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
_____ ERTH 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 395 Tropical Ecology
_____ 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: ERTH 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 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
_____ ERTH 304, 305, 306, 307 OR 308 (no more than one course of ERTH 30X)
_____ ERTH 310 Earth Resources & Environment
_____ ERTH 311 Earth Materials (5 credits)
_____ ERTH 315 Earth Physics
_____ ERTH 316 Introduction to Hydrogeology
_____ ERTH 331 Mineralogy (5 credits)

_____ ERTH 332 Introduction to Petrology (5 credits)
_____ ERTH 334 Sedimentology and Stratigraphy
_____ ERTH 350 Structural Geology (3 credits)
_____ ERTH 353 Geological Hazards
_____ ERTH 425 Geology of Ore Deposits
_____ ERTH 433 Paleobotany
_____ ERTH 434 Vertebrate Paleontology
_____ ERTH 435 Paleopedology
_____ ERTH 438 Geobiology
_____ ERTH 441 Hillslope Geomorphology
_____ ERTH 451 Hydrogeology
_____ ERTH 462 Environmental Geomechanics
_____ ERTH 468 Intro Seismology
_____ ERTH 472 Aqueous-Mineral-Gas Equilibria
_____ ERTH 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 Environnemental History to 1890 [>2] {AC}
_____ HIST 379 American Environmental History, 1890-Present [>2] {AC}
_____ HIST 473 American Environmental History: Topic
_____ 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
_____ 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