PROPOSED CHANGES TO DEGREE PROGRAMS IN THE
UNDERGRADUATE CATALOG 2014-2016

Type of Change

- Nonacademic Change
- Academic Change
- Degree Program Change

1. NAME OF DEGREE PROGRAM:
   Bachelor of Science in Environmental Science

2. IF THE ANSWER TO ANY OF THE FOLLOWING QUESTIONS IS YES, THE COLLEGE MUST CONSULT NEAL ARMSTRONG WHO WILL DETERMINE WHETHER SACS-COC APPROVAL IS NEEDED.
   • Is this a new degree program? Yes or no? No.
   • Does the program offer courses that will be taught off campus? Yes or no? No.
   • Will courses in this program be delivered electronically? Yes or no? No.

3. EXPLAIN CHANGE TO DEGREE PROGRAM:

   Prescribed Work Common to All Options
   1. Move requirements calculus, general chemistry, physics, and introductory biology from Option I to Prescribed Work Common to All Options. Add statement that Option II students are exempt from these requirements. Renumber all subsequent requirements under Prescribed Work Common to All Options, Option I, and Option II.
   2. Replace GEO 302P with “an approved geological sciences course in sustainability.”
   3. Remove BIO 478T.
   4. Add statement that MNS 320 may not be used to satisfy both requirement 5 and 10 to requirements 5 and 10.
   5. Additions to Environmental and sustainability themes: In environmental and sustainability policy, ethics, and history: add GRG 339K and 344K, SOC 321K, and MNS 367K. In climates and oceans theme: add MNS 356 and remove MNS 367K. Add statement that MNS 356 may not be used to satisfy both requirement 10 and 14 to requirements 10 and 14.
   6. Move writing flag requirement to Additional Prescribed Work for Each Option

   Additional Prescribed Work for Each Option
   1. Add writing flag requirement, previously contained in Additional Prescribed Work for Each Option.

   Option I:
   1. Add MNS 356 to approved list for conversation and environmental biology. Add statement that MNS 356 may count only toward requirement 6 or requirement 15.
   2. Add MNS 357 to the approved list for taxon/systems-based diversity courses.

   Option II:
1. Add statement that breadth requirements are in place of requirements 1 through 4 of the prescribed work.
2. Add MNS 356 to approved list for conservation and environmental biology. Add statement that MNS 356 may count only toward requirement 6 or requirement 15.
3. Add MNS 357 to the approved list for taxon/systems-based diversity courses.
4. Change requirement number for which BIO 379H may count.

3a. Indicate pages in the undergraduate catalog where changes will be made. 503-505

4. GIVE A DETAILED RATIONALE FOR CHANGE. INDIVIDUAL CHANGES SHOULD BE LISTED SEPARATELY.

Prescribed Work Common to All Options

1. Students have difficulty understanding that calculus, general chemistry, physics, and introductory biology are requirements shared across the options in Liberal Arts, the Jackson School of Geological Sciences, and Option I: Biological Sciences. Option II students take honors science requirements as alternatives.
2. Replace GEO 302P with “an approved geological sciences course in sustainability.” This change brings the biological science requirements in line with the geological sciences and the geography requirements. The proposed requirement matches the current requirement in Liberal Arts and the Jackson School of Geological Sciences.
3. Biology 478T has been removed from the Biology Course Inventory.
4. MNS 320 is an option in both requirement 1 and 6. Requirement 6 already contains a statement that the course may count toward only one requirement. This adds the same statement to requirement 1.
5. Environmental Science steering committee agreed to add suitable course candidates GRG 339K, 344K, SOC 321K, and MNS 356 to the approved lists. MNS 367K previously counted toward the climates and oceans theme. Dr. Ken Dunton of Marine Science advised the EVS steering committee that MNS 367K is more suitable for the environmental and sustainability policy, ethics, and history theme.
6. The writing flag requirement is not in the Prescribed Work Common to All Options in the Liberal Arts degree.

Option I:

1. MNS 356, Ecosystem Oceanography, is a new course approved by Natural Sciences in Fall 2012. It is determined that the course is suitable to fulfill the conservation and environmental biology requirement.
2. MNS 357, Marine Phytoplankton Diversity, is a new course approved by Natural Sciences in Fall 2012. It is determined that this new course is suitable to fulfill the taxon/systems-based diversity requirement.

Option II:

1. Option II students take specific breadth requirements as alternatives to the mathematics, chemistry, physics, and biological sciences coursework in the Prescribed Work Common to All Options.
2. MNS 356, Ecosystem Oceanography, is a new course approved by Natural Sciences in Fall 2012. It is determined that the course is suitable to fulfill the conservation and environmental biology requirement.
3. MNS 357, Marine Phytoplankton Diversity, is a new course approved by Natural Sciences in Fall 2012. It is determined that this new course is suitable to fulfill the taxon/systems-based diversity requirement.
4. Renumbering caused the requirement number for which BIO 379H may count to change.
5. SCOPE OF PROPOSED CHANGE

5a. Does this proposal impact other colleges/schools? If yes, then how? Yes. Colleges that share the degree (Liberal Arts and Jackson School of Geological Sciences) must approve and make identical changes to the Prescribed Work Common to All Options. Yes. Course additions of classes offered by Liberal Arts must be approved by Liberal Arts.

If yes, impacted schools must be contacted and their response(s) included:
Person communicated with: Richard Flores (Liberal Arts); someone in comparable position (Jackson School)
Date of communication: ??? need date; ??? need date
Response: ??? need response; ??? need response

5b. Does this proposal involve changes to the core curriculum or other basic education requirements (42-hour core, signature courses, flags)? If yes, explain:

If yes, undergraduate studies must be informed of the proposed changes and their response included:
Person communicated with:
Date of communication:
Response:

5c. Will this proposal change the number of hours required for degree completion? If yes, explain:

6. COLLEGE/SCHOOL APPROVAL PROCESS
Department approval date: 10/19/12; 11/30/12
College approval date:
Dean approval date:

Include proposed catalog copy below. 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 only the specific language to be changed. For questions on completing this section, please contact Anita Ahmadi, fc@austin.utexas.edu, 471-5936 or Brenda Schumann, brenda.schumann@austin.utexas.edu, 475-7654.

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 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. 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, **Ecology:** Biology 373 and 373L, or Marine Science 320 and either 120L or 152T (Topic: Marine Ecology).
2. **Chemistry:** Chemistry 301 or 301H; 302 or 302H; and 204. **Geological sciences:** Geological Sciences 302P, 401 or 303, and 346C.
3. **Physics:** Physics 317K and 117M, or another four-hour calculus-based physics sequence. **Geography:** Geography 335N.
4. **Biological Sciences:** Biology 311C and 311D, or 315H. **Field experience:** 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).
5. **Ecology:** Biology 373 and 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.** Research methods: Environmental Science 331.
6. **Geological Sciences:** Geological Sciences 302P, 401 or 303, and 346C, and an approved geological sciences course in sustainability. Environmental and sustainability themes: One course in each of the following thematic areas:
   a. Environmental and sustainability policy, ethics, and history: Geography 334, 336C, 340D, 342C, 356C, 356T (approved topics only), Philosophy 325C.
   b. Geographic information systems: Geography 360G, 462K, Geological Sciences 327G.

d. Environmental economics, sustainability, and business: Economics 304K, 330T.

7. Geography: Geography 335N, Environmental Science 141 and 151.

8. Field experience: 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 478T or 377 (with prior approval of the faculty adviser).
   c. 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 available at http://registrar.utexas.edu/schedules. They may be used simultaneously to fulfill other requirements, unless otherwise specified.


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 only), Geological Sciences 371C (approved topics only), 377P, Marine Science 320, 440, 354Q, 354T, 356 367K. Marine Science 320 may not be used to satisfy both requirement 5 and requirement 6. 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 10 and requirement 14 in Option I. Marine Science 356 may not be used to satisfy both requirement 10 and requirement 18 in Option II.
   d. Environmental economics, sustainability, and business: Economics 304K, 330T.

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 available at http://registrar.utexas.edu/schedules. They may be used simultaneously to fulfill other requirements, unless otherwise specified.
Option I: Biological Sciences

9. Mathematics: Mathematics 408C, or 408N and 408S.
10. Chemistry: Chemistry 301 or 301H; 302 or 302H; and 204.
11. Physics: Physics 317K and 117M, or four hours of another calculus-based physics sequence.
12. Biological Sciences: Biology 311C and 311D, or 315H.

13. 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.
14. Three hours in statistics chosen from Biology 328M and Statistics and Scientific Computation 328M and 321; with the consent of the undergraduate adviser, an upper-division statistics or probability course may be used to fulfill this requirement.
15. Three hours in conservation and environmental biology chosen from Biology 351, 359, 375, and Marine Science 352 (Topic: Concepts in Marine Conservation Biology), and 356. Marine Science 356 may not be used to satisfy both requirement 10 and requirement 14.
16. Biology 325 or 325H (for students completing Biology 315H), and 370.
17. One of the following taxon/systems-based diversity courses or pairs of courses:
19. Enough additional coursework to make a total of 126 hours.

Option II: Biological Sciences Honors

9. To fulfill requirements 1 through 4 listed 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.
10. Chemistry 204.
11. A section of Undergraduate Studies 302 or 303 that is approved by the program adviser or Environmental Science 331.
12. A section of Rhetoric and Writing 309S that is restricted to Dean’s Scholars.
13. Two semesters of Biology 379H. One semester may be used to fulfill requirement 8b 4b.
14. **Biology 370.**
15. **Three semester hours in conservation and environmental biology chosen from Biology 375, 351, 359, or Marine Science 352 (Topic: Concepts in Marine Conservation Biology), and 356. Marine Science 356 may not be used to satisfy both requirement 10 and requirement 18.**
17. **Six semester hours of coursework in the College of Liberal Arts or the College of Fine Arts.**
18. **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 General Information available at http://registrar.utexas.edu/catalogs/.

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.