The Environmental Science Major

The Environmental Science major requires students to take a total of 20 courses, 14 of which have an environmental focus and 6 of which are background science courses. Of the 14 environmentally focused courses, 6 are required core science courses. Additionally, students are to take two environmental studies courses and 6 courses in their environmental concentration area/track (Restoration Ecology or Hydrology and Aquatic Systems or Energy Resources)

- F – typically offered in the Fall semester
- S – typically offered in the Spring semester
- B – typically offered in both semesters

This notation is not a guarantee that the course is offered in the indicated semester. Please consult the Course Schedule listing on the Office of the Registrar’s Website.

* denotes courses that have prerequisites

**Science Background Courses (6 courses):**
CHEM 121 B, 122* - S
Math 161, 162* - B
Math 186* - B
Physics 111*/131* or BIOL 111 – F (students in the Restoration Ecology track should take BIOL 111)

**Environmental Science Core (6 courses):**
EVST 100 An Introduction to the Environment - F
BIOL 233 Environmental Problem Solving in Biology* F or BIOL 234 Environmental Biology* - S or BIOL 272 Conservation Biology* - F
CHEM 252 Environmental Chemistry*- F or CE 321 Introduction to Environmental Engineering and Science*- F
GEOL 110 Environmental Geology - S or GEOL 120 Geologic Disasters: Agents of Chaos - F
EVST 290 Climate Change the Facts, the issues, the Long-Term View* - S or GEOL 115 Earth: Evolution of a Habitable Planet - F
EVST 400 Environmental Studies Praxis – F (normally)

**Environmental Studies** - choose 2 courses from the EVST approved list of courses in Humanities or Social Sciences (see EVST Program requirements).

**Concentration Areas/Tracks: (6 courses in concentration area)**

(1) Restoration Ecology OR (2) Hydrology & Aquatic Systems OR (3) Energy Resources

(1) Restoration Ecology Concentration (6 courses)
(Note: students pursuing this track cannot double count BIOL 272 as a required course and a core science course)
**Required courses**

BIOL 231 Ecology* - S  
BIOL 272 Conservation Biology* - F  
GEOL 300 Earth Surface Processes* - S  

**Elective courses (In addition to the three required courses above, students must take any 3 courses from the list below)**

BIOL 215 Phytopathology* - F  
BIOL 224 Plant Form, Function, and Adaptation* - S  
BIOL 225 Microbiology* Every 3rd semester  
BIOL 275 Behavioral Ecology* S  
BIOL 332 Advanced Aquatic Ecology* F  
BIOL 342 Restoration Ecology* F  
CE 351 Water Resources Engineering* - S  
CE/EVSC 352 Hydrology* - F  
CE/EVSC 322 Environmental Site Assessment* - S  
CE 423 Water Quality * - S – odd years  
CE 425 Water Supply and Pollution Control* - S – odd years  
CE 451 Open Channel Flow* - S – odd years  
EVSC/GEOL 211 Rivers and Watersheds: Form and Function*  
GEOL 205 Oceanography* - S  
GEOL 210 Hydrogeology* - F  
GEOL 229 Geographical Information Systems and Remote Sensing in Geosciences* - F  
GEOL 300 Earth Surface Processes* - S  
GEOL 321 Geochemistry* - S even years  

(2) Hydrology and Aquatic Systems Concentration (6 courses)

**Required (at least one from each set)**

Groundwater course (GEOL 210* - F)  
Surface water course (GEOL 300 - S or CE/EVSC 352* or CE 351* - S)  
Aquatic biology course (BIOL 231* - S or BIOL 332* - F every other year or BIOL 341* - F)  

**Elective courses (In addition to three required courses selected above, students must take any 3 courses from the list below)**

BIOL 231 Ecology* S  
BIOL 332 Advanced Aquatic Ecology* F – odd years  
BIOL 342 Restoration Ecology* F  
CE 321 Introduction to Environmental Engineering and Science* F  
CE 351 Water Resources Engineering* S  
CE/EVSC 352 Hydrology* F  
CE 423 Water Quality* S  
CE 425 Water Supply and Pollution Control* S  
CE 451 Open Channel Flow* S  
CHE 211 Material and Energy Balances* F
CHEM 231 Analytical CHEM I* F
CHEM 252 Environmental Chemistry* F
EVSC/GEOL 211 Rivers and Watersheds: Form and Function*
GEOL 205 Oceanography* S
GEOL 229 Geographical Information Systems and Remote Sensing in Geosciences* F
GEOL 300 Earth Surface Processes* S
GEOL 315 Paleoclimatology and Paleoceanography* S
GEOL 321 Geochemistry* S
GEOL 322/CE464 Environmental Geophysics*

(3) Energy Resources Concentration (6 courses)

Required
CHE 211 Material and Energy Balances* - F
EGRS 352 Energy, Technology, and the Modern World* - S
Thermodynamics (CHE 222* or ME 354*) – F (both courses)

Elective courses (In addition to the three required courses selected above, students must take any 3 courses from the list below)
Fluid Mechanics (CE251* - F or ME 362* - S)
CE/EVSC 352 Hydrology* F
CE 351 Water Resources Engineering* - S
CHE 311 Transport Phenomena*- F
CHE 342 Atmospheric Engineering and Science*
CHE 370 Alternative Energy Resources* - S
GEOL 215 Modern and Ancient Depositional Environments* - S
GEOL 229 Geographical Information Systems and Remote Sensing in Geosciences* - F
GEOL 317 Tectonics and Structure of the Earth* - F
GEOL 322/CE 464 Environmental Geophysics* - S
ME 470 Heat Transfer* - F
ME 475 Thermal/Fluids Systems* - S
ME 483 Power Plants* - no regular cycle