

DOCUMENTS OF THE GENERAL FACULTY

PROPOSED CHANGES TO THE BACHELOR OF SCIENCE IN COMPUTER SCIENCE DEGREE PROGRAM 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 *Undergraduate Catalog, 2016-2018*. The secretary has classified this proposal as legislation of *general* interest to more than one college or school.

The Committee on Undergraduate Degree Program Review recommended approval of the changes on February 4, 2016, 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 February 24, 2016.



Hillary Hart, Secretary
General Faculty and Faculty Council

honors courses.

Taken together, these changes re-establish the honors requirement as intended by the Department of Computer Science.

4. Remove CS 353, Theory of Computation, in Option IV, 9d; consequently, delete 9e and move its requirements up to 9d.

Rationale: CS 353 was listed as a required course in error in the 2014-16 catalog. Its removal corrects this error.

5. Reduce the total hours to 120 in Options I and II.

Rationale: Reducing science requirements outside of computer science creates the opportunity to reduce the overall hours of the degree to 120 hours. The faculty would prefer that students graduate earlier or have more free time in their schedules to explore extracurricular activities that may assist them in personal and professional growth. Options III and IV are already at 120 hours. Option V, Teaching, cannot be reduced due to extensive certification requirements of the state of Texas.

6. Remove CS 312H from list of classes that may be taken by students who are not yet admitted to the Computer Science major. Clarify that enrollment in CS 312, 311 or 311H, and 314 or 314H is restricted to students admitted to the CS entry-level major.

Rationale: CS 312 is removed because the course has never been developed and consequently will never be offered. The statement that CS 312, 311 or 311H, and 314 or 314H are open only to CS entry-level majors is added to reflect ongoing enrollment restrictions.

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 type="checkbox"/> Requirements not explicit in the catalog language (e.g., lists of acceptable courses maintained by department office) | |

4. SCOPE OF PROPOSED CHANGE

- a. Does this proposal impact other colleges/schools? Yes No
If yes, then how? Removing one geology course and the electrical engineering sequences will slightly reduce enrollments in the impacted courses for these two departments. See details below.
- 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? At most, 18 seats in GEO 401 across the academic year; and eighteen seats in other lower-division GEO courses across the academic year.

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

Person communicated with: Rich Ketcham, Associate Dean, Jackson School of Geosciences

Date of communication: February 10, 2016

Response: approved compromise proposed by Natural Sciences (reduction of GEO from two courses to one)

How many students do you expect to be impacted? At most, eighteen seats in EE 313 across the academic year; and 18 seats in EE 331 across the academic year.

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

Person communicated with: Dr. Ahmed Tewfik, Department of Electrical and Computer Engineering

Date of communication: April 10, 2015

Response: "Hi Doug, Our curriculum committee is fine with this change. Regards, Ahmed"

- 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: **Yes**. Options I and II will be reduced to 120 hours (from 127 hours). If yes, explain:

Due to the reduction in science coursework apart from computer science and mathematics, students may fulfill the degree requirements within 120 hours, including room for electives.

5. COLLEGE/SCHOOL APPROVAL PROCESS

Department approval date: March 4, 2015

College approval date: May 20, 2015

Dean approval date: September 28, 2015, David Vanden Bout, Associate Dean

PROPOSED NEW CATALOG TEXT:

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

[no changes]

Prescribed Work Common to All Options

[no changes]

Additional Prescribed Work for Each Option

Option I: Computer Science

6. Mathematics 408C and 408D, or 408N, 408S, and 408M; either 340L or 341 or Statistics and Data Sciences 329C; and Mathematics 362K or Statistics and Data Sciences 321.
7. One of the following sequences of coursework:
 - a. Either Biology 311C and 311D, or Biology 315H and 325H, ~~and Biology 206L or 208L.~~
 - b. Chemistry 301 or 301H, and 302 or 302H, ~~and 204.~~
 - c. ~~Geological Sciences 401 and either 404C or 405.~~ Physics 303K and 103M, 301 and 101L, or 317K and 117M; and 303L and 103N, 316 and 116L, or 317L and 117N.
 - d. ~~Physics 303K, 303L, 103M, and 103N.~~
8. Three additional hours of majors-level coursework chosen from:
 - a. a different sequence listed in requirement 7.
 - b. geological sciences.

- c. ~~upper-division mathematics, excluding 325K, 340L, 341, and 362K. An additional sequence chosen from those in requirement 7 above, or one of the following:~~
 - a. ~~At least six hours of upper-division coursework in biology approved by the undergraduate adviser.~~
 - b. ~~Chemistry 128K, 128L, 328M, and 328N, or Chemistry 220C, 320M, and 320N, or at least six hours of upper-division coursework in chemistry approved by the undergraduate adviser.~~
 - c. ~~Geological Sciences 416K and 426P, or at least six hours of upper-division coursework in geological sciences approved by the undergraduate adviser.~~
 - d. ~~Physics 315 and at least three hours of upper-division coursework in physics approved by the undergraduate adviser.~~
 - e. ~~At least six hours of upper-division coursework in mathematics approved by the undergraduate adviser; a course may not be counted toward both requirement 6 and requirement 8.~~
 - f. ~~Electrical Engineering 313 and 331.~~
9. The following courses in computer science:
 - a. Theory: Computer Science 311 or 311H, 331 or 331H, and three additional hours from an approved list available in the department.
 - b. Programming: Computer Science 312 ~~or 312H~~, 314 or 314H, and three additional hours from an approved list in the department.
 - c. Systems: Computer Science 429 or 429H, 439 or 439H, and three additional hours from an approved list available in the department.
 - d. Fifteen additional hours of upper-division courses in computer science.
 10. Enough additional coursework to make a total of ~~127~~ 120 semester hours.

Option II: Turing Scholars Honors

6. Mathematics 408C and 408D, or 408N, 408S, and 408M; either 340L or 341 or Statistics and Data Sciences 329C; and Mathematics 362K or Statistics and Data Sciences 321.
7. One of the following sequences of coursework:
 - a. Either Biology 311C and 311D, or Biology 315H and 325H; ~~and Biology 206L or 208L.~~
 - b. Chemistry 301 or 301H, and 302 or 302H; ~~and 204.~~
 - c. Geological Sciences 401 and either 404C or 405. Physics 303K and 103M, 301 and 101L, or 317K and 117M; and 303L and 103N, 316 and 116L, or 317L and 117N.
 - d. ~~Physics 303K, 303L, 103M, and 103N.~~
8. Three additional hours of majors-level coursework chosen from:
 - a. a different sequence listed in requirement 7.
 - b. geological sciences.
 - c. upper-division mathematics, excluding 325K, 340L, 341, and 362K.

~~An additional sequence chosen from those in requirement 7 above, or one of the following:~~

- a. ~~At least six hours of upper-division coursework in biology approved by the undergraduate adviser.~~
 - b. ~~Chemistry 128K, 128L, 328M, and 328N, or Chemistry 220C, 320M, and 320N, or at least six hours of upper-division coursework in chemistry approved by the undergraduate adviser.~~
 - c. ~~Geological Sciences 416K and 426P, or at least six hours of upper-division coursework in geological sciences approved by the undergraduate adviser.~~
 - d. ~~Physics 315 and at least three hours of upper-division coursework in physics approved by the undergraduate adviser.~~
 - e. ~~At least six hours of upper-division coursework in mathematics approved by the undergraduate adviser; a course may not be counted toward both requirement 6 and requirement 8.~~
 - f. ~~Electrical Engineering 313 and 331.~~
9. The following courses in computer science:
 - a. Theory: Computer Science 311 or 311H, 331 or 331H, and three additional hours from an approved list available in the department.

- b. Programming: Computer Science 314 or 314H, and three additional hours from an approved list available in the department.
- c. Systems: Computer Science 429 or 429H, 439 or 439H, and three additional hours from an approved list available in the department.
- d. Computer Science 178H and 379H.
- e. Twelve additional hours of upper-division courses in computer science.

The courses the student chooses to fulfill requirements a through c must be approved by the Turing Scholars program director. In addition to Computer Science 429H, 178H and 379H, at least ~~four~~ five upper-division courses chosen to fulfill requirements a through e must be honors courses. The honors thesis the student completes in Computer Science 379H must be approved by the program director.

10. Enough additional coursework to make a total of ~~427~~ 120 semester hours.

Option III: Computer Science Honors

6. Breadth requirement: An honors mathematics course; Computer Science 311H and 314H; one of the following two-semester sequences: Biology 315H and 325H, Chemistry 301H and 302H, Physics 301, 101L, 316, and 116L; and either an additional three hours chosen from these courses or Physics 315 and 115L. Credit earned by examination may not be counted toward this requirement.
7. At least six semester hours of upper-division coursework in mathematics.
8. Computer Science 429H, 331H, 439H, and twelve additional hours of upper-division coursework in computer science.
9. A section of Undergraduate Studies 302 or 303 that is approved by the departmental honors adviser.
10. A section of Rhetoric and Writing 309S that is restricted to students in the Dean's Scholars Honors Program.
11. Computer Science 379H and a three-semester-hour upper-division research course approved by the departmental honors adviser.
12. Twenty-five additional semester hours of coursework approved by the departmental honors adviser.
13. Six semester hours of coursework in the College of Liberal Arts or the College of Fine Arts.
14. Enough additional coursework to make a total of 120 semester hours.

Option IV: Integrated Program

6. Mathematics 408C and 408D, or 408N, 408S, and 408M; either 340L or 341 or Statistics and Data Sciences 329C; and Mathematics 362K or Statistics and Data Sciences 321.
7. One of the following sequences of coursework:
 - a. ~~Either Biology 311C and 311D, or Biology 315H and 325H; and Biology 206L or 208L.~~
 - b. ~~Chemistry 301 or 301H, and 302 or 302H, and 204.~~
 - c. ~~Geological Sciences 401 and either 404C or 405. Physics 303K and 103M, 301 and 101L, or 317K and 117M; and 303L and 103N, 316 and 116L, or 317L and 117N.~~
 - d. ~~Physics 303K, 303L, 103M, and 103N.~~
8. Three additional hours of majors-level coursework chosen from:
 - a. a different sequence listed in requirement 7.
 - b. geological sciences.
 - c. upper-division mathematics, excluding 325K, 340L, 341L and 362K.

~~An additional sequence chosen from those in requirement 6 above, or one of the following:~~

- a. ~~At least six hours of upper division coursework in biology approved by the undergraduate adviser.~~
- b. ~~Chemistry 128K, 128L, 328M, and 328N, or Chemistry 220C, 320M, and 320N, or at least six hours of upper division coursework in chemistry approved by the undergraduate adviser.~~
- c. ~~Geological Sciences 416K and 426P, or at least six hours of upper division coursework in geological sciences approved by the undergraduate adviser.~~
- d. ~~Physics 315 and at least three hours of upper division coursework in physics approved by the undergraduate adviser.~~

- ~~e. At least six hours of upper-division coursework in mathematics approved by the undergraduate adviser; a course may not be counted toward both requirement 6 and requirement 8.~~
- ~~f. Electrical Engineering 313 and 331.~~
- 9. The following courses in computer science:
 - a. Theory: Computer Science 311 or 311H, 331, or 331H, and three additional hours from an approved list available in the department.
 - b. Programming: Computer Science 312 ~~or 312H~~, 314 or 314H, and three additional hours from an approved list available in the department.
 - c. Systems: Computer Science 429 or 429H, 439 or 439H, and three additional hours from an approved list available in the department.
 - d. Computer Science 353 or 331 or 331H. Nine additional hours of upper-division courses in computer science.
 - ~~e. Nine additional hours of upper-division courses in computer science.~~
- 10. Enough additional coursework to make a total of 120 semester hours.

Option V: Teaching (Senior grades)

- 6. History 329U or Philosophy 329U.
- 7. Mathematics 408C and 408D, or 408N, 408S, and 408M; either 340L or 341 or Statistics and Data Sciences 329C.
- 8. One of the following sequences of coursework:
 - a. Biology 311C and 311D; ~~and Biology 206L or 208L.~~
 - b. Chemistry 301 or 301H, ~~and 302 or 302H, and 204.~~
 - ~~c. Geological Sciences 401 and either 404C or 405. Physics 303K and 103M, 301 and 101L, or 317K and 117M; and 303L and 103N, 316 and 116L, or 317L and 117N.~~
 - ~~d. Physics 303K, 303L, 103M, and 103N.~~
- 9. The following courses in computer science:
 - a. Theory: Computer Science 311 or 311H, 331 or 331H, and three additional hours from an approved list available in the department.
 - b. Programming: Computer Science 312 ~~or 312H~~, 314 or 314H, and three additional hours from an approved list available in the department.
 - c. Systems: Computer Science 429 or 429H, 439 or 439H, and three additional hours from an approved list available in the department.
- 10. The requirements of one of the following certification areas:
 - a. For computer science certification:
 - i. Mathematics 362K and Statistics and Data Sciences 321.
 - ii. An additional sequence chosen from the following:
 - 1. Biology 325 and 337 (Topic 2: *Research Methods: UTeach*).
 - 2. At least three hours of upper-division coursework in chemistry approved by the undergraduate adviser; and Chemistry 368 (Topic 1: *Research Methods: UTeach*).
 - 3. Physics 315 and 341 (Topic 7: *Research Methods: UTeach*).
 - iii. Fifteen additional hours of approved computer science upper-division coursework.
 - b. For computer science and mathematics certification:
 - i. Mathematics 315C, 333L, 362K, either 360M or 375D, and Statistics and Data Sciences 321
 - ii. Twelve additional hours of approved computer science upper-division coursework.
 - iii. Biology 337 (Topic 2: *Research Methods: UTeach*), or Chemistry 368 (Topic 1: *Research Methods: UTeach*), or Physics 341 (Topic 7: *Research Methods: UTeach*).
- 11. Eighteen semester hours of professional development coursework consisting of:
 - a. Curriculum and Instruction 650S.
 - b. Curriculum and Instruction 365C or UTeach-Natural Sciences 350.
 - c. Curriculum and Instruction 365D or UTeach-Natural Sciences 355.
 - d. Curriculum and Instruction 365E or UTeach-Natural Sciences 360.
 - e. UTeach-Natural Sciences 101, 110, and 170.

12. Enough additional coursework to make a total of 127 semester hours.

Special Requirements

Students in all options 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*.

To graduate and be recommended for certification students who follow the teaching option must have a University grade point average of at least 2.50. They must earn a grade of at least *C-* in the supporting course in requirement 6, and in each of the professional development courses listed in requirement 11 and must pass the final teaching portfolio review. For information about the portfolio review and additional teacher certification requirements, students should consult the UTeach-Natural Sciences academic adviser.

~~With the exception of Enrollment in Computer Science 312 or 312H, 311 or 311H, and 314 or 314H, is~~ restricted to computer science entry-level majors. ~~all~~ All other computer science courses that may be counted toward a degree in computer science are restricted to students who have been admitted to the computer science major or have the consent of the undergraduate faculty adviser.

An undergraduate may not enroll in any computer science course more than once without written consent of an undergraduate adviser in computer science. No student may enroll in any computer science course more than twice. No student may take more than three upper-division computer science courses in a semester without written consent of an undergraduate adviser in computer science.

Additional Requirements for Option II

[no changes]

Additional Requirements for Option III

[no changes]

Additional Requirements for Option IV

Satisfactory Progress

[no changes]

Probation

[no changes]

Dismissal

[no changes]

Graduation

[no changes]

Order and Choice of Work

[no changes]