

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

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

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

		<i>Notes</i>
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	_____

**Note:** 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 (36-40 credits)

		<i>Notes</i>
CHEM 142	5cr	_____
MATH 124; 125; 126 (or ESS 310)	15cr	_____
PHYS 114/117 or 121; 115/118 or 122	10cr	_____
And <b>two</b> from this list:	6-10cr	_____
CHEM 152; AMATH 351 or MATH 307; MATH 308; PHYS 116/119 or 123; STAT 290, 311, or 390		

#### ESS Core Courses (53-56 credits)

		<b>Prerequisites</b>		
<b>1. Three</b> 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 the 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	_____
<b>2. Three</b> courses required.*				
ESS 311 Geomechanics	WIN	MATH 125, 135, or QSCI 292; PHYS 114/117 or 121; ESS 211; MATLAB experience recommended	5cr	_____
ESS 312 Earth Materials	SPR	CHEM 142 or 145; ESS 212; ESS 211 and 213 recommended	5cr	_____
ESS 316 Geochemistry	SPR	CHEM 142 or 145; MATH 125, 135 or QSCI 292; ESS 212	5cr	_____
<b>3. One</b> course required.				
ESS 439 Petrology of Igneous Rocks	<i>varies</i>	ESS 316	5cr	_____
ESS 441 Petrology/Petrography of Sedimentary Rocks	<i>varies</i>	ESS 316	5cr	_____
ESS 455 Stratigraphy	WIN	ESS 213	4cr	_____
ESS 456 Depositional Environments	SPR	ESS 213; recommended: ESS 311 and either ESS 326, 425, 426, or 427	4cr	_____
ESS 463 Structure and Tectonics	WIN	ESS 211; 212; and 213	5cr	_____
<b>4. One</b> course required:				
ESS 425 Tectonic Geomorphology	WIN	ESS 311, 326, 426, or 427	3cr	_____
ESS 426 Fluvial Geomorphology	SPR	ESS 311 or 326	5cr	_____
ESS 427 Hillslope Geomorphology	AUT	ESS 311 or 326	5cr	_____
ESS 447 Engineering Geology	WIN	ESS 210, 211, or 212; either ESS 311, 411, 463, or CEE 220	4cr	_____
ESS 454 Hydrogeology	SPR	Either ESS 311 or 314; recommended: either MATH 126, MATH 136, or ESS 310; a background in quantitative analysis using spreadsheets or MATLAB	4cr	_____
ESS 457 Environmental Geochemistry	WN	ESS 316, CHEM 152, or CHEM 155	4cr	_____
ESS 482 Environmental Geochemistry Lab	SPR	ESS 316 or ESS 457	4cr	_____
<b>5. One</b> 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	_____
<b>6. ESS 418</b> Geoscience Communication	WIN, SPR	Two of ESS 201, 205, or ESS 211-213	4cr	_____

#### ESS Elective Courses (10 credits)

ESS courses numbered 402 to 488 (excluding ESS 418) or approved ESS 490 courses (see Time Schedule). ESS 313- 314 may also apply here.

ESS \_\_\_\_\_ Credits      ESS \_\_\_\_\_ Credits      ESS \_\_\_\_\_ Credits

\*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.

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