1)
- **ENSC 101** Environmental Science (4)

Freshman Year - Semester II

- **CHEM 160** General Chemistry II (3) and **CHEM 161** General Chemistry II Lab (1)
- **ESCI 150** Physical Geology (3) **or**
- **ESCI 101** Geohazards and Natural Disasters (3) and **ESCI 151** Physical Geology B (1) ** † **or**
- **ESCI 100** Elements of Earth-Space Science (3) and **ESCI 151** Physical Geology B (1) ** †
- **ELEC XXX** Sustainability Core Elective (3-4)

Sophomore Year – Semester I

- **BIOL 165** Intro to Cell Biology (4)
- **MATH 190** Calculus I (4)

Sophomore Year - Semester II

- **PHYS 150** PHYS 150 General Physics and Lab I (4) **or**
- **PHYS 153** PHYS 153 General Physics and Lab I, Calculus-Based (4)
- **BIOL 265** Ecology (4)
- **ESCI 230** Introduction to Geographic Information Systems (2)
- **CHEM 230** Environmental Chemistry (4) [Alternate years, sophomore or junior]
- **ELEC XXX** Sustainability Core Elective (3-4)

Junior Year

- **BIOL 265** Ecology (4)
- **MATH 220** Elementary Statistics (4) **or**
- **MATH 245** Statistics for the Sciences (4) [SEM II, Alternate years]
- **ELEC XXX** Science Core Elective (3-5)
- **ELEC XXX** Science Core Elective (3-5)

Senior Year

- **ELEC XXX** Capstone (2-3)
- **ELEC XXX** Science Core Elective (3-5)
- **ELEC XXX** Science Core Elective (3-5)
- **ELEC XXX** Science Core Elective (3-5)

The Environmental Science major requires a total of 65 credit hours.

* Semester I only

** Semester II only

† **ESCI 151** Physical Geology B should be completed after **ESCI 100** or **ESCI 101**, not concurrently

Science Core Electives (4 classes, 14-18 hours)

Students must select a total of 4 courses from the following lists, in concert with their faculty advisor. A minimum of two 300-400 level courses are required and courses must represent at least 2 subjects. Most electives are offered once every other year.

- **BIOL 220** General Microbiology (4)
- **BIOL 225** Introduction to Genetics (4)
- **BIOL 245** Ornithology (4) [summer]
- **BIOL 260** Biodiversity (4)
- **BIOL 277** Entomology (4) *
- **BIOL 280** Evolutionary Biology (4)
- **BIOL 325** Advanced Genetics (4)
- **BIOL 350** Plant Biology (4) **
- **ESCI 211** Meteorology (3) **
- **ESCI 360** Earth Systems (4) **
- **ESCI 410** Survey of Hydrogeology (4) *
- **ESCI 420** Energy Resources (3) *
- **ESCI 425** Soil Morphology (4) **
- **ESCI 455** Applied Geophysics (5)
- **CHEM 250** Organic Chemistry 1 (3) and **CHEM 251** Organic Chemistry I Lab (2)
- **CHEM 310** Analytical Chemistry (5)
- **CHEM 400** Advanced Lab Techniques (4) **
- Approved Science Elective (3-4)
- Approved practicum or internship (3)

Sustainability Core Electives (2 courses, 6-8 hours)

Students must take a minimum of 6 elective credits to fulfill the Sustainability Core. Some courses may also count toward certain general education core requirements. Most electives are offered once every other year.

- **ANTH 200** Global Issues (3)
- **BIOL 250** Conservation Biology (3)
- **ECON 110** Microeconomics (3)
- **ECON 111** Macroeconomics (3)
- **ENGL 446** Environmental Literature (3)
- **ENGL 489** Writing for Nonprofit Organizations (3) **
- **IREL 352** International Political Economy (4) **
- **KINS 313** Introduction to Environmental Health (3)
- **PHIL 240** Social and Political Philosophy (3)
- **PSCI 323** Public Administration (4)
- **PSCI 356** Political Theory (4)
- **SOC 235** Environmental Sociology (3) *
- Approved Special Topics course (3-4)

Capstone (2-3 hours)

Students must take one of the following approved capstones

- **BIOL 490** Senior Research (2) and **BIOL 496** Capstone: Research Experience (1) **or**
BIOL 495 Capstone: Integrative Biology (3) **or**
- **ESCI 490** Senior Research (2) and **ESCI 496** Capstone: Research Experience (1) * **or**
ESCI 495 Capstone: Integrated Earth Science (3) * **or**
- **CHEM 375** Physical Chemistry Laboratory (2) **or**
- **SUST 450** Capstone Experience (3) **or**
- **PHYS 490** Senior Research (3)

NOTES:

- The Bachelor of Science Degree requires a minimum of 120 hours.
- See the General Education Core Guide for additional course requirements.
- A grade of C (2.0 on a 4.0 scale) or higher is required in all courses.
- Students must complete MATH-180 as a prerequisite to enrolling in MATH 190 and MATH-220 or MATH-245.
- Recommended General Education Courses include:
 - **ANTH 200** Global Problems (3) – Social Science
 - **IREL 100** World Geography (3) – Engagement in Local/Global Theoretical
 - **PHIL 201** Ethics (3) – Philosophy and Ethics

REMEMBER: If you have any questions about the Environmental Science Major requirements, contact a faculty advisor from the Physics & Earth Space Science Department (Dr. Nick Soltis: soltisn@uindy.edu, Martin Hall, Rm. 253 or Dr. Leah Courtland: 788-5014, courtlandl@uindy.edu, Martin Hall, Rm 265) or an academic advisor. Courses and requirements sometimes change so keep in contact with your advisor.