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

Type of Change
- ❑ Academic Change
- □ Degree Program Change (THECB² form required)

Proposed classification
- □ Exclusive
- ❑ General
- □ Major

1. IF THE ANSWER TO ANY OF THE FOLLOWING QUESTIONS IS YES, THE COLLEGE MUST CONSULT LINDA DICKENS, DIRECTOR OF ACCREDITATION AND ASSESSMENT, TO DETERMINE IF SACS-COC APPROVAL IS REQUIRED.
   - □ Is this a new degree program? Yes □ No ❑
   - □ Does the program offer courses that will be taught off campus? Yes □ No ❑
   - □ Will courses in this program be delivered electronically? Yes □ No ❑

2. EXPLAIN CHANGE TO DEGREE PROGRAM AND GIVE A DETAILED RATIONALE FOR EACH INDIVIDUAL CHANGE:

Admissions section
The inclusion of new admissions language details the process whereby students seeking admission to the environmental science major are admitted as a single cohort, as was originally intended when the degree plans were created and approved by THECB. The language also specifies that students are permitted to confirm their selection of the 3 related environmental science degree plans after completing 24 hours in residence. This allows for a minimum introductory period in which students are expected to complete coursework common to all 3 degree plans, again as originally intended. Finally, the minimum grade point average to indicate competitiveness was raised from 2.75 to 3.00 and the coursework expected of internal transfer applicants was shifted from mandatory to suggested in accordance with experience with the internal transfer process over the first 5 years of the program.

Introductory paragraph
Minor changes to the introductory paragraph to clarify that the major among all 3 degree plans is environmental science, and that biological, geographical, or geological sciences is an additional area of focus.

Prescribed work common to all colleges
Change in field and research experience components were made in response to ongoing concerns about the quality of the research experience in both EVS 331 (previously Prescribed Requirement 9) and EVS 371 (previously Prescribed Requirement 8b). Specifically, the material previously addressed by EVS 331 was divided into two component parts. The first of these parts consisted of traditional Research Methods subjects, and was incorporated into a newly developed 1-credit hour course for environmental science majors (EVS 121), now listed as part of Prescribed Requirement 8. The remaining two credit hours, previously associated with a research project conducted in EVS 331, were reallocated to the capstone senior research experience, now listed as Prescribed Requirement 9. This change will allow students to spend more time focusing on, preparing for, and completing a single year-long (5-credit hour) research project (see Prescribed Requirement 9a). A year-long 5-credit hour course sequence was also created through which students can, under the supervision of a single faculty, work on related research projects collaboratively (see Prescribed Requirements 9b). Finally, the small number of students who still intend to complete one of a limited number of one-semester courses previously deemed satisfactory of the senior field experience requirement will be permitted to pair that course with either a
smaller project under EVS 271 or an advanced course useful to but not explicitly required by their degree plan (see Prescribed Requirement 9c). It is the belief of the faculty advisors to the environmental science degree plans that this change will improve the overall quality of the research education of the environmental science students.

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)
   - Courses in other colleges
   - Courses in proposer’s college that are frequently taken by students in other colleges
   - Course in the core curriculum
   - Change in course sequencing for an existing program
   - Change in admission requirements (external or internal)
   - Requirements not explicit in the catalog language (e.g., lists of acceptable courses maintained by department office)
   - Flags
   - Courses that have to be added to the inventory

4. SCOPE OF PROPOSED CHANGE
   a. Does this proposal impact other colleges/schools? Yes ☒ No ☐
      If yes, then how? This degree is jointly managed and awarded by 3 colleges: College of Natural Sciences, College of Liberal Arts, and Jackson School of Geosciences
   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 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 4a, 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
   Dean’s Scholars approval date (for changes to Option II):
   College approval date:

**PROPOSED NEW CATALOG TEXT:**

The Bachelor of Science in Environmental Science

Students must be admitted to the Bachelor of Science in Environmental Science degree program; they may apply for admission after completing the following requirements:

- The student must earn a grade of at least C in Biology 311C, Chemistry 301, Mathematics 408C or 408N; and a grade of at least B in Geological Sciences 401 or 303. To be competitive for admission, the student must have a grade point average of at least 2.75 in these four courses.

Applications are evaluated after the end of each fall and spring semester. Students whose applications are denied may reapply through the supplemental admission process the following semester. Admission decisions are based on the student’s grade point average in the basic sequence courses, his or her University grade point average, and other factors; these factors include, but are not limited to, the difficulty of the student’s course load, course repetitions, and proven mathematical ability. Students should consult advisers in the College of Natural Sciences Transitional Advising Center (TRAC) for information about the application process and application deadlines.

More information about the degree program is given in Bachelor of Science in Environmental Science.

**Admission to the Environmental Science Program**

All freshmen and external transfer students majoring in environmental science (EVS) are first admitted to the University as entry-level EVS majors in the College of Natural Sciences, the College of Liberal Arts, or the Jackson School of Geosciences. After completing a minimum of 24 hours in residence, students may select the EVS degree plan that best suits their long-term interests and, if necessary, transfer to the appropriate college/school in accordance with the regulations and procedures set forth in that college or school’s General Information.

**Freshman Admission**

Freshmen applicants seeking admission to the EVS major through the College of Natural Sciences, the College of Liberal Arts, or the Jackson School of Geosciences must meet the calculus readiness requirement by the official admissions application deadline. More information about the calculus readiness requirement is available through the University Admissions Office or online at Be A Longhorn.

Freshmen applicants to the EVS major from all three colleges/schools are reviewed and admitted as a single cohort. Applicants should use the ApplyTexas online application and select the “Environmental Science, Entry-Level” major option listed in the College of Natural Sciences, the College of Liberal Arts, or the Jackson School of Geosciences as a first-choice major. Applicants should apply to the EVS program in the college that best suits their anticipated area of focus (geographical sciences, biological sciences, or geological sciences, respectively).

**External Transfer Admission**
Students who wish to transfer to the University from another college or University must apply to the Office of Admissions as described in General Information. External transfer applicants seeking admission to the Environmental Science (EVS) Degree Program through the Jackson School of Geosciences, College of Liberal Arts, or College of Natural Sciences must demonstrate calculus readiness by the official admissions application deadline. Details regarding transfer calculus readiness are available through the University Admissions Office or online at Be A Longhorn.

External transfer applicants to the EVS major from all three colleges/schools are reviewed and admitted as a single cohort. Applicants should use the ApplyTexas online application and select the “Environmental Science, Entry-Level” major option listed in the College of Natural Sciences, the College of Liberal Arts, or the Jackson School of Geosciences as a first-choice major. Applicants should apply to the EVS program in the college that best suits their anticipated area of focus (geographical sciences, biological sciences, or geological sciences, respectively).

**Internal Transfer Admission**

Internal transfer, entry-level applications submitted to the EVS major through the College of Natural Sciences, the College of Liberal Arts, and the Jackson School of Geosciences are reviewed and admitted as a single cohort. All internal transfer applicants should use the online EVS Program Transfer Application and must meet the requirements for internal transfer given in the General Information. To be competitive for admission, internal transfer applicants should have a grade point average of at least 3.0 in Biology 311C, Chemistry 301, Mathematics 408C or 408N or 408K, and Geological Sciences 401 or 303.

**Additional Information for all internal transfer applicants:**

- **Application Deadline:** March 1st for entry the following academic year.
- Only currently enrolled students in good academic standing with their college of residence may apply.
- Students may apply during the semester they are completing the minimum requirements to be eligible for consideration.
- Entry-level admission to all Environmental Science majors is offered as space is available to the students who are best qualified. Decisions are based on the student’s grade point average in the introductory science and math courses listed above, University grade point average, and other factors including, but not limited to, difficulty of course load, course repetitions, proven mathematical ability, and interest in the field of Environmental Science.

Students should consult with an Academic Advisor for additional information on the application process and deadlines.
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 College of Natural Sciences with a focus on biological sciences Jackson School of Geosciences with a major in geological sciences, by the College of Liberal Arts with a major in focus on geographical sciences, and by the Jackson School of Geosciences with a focus on geological sciences College of Natural Sciences with a major in biological sciences. The degree programs share common prescribed work, but each major degree 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. 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 requirement if the course carries a writing flag.

Prescribed Work Common to All Options

1. Mathematics: Mathematics 408C, or 408N and 408S, or 408K and 408L.
2. Chemistry: Chemistry 301 or 301H; 302 or 302H; and 204.
4. Biological Sciences: Biology 311C and 311D, or 315H.
5. Ecology: Biology 373L and Biology 373L, or Marine Science 320, and Biology 373L or (students in the Jackson School of Geosciences or the College of Liberal Arts) Marine Science 120L, either 120L or 152T (Topic: Marine Ecology); Marine Science 320 may not be used to satisfy both requirement 5a and requirement 10c.
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 adviser).
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 adviser.
10. Environmental and sustainability themes: one course in each of the following thematic areas:

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, 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.

**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.


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.

19. Enough additional coursework to make a total of 126 hours.
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 9b.

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.


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.

22. 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/.

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1 See http://www.utexas.edu/provost/planning/cat_change/UnderGrad.html for detailed explanations.
2 Texas Higher Education Coordinating Board.
3 Exclusive: of exclusive application and of primary interest only to a single college or school ("no protest" period is 5 working days); general: of general interest to more than one college or school (but not for submission to the General Faculty) ("no protest" period is 10 working days); major legislation must be submitted to the General Faculty for adoption ("no protest" period is 10 working days).
4 The proposed text should be based on the text of the current catalog available at http://www.utexas.edu/faculty/council/pages/catalog_chgs/catcopy.html.

**Strike through and replace (with underlines) only the specific language to be changed. Do NOT use “track changes!”** For questions on completing this section, please contact Victoria Cervantes, fc@austin.utexas.edu, 471-5936 or Brenda Schumann, brenda.schumann@austin.utexas.edu, 475-7654.