

ENVIRONMENTAL SCIENCE COMPREHENSIVE MAJOR: ENVIRONMENTAL SCIENCE EMPHASIS

Program Requirements

The Environmental Science Emphasis requires a minimum of 64 credits:

Code	Title	Credits
Required Introductory Courses		
BIOL 150	Biological Principles (with laboratory) (GT-SC1)	4
BIOL 151	Diversity and Patterns of Life (with laboratory)	4
ESCI 105	Earth Systems and Resources (with lab)	4
Required Core Courses		
BIOL 301	General Ecology	3
CHEM 111 & CHEM 112	General Chemistry I (GT-SC2) and General Chemistry Laboratory I (GT-SC1)	4
CHEM 113 & CHEM 114	General Chemistry II and General Chemistry Laboratory II	4
ESCI 300	Environmental Science Careers	1
GEOG 340	Intro Geographic Info Systems	3
GEOL 362	Environmental Geochemistry	3
MATH 151	Calculus I (GT-MA1)	4
MATH 213	Probability and Statistics (GT-MA1)	3
Either:		4
PHYS 140	Introductory Physics (with laboratory) (GT-SC1)	
OR		
PHYS 170 & PHYS 185	Principles of Physics I (GT-SC2) and Laboratory Physics I (GT-SC1)	
OR		
PHYS 190 & PHYS 185	General Physics I (GT-SC2) and Laboratory Physics I (GT-SC1)	
Required Elective Courses: take at least 14 credits, and must be from at least three different disciplines:		
ANTH 218	Biological Anthropology (with laboratory)	
BIOL 302	Ecology Laboratory and Recitation	
BIOL 310	Cell Biology	
BIOL 312	Genetics (with recitation)	
BIOL 320	Ornithology (with laboratory and recitation)	
BIOL 322	Mammalogy (with laboratory and recitation)	
BIOL 325	Invertebrate Zoology with Laboratory	
BIOL 327	Field Entomology (with laboratory)	
BIOL 352	Botany (with laboratory)	
BIOL 353	Rocky Mountain Flora	
BIOL 362	Evolution	
BIOL 430	Wildlife Ecology and Management (with laboratory)	
BIOL 431	Wildlife Techniques Workshop	
BIOL 440	Conservation Biology	
BIOL 467	Biology of Fishes	
BIOL 468	Ichthyology Laboratory	

BIOL 476	Aquatic Ecology (with laboratory)	
BIOL 481	Forest Ecology (with laboratory)	
CHEM 306	Analytical Chemistry (with laboratory)	
CHEM 331 & CHEM 334	Organic Chemistry I and Organic Chemistry Laboratory I	
CHEM 332 & CHEM 335	Organic Chemistry II and Organic Chemistry Laboratory II	
ENVS 325	Introduction to Soil Science	
ENVS 390	Environmental Monitoring	
GEOG 371	UAV Imagery Acquisition	
GEOG 372	Satellite Remote Sensing	
GEOG 460	Geospatial Analysis	
GEOL 315	Earth Materials (with laboratory)	
GEOL 320	Geomorphology (with laboratory)	
GEOL 380	Paleoclimatology	
GEOL 430	Hydrogeology (with laboratory)	
PHYS 171 & PHYS 186	Principles of Physics II (GT-SC2) and Laboratory Physics II (GT-SC1)	
OR		
PHYS 191 & PHYS 186	General Physics II (GT-SC2) and Laboratory Physics II (GT-SC1)	
Required Environmental Policy and Politics Courses (6 credits)		6
ENVS 100	Introduction to Environment and Sustainability (GT-SS2)	
And one of the following:		
ANTH 320	Cultural Ecology	
ENVS 210	Introduction to Climate Policy	
ENVS 250	Environmental Justice	
ENVS 260	Introduction to Public Lands Management	
ENVS 350	U.S. and Western Environmental Politics	
ENVS 360	Global Environmental Policy	
ENVS 370	Water Policy and Politics	
POLS 250	Politics of the Environment	
Required Capstone Course		
ESCI 450	Applied Environmental Science	3
Total Credits		64

Graduation Requirements

Undergraduate programs require a minimum of 120 semester credits for graduation. Of those 120 credits, 40 credits must be in upper-division courses (those marked 300 and above). Fifteen of these 40 upper-division credits must be earned in courses that are part of the standard or comprehensive major program being pursued.

Students are expected to review all graduation requirements, which can be found in the Western Undergraduate Catalog: Graduation Requirements (<https://catalog.western.edu/undergraduate/graduation-requirements/>).

Course	Title	Credits
Year One		
Fall		
CHEM 111 & CHEM 112	General Chemistry I (GT-SC2) and General Chemistry Laboratory I (GT-SC1)	4
ENG 102	Writing and Rhetoric I (GFCO1)	3
ESCI 105	Earth Systems and Resources (with lab)	4

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HWTR 100	First Year Seminar	1
MATH 151	Calculus I (GT-MA1)	4
Credits		16
Spring		
BIOL 150	Biological Principles (with laboratory) (GT-SC1)	4
CHEM 113 & CHEM 114	General Chemistry II and General Chemistry Laboratory II	4
ENG 103	Writing and Rhetoric II (GT-CO2)	3
MATH 213	Probability and Statistics (GT-MA1)	3
Credits		14
Year Two		
Fall		
BIOL 151	Diversity and Patterns of Life (with laboratory)	4
ENVS 100	Introduction to Environment and Sustainability (GT-SS2)	3
GEOG 340	Intro Geographic Info Systems	3
PHYS 140	Introductory Physics (with laboratory) (GT-SC1)	4
Credits		14
Spring		
BIOL 301	General Ecology	3
Elective	ESCI Elective	3
ESCI 300	Environmental Science Careers	1
Gen Ed	Area I	3
Gen Ed	Area III	3
GEOL 362	Environmental Geochemistry	3
Credits		16
Year Three		
Fall		
Elective	ESCI Elective	8
Gen Ed	Area I	3
Gen Ed	Area III	3
Credits		14
Spring		
Elective	Elective or minor course	3
Elective	Elective or minor course (upper division)	3
Elective	ESCI Elective	7
Gen Ed	Area III	3
Credits		16
Year Four		
Fall		
Elective	Elective or minor course	6
Elective	Elective or minor course (upper division)	4
ENVS	ENVS Policy course	3
ESCI 450	Applied Environmental Science	3
Credits		16
Spring		
Elective	Elective or minor course	10
Elective	Elective or minor course (upper division)	4
Credits		14
Total Credits		120