

Environmental Science Major (option 1)

B.S. in Environmental Science – Curriculum Map 2016-2017 Catalog

Option I

Concentrations for Option 1 are: Environmental Biology, Environmental Chemistry, Environmental Geology, Environmental Engineering, or Climate Science.

Freshman		
Fall	Cr. Spring	Cr.
BI 101 Principles of Biology I ¹	4 BI 102 Principles of Biology II ¹	4
EN 101 Composition and Literature I	3 EN 102 Composition and Literature II	3
GL 110 Introduction to Geology (General Education Lab Science)	4 GL 111 Oceanography (General Education Lab Science)	4
MA 107 Precalculus Mathematics (General Education Math)	4 MA 108 Applied Calculus (General Education Math) ²	4
Semester Total Credits	15 Semester Total Credits	15
Sophomore		
Fall	Cr. Spring	Cr.
CH 103 General Chemistry I	4 CH 104 General Chemistry II	4
Concentration Elective	3-4 Concentration Elective	3-4
ES 251 Sophomores Seminar Environmental Science	1 General Education Literature (or ES 130)	3
ES 270 Fundamentals of Environmental Science (or Free Elective) ³	4 MA 232 Elementary Statistics	3
PH 323 Environmental Ethics (General Education Ethics)	3 Free Elective ³	3-4
Semester Total Credits	15-16 Semester Total Credits	16-18
Junior		
Fall	Cr. Spring	Cr.
Concentration Elective	3-4 ES 130 Introduction to Environmental Law (or General Education Literature)	3
EC 201 Principles of Economics (Macro) or 202 Principles of Economics (Micro) (General Education Social Science)	3 Concentration Elective	3-4
General Education Arts & Humanities (or PH 323)	3 ES 340 Project Development in Environmental Science	1
PS 201 General Physics I	4 PS 202 General Physics II	4
Free Elective (or ES 270) ³	3-4 Free Elective ³	3-4
Semester Total Credits	16-18 Semester Total Credits	14-16
Senior		
Fall	Cr. Spring	Cr.
BI 405 Ecology	4 Concentration Elective	3-4
Concentration Elective	3-4 ES 451 Environmental Seminar (General Education Capstone)	3
ES 440 Research Project in Environmental Science (General Education Capstone)	3 ES 460 Project Completion in Environmental Science/Geology	1
GL 255 Hydrogeology	3 General Education History	3
	Free Elective ³	3-4
Semester Total Credits	13-14 Semester Total Credits	13-15
Total Credits For This Major: 117-127		

¹ EnvCH and EnvEG concentrations students take CH 103 and CH 104 as freshmen, and BI 101 and BI 102 in the second year.

² Or equivalent, especially if needed as a prerequisite for Concentration courses.

³ Can be used out of sequence and to take more than one concentration elective concurrently.

Available Concentrations – Option I

Environmental Biology

GL 261	Field Geology	4
CH 205	Survey of Organic Chemistry	4
Two of the following:		8
BI 275	Environmental Biology	4
BI 316	Plant Taxonomy	4
BI 351	Dendrology and Silvics	4
BI 424	Woodland Ecology and Management	4
Two of the following:		8
BI 201	Comparative Vertebrate Anatomy	4
BI 220	Introductory Microbiology	4
BI 325	Invertebrate Zoology	4
BI 326	Natural History of the Vertebrates	4
Total Cr.		24

Environmental Geology

GL 253	Geomorphology	4
GL 257	Sedimentation	4

GL 261	Field Geology	4
GL 263	Mineralogy	4
GL 2XX	Elective or EG 203 Materials Science	3-4
CH	elective: CH204 or above, 3-4 cr. options only	3-4
Total Cr.		22-24

Environmental Chemistry

CH 204	Quantitative Analysis	4
CH 205	Survey of Organic Chemistry	4
GL 263	Mineralogy	4
Three of the following:		10-12
GL 261	Field Geology	4
CH 314	Instrumental Methods (+/- CH 315 Lab)	3/4
EG 203	Materials Science	3
BI 220	Introductory Microbiology	4
Total Cr.		22-24

Environmental Engineering

EG 109	Introduction to Engineering I	3
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CE 211	Surveying	3
EG 203	Materials Science	3
AP 221	Site Development and Design	3
GL 253	Geomorphology	4
One of the following:		3-4
GL 261	Field Geology	4
BI 275	Environmental Biology	4
MA 241	Mathematical Computation and Modeling	3
CH elective: CH 204 or above, 3-4 cr. options only		3-4
Total Cr.		19-20

Climate Science

GL 265	Glacial Geology and Paleoclimate	4
CH 204	Quantitative Analysis	4
GL 253	Geomorphology	4
MA 241	Mathematical Computation and Modeling	3
Two of the following:		6-8
CH 314	Instrumental Methods (+/- CH 315 Lab)	3/4
BI 402	Evolution	4
PO 305	Geopolitics (recommended)	3
PO 415	International Law	3
Total Cr.		21-23