

## Requirements for Geophysics Sub-plan: 2022-23 Catalog Year

### SECOND LANGUAGE REQUIREMENT

(Requirement can be met with proficiency exam):

|            |  |   |
|------------|--|---|
| Semester 1 |  | 4 |
| Semester 2 | (completion with a grade of C or higher) | 4 |

### GENERAL EDUCATION

#### GE: Introduction Course

|          |   |   |
|----------|---|---|
| UNIV 101 | Introduction to General Ed (Waived for new transfer students) | 1 |
|----------|---|---|

#### GE: Exploring Perspectives (12 units):

|                   |  |   |
|-------------------|--|---|
| Artist            |  | 3 |
| Humanist          |  | 3 |
| Natural Scientist | Can be fulfilled with Chem 151 or GEOS 251 | 3 |
| Social Scientist  |  | 3 |

#### GE: Building Connections (9 units):

|  |  |   |
|--|--|---|
|  |  | 3 |
|  |  | 3 |
|  |  | 3 |

#### GE: Capstone (3 units):

|          |  |   |
|----------|--|---|
| UNIV 301 | General Ed Capstone (Waived for new transfer students) | 3 |
|----------|--|---|

### ENGLISH (6 units):

|          |   |   |
|----------|---|---|
| ENGL 101 | English Composition                                     | 3 |
| ENGL 102 | English Composition (grade of B or higher to meet MCWA) | 3 |

or

|           |                     |   |
|-----------|---------------------|---|
| ENGL 109H | English Composition | 3 |
|-----------|---------------------|---|

or

|          |  |   |
|----------|--|---|
| ENGL 106 | English Composition for ESL Students                                     | 3 |
| ENGL 107 | English Composition for ESL Students                                     | 3 |
| ENGL 108 | English Composition for ESL Students (grade of B or higher to meet MCWA) | 3 |

### MATHEMATICS (19 units; fulfills Math Minor requirements):

|                         |  |     |
|-------------------------|--|-----|
| MATH 122A&B or MATH 125 | Calculus I (P: MATH 120R, or MATH 112 plus MATH 111, with a grade of C or higher, or appropriate math placement) | 3-5 |
| MATH 129                | Calculus II (P: MATH 122B or MATH 125 with grade of C or higher)   | 3   |
| MATH 223                | Vector Calculus (P: MATH 129)  | 4   |
| MATH 254                | Differential Equations (P: MATH 129 or 223)  | 3   |
| MATH 313                | Introduction to Linear Algebra (MATH 129, MATH 223, MATH 243, MATH 254, or CSC 245)                              | 3   |
| MATH 322                | Mathematical Analysis for Engineers (P: MATH 254)  | 3   |

### CHEMISTRY (4 units):

|          |  |   |
|----------|--|---|
| CHEM 151 | General Chemistry I (P: MATH 112 or appropriate math placement)      | 4 |
| or       |  |   |
| CHEM 141 | Introductory Chemistry I (P: MATH 112 or appropriate math placement) | 3 |
| CHEM 143 | Introductory Laboratory I (CR: CHEM 141)                             | 1 |

### PHYSICS (7 units):

|          |   |   |
|----------|---|---|
| PHYS 141 | Introductory Mechanics (P: MATH 122B or MATH 125; CR: MATH 129)                                 | 4 |
| PHYS 142 | Introductory Optics and Thermodynamics (P: PHYS 141 and MATH 129 or appropriate math placement) | 3 |

### COMMON CORE (Complete 5 courses):

|  |  |   |
|--|--|---|
| GEOS 251                                       | Physical Geology (Fall and Spring)   | 4 |
| Computer Ap:<br>GEOS 280<br>or<br>GEOS 285     | MatLab (P: GEOS 251) (Fall)<br>or<br>Accessible Earth (P: GEOS 251) (Spring)   | 3 |
| GEOS 300                                       | Earth Surface Processes (P: GEOS 251, Calculus I proficiency recommended) (Spring)   | 3 |
| GEOS 302                                       | Principles Stratigraphy and Sedimentation (P: GEOS 251, CHEM 151, PHYS 102 or 141) (Fall) (Writing Proficiency course; MCWA alternative)   | 4 |
| Capstone Experience:<br>Field Camp (in-person) | GEOS 414 Geology Field Camp (P: GEOS 251, 302, 304, 306, 356) or<br><br>or<br>GEOS 405 Accessible Earth (P: GEOS 251, GEOS 302 recommended) (both available in Summer Session)<br><br>or<br>Advisor-approved, in-person, equivalent transfer Field Camp(s) | 6 |

### GEOPHYSICS CORE (Complete all 8 courses):

|           |   |   |
|-----------|---|---|
| GEOS 304  | Structural Geology (P: GEOS 251, PHYS 102 or PHYS 141) (Spring)                     | 4 |
| GEOS 306  | Mineralogy (P: GEOS 251, CHEM 151) (Fall)   | 3 |
| GEOS 308  | Paleontology (P: GEOS 251) (Spring)   | 3 |
| GEOS 322  | Intro to Geophysics (P: GEOS 251; P: MATH 122B or 125) (Fall)                       | 3 |
| GEOS 356  | Petrology (P: GEOS 306, MATH 122B, PHYS 102 or 141) (Spring)                        | 4 |
| GEOS 419  | Physics of the Earth (P: MATH 254) (Spring – even years [Spring 2024, Spring 2026]) | 3 |
| GEOS 432  | Intro to Seismology (P: MATH 254) (Fall)  | 3 |
| GEOS 434A | Intro to Exploration Seismology (P: MATH 129) (Fall)                                | 3 |

### GEOPHYSICS ADVISOR APPROVED EMPHASIS COURSES (9 units)

|  |
|--|
| Majority of courses should consist of GEOS 300 or 400 level  |
| Full list of approved classes on advisement report   |
| No more than 3 units of Preceptor (GEOS 397A)  |
| Up to 6-units of a combination of Internship, Preceptorship (3-unit max), and/or Research allowed. |
| No double-dipping Emphasis credits with Capstone or other GEOS BS requirements.                    |

\*UA BS degrees require a minimum of 120 units for graduation. This sub-plan totals a minimum of 106 units. Additional units may be required to meet the BS minimum requirement of 120 units.

### Geophysics Advisor Approved Emphasis Courses

ASTR 403, ASTR 442, ENVS 330, GEN 330, GEN 416, GEN 448, GEOG 330, GEOG 403, GEOG 417, GEOG 419, GEOG 420, GEOS 240, GEOS 255, GEOS 260, GEOS 270, GEOS 330, GEOS 400, GEOS 403, GEOS 411, GEOS 416, GEOS 417, GEOS 423, GEOS 424A, GEOS 425, GEOS 427, GEOS 440, GEOS 442, GEOS 446, GEOS 448, GEOS 469, GEOS 477, GEOS 479, GEOS 482, GEOS 567, GEOS 568, GIST 330, GIST 417, GIST 420, HWRS 411, HWRS 431, MATH 363, PHYS 403, PTYS 403, PTYS 407, PTYS 411, PTYS 442, PTYS 567, RNR 403, RNR 417, RNR 419, RNR 420, WSM 330, Approved Transfer Course