Environmental Science Major Requirements

All courses for the major must be taken for a grade (C- or better).

DO NOT take course for the major P/NP!

Up to 16 upper division credits (usually four courses) may be applied to a 2nd major. You must meet with a Tykeson SDS-Flight Path adviser at least two terms prior to graduation.

Check pre-requisites for all upper division courses.

AREA 1. Lower Division Environmental Studies 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
_______ Other approved course listed on tip sheet.

Analytical Approaches - take one of the following:

_______ ENVS 427 Environmental & Ecological Monitoring
_______ GEOG 481 GIScience I
_______ 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 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 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 433 Fire and Natural Disturbances
_______ 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 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 424 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
_______ GEOL 304, 305, 306, 307 QB 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)
_______ GEOG 332 Introduction to Petrology (5 credits)

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GEOL 334 Sedimentology and Stratigraphy
GEOL 350 Structural Geology (3 credits)
GEOL 353 Geological Hazards
GEOL 425 Geology of Ore Deposits
GEOL 433 Paleobotany
GEOL 434 Vertebrate Paleontology
GEOL 435 Paleopedology
GEOL 438 Geobiology
GEOL 441 Hillslope Geomorphology
GEOL 451 Hydrogeology
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 - Foundation 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 - Foundation 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 - Foundation 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]
PHIL 340 Environmental Philosophy (>1)

Sustainable Design and Practice - Foundation Courses:
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, 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)
Honors Thesis (ENVS 403 – w/ advisor approval)
Other experiential learning opportunity as approved by advisor