Environmental Science Major Requirements (before Fall 2007)

All courses for the major must be taken for a grade.
Up to 16 upper-division credits (usually four courses) may be applied to a 2nd major.
You must meet with your adviser during the first term of your final year.

AREA 1. Lower Division Environmental Studies Core Requirements:
ENVS 201 (Soc Sci) _____, ENVS 202 (Sci) _____, ENVS 203 (Humanities)_____

AREA 2. Math and Lower Natural Science Requirements:
Mathematics (3 courses): MATH 246, 247 or 251, 252 (consult with adviser) and a
statistics or data analysis course (e.g., ENVS 355; MATH 425; PSY 302) (Note: must be
different course than the AREA 6 minimum)
(Math)____________, (Math)____________, (Stat/Data Anal.) ______________

Natural Sciences: At least three introductory science sequences (9 class minimum) from the
following list:

_______ a. Life Sciences: BI 211-213 or BI 251-253 or CHEM 111, BI 211, BI 213
_______ b. Chemistry: CHEM 221-223 or equivalent.
NOTE: CHEM 227-229 (accompanying lab courses) are strongly recommended
_______ c. Earth Sciences: GEOL 201-203 or equivalent
_______ d. Physical Sciences: PHYS 201-203 or equivalent. NOTE: PHYS 204-206 (lab
courses) strongly recommended to accompany PHYS 201-203

AREA 3A. Upper Division Natural Science Requirements (32 credits):
Up to four upper-division courses may be applied to a second major, or two for a minor.

Part 1. Upper Division Natural Science Core "List" Courses (6 courses). Six Natural Science
upper-division courses from the core areas listed below. Courses must be taken from
at least four core areas, including at least one course from Human Dimensions and one
course from Analytical Approaches.

1. Geosphere
   GEOG 322 Geomorphology
   GEOG 306 Earth Resources & Environment
   GEOL 311 Earth Materials (5 credits)
   GEOG 334 Sedimentology and Stratigraphy
   GEOG 350 Structural Geology (3 credits)

2. Hydrosphere
   BI 308 Freshwater Biology
   BI 457 Marine Biology [OIMB]
   BI 458 Biological Oceanography [OIMB]
   ENVS 465 Wetland Ecology & Management
   GEOG 360 Watershed Science and Policy
   GEOG 425 Hydrology and Water Resources (prereq: GEOG 321 or 322)
   GEOG 451 Hydrogeology
   GEOG 472 Aqueous Geochemistry

2. Atmosphere
   GEOG 321 Climatology
   PHYS 311 Physics of the Atmosphere

4. Biosphere
   BI 307 Forest Biology
   BI 357 Marine Biology
   BI 370 Principles of Ecology
   BI 374 Conservation Biology
   BI 476 Terrestrial Ecosystem Ecology
   BI 478/479 Neotropical Ecology in Ecuador
   BI 457 Marine Biology [OIMB]
   BI 474 Marine Ecology [OIMB]
   ENVS 465 Wetland Ecology & Management
   GEOG 323 Biogeography
   GEOG 433 Fire and Natural Disturbance
   LA 441 Principles of Applied Ecology

5. Human Dimensions (1 course minimum)
   ANTH 360 Human Ecology
   ANTH 341 Population and Environment [SSC]{IC}
   ANTH 432 Climatological Aspects of Global Change (prereq: GEOG 321)
   ANTH 461 Environmental Alteration
   GEOG 353 Geological Hazards

6. Analytical Approaches (1 course minimum)
   BI 471 Population Ecology (prereq: BI 370)
   BI 473 Quantitative Ecology (prereq: BI 370)
   CIS 445 Modeling and Simulation (extensive CIS prereqs)
   CIS 455 Computational Science (extensive CIS prereqs)
   ENVS 355 Environmental Data Analysis & Modeling
   ENVS 411 Intro to Monitoring Tools & Techniques
   GEOG 414 Advanced Geographic Data Analysis
   GEOG 416 Introductory Geographic Information Systems (prereq: GEOG 311)
   GEOG 418 Fundamentals of Remote Sensing

Part 2. Additional Upper-Division Natural Science Electives (2 courses). Two upper-division
natural science courses from those listed below. NOTE: GEOG 304-308 do not count. The 8
credit Honors Thesis may substitute for ONE elective. The 12 credit SIP may be substituted for
both electives.

Anthropology
   ANTH 360 Human Ecology
   ANTH 361 Human Evolution
   ANTH 365 Food and Culture
   ANTH 367 Human Adaptation
   ANTH 375 Primates in Ecological Communities
   ANTH 460 Nutritional Anthropology
   ANTH 466 Primate Feeding and Nutrition
   ANTH 468 Primate Conservation Biology
   Other ANTH Course: __________

Biology
   BI 306 Pollination Biology (prereq: BI 213 or 253)
   BI 307 Forest Biology [SC]
   BI 308 Freshwater Biology [SC]
### BI 330/331 Microbiology and Lab
### BI 357 Marine Biology [SC]
### BI 370 Ecology
### BI 374 Conservation Biology
### BI 380 Evolution
### BI 390 Animal Behavior [OIMB]
### BI 412 Marine Field Studies [OIMB]
### BI 431 Algae and Photosynthetic Bacteria
### BI 432 Mycology
### BI 442 Systematic Botany
### BI 448 Field Botany
### BI 451 Invertebrate Zoology [OIMB]
### BI 452 Insect Biology
### BI 454 Estuarine Biology [OIMB]
### BI 455 Marine Birds and Mammals [OIMB]
### BI 457 Marine Biology [OIMB]
### BI 458 Biological Oceanography [OIMB]
### BI 459 Field Ornithology
### BI 469 Restoration Ecology
### BI 472 Community Ecology
### BI 473 Quantitative Ecology
### BI 474 Marine Ecology [OIMB]
### BI 475 Freshwater Ecology
### BI 476 Terrestrial Ecosystems
### BI 478/479 Neotropical Ecology in Ecuador
### Other BI Course:

### Chemistry
### CHEM 331 Organic Chemistry I
### Other CHEM Course:

### Computer and Information Science
### CIS 445 Modeling and Simulation
### CIS 455 Computational Science
### Other CIS Course:

### Geography
### GEOG 321 Climatology
### GEOG 322 Geomorphology
### GEOG 323 Biogeography
### GEOG 360 Watershed Science & Policy
### GEOG 414 Advanced Geographic Data Analysis
### GEOG 416 Introductory Geographic Information Systems
### GEOG 418 Fundamentals of Remote Sensing
### GEOG 421 Advanced Climatology
### GEOG 422 Advanced Geomorphology
### GEOG 423 Advanced Biogeography
### GEOG 425 Hydrology and Water Resources
### GEOG 427 Fluvial Geomorphology
### GEOG 428 Climatological Aspects of Global Change
### GEOG 472 Advanced Geographic Information Systems
### Other GEOG Course:

### Geological Sciences
### GEOL 310 Earth Resources & Environment
### GEOL 311 Earth Materials (5 credits)
### GEOL 332 Intro to Petrology (5 credits)
### GEOG 334 Sedimentology and Stratigraphy
### GEOL 350 Structural Geology (3 credits)
### GEOL 416 Sedimentary Petrology
### GEOL 425 Geology of Ore Deposits
### GEOL 431 Paleontology I: Paleozoic Marine Fossils
### GEOL 432 Paleontology II: Mesozoic and Cenozoic Marine Fossils
### GEOL 433 Paleontology III: Nonmarine Fossils
### GEOL 435 Paleopedology
### GEOL 451 Hydrogeology
### GEOL 452 Neotectonics and Quaternary Geology
### GEOL 464 Environmental Field Geophysics
### GEOL 472 Aquatic Geochemistry
### Other GEOL Course:

### Landscape Architecture
### LA 441 Principles of Applied Ecology
### LA 465 Landscape Ecology
### Other LA Course:

### Mathematics
### MATH Course pre-approved by adviser

### Physics
### PHYS 311 Physics of the Atmosphere

### AREA 3B. Upper-Division Social Science, Humanities, and Policy Electives (2 courses).
Two courses selected from the ENV Major 3B list.

### AREA 4. Environmental Issues (1 course).
### ENVS 411 Issues course, or other approved course as listed on tip sheet

### AREA 5. Practical Learning Experience (PLE):
All ESCI majors must complete 4 upper division credits of practical learning, which can be satisfied in any of the following ways:
A. One term of study at a field station such as OIMB or Malheur Field Station
B. Two terms of research experience with a UO faculty member in environ. sciences
C. An internship with a substantial component in environmental science (w/adviser approval)
D. A Science-oriented Student Initiated Project (or SIP) (w/adviser approval)
E. Other science-oriented experiential learning opportunities as approved by adviser
F. Participation in the Environmental Leadership Program (ELP) (w/adviser approval)

Last updated 3/15/2010