

University of Indianapolis – Shaheen College of Arts & Sciences & School of Education

2025-2026 Curriculum Guide for Earth-Space Science Majors (ESCI) & Secondary Education (SCED)

Bachelor of Science/ Bachelor of Arts

Semester I, Freshman Year (13 credits)

- **ESCI 105** Orientation to Earth & Environmental Science (1)
- **EDUC 100** Explorations in Education (3)
- **SCED 103** Clinical Experience: Teaching and Learning (1)
- **CHEM 150** General Chemistry I (3) and CHEM 151 General Chemistry I Lab (1)
- **MATH 190** Calculus and Analytic Geometry I (4)

Semester II, Freshman Year (10-11 credits)

- **COMM 201** Classroom Communication (3)
- **ESCI 150**** Physical Geology (3) **or**
ESCI 100 Introduction to Earth 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]

Semester I, Sophomore Year (9.5 credits)

- **EDUC 203** Developing Human Potential (3)
- **EDUC 204** Clinical Experience: Developing Human Potential (.5)
- **ESCI 206*** Time, Trilobites and Tyrannosaurus Rex (3)
- **ESCI 207*** Astronomy (3)

Semester II, Sophomore Year (15 credits)

- **SCED 274**** Literacy Development and Assessment (2)
- **SCED 275**** Clinical Experience: Literacy Development and Assessment (1)
- **EDUC 290** Teaching in a Diverse Society (3)
- **PHYS 153** General Physics I, Calculus Based (4) **or**
- **PHYS 150** General Physics I (4)
- **ESCI 211**** Meteorology (3) [Alternate years, sophomore or junior]
- **ESCI 230**** Introduction to Geographic Information Systems (2)

NOTE: Advancement through Gateway #1 for Admission to Teacher Candidacy, including EDUC 290, SCED 102, 103, 210, 211, 274, 275, and COMM 201 (see application process and requirement – School of Education)

Semester I, Junior Year (14 credits) 320/344/345 courses are co-requisites

- **SCED 320*** Content Area Multimodal Literacies (3)
- **SCED 344*** Pre-Residency in MS/HS (1)
- **SCED 345*** Special Needs in the Secondary Classroom (3)
- **CSCI 155** Introduction to Programming Using C++ (3)
- **ESCI 410*** Survey of Hydrogeology (4) [Alternate years, junior or senior]

Semester II, Junior Year (15-16 credits) 362/363 are co-requisites

- **SCED 362**** Content Area Pedagogy (3)
- **SCED 363**** Pre-Residency Content Area Pedagogy (2)
- **SCED 408***+** School, Teaching & Language Learning in a Global Society (2)
- **SCED 409***+** Clinical Exp. In Learning in a Global Society (1) (co-req SCED 408)
- **ESCI 360**** Earth Systems (4) [Alternate years, sophomore or junior]
- **ESCI XXX** Earth-Space Science Elective (300-400 level) (3-4)

Semester I, Senior Year (12.5–14.5 credits) 414/415 courses are co-requisites

- SCED 414* Data Literacy for Learner Advocacy & Achievement (3)
- SCED 415* Clinical Experience in Data Literacy (.5)
- ESCI XXX Earth-Space Science Elective (300-400 level) (3-4)
- ESCI 420* Energy Resources (3) [Alternate years, junior or senior]
- ESCI 490 Senior Research (2) and ESCI 496* Capstone: Research Experience (1) **or**
- ESCI 495* Capstone: Integrated Earth Science (3)

NOTE: Advancement through Gateway #2 for Admission to student teaching (see application process and requirement – School of Education)

Semester II, Senior Year (10.5 credits)

- SCED 471 Residency in the Middle School (5)
- SCED 472 Residency in the High School (5)
- SCED 492 Exit from the Program Portfolio (.5)

NOTE: Candidates pursuing a minor in MI or TELL will enroll in an alternative Residency course (5)

* Fall only

** Spring only

+ (may offer spring term/SUM I)

Earth-Space Science Electives [offered once every other year]

- ESCI 382 Research Experience (0.5-6)
- ESCI 401* Geoarchaeology (4)
- ESCI 403** Paleontology: Fossils (4)
- 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)

Note 1: Elective courses are offered once every other year.

Note 2: Selected additional courses are highly recommended: MATH 191; CHEM 160, 230, 250, PHYS 160 or 163.

Note 5: A grade of C (2.0 on a 4.0 scale) or higher is required for each ESCI course

Note 6: A grade of C- (1.7 on a 4.0 scale) or higher is required for all other major courses

Note 7: The Earth-Space Science major requires a total of 54 credit hours.

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)

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

See the General Education Core Guide for additional course requirements.

REMEMBER: If you have any questions about the Secondary Education Program and its requirements, contact Jody Rose, Candidate & Gateway Coordinator (791-5721, jrose@uindy.edu), or visit her in the School of Education office. If you have any questions about the Earth-Space Science Major requirements, contact Dr. Leah Courtland, Chair, Physics and Earth-Space Science (788-5014, courtlandl@uindy.edu, Martin Hall, Rm 265)