

*University of Indianapolis – Shaheen College of Arts & Sciences***2025-2026 Curriculum Guide for Earth-Space Science Majors (ESCI)**

Bachelor of Science

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)
- **MATH 190** Calculus and Analytic Geometry I (4)

Freshman Year - Semester II

- **ESCI 150** Physical Geology (3) ** **or**
- **ESCI 100** Elements of Earth-Space Science (3) **and** ESCI 151: Physical Geology B (1) ** † **or**
- **ESCI 101** Geohazards and Natural Disasters (3) **and** ESCI 151: Physical Geology B (1) **†
- **MATH 220** Elementary Statistics (4) **or**
- **MATH 245** Statistics for the Sciences (4) ** [Alternate years]

Sophomore Year - Semester I

- **ESCI 206** Time, Trilobites and Tyrannosaurus Rex (3) *
- **ESCI 207** Astronomy (3) *

Sophomore Year - Semester II

- **ESCI 230** Introduction to Geographic Information Systems (2) **
- **PHYS 153** General Physics I, Calculus Based (4) **or**
- **PHYS 150** General Physics I (4)

Sophomore / Junior Year -Semester II

- **ESCI 211** Meteorology (3) ** [Alternate years]
- **ESCI 360** Earth Systems (4) ** [Alternate years]

Junior Year - Semester I or II

- **CSCI 155** Introduction to Programming Using C++ (3)
- **ESCI XXX** Earth-Space Science Elective (300-400 level) (3)
- **ESCI XXX** Earth-Space Science Elective (300-400 level) (3)

Senior Year - Semester I

- **ESCI 490** Senior Research (2) and ESCI 496 Capstone: Research Experience (1) * **or**
- **ESCI 495** Capstone: Integrated Earth Science (3) *

Senior Year - Semester I or II

- **ESCI XXX** Earth-Space Science Elective (300-400 level) (3)
- **ESCI XXX** Earth-Space Science Elective (300-400 level) (3)

The Earth-Space Science Major requires a total of 54 credit hours.

The Bachelor of Science Degree requires a minimum of 120 hours.

See the General Education Core Guide for additional course requirements.

Earth-Space Science Electives

- **ESCI 382** Research Experience (0.5-6)
- **ESCI 401** Geoarchaeology (4) *
- **ESCI 403** Paleontology: Fossils (4) **
- **ESCI 410** Survey of Hydrogeology (4) *
- **ESCI 420** Energy Resources (3) *
- **ESCI 425** Soil Morphology (4) **
- **ESCI 430** Topics in Earth-Space Sciences (1-4)
- **ESCI 440** Volcanology (4) **
- **ESCI 450** Physics of the Solid Earth (4) *
- **ESCI 455** Applied Geophysics (5) *
- **ESCI 490** Senior Research (1-3)

Geophysics Concentration

- **PHYS 163** General Physics II, Calculus Based (4) **or**
- **PHYS 160** General Physics II (4)
- **ESCI 450** Physics of the Solid Earth (4) *
- **ESCI 455** Applied Geophysics (5) *
- **ESCI 410** Survey of Hydrogeology (4) *

* Semester I only

** Semester II only

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

NOTES:

- Depending on a student's interests and skills, other courses may be required for certain careers or selected graduate schools. For instance, many graduate programs in Geology require a Geology field camp during the summer. For admission to graduate programs, additional courses are highly recommended and especially suitable in the senior year: MATH 191; CHEM 160/161, 230, 250, PHYS 160 or 163.
- It is recommended that students discuss additional and/or potential subdisciplines with your faculty advisor.
- A grade of C- (1.7 on a 4.0 scale) or higher is required in each course

The following courses are recommended by the Physics and Earth-Space Science department to satisfy the general education core requirements:

Philosophy and Ethics (take one of the following):

- **PHIL 110** Critical Thinking (3)
- **PHIL 201** Ethics (3)
- **PHIL 210** Philosophy, Science and Values (3)

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