# 2020-2021 Curriculum Guide for Earth-Space Science Majors (ESCI)

## Bachelor of Science

### Freshman Year

**Semester I or II**
- **CHEM 150** 150 General Chemistry I (3) and **CHEM 151** General Chemistry I Lab (1)
- **MATH 190** 190 Calculus and Analytic Geometry I (4)

**Semester II**
- **ESCI 150** 150 Physical Geology (3) or
- **ESCI 100** 100 Introduction to Earth Science (3) and **ESCI 151**: Physical Geology B (1) or
- **ESCI 101** 101 Geohazards and Natural Disasters (3) and **ESCI 151**: Physical Geology B (1)

- Spring Term, taken after Semester II of freshman year or Semester II of sophomore year.

### Sophomore Year

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

**Semester I or II**
- **PHYS 153** 153 General Physics I, Calculus Based (4) or
- **PHYS 150** 150 General Physics I (4)

**Semester II**
- **ESCI 230** 230 Introduction to Geographic Information Systems (2)
- **MATH 220** 220 Elementary Statistics (4) or
- **MATH 245** 245 Statistics for the Sciences (4)

### Junior Year

**Semester I**
- **ESCI xxx** xxx Earth-Space Science Elective (300-400 level) (3)

**Semester I or II**
- **CSCI 152** 152 Pascal Programming (3) or
- **CSCI 155** 155 Introduction to Programming Using C++ (3)

**Semester II**
- **ESCI 211** 211 Meteorology (3) [Alternate years, junior or senior]

### Senior Year

**Semester I or II**
- **ESCI ELEC** Earth-Space Science Elective (300-400 level) (3)
- **ESCI 490** 490 Senior Research (2) and **ESCI 496 Capstone**: Research Experience (1) or
- **ESCI 495** 495 Capstone: Integrated Earth Science (3)

**Earth-Space Science Electives**
- **ESCI 382** Research Experience (0.5-6)
- **ESCI 401** Geoarcheology (4)
- **ESCI 403** Paleontology: Fossils (3)
- **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 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)

Note 1: A minor is recommended.
Note 2: Selected additional courses are highly recommended: MATH 190, 191; CHEM 160, 230, 250, PHYS 160 or 163.
Note 3: CSCI 130 or COMP 150, microcomputer applications (3) or CSCI 132, Software Applications for the Sciences is highly recommended in the freshman year if computer skills and confidence are weak.
Note 4: Depending on 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.
Note 5: A grade of C- (1.7 on a 4.0 scale) or higher is required in each course
Note 6: The Earth-Space Science major requires a total of 25.5 Earth-Space Science 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 Earth-Space Science Major requirements, contact a faculty advisor from the Physics & Earth-Space Sciences Department (Dr. Steve Spicklemire: 788-3313) or The Center for Advising and Student Achievement (788-2057, Schwitzer Student Center, Room 206). Courses and requirements sometimes change so keep in contact with your advisor.