Environmental Science Major Requirements

All courses for the major must be taken for a grade (C- or better). Up to 16 upper division credits (usually four courses) may be applied to a 2nd major. You must meet with a student or faculty adviser at least two terms prior to graduation.

Check pre-requisites for all upper division courses.

AREA 1. Environmental Studies Core Requirements (2 courses)

ENVS 201 (Soc Sci) ________          ENVS 203 (Humanities) ________

AREA 2. Math and Statistics Requirements (4 courses)

Mathematics - take one of the following sequences:

_____ MATH 246 and 247 – Calculus for Biological Sciences I, II
_____ MATH 251 and 252 – Calculus I, II

Statistics - take one of the following:

_____ GEOG 495 Geographic Data Analysis
_____ GEOL 418 Data Analysis for Earth & Env Sciences
_____ MATH 425 Statistical Methods I
_____ SOC 312 Statistical Analysis in Sociology
_____ Other approved course listed on tip sheet.

Analytical Approaches - take one of the following:

_____ ENVS 427 Environmental & Ecological Monitoring
_____ GEOG 481 GIScience I
_____ LA 413 Analyzing Land Systems
_____ Other approved course listed on tip sheet

AREA 3A. Natural Science Requirements (17 courses)

Natural Science courses are divided into two major categories: a) life sciences courses and b) earth and physical science courses. Choose one as a focal area and complete two, three-course introductory sequences (six courses) and an additional six upper division (300 or 400 level) courses in that focal area. In the non-focal area, you must complete five courses, at least two of which must be upper division.

LIFE SCIENCES □ Focal Area  or □ Non- Focal Area

Lower division introductory sequences:

_____ Biology: BI 211-213
_____ Chemistry: CHEM 221-223
   (Accompanying lab courses, CHEM 227-229, are strongly recommended)
_____ CH 111, BI 211, BI 213 (if non-focal area)

Upper division electives:

_____ ANTH 341 Food Origins
_____ ANTH 361 Human Evolution
_____ ANTH 362 Human Biological Variation {IP}
_____ ANTH 375 Primates in Ecological Communities
_____ ANTH 446 Practical Archaeobotany
_____ ANTH 463 Primate Behavior
_____ ANTH 466 Primate Feeding and Nutrition
_____ ANTH 472 Primate Conservation Biology
_____ BI 306 Pollination Biology
_____ BI 307 Forest Biology

_____ BI 309 Tropical Diseases of Africa
_____ BI 330/331 Microbiology and Lab
_____ BI 357 Marine Biology
_____ BI 359 Plant Biology
_____ BI 370 Ecology
_____ BI 374 Conservation Biology
_____ BI 375 Biological Diversity
_____ BI 380 Evolution
_____ BI 390 Animal Behavior
_____ BI 432 Mycology
_____ BI 442 Systematic Botany
_____ BI 448 Field Botany
_____ BI 451 Invertebrate Zoology [OIMB] (if 8 credits, then counts as 2 courses)
_____ BI 452 Insect Biology
_____ BI 454 Estuarine Biology [OIMB] (5 credits)
_____ BI 455 Marine Birds and Mammals [OIMB] (6 credits)
_____ BI 457 Marine Biology [OIMB] (8 credits, counts as 2 courses)
_____ BI 458 Biological Oceanography [OIMB] (5 credits)
_____ BI 468 Amphibians & Reptiles of Oregon
_____ BI 471 Population Ecology
_____ BI 472 Community Ecology
_____ BI 474 Marine Ecology [OIMB] (8 credits, counts as 2 courses)
_____ BI 476 Terrestrial Ecosystem Ecology
_____ BI 478/479 Neotropical Ecology in Ecuador (8 credits, counts as 2 courses)
_____ CH 331 Organic Chemistry I
_____ CH 335 Organic Chemistry II
_____ CH 336 Organic Chemistry III
_____ GEOG 323 Biogeography
_____ GEOG 423 Advanced Biogeography
_____ GEOG 433 Fire and Natural Disturbances
_____ LA 465 Landscape Ecology
   Other approved course listed on tip sheet

EARTH & PHYSICAL SCIENCES □ Focal Area  or □ Non- Focal Area

Lower division introductory sequences:

_____ Earth Sciences: GEOL 101-103 or 201-203
_____ Physical Sciences: PHYS 201-203
   (Accompanying lab courses, PHYS 204-206, are strongly recommended)
_____ GEOG 141 (if non-focal area)

Upper division electives:

_____ ENVS 350 Ecological Footprint of Energy Generation
_____ ENVS 465 Wetland Ecology & Management
_____ ENVS 477 Soil Science
_____ GEOG 321 Climatology
_____ GEOG 322 Geomorphology
_____ GEOG 360 Watershed Science & Policy
_____ GEOG 361 Global Environmental Change
_____ GEOG 421 Advanced Climatology
_____ GEOG 425 Hydrology and Water Resources
_____ GEOG 427 Fluvial Geomorphology
_____ GEOG 430 Long-Term Environmental Change
_____ GEOG 461 Environmental Alteration
_____ GEOG 482 GIScience II
_____ GEOG 485 Remote Sensing I
_____ GEOG 486 Remote Sensing II
_____ GEOG 491 Advanced GIS

Last updated 2/20/2018
GEOL 304, 305, 306, 307 OR 308 (no more than one course of GEOL 30X)
GEOL 310 Earth Resources & Environment
GEOL 311 Earth Materials (5 credits)
GEOL 315 Earth Physics
GEOL 316 Introduction to Hydrogeology
GEOL 331 Mineralogy (5 credits)
GEOL 332 Introduction to Petrology (5 credits)
GEOL 334 Sedimentology and Stratigraphy
GEOL 350 Structural Geology (3 credits)
GEOL 353 Geological Hazards
GEOL 425 Geology of Ore Deposits
GEOL 431 Paleontology I: Paleozoic Marine Fossils
GEOL 433 Paleobotany
GEOL 434 Vertebrate Paleontology
GEOL 435 Paleopedology
GEOL 438 Geobiology
GEOL 441 Hillslope Geomorphology
GEOL 451 Hydrogeology
GEOL 452 Neotectonics and Quaternary Geology
GEOL 462 Environmental Geomechanics
GEOL 468 Intro Seismology
GEOL 472 Aqueous-Mineral-Gas Equilibria
GEOL 473 Isotope Geochemistry
Other approved course listed on tip sheet

AREA 3B. Social Science, Policy, Humanities and Sustainable Design and Practice Courses (3 courses)
All ESCI majors must complete 1 course from 3 of the 4 areas below:

Social Science - Core Courses:
- ENVS 435 Environmental Justice
- ENVS 450 Political Ecology
- ENVS 455 Sustainability
- GEOG 341 Population & Environment [>2] [IC]
- SOC 416 Issues in Sociology of the Environment (contact instructor for approval)

Policy - Core Courses:
- ENVS 335 Allocating Scarce Environmental Resources [>2]
- PPPM 443 Natural Resource Policy
- PPPM 444 Environmental Policy
- PS 367 Science and Politics of Climate Change [>2]
- PS 477 International Environmental Politics

Humanities - Core Courses:
- ENG 469 Literature and the Environment
- ENVS 345 Environmental Ethics [>1]
- HIST 378 American Environmental History to 1890 [>2] [AC]
- HIST 379 American Environmental History, 1890-Present [>2] [AC]
- HIST 473 American Environmental History
- PHIL 340 Environmental Philosophy [>1]

Sustainable Design and Practice - Core Courses:
- ARCH 430 Architectural Contexts: Place & Culture
- ARCH 431 Community Design
- ARCH 435 Principles of Urban Design
- ENVS 467 Sustainable Agriculture
- LA 440 Introduction to Landscape Planning Analysis
- LA 441 Principles of Applied Ecology
- PPPM 442 Sustainable Urban Development
- PPPM 445 Green Cities

AREA 4. Environmental Issues course (1 course)
- ENVS 411 or 425 Issues course, or other approved course listed on tip sheet

AREA 5. Practical Learning Experience (1 course or 4 credits)
All ESCI majors must complete 4 upper division credits of practical learning (eg, ENVS 401, 404, 429 or other approved course), which can be satisfied in any of the following ways:
- Environmental Leadership Program (ENVS 429 – application required)
- Internship (ENVS 404 – approval by Internship Coordinator required)
- IE3 international internship (OINT 488)
- Pre-approved course taken abroad with substantial scientific research component
- One term of study at a field station such as OIMB
- One term of research with a UO faculty member in environmental science (ENVS 401)
- Honors Thesis with a substantial environmental science focus (ENVS 403 w/ adviser approval)
- Other science-oriented experiential learning opportunities as approved by adviser