



Earth Systems Specialization – BS (major code 868)
(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.

Requirement	Course options	Credits
A. ENVI 101 – Humans & Ecological Environment	- ENVI 101 - AP Envi Exam score of 3, 4, or 5 - ENVI 105 - People, Politics, & Environment (Source Project Students only) - PLSC 180A - People, Politics, & Environment (Source Project Students only)	4
B. ENVI 201 – Humans & Physical Environ.	- ENVI 201 - or AP Envi Exam score of 5 (excludes AP test taken in 2020)	4
C. One introductory environmental policy course	- ENVI/PHIL 149 Environmental Ethics - ENVI 230 Intro to Environmental Policy - ENVI/GEOG 239 Envi Plng & Policy - ENVI 280B Intro Int’l Envi Policy (Starting in Fall 2024, this course will be renumbered to ENVI 225.) - PLSC 282 Intro to Environmental Policy	4
D. One introductory economics course	- ECON 160 Microeconomics - ECON 162 Macroeconomics	4
E. One introductory methods course	- GEOG 160 or 260 or 360 GIS/Spatial Analysis - MATH 147 Statistics - MATH 148 Statistics for Biologists The following classes are only for FRI and Source Project students: - BIOL 241 Ecological Genetics FRI - ENVI 205 People Politics & Environ II - PLSC ??? People Politics & Environ II - ENVI 206 Geospatial Sensing FRI - ENVI/GEOL 234 Biogeochemistry FRI	4
F. One lower-level chemistry requirement	- ENVI 140 Intro Enviro Chem (Lec) + CHEM 106 (Lab) + CHEM 105 General Chem II - CHEM 104 General Chem I (Lec) + CHEM 106 (Lab) - CHEM 107 Intro to Chem Prin (Lec/Lab for Chem/BChem majors) - CHEM 111 Chem Principles (Lec/Lab)	6

G. One lower-level course related to environmental science (BIOL, GEOG, GEOL, PHYS, or other)	Recommended as prerequisites for upper-level courses, including CHEM 221 & 231: - CHEM 105 General Chem II (Lec) - CHEM 108 Intro Chem Prin II (Lab/Lec for Chem/BChem majors) Allowed: - BIOL 105 Evol for Everyone - ENVI 140 Intro Enviro Chem - ENVI 250 Farm to Table - ENVI 236/ANTH 236 Farming Thru Time - GEOL 111 Planet Earth - GEOL 112 Oceanography - GEOL 113 Geol of the Parks - GEOL 115 Global Change: Geol Perspt - GEOL 116 Geological Hazards - GEOL 120 Energy and the Earth - ENVI/GEOL 170 Environmental Geology - GEOG 120 Weather & Climate - GEOG 221 Global Climate Change	4
H. One 100-level GEOL course	- GEOL 102 Geol of the Solar System - GEOL 105 Earthquakes & Volcanoes - GEOL 111 Planet Earth - GEOL 112 Oceanography - GEOL 113 Geol of the Parks - GEOL 115 Global Change: Geologic Perspt - GEOL 116 Geological Hazards - GEOL 120 Energy and the Earth - GEOL/ENVI 170 Environmental Geology	4
I. One upper-level surface geology course	- GEOL 311 Earth's Surface Processes - ENVI/GEOL 342 Environmental Hydrology	4
J. One upper-level course in environ chem or hydrology	- ENVI/GEOL 304 Intro Envi Geochem - ENVI 346 Envi Chem Community Water Syst	4
K. Five upper-level courses in Earth Systems (20 credits) (GEOG, ENVI, or other related fields)	- GEOL 301 Rock Record & Earth History - GEOL 303 Earth Materials - GEOL 304 Intro Envi Geochem - ENVI/GEOL 306 Geospatial Sensing, Part 2 (if class topic is Earth systems related; FRI students only) - GEOL 326/ENVI 343 Nonrenewable Natural Resources - GEOL 330 Earth Systems Statistics - ENVI/GEOL 334 Biogeochem FRI – Part II (FRI students only) - GEOL/ENVI 342 Envi Hydrology - ENVI 346 Envi Chem Community Water Syst - ENVI 347 Environ Pollution: Sci & Policy - GEOL 411 Adv Geomorphology - GEOL 414 Climate & Paleoclimate - GEOL 423 Igneous & Metamorphic Petrology - GEOL 436 Sediment Environments & Facies	20

	<ul style="list-style-type: none"> - GEOL 453 Environmental Geophysics - ENVI 382U Food Energy Water Nexus (F22, F23) - ENVI/GEOG 423 Soils - ENVI 454 Envi application in GIS, if student's project is Earth systems related 	
L. One upper-level research, teaching, and/or applied course in Earth Systems	<ul style="list-style-type: none"> - GEOL 460 Geomicrobiology - GEOL 465 Environmental Measurements - GEOL 470 Geochemistry <p>The following may be appropriate, but require department permission.</p> <ul style="list-style-type: none"> - ENVI 397 Independent Study - ENVI 491 Undergraduate Teaching - ENVI 495 Environ Internship 	4
M. One upper-level capstone course	<ul style="list-style-type: none"> - ENVI 413 Environ Studies Capstone - ENVI 382F Integrating Sustain. Science & Innovation <p>The following require department permission.</p> <ul style="list-style-type: none"> - ENVI 498 Senior Thesis - ENVI 499 Honors Thesis 	4
	Total Credits:	70