

# Bachelor of Science in Environmental Science

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The Bachelor of Science in Environmental Science degree program is designed for students interested in an interdisciplinary scientific perspective on environmental and sustainability issues, analysis, and management. The degree program provides the broad foundation in physical, life, and social sciences needed for a career or graduate study in environmental science and related fields such as climate change, ecology, and conservation. Students who complete the program successfully will be able to assess environmental issues critically from multiple perspectives; to perform field, laboratory, and computer analyses; and to conduct original research. The program is designed to prepare graduates for careers in local, state, and federal government laboratories and nonprofit agencies, environmental consulting firms, environmental education and outreach agencies, and universities and other research settings. The degree is offered by the College of Natural Sciences with a focus on biological sciences, by the College of Liberal Arts with a focus on geographical sciences, and by the Jackson School of Geosciences with a focus on geological sciences. The degree programs share common prescribed work, but each degree has its own specific requirements. Students may earn only one Bachelor of Science in Environmental Science degree from the University.

The Bachelor of Science in Environmental Science curriculum consists of 126 semester hours of coursework. All students must complete the University's Core Curriculum. The specific degree requirements consist of prescribed work, major requirements, and electives. In some cases, a course that is required for the degree may also be counted toward the core curriculum.

A course in one prescribed work area may not also be used to fulfill the requirements of another prescribed work area; the only exception to this rule is that a course that fulfills another requirement may also be used to fulfill a flag requirement, unless otherwise specified.

In the process of fulfilling the core curriculum and other degree requirements, all students are expected to complete the following Skills and Experience flags:

- a. Writing: three flagged courses beyond Rhetoric and Writing 306 or its equivalent; students in the College of Natural Sciences and the Jackson School of Geosciences must complete only two flagged writing courses. For students in the College of Natural Sciences and the College of Liberal Arts, at least one writing flag must be from an upper-division course.
- b. Quantitative reasoning: one flagged course
- c. Global cultures: one flagged course
- d. Cultural diversity in the United States: one flagged course
- e. Ethics: one flagged course
- f. Independent inquiry: one flagged course

## Prescribed Work Common to All Environmental Science Majors

- a. Mathematics: Mathematics 408C, or 408N and 408S, or 408K and 408L.
- b. Chemistry: Chemistry 301 or CH 301H; 302 or CH 302H; and 204.
- c. Physics: Physics 317K and 117M, Physics 303K and 103M, or Physics 301 and 101L.

- d. Biological Sciences: Biology 311C and 311D, or 315H.
- e. Ecology:
  - a. Biology 373 or Marine Science 320. Marine Science 320 may not be used to satisfy both requirement 5a and requirement 10c. Environmental science majors in the College of Natural Sciences must choose Biology 373.
  - b. Biology 373L or Marine Science 120L. Environmental science majors in the College of Natural Sciences must choose Biology 373L.
- f. Geological Sciences: Geological Sciences 401 or 303 or Geography 401C; Geological Sciences 346C; and an approved geological sciences course in sustainability.
- g. Geography: Geography 335N.
- h. Field experience and research methods: Environmental Science 311 and 121.
- i. Capstone Research Experience: one of the following pairs:
  - i. Environmental Science 271 and 371 or Environmental Science 171 and 471.
  - ii. Environmental Science 172C and 472D or Environmental Science 272C and 372D.
  - iii. Environmental Science 271 or Marine Science 370, and one of the following: Chemistry 320M, Geography 460G, 368C, 462K, Geological Sciences 327G, Mathematics 408D, 408M, Statistics and Data Sciences 321 or 320E. Note: Geography 460G, 462K, and Geological Sciences 327G may not be used to satisfy both requirement 9c and 10b. Statistics and Data Sciences 321 and 320E may not be used in this requirement by students in the College of Natural Sciences. Biology 377 may substitute for Environmental Science 271 with prior approval of the faculty advisor. Tutorial Course 660HA and 660HB may substitute for Environmental Science 271 and 371 with prior approval of the faculty advisor. Geological Sciences 172H, 173H, and 379H may substitute for Environmental Science 271 and 371 with prior approval of the faculty advisor. Natural Sciences 323 and 371 may substitute for Environmental Science 271 and 371 with the prior approval of the faculty advisor.
- j. Environmental and sustainability themes: one course in each of the following thematic areas:
  - a. Environmental and sustainability policy, ethics, and history: Geography 323K, 331K, 334, 336C, 339K, 340D, 342C, 344K, 356C, History 350R (Topic 7: Environmental History of North America), Journalism 346F, Marine Science 367K, or Philosophy 325D. Biology 337, Geography 356, 356T, or Sociology 321K may be counted with prior approval of the faculty advisor.
  - b. Geographic information systems: Geography 460G, 462K, Geological Sciences 327G.
  - c. Climates and oceans: Biology 456L, Geography 333K, Geological Sciences 338J, 347D, 347G, 377P, Marine Science 320, 440, 354Q, 354T, 356. Marine Science 320 may not be used to satisfy both requirement 5 and requirement 10. Marine Science 356 may not be used to satisfy both requirement 10c and requirement 14 in Option I. Marine Science 356 may not be used to satisfy both requirement 10c and requirement 18 in Option II. Biology 337, 437, Geography 356, 356T, Geological Sciences 371C, 371T, Marine Science 352, or 353 may count with prior approval of the faculty advisor.

- d. Environmental economics, sustainability, and business: Economics 304K, 330T. Advanced Placement credit for Economics 304L may be used to satisfy this requirement.
- k. Environmental Science 141 and 151.

- 16. Two semesters of Biology 379H; these courses may be used to fulfill requirement 9.
- 17. Biology 370.
- 18. Three semester hours in conservation and environmental biology chosen from Biology 351, 375, Marine Science 352E, 355E, or 356. Marine Science 356 may not be used to satisfy both requirement 10c and requirement 18.

## Major Requirements

### Option I: Biological Science

- l. One of the following foreign language/culture choices:
  - a. Beginning level proficiency coursework, or the equivalent, in a foreign language.
  - b. First course in a foreign language and a three-semester-hour course in the culture of the same language area.
  - c. Two three-semester-hour courses in one foreign culture area; the courses must be chosen from an approved list available in the dean's office and the college advising centers.
- m. Three hours in statistics chosen from SDS 320E and 321; with the consent of the undergraduate advisor, an upper-division statistics or probability course may be used to fulfill this requirement.
- n. Three hours in conservation and environmental biology chosen from Biology 351, 375, Marine Science 352E, 355E or 356. Marine Science 356 may not be used to satisfy both requirement 10c and requirement 14. Marine Science 352 may count with prior approval of the faculty advisor.
- o. Biology 325 or 325H (for students completing Biology 315H), and 370.
- p. One of the following taxon/systems-based diversity courses or pairs of courses: Biology 321L, 324 and 124L, BIO 327 and BIO 127L, 340L, 448L, 353F, 453L, 354L, 455L, 463L, 364, 369F, 369L, 471G, 352C, 352D, 354, 354C, 354E, 354U, or 357.
- q. One of the following physiology, neurobiology, and behavior courses or pairs of courses: Biology 322 and 122L, 328, 438L, 355, 345E, 346, 359J, 359K, 359R, 361, 361T, 365S, 367C, 371L, Marine Science 355C.
- r. Complete one upper-division laboratory course in addition to the laboratory requirements in the Prescribed Work Common to All Environmental Science Majors. A laboratory course taken to meet requirement 16 or 17 may be used to fulfill this requirement.
- s. Enough additional coursework to make a total of 126 hours.

- 19. One of the following taxon/systems-based diversity courses or pairs of courses: Biology 321L, 324 and 124L, BIO 327 and BIO 127L, 340L, 448L, 353F, 453L, 354L, 455L, 463L, 364, 369F, 369L, 471G, Marine Science 352C, 352D, 354, 354C, 354E, 354U or 357.
- 20. Six semester hours of coursework from the College of Liberal Arts and/or the College of Fine Arts.
- 21. Complete one upper-division laboratory course in addition to the laboratory requirements in the Prescribed Work Common to All Environmental Science Majors. A laboratory course taken to fulfill requirement 19 may be used to fulfill this requirement.
- 22. Enough additional coursework approved by the honors advisor to make a total of 126 semester hours.

### Special Requirements

Students must fulfill both the University's [general requirements](#) for graduation and the [college requirements](#). They must also earn a grade of at least C- in each mathematics and science course required for the degree, and a grade point average in these courses of at least 2.00. More information about grades and the grade point average is given in the [General Information Catalog](#).

To graduate under the honors option, students must remain in good standing in the Dean's Scholars Honors Program, must submit an honors thesis approved by the program honors advisor, and present their research in an approved public forum, such as the college's annual Undergraduate Research Forum. More information about the Undergraduate Research Forum is available at <https://cns.utexas.edu/>.

### Option II: Biological Sciences Honors

- 12. To fulfill requirements 1 through 4 of the prescribed work common to all options above, students complete the following breadth requirement: An honors mathematics course; Biology 315H and 325H; CH 301H and CH 302H; Physics 301 and 101L; and a designated honors statistics course. Credit earned by examination may not be counted toward this requirement.
- 13. Chemistry 204.
- 14. A section of Undergraduate Studies 302 or 303 that is approved by the honors program advisor.
- 15. A section of Rhetoric and Writing 309S that is restricted to student in the Dean's Scholars Honors Program.