

DOCUMENTS OF THE GENERAL FACULTY

**PROPOSED CHANGES TO THE BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCES IN
THE COLLEGE OF NATURAL SCIENCES CHAPTER IN THE *UNDERGRADUATE CATALOG*,
2016-2018**

Dean Linda Hicke in the College of Natural Sciences has filed with the secretary of the Faculty Council the following changes to the Bachelor of Science in Environmental Sciences content common to Jackson School of Geoscience, College of Liberal Arts, and College of Natural Sciences in the *Undergraduate Catalog, 2016-2018*.

The Committee on Undergraduate Degree Program Review recommended approval of the changes on November 5, 2015, and forwarded the proposal to the Office of the General Faculty. The Faculty Council has the authority to approve this legislation on behalf of the General Faculty. The authority to grant final approval on this legislation resides with UT System.

If no objection is filed with the Office of the General Faculty by the date specified below, the legislation will be held to have been approved by the Faculty Council. If an objection is filed within the prescribed period, the legislation will be presented to the Faculty Council at its next meeting. The objection, with reasons, must be signed by a member of the Faculty Council.

To be counted, a protest must be received in the Office of the General Faculty by January 26, 2016.



Hillary Hart, Secretary
General Faculty and Faculty Council

Therefore, this lab requirement has been relocated within the CNS degree options. With careful selection of coursework to fulfill already existing requirements, the lab requirement may be completed without enrolling in an additional course.

Option I: Biological Science and Option II: Biological Sciences Honors

Additional minor changes include removal of discontinued courses and inclusion of newly created courses.

3. THIS PROPOSAL INVOLVES (Please check all that apply)

- | | | |
|--|--|---|
| <input checked="" type="checkbox"/> Courses in other colleges | <input type="checkbox"/> Courses in proposer's college that are frequently taken by students in other colleges | <input type="checkbox"/> Flags |
| <input type="checkbox"/> Course in the core curriculum | <input type="checkbox"/> Change in course sequencing for an existing program | <input type="checkbox"/> Courses that have to be added to the inventory |
| <input type="checkbox"/> Change in admission requirements (external or internal) | <input checked="" type="checkbox"/> Requirements not explicit in the catalog language (upper-division lab requirement relocated to degree options) | <input checked="" type="checkbox"/> Flags |

4. SCOPE OF PROPOSED CHANGE

- a. Does this proposal impact other colleges/schools? Yes No
If yes, then how?
- b. Do you anticipate a net change in the number of students in your college? Yes No
If yes, how many more (or fewer) students do you expect?
- c. Do you anticipate a net increase (or decrease) in the number of students from outside of your college taking classes in your college? Yes No
If yes, please indicate the number of students and/or class seats involved.
- d. Do you anticipate a net increase (or decrease) in the number of students from your college taking courses in other colleges? Yes No
If yes, please indicate the number of students and/or class seats involved.

If 4 a, b, c, or d was answered with yes, please answer the following questions. If the proposal has potential budgetary impacts for another college/school, such as requiring new sections or a non-negligible increase in the number of seats offered, at least one contact must be at the college-level.

How many students do you expect to be impacted? Approximately 160-180 environmental science majors across the College of Natural Science, the College of Liberal Arts, and the Jackson School of Geosciences.

Impacted schools must be contacted and their response(s) included:

Person communicated with: Dr. Clark Wilson, Undergraduate Faculty Advisor, Geosciences

Date of communication: May 6, 2015

Response: Agreed

Person communicated with: Dr. Carlos Ramos, Undergraduate Faculty Advisor, Liberal Arts

Date of communication: May 6, 2015

Response: Agreed

Person communicated with: Dr. Norma Fowler, Undergraduate Faculty Advisor, Natural Sciences

Date of communication: May 6, 2015

Response: Agreed

- e. Does this proposal involve changes to the core curriculum or other basic education requirements (42-hour core, signature courses, flags)? If yes, explain: No.

If yes, undergraduate studies must be informed of the proposed changes and their response included:

Person communicated with:

Date of communication:

Response:

- f. Will this proposal change the number of hours required for degree completion? If yes, explain: No.

5. COLLEGE/SCHOOL APPROVAL PROCESS

Program approval date: May 6, 2015
 College approval date: September 2, 2015
 Dean's approval date: September 28, 2015, David Vanden Bout, Associate Dean

PROPOSED NEW CATALOG TEXT:

BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE

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 Jackson School of Geosciences with a major in geological sciences, by the College of Liberal Arts with a major in geographical sciences, and by the College of Natural Sciences with a major in biological sciences. The degree programs share common prescribed work, but each major has its own specific requirements. Students may earn only one Bachelor of Science in Environmental Science degree from the University.

~~Students must apply for admission to the degree program after completing prerequisite coursework. To be competitive for admission, students should have a University grade point average of at least 2.75. More information about admission requirements is given in The Bachelor of Science in Environmental Science.~~

The Bachelor of Science in Environmental Science curriculum consists of 126 semester hours of coursework. All students must complete the University's Core Curriculum (p. 23). The specific degree requirements consist of prescribed work, and 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 ~~the writing a flag requirement, unless otherwise specified. if the course carries a writing flag.~~

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

1. 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, at least one writing flag must be from an upper-division course.
2. Quantitative reasoning: one flagged course
3. Global cultures: one flagged course
4. Cultural diversity in the United States: one flagged course
5. Ethics and leadership: one flagged course
6. Independent inquiry: one flagged course

Prescribed Work Common to All Environmental Science Majors Options

1. Mathematics: Mathematics 408C, or 408N and 408S, or 408K and 408L.
2. Chemistry: Chemistry 301 or 301H; 302 or 302H; and 204.
3. Physics: Physics 317K and 117M, or another four-hour calculus-based physics sequence.
4. Biological Sciences: Biology 311C and 311D, or 315H.

5. Ecology: ~~Biology 373 and Biology 373L, or Marine Science 320 and either 120L or 152T (Topic: *Marine Ecology*); Marine Science 320 may not be used to satisfy both requirement 5 and requirement 10.~~
 - a. Biology 373 or Marine Science 320. Marine Science 320 may not be used to satisfy both requirement 5a and requirement 10c.
 - b. Biology 373L or Marine Science 120L. Environmental science majors in the College of Natural Sciences must choose Biology 373L.
6. Geological Sciences: Geological Sciences 401 or 303, 346C, and an approved geological sciences course in sustainability.
7. Geography: Geography 335N.
8. Field experience and research methods: Environmental Science 311 and 121. One course from each of the following lists:
 - a. ~~Introductory field seminar: Environmental Science 311.~~
 - b. ~~Senior field/research experience: Environmental Science 371 or Biology 377 (with prior approval of the faculty advisor).~~
9. ~~Research Methods: Environmental Science 331. Senior field/research experience: one of the following pairs:~~
 - a. Environmental Science 271 and 371 or Environmental Science 171 and 471.
 - b. Environmental Science 172C and 472D or Environmental Science 272C and 372D.
 - c. Environmental Science 271 or Marine Science 348, and one of the following: Chemistry 320M, Geography 360G, 368C, 462K, Geosciences 327G, Mathematics 408D or 408M.

Note: Geography 360G, 462K, and Geosciences 327G may not be used to satisfy both requirement 9c and 10b. Biology 277 may substitute for Environmental Science 271 with prior approval of the faculty advisor.
10. Environmental and sustainability themes: one course in each of the following thematic areas:
 - a. Environmental and sustainability policy, ethics, and history: Geography 334, 336C, 339K, 340D, 342C, 344K, 356C, 356T, Journalism 346E, Marine Science 367K, and Philosophy 325C, Sociology 321K. Biology 337, Geography 356, 356T, or Sociology 321K may be counted with prior approval of the faculty advisor.
 - b. Geographic information systems: Geography 360G, 462K, Geological Sciences 327G.
 - c. Climates and oceans: Biology 456L, Geography 333K, 356T (approved topics), Geological Sciences 347D, 347G, 371C (approved topics), 377P, Marine Science 320, 440, 352, 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. Geography 356T, Geological Sciences 371C, and Marine Science 352 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.
11. Environmental Science 141 and 151.

Additional Prescribed Work for Each Option:

All students must complete at least fifteen semester hours of upper division coursework, including one upper division laboratory/field course in addition to the laboratory/field courses in the prescribed work for the degree. The student must complete ~~Biology 311C, 311D, and 325, or 315H and 325H, with a grade of at least C in each before progressing to other upper division biology courses. All students must complete two courses with a writing flag. One of these courses must be upper division. Courses that meet this requirement are identified in the *Course Schedule*. They may be used simultaneously to fulfill other requirements, unless otherwise specified.~~

Major Requirements

BS EVS: Option I: Biological Science

12. One of the following foreign language/culture choices:
 - a. Second-semester-level proficiency, or the equivalent, in a foreign language.

- b. First-semester-level proficiency, or the equivalent, 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.
13. Three hours in statistics chosen from Statistics and Data Sciences 328M and 321; with the consent of the undergraduate adviser, an upper-division statistics or probability course may be used to fulfill this requirement.
 14. Three hours in conservation and environmental biology chosen from Biology 351, 375, Marine Science ~~352 (Topic: *Concepts in Marine Conservation Biology*)~~, and 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.
 15. Biology 325 or 325H (for students completing Biology 315H), and 370.
 16. One of the following taxon/systems-based diversity courses or pairs of courses: Biology 321L, 324 and 124L, 327 and 127L, ~~337 (Topic: *Natural History of the Protists*)~~, 340L, 448L, 353F, 453L, 354L, 455L, 364, 369L, 471G, Marine Science ~~352 (Topic: *Principles of Estuarine Ecology*)~~, ~~352 (Topic: *Marine Invertebrates*)~~, 352D, ~~352E~~, 354C, 354E, 354U, ~~or 357~~, ~~Geological Sciences 479M~~. Biology 337 may count with prior approval of the faculty advisor.
 17. One of the following physiology, neurobiology, and behavior courses or pairs of courses: Biology 322 and 122L, 328 and 128L, 438L, 339, 345E, 346, 359J, 359K, 359R, 361, 361T, 365S, 371L, Marine Science 355C, Neuroscience 365R.
 18. ~~All students must complete two courses with a writing flag, one of which must be upper division; students must also complete one quantitative reasoning flag. Courses with flags are identified in the Course Schedule. They may be used simultaneously to fulfill other requirements, unless otherwise specified. 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.~~
 19. Enough additional coursework to make a total of 126 hours.

BS EVS: 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; Chemistry 301H and 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 adviser ~~or Environmental Science 331~~.
15. A section of Rhetoric and Writing 309S that is restricted to student in the Dean's Scholars Honors Program.
16. Two semesters of Biology 379H; ~~one semester~~ these courses may be used to fulfill requirement 9 ~~8b~~.
17. Biology 370.
18. Three semester hours in conservation and environmental biology chosen from Biology 375, 351, Marine Science ~~352 (Topic: *Concepts in Marine Conservation Biology*)~~, and 356; Marine Science 356 may not be used to satisfy both requirement 10c and requirement 18.
19. One of the following taxon/systems-based diversity courses or pairs of courses: Biology 321L, 324 and 124L, 327 and 127L, ~~337 (Topic: *Natural History of the Protists*)~~, 340L, 448L, 353F, 453L, 354L, 455L, 364, 369L, 471G; Marine Science 352 (Topic: *Principles of Estuarine Ecology*), or Marine Science 352 (Topic: *Marine Invertebrates*), 352D, 354C, 354E, 354U, ~~or 357~~, ~~or Geological Sciences 479M~~. Biology 337 may count with prior approval of the faculty advisor.
20. Six semester hours of coursework in the College of Liberal Arts or the College of Fine Arts.
21. ~~All students must complete two courses with a writing flag, one of which must be upper division; students must also complete one quantitative reasoning flag. One of these courses must be upper-division. Courses with flags are identified in the Course Schedule. They may be used simultaneously to fulfill other requirements, unless otherwise specified. 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.~~

21. Enough additional coursework approved by the honors adviser 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 adviser, and must 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/>.