# Requirements for ESS B.S. Degree – Geoscience Option

**Department of Earth and Space Sciences**  
www.ess.washington.edu

## General Education Requirements: College of the Environment (CoEnv)

- **1. English Composition (C)**  
  5cr
- **2. Additional Writing**  
  10cr
- **3. Quantitative & Symbolic Reasoning (Q/SR)**  
  10cr
- **4. Diversity (DIV)**  
  3cr
- **5. Areas of Knowledge (AoK)**
  - Visual, Literary, and Performing Arts (VLPA)  
    10cr
  - Individuals and Societies (I&S)  
    20cr
  - The Natural World (NW)  
    20cr
  - Additional AoKs  
    10cr

**Notes:** 10 credits of I&S and 10 credits of NW must be outside the major (i.e., not a major prefix and no overlap with major)

## Major Requirements: Department of Earth and Space Sciences (ESS)

### Supporting Science Courses (32-35 credits)

- CHEM 142  
  5cr
- MATH 124, 125  
  10cr
- **One of MATH 126, ESS 310, STAT 290, STAT 311, STAT 390, or QSCI 381**  
  4-5cr
- PHYS 114/117 or 121; 115/118 or 122  
  10cr
- **And one from this list:**  
  - AMATH 351  
  - MATH 307  
  - MATH 308  
  - PHYS 116/119 or 123  
  - CHEM 152  
  3-5cr

## ESS Core Courses (44-46 credits)

### Prerequisites

#### 1. One course required.
- **ESS 201 Earth’s Climate System**  
  SPR  
  MATH 124, 134, or QSCI 91  
  3cr
- **ESS 202 Earthquakes**  
  WIN  
  None  
  5cr
- **ESS 203 Glaciers and Global Change**  
  WIN  
  None  
  5cr
- **ESS 204 Mass Extinctions**  
  SPR  
  ESS 100  
  3-4cr
- **ESS 205 Access to Space**  
  SPR  
  None  
  5cr
- **ESS 230 Rivers and Beaches**  
  AUT  
  None  
  3-5cr

#### 2. Three courses required.*
- **ESS 211 Physical Processes of Earth**  
  AUT  
  MATH 124, 134, or QSCI 291; PHYS 114/117 or 121  
  5cr
- **ESS 212 Plate Tectonics & Materials of Earth**  
  WIN  
  CHEM 110, passing score on Gen Chem placement exam, or 1 on Chem AP test. Pre-calculus recommended.  
  5cr
- **ESS 213 Evolution of Earth**  
  SPR  
  ESS 210, 211, or 212  
  5cr

#### 3. Two courses required.*
- **ESS 311 Geomechanics**  
  WIN  
  MATH 125, 135, or QSCI 292; PHYS 114/117 or 121; ESS 211; MATH 126, 136, or STAT 390; qSCI 381; CHEM 123 recommended  
  5cr
- **ESS 312 Earth Materials**  
  SPR  
  CHEM 142 or 145; ESS 212; ESS 211 and 213 recommended  
  5cr
- **ESS 313 Geobiology**  
  AUT  
  CHEM 142 or 145; ESS 213  
  5cr
- **ESS 314 Geophysics**  
  AUT  
  MATH 126, 136, or ESS 310; PHYS 115/118 or 122  
  5cr
- **ESS 316 Geochemistry**  
  SPR  
  CHEM 142 or 145; MATH 125, 135, or QSCI 292; ESS 212  
  5cr

#### 4. One course required
- **ESS 400 Field Geology**  
  SUM  
  ESS 211-213; one of ESS 311-314 or 316  
  12cr
- **ESS 401 Field Geology with GIS**  
  SUM  
  ESS 211-213; one of ESS 311-314 or 316; ESS 420  
  12cr

*Note: ESS 211, 212, 213, 311, 312, and 313 require previous coursework in ESS 201 and 202.*

*Note: ESS 400 and 401 require previous coursework in ESS 211, 212, and 213.*

_Last updated: 4/29/2020_
### ESS Elective Courses (18 credits)

ESS courses numbered 402 to 488 (excluding ESS 418) or approved ESS 490 courses (see Time Schedule). Extra course from ESS 311-314, 316 not required above may also apply here.

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*2.0 grade required in prerequisites for all ESS core courses. See individual course prerequisites for additional grade requirements.  
Note: Minimum 2.00 cumulative GPA in all ESS-prefixed courses required. Grade requirements for students who declared the ESS major prior to Summer 2018 may differ; please see ESS Advising if you have any questions.