

Major Requirements for **ESS B.A. Degree**

Department of Earth and Space Sciences

www.ess.washington.edu

Supporting Science (30 credits)	Credits	Notes
CHEM 142	5cr	_____
QSCI 291 or MATH 124	5cr	_____
QSCI 292 or MATH 125	5cr	_____
PHYS 114/117 or 121	5cr	_____
And 10 credits of science and math electives from this list:	15cr	_____
AMATH 301		GEOG 360
ASTR 101, 102, or 301; 115; 150, 201		MATH 126 or ESS 310
ATMS 101, 111, 211, 212		OCEAN 101, 200, 201, 210
BIOL 161, 162, 180, 200, 220, 240		PHYS 115/118 or 122; PHYS 116/119 or 123
CHEM 152, 162, 220, 221		QSCI 381
CSE 142, 143		STAT 180, 220, 290, 311
ESRM 210, 250		

Note: ASTR 101 or 102, 150 required for endorsement in earth & space sciences for UW's Secondary Master in Teaching Program.

ESS Department Core Courses (18-20 credits)

Course	Prerequisites	Credits
a. Two courses required.*		
ESS 211 Physical Process Earth (AUT)	MATH 124, 134, or QSCI 291; PHYS 114/117 or 121	5cr _____
ESS 212 Earth Materials (WIN)	CHEM 142 or 145	5cr _____
ESS 213 Evolution of Earth (SPR)	ESS 210, 211, or 212	5cr _____
b. One more course from 211-213 above or:		
ESS 201 Earth's Climate System (SPR)	MATH 124, 134, or QSCI 291; recommended: background in earth sciences, chemistry, or physics	3cr _____
ESS 205 Access to Space (SPR)	No prerequisites.	5cr _____
ESS 210 Physical Geology (WIN)	Recommended: High school/college precalculus, chemistry.	5cr _____
b. One course required.*		
ESS 311 Geomechanics (WIN)	MATH 125, 135, or QSCI 292; PHYS 114/117 or 121, ESS 211; recommended: MATLAB experience	5cr _____
ESS 312 Geochemistry (SPR)	CHEM 142 or 145; MATH 125, 135, or QSCI 292; ESS 212	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 _____

Concentration (15 credits)

15 credits from **one** of the concentrations below. Courses not listed require pre-approval by ESS Advising.

Science Communication	Business	Interdisciplinary Science
BIOL 305	ESRM 423	ATM S 301
COM/ENVIR 418†	ESRM 461	ATM S 321
ENGL 365	ESRM 465	ATM S 350
ENVIR 440	ENTRE 370	ESRM 311
ESS 418	ENTRE 443	ESRM 426
FHL 333	JSIS B 352	ESRM 430
		ESRM/FISH 447
		ESS/OCEAN 410
		ESS 467/OCEAN 412
		FHL 333
		FHL 470
		FHL 490
		FISH/OCEAN 452
		OCEAN 310
		OCEAN 330
		OCEAN 355
		OCEAN 411
		OCEAN 450
		OCEAN 454
		OCEAN 482
		Additional 300-level ESS courses or ESS courses numbered 402-488, not used below or above
Education	Law and Policy	
AES 340**	ANTH/ENVIR 459	
EDC&I 351	ANTH/JSIS A 406	
EDC&I 352	ARCTIC 400	
EDPSY 380	GEOG 370	
EDPSY 404	ENVIR 360/JSIS B 350/SCAND 350	
EDPSY 406	ENVIR/POL S 384	
EDUC 305**	ENVIR/SMEA 476	
EDUC 310	ESRM 470	
EDUC 370	ESS 488/ JSIS B 444	
EDUC 401	GEOG/LSJ 467	
EDUC 472	JSIS B 455	
ESS 307	LAW 310	
ESS 492	PUBPOL 313	
	SMEA 407	

ESS Electives (25 credits)

25 upper-division credits [300-level courses, 400-level courses numbered 400 to 488, or approved ESS 490 courses (see Time Schedule)]. At least 10 credits must be in 400-level ESS courses. Extra courses from ESS 311-314 or 316 not required above may also apply here. Additional courses from concentration area may count towards ESS 300- and 400-level electives with approval of Associate Chair for the Undergraduate Program.

	Credits		Credits		Credits
ESS	_____	ESS	_____	ESS	_____
ESS	_____	ESS	_____	ESS	_____
ESS	_____	ESS	_____	ESS	_____

*2.0 grade required in prerequisites for all ESS core courses. See individual course prerequisites for additional grade requirements.

† COM section of course open to COM/Journalism majors only.

**Course on education of an ethnic group in the United States required for students planning to apply to UW's Secondary Master in Teaching Program.

Note: Minimum 2.00 cumulative GPA in all ESS-prefixed courses required. Requirements for students who declared the ESS major prior to Summer 2019 may differ; please see ESS Advising if you have any questions.

Concentration (15 credits)

15 credits from one of the concentrations below. Courses not listed require pre-approval by ESS Advising.

<p>Business ESRM 423 International Trade, Marketing, and the Environment ESRM 461 Forest Management and Economics ESRM 465 Economics of Conservation ENTRE 370 Introduction to Entrepreneurship ENTRE 443 Environmental Innovation Practicum JSIS B 352 Sustainability and Global Business: Leading in a Changing World</p>	<p>Education AES 340 Race, Ethnicity, and Education EDC&I 351 Teaching as a Profession EDC&I 352 Teaching to Change the World EDPSY 380 Adult Learning and Development EDPSY 404 Adolescent Development EDPSY 406 Learning and Teaching in Our Changing World: Insights from Experience and Research EDUC 305 The Purpose of Public Schools in a Democracy EDUC 310 Current Issues in Education EDUC 370 Learning Within and Across Settings EDUC 401 Practicum in Community Service Activity EDUC 472 Individuals, Groups, Organizations, and Institutions ESS 307 Diversity Outreach Program in Earth and Space Sciences ESS 492 Education in the Earth Sciences</p>
<p>Law and Policy ANTH/ENVIR 459 Culture, Ecology, and Politics ANTH/JSIS A 406 China's Environment ARTIC 400 Integrating Policy and Science in Arctic Studies GEOG 370 Environmental Conservation: Geographic Perspectives ENVIR 360/JSIS B 350/SCAND 350 Environmental Norms in International Politics ENVIR/POL S 384 Global Environmental Politics ENVIR/SMEA 476 Introduction to Environmental Law and Process ESRM 470 Natural Resource Policy and Planning GEOG/LSJ 467 Law, Justice, and the Environment JSIS B 455 International Environmental Policy LAW 310 Law, Science, and Technology PUBPOL 313 Evidence-Based Policy Implementation SMEA 407 International Organizations and Ocean Management</p>	<p>Interdisciplinary Science ATM S 301 Introduction to Atmospheric Sciences ATM S 321 The Science of Climate ATM S 350 Ecological Climatology ESRM 311 Soils and Land Use ESRM 426 Wildland Hydrology ESRM 430 Remote Sensing of the Environment ESRM/FISH 447 Watershed Ecology and Management ESS/OCEAN 410 Marine Geology and Geophysics ESS 467/OCEAN 412 Seismic Exploration FHL 333 Science Writing for Diverse Audiences FHL 470 Research in Marine Biology FHL 490 Marine Sciences Seminar FISH/OCEAN 452 Marine Geospatial Information Science OCEAN 310 Marine Geology and Geochemistry OCEAN 330 Marine Biogeochemical Cycles OCEAN 355 From Big Bang to the Blue Planet OCEAN 411 Special Topics in Marine Geology and Geophysics OCEAN 450 Climatic Extremes OCEAN 454 Hydrothermal Systems: An Interdisciplinary View OCEAN 482 The Changing Arctic Ocean</p>
<p>Science Communication BIOL 305 Science Communication: Video Storytelling in Biology COM/ENVIR 418 Communication and the Environment ENGL 365 Literature and Discourse on the Environment ENVIR 440 Environmental Pedagogy ESS 418 Geoscience Communication FHL 333 Science Writing for Diverse Audiences</p>	