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 your adviser during the first term of your last year.

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 Quantitative Methods in Sociology
________________ Other approved course listed on tip sheet.

Analytical Approaches - take one of the following:
________________ BI 473 Quantitative Ecology
________________ ENVS 427 Environmental & Ecological Monitoring
________________ GEOG 481 GIScience I
________________ LA 413 Analyzing Land Systems
________________ PPPM 434 Urban Geographic Info 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 or CHEM 111, BI 211, BI 213
________________ Chemistry: CHEM 221-223 or equivalent. (Accompanying lab courses, CHEM 227-229, are strongly recommended)

Upper division electives:
________________ ANTH 330 Hunters and Gatherers
________________ ANTH 341 Food Origins
________________ ANTH 361 Human Evolution
________________ ANTH 375 Primates in Ecological Communities
________________ ANTH 446 Practical Archaeobotany
________________ ANTH 460 Nutritional Anthropology
________________ 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 Diseases of Africa
________________ BI 330/331 Microbiology and Lab
________________ BI 357 Marine Biology
________________ BI 359 Plant Biology
________________ BI 370 Principles of Ecology
________________ BI 374 Conservation Biology
________________ BI 375 Biological Diversity
________________ BI 380 Evolution
________________ BI 390 Animal Behavior
________________ BI 412 Marine Field Studies [OIMB]
________________ 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 468 Amphibians & Reptiles of Oregon
________________ BI 469 Ecological Restoration
________________ BI 471 Population Ecology
________________ BI 472 Community Ecology
________________ BI 474 Marine Ecology [OIMB]
________________ BI 476 Terrestrial Ecosystem Ecology
________________ BI 478/479 Neotropical Ecology in Ecuador
________________ CHEM 331 Organic Chemistry I
________________ CHEM 335 Organic Chemistry II
________________ CHEM 336 Organic Chemistry III
________________ GEOG 323 Biogeography
________________ GEOG 423 Advanced Biogeography
________________ GEOG 433 Fire and Natural Disturbance
________________ 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 201-203
________________ Physical Sciences: PHYS 201-203 or equivalent. (Accompanying lab courses, PHYS 204-206, are strongly recommended)
________________ GEOL 141 (if non-focal area)

Upper division electives:
________________ ENVS 350 Ecology 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 432 Climatological Aspects of Global Change
________________ GEOG 461 Environmental Alteration
________________ GEOG 482 GIScience II
________________ GEOG 485 Remote Sensing I
________________ GEOG 486 Remote Sensing II
________________ GEOG 491 Advanced GIS
________________ 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 316 Introduction to Hydrogeology
________________ GEOL 331 Mineralogy (5 credits)
________________ GEOL 332 Introduction to Petrology (5 credits)
________________ GEOL 334 Sedimentology and Stratigraphy

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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 435 Paleopedology
GEOL 441 Hillslope Geomorphology
GEOL 451 Hydrogeology
GEOL 452 Neotectonics and Quaternary Geology
GEOL 462 Environmental Geomechanics
GEOL 468 Intro Seismology
GEOL 472 Aqueous Geochemistry
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 [SSC] (IC)
- SOC 416 Issues in Sociology of the Environment (contact instructor for approval)

Policy - Core Courses:
- ENVS 335 Allocating Scarce Environmental Resources
- PPPM 331 Environmental Management
- PPPM 443 Natural Resource Policy
- PPPM 444 Environmental Policy
- PS 477 International Environmental Politics

Humanities - Core Courses:
- ENG 469 Literature and the Environment
- ENVS 345 Environmental Ethics [A&L]
- ENVS 440 Environmental Aesthetics
- HIST 473 American Environmental History
- PHIL 340 Environmental Philosophy [A&L]

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)
- IES 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
- Two terms of research experience 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