



Ecosystems Specialization – BS (major code 865)

(for majors declared Fall 2021 onwards)

- Courses can only be used to fulfill one requirement, even if the course is listed as an option for multiple requirements.
- Many upper-level courses have prerequisites. Make sure you plan accordingly for the path you want to take.
- For certain requirements, check out the ENVI website for additional course options by semester.
- * = **Fall-only course**, ** = **Spring-only course**. Note that course offerings may change and it is highly advised to consult the Schedule of Classes for exact offerings when possible.

Requirement	Course Options	Credits
A. ENVI 101 – Humans & Ecological Environment	- ENVI 101 - AP Envi Exam score of 3, 4, or 5 <i>Source Project students only:</i> - PLSC 180A People, Politics, and the Environment	4
B. ENVI 201 – Humans & Physical Environment	- ENVI 201 <i>First-Year Research Immersion (FRI) students only:</i> - ENVI/GEOL 234 Biogeochemistry *if not already used for “introductory methods” requirement	4
C. One lower-level environmental policy course	- ENVI/PHIL 149 Environmental Ethics - ENVI/GEOG 239 Envi Plng & Policy - ENVI 225 Intro Int’l Envi Policy* <i>Source Project students only:</i> - ENVI 181A/PHIL 180D Climate Justice	4
D. One lower-level economics course	- ECON 160 Microeconomics - ECON 162 Macroeconomics	4
E. One introductory methods course	Recommended: - ENVI 220 Researching Sustainability and the Environment Allowed: - MATH 147 Statistics - GEOG 360 GIS/Spatial Analysis - DIDA 110 Database Fundamentals - DIDA 130 Intro to Statistical Thinking - DIDA 260 Data Visualization - ANTH 200 Statistics in Anthropology <i>First-Year Research Immersion (FRI) and Source Project students only:</i> - ENVI/GEOL 234 Biogeochemistry (FRI) *if not already used as a substitute for ENVI 201 - ENVI/GEOL 206 Environmental Visualization (FRI) - BIOL 241 Ecological Genetics (FRI) - PLSC 180B People, Politics, and the Environment (Source Project)	4
F. One lower-level chemistry requirement + lab	Recommended: - CHEM 104 General Chem I (Lec) + CHEM 106 (Lab) Allowed:	6

	- CHEM 107 Intro to Chem Prin (Lec/Lab for Chem/BChem majors)* - CHEM 111 Chemical Principles (Watson-only) <i>First-Year Research Immersion (FRI) students only:</i> The CHEM 106 (Lab) requirement is waived for FRI students enrolled in the following streams: Biogeochemistry, Environmental Visualization, Clean Energy, Drug Discovery	
G. One lower-level course in a related field (Biological Sciences, Earth Sciences, Geography)	Recommended as a prerequisite for upper-level Biology courses: - BIOL 113 Intro to Cell & Microbiol Allowed: - ANTH 167 Introduction to Archaeology - BIOL 105 Evolution for Everyone - GEOL 105 Earthquakes and Volcanoes - GEOL 112 Oceanography - GEOL 142 Water - GEOL/ENVI 170 Environmental Geology - GEOG 105 Our Digital Earth - GEOG 120 Weather & Climate - GEOG 121 Physical Geog - GEOG 151 World Regional Geog - GEOG 221 Global Climate Change	4
H. One lower-level ecosystems course	- BIOL 114 Intro to Organisms & Population Bio	4
I. One upper-level course in ecology	- BIOL 355 Ecology (or BIOL 373 in a Summer session)	4
J. One additional lower-level chemistry course	Recommended: - CHEM 105 General Chem II (Lec) Allowed: - CHEM 108 Intro Chem Prin II (Lec/Lab for Chem/BChem majors)** - CHEM 221 Analytical Chem** - CHEM 231 Organic Chem I	4
K. Five upper-level courses in ecosystems that must total 20 credits (ENVI, BIOL, GEOG, or other related fields)	ENVI Courses: - ENVI/GPH 303 Environmental Health - ENVI 306 Envi Visualizations (FRI) - ENVI 327 N'tl Hist Nature Preserve* - ENVI 332 Water, Rivers, & Society* - ENVI 338: Food Policy: Health & Security** - ENVI/GEOL 334 Biogeochem (FRI) - ENVI 336 Sweet Harvests: Bees & Maples** - ENVI 340 Natural Resource Equity in Global South - ENVI/GEOL 342: Environmental Hydrology* - ENVI 362 Biodivers. as Ecosyst. Service** - ENVI 363 Measuring the Natural World* - ENVI/GEOG 423 Soils** - ENVI 438 AgriBiotech: Sci, Pol & Conflict* - ENVI 453 Cider & Wine Vineyard to Glass*	20

	Related subjects: - BIOL 341 Ecological Genetics (FRI) - BIOL 351 Mechanisms of Evolution - BIOL 352 Marine Biology** - BIOL 370 Botany** - BIOL 371 Zoology** - BIOL 375 Animal Behavior - BIOL 379: Biology & Cons Of Birds** - BIOL 421 Microbiology Laboratory* - BIOL 431 Ecological Modeling - BIOL 432 Chemical Ecology and Evolution - BIOL 442 Mycology* - BIOL 455 Prin of Ecosyst Eco* - BIOL 476 Population Ecology* - BIOL 477 Conservation Biol* - GEOG 352 Population Geography** - GEOG 422/BIOL 459 Biogeography** - GEOG 437 Natural Resource Conservation* Past Special Topics Courses <i>Future availability of these courses may vary</i> - ENVI 481G Archaeology of Domestication (Spring '26) - ENVI 481L Environments of E & SE Asia (Spring '26) - ENVI 481W Sustain. in Great Lakes Region (Spring '26) - BIOL 483L Restoration Ecology (Spring '25) - BIOL 483S Animal Communication (Fall '25) - BIOL 483V Community Ecology (Fall '25) - BIOL 480F Behavior and Disease (2 cr., Spring '26)	
L. One upper-level research, teaching, and /or applied course in Ecosystems	ENVI Courses: - ENVI/GEOG 423 Soils** - ENVI 438 AgriBiotech: Sci, Pol & Conflict* - ENVI 453 Cider & Wine Vineyard to Glass* - GEOG 422 Biogeography** - GEOG 437 Natural Resource Conservation* Related subjects: - BIOL 431 Ecological Modeling - BIOL 432 Chemical Ecology and Evolution - BIOL 442 Mycology* - BIOL 455 Prin of Ecosyst Eco* - BIOL 476 Population Ecology* - BIOL 477 Conservation Biol* Past Special Topics Courses <i>Future availability of these courses may vary</i> - ENVI 481G Archaeology of Domestication (Spring '26)	4

	- ENVI 481L Environments of E & SE Asia (Spring '26) - ENVI 481W Sustain. in Great Lakes Region (Spring '26) - BIOL 483L Restoration Ecology (Spring '25) - BIOL 483S Animal Communication (Fall '25) - BIOL 483V Community Ecology (Fall '25) - BIOL 480F Behavior and Disease (2 cr., Spring '26) The following require department permission. - ENVI 397 Independent Study - ENVI 491 Undergraduate Teaching - ENVI 495 or CDCI 395 Environ Internship (need to receive approval from undergraduate director to receive ENVI major credit for CDCI 395)	
M. One upper-level capstone course	- ENVI 413 Environ Studies Capstone - ENVI 497 Independent Study (requires approval from faculty supervisor) - ENVI 481W White Mountain Field School (offered Summer only; additional course fee applies; contact ENVI director for details) * Honors Thesis can substitute for a capstone course. See undergraduate director.	4
	Total Credits:	70

NOTE: BIOL 115: Introductory Biology Lab (or FRI stream substitution) is not required for the ENVI: Ecosystems major and it does not satisfy any major requirements. However, it *may* be a prerequisite for some upper-level biology courses, so students may take it if they wish.