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 360 Human Biological Variation {IP}
  - ANTH 375 Primates in Ecological Communities
  - ANTH 463 Primate Behavior
  - ANTH 466/467 Primate Feeding & 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

- **ERTH**

- 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 414 (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 HydroERTHogy
  - ERTH 331 Mineralogy (5 credits)
  - ERTH 332 Introduction to Petrology (5 credits)
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
- LA 444 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