BIOLOGY COMPREHENSIVE MAJOR: ENVIRONMENTAL BIOLOGY AND ECOLOGY EMPHASIS

Program Requirements

The Environmental Biology and Ecology Emphasis requires a minimum of 58 credits, including the 26-credit Biology Nucleus, 17 additional credits in Biology, and 15 credits of supporting courses:

All Biology majors require the 26-credit Biology Nucleus.

Code	Title	Credits
Biology Nucleus		
BIOL 150	Biological Principles (with laboratory) (GT-SC1)	4
BIOL 151	Diversity and Patterns of Life (with laboratory)	4
BIOL 301	GENERAL ECOLOGY	3
BIOL 310	Cell Biology	3
BIOL 312	Genetics (with recitation)	4
CHEM 111	General Chemistry I (GT-SC2)	3
CHEM 112	General Chemistry Laboratory I (GT-SC1)	1
CHEM 113	General Chemistry II	3
CHEM 114	General Chemistry Laboratory II	1
Total Credits		**26**

Code	Title	Credits
Required Biology Courses		
BIOL 302	Ecology Laboratory and Recitation	2
Select six credits in two or more of the following systems and applications courses:		6
BIOL 362	EVOLUTION	
BIOL 430	Wildlife Ecology and Management (with laboratory)	
BIOL 431	Wildlife Techniques Workshop	
BIOL 440	Conservation Biology	
BIOL 444	Colorado Ecoregions	
BIOL 476	Aquatic Ecology (with laboratory)	
BIOL 477	Plant Ecology (with laboratory)	
BIOL 481	Forest Ecology (with laboratory)	
Select at least two of the following organismal courses:		6-8
BIOL 320	Ornithology (with laboratory and recitation)	
BIOL 322	Mammalogy (with laboratory and recitation)	
BIOL 327	Field Entomology (with laboratory)	
BIOL 352	Botany (with laboratory)	
BIOL 353	Rocky Mountain Flora	
BIOL 355	Spring Fungi Rocky Mountains (with laboratory)	
BIOL 467	Biology of Fishes	
Select at least two credits of Capstone Experience courses:		2
BIOL 495	Senior Seminar (may be repeated)	
BIOL 496	Senior Thesis	
Total Credits		**16-18**

Code	Title	Credits
Minimum Supporting Courses		
CHEM 231	Introduction to Organic Chemistry and Biochemistry	3
CHEM 234	Introductory Organic and Biochemistry Laboratory	1
GEOL 101	Physical Geology (GT-SC2)	3
GEOL 105	Physical Geology Laboratory (GT-SC1)	1
MATH 213	Probability and Statistics (GT-MA1)	3
PHYS 140	Introductory Physics (with laboratory) (GT-SC1)	4
Total Credits		**15**

Capstone Course Requirement

The following courses in the Biology Major fulfill the capstone course requirement: BIOL 495 SENIOR SEMINAR, BIOL 496 Senior Thesis , or EDUC 409 SECONDARY STUDENT TEACHING.

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		
BIOL 151	Diversity and Patterns of Life (with laboratory)	4
CHEM 111	General Chemistry I (GT-SC2)	3
CHEM 112	General Chemistry Laboratory I (GT-SC1)	1
ENG 102	Writing and Rhetoric I (GT-CO1)	3
HWTR 100	First Year Seminar	1
MATH 140	College Algebra (GT-MA1)	3
	Credits	**15**
Spring		
BIOL 150	Biological Principles (with laboratory) (GT-SC1)	4
CHEM 113	General Chemistry II	3
CHEM 114	General Chemistry Laboratory II	1
MATH 141	Precalculus (GT-MA1)	4
ENG 103	Writing and Rhetoric II (GT-CO2)	3
	Credits	**15**
Year Two		
Fall		
BIOL 301	GENERAL ECOLOGY	3
BIOL 302	Ecology Laboratory and Recitation	2
CHEM 231	Introduction to Organic Chemistry and Biochemistry	3
CHEM 234	Introductory Organic and Biochemistry Laboratory	1
Gen Ed	Social Sciences	3
Gen Ed	Arts & Humanities	3
	Credits	**15**
Spring		
BIOL 310	Cell Biology	3

Gen Ed	Arts & Humanities	3
MATH 213	Probability and Statistics (GT-MA1)	3
PHYS 140	Introductory Physics (with laboratory) (GT-SC1)	4
Gen Ed	Social Sciences	3
	Credits	**16**
Year Three		
Fall		
BIOL 312	Genetics (with recitation)	4
Gen Ed	Arts & Humanities	3
Gen Ed	Social Sciences	3
GEOL 101	Physical Geology (GT-SC2)	3
GEOL 105	Physical Geology Laboratory (GT-SC1)	1
Gen Ed	General Education	3
	Credits	**17**
Spring		
BIOL	Biology Systems/Apps	3
BIOL	Biology Organismal Elective	4
Gen Ed	General Education	9
	Credits	**16**
Year Four		
Fall		
BIOL 495 or BIOL 496	Senior Seminar or Senior Thesis	2
Biology Systems/Apps		3
Gen Ed	General Education	9
	Credits	**14**
Spring		
Biology Organismal Elective		
Gen Ed	General Education	12
	Credits	**12**
	Total Credits	**120**