REQUEST TO ADD AN UNDERGRADUATE ACADEMIC CERTIFICATE PROGRAM AND/OR
REQUEST FOR RECOGNITION ON THE UNIVERSITY TRANSCRIPTS

1. Type of Proposal
   - □ New Certificate Program (requiring THECB notification only)
   - □ Change an Existing Certificate Program
   - □ Delete a Program

Proposed classification
   - □ Exclusive
   - □ General
   - □ Major

2. 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
   - □ Change in course sequencing for an existing program
   - □ Requirements not explicit in the catalog language (e.g., lists of acceptable courses maintained by department office)
   - □ Courses that have to be added to the inventory

3. 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 3 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?
   Impacted schools must be contacted and their response(s) included:
   Person communicated with:
   Date of communication:
   Response:


5. Proposed Implementation Date: N/A

6. CIP Code (administrative unit awarding the certificate): N/A

7. Statement of Objective: N/A

8. Number of Students Expected to Receive the Certificate Each Semester: N/A

9. Number of Hours Required for Completion: 18 hours
10. List Faculty on the Certificate Program Faculty Committee: N/A

<table>
<thead>
<tr>
<th>Name of Faculty Member</th>
<th>College/Department</th>
<th>Title at UT Austin</th>
<th>Highest Degree and Awarding Institution</th>
</tr>
</thead>
</table>

11. Academic Course Requirements: Use this table to identify the courses that qualify for this certificate program.

<table>
<thead>
<tr>
<th>Course Abbreviation and Number</th>
<th>Course Title</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 328E</td>
<td>Topics in Elements of Computing #</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td># CS 303E</td>
<td></td>
</tr>
</tbody>
</table>

12. Other Certificate Requirements: N/A

13. Give a Detailed Rationale for Change(s):

**Summary of certificate update:** When the certificate was created, the department envisioned the need for two separate paths for completing the certificate – 1) exposure to the foundational ideas of computing and 2) exposure to foundational computing ideas combined with opportunities to apply these concepts to solve real world problems.

The primarily conceptual track was comprised of students who took CS 301K, CS 302, and multiple topics offerings of CS 320N (a topics course which typically had no prerequisites at all). Over time, the department realized that students in this primarily conceptual track were not being well served. Lack of experience with applying these computing concepts left them at a disadvantage in the workforce.

The structural changes to the certificate detailed below are designed to deliver a strong skillset to certificate holders, such that they will have substantial experiences in computational problem solving to present to potential employers or to utilize in their academic research. The department plans to continue offering occasional topics under CS 320N; however, the department will emphasize Elements course offerings that provide more opportunities for real world problem solving.

1) Require CS 313E, Elements of Software Design; previously, the course was optional.

**Rationale:** By requiring CS 313E, students will gain knowledge and experience they will need to be successful in the upper-division Elements of Computing electives.

2) Require 4 upper division Elements courses rather than 3.

**Rationale:** By requiring an additional upper-division course, students will gain more in-depth experience in computing.

3) Remove CS 301K, CS 302 and CS 313E from list of options

**Rationale:** CS 313E will be a required course. CS 301K and 302 do not meet the prerequisites for any of the upper-division Elements courses. By removing these two courses, the certificate is strengthened and certificate seekers have more opportunities for instruction in practical computing skills useful in employment and research endeavors.

4) Add CS 328E – Topics in Elements of Computing to the list of courses that may count towards the Elements of Computing Certificate

**Rationale:** CS 328E has a prerequisite of CS 303E. Students may take CS 313E and a 328E topic concurrently, allowing them to complete the certificate in a more timely manner.

14. College/School Approval Process:
The Elements of Computing Program

The Elements of Computing Program, administered by the Department of Computer Science, is designed to support computational work in disciplines other than computer science and to provide students with skills in the use of computer applications. Any non-computer science major may take any elements of computing course for which he or she meets the prerequisite. No application process is required.

To earn the Elements of Computing Certificate, students must complete eighteen semester hours of coursework with a grade of at least C- in each course. The following coursework is required:

- **One** Two core courses: Computer Science 303E, *Elements of Computers and Programming*, or the equivalent and Computer Science 313E *Elements of Software Design* or the equivalent
- **Five** Four of the following courses, including at least three upper-division courses:

  - Computer Science 301K, *Foundations of Logical Thought*
  - Computer Science 302, *Computer Fluency*
  - Computer Science 313E, *Elements of Software Design*
  - Computer Science 320N, *Topics in Computer Science for Nonmajors*
  - Computer Science 324E, *Elements of Graphics and Visualization*
  - Computer Science 326E, *Elements of Networking*
  - Computer Science 327E, *Elements of Databases*
  - Computer Science 328E, *Topics in Elements of Computing*
  - Computer Science 329E, *Advanced Topics in Elements of Computing*

With the approval of the certificate program faculty committee, other appropriate courses may be counted toward the elective requirement.

Please include a draft of the catalog copy immediately following the above form. If this is an update of an existing copy, the draft 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!”** Submit form electronically to the Office of the General Faculty and Faculty Council at fc@austin.utexas.edu. For questions, please also email or call 471-5936.

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1 Minimum Criteria for Certificate Recognition on the Transcript

a) The transcript-recognized undergraduate academic certificate program must be completed in conjunction with or within one year of completion of an undergraduate degree at The University of Texas at Austin; students pursuing an integrated undergraduate/graduate program must complete the requirements for the certificate within one year after completing the undergraduate requirements of their program. A maximum of nine credit hours in the certificate program may be taken after completion of the undergraduate degree.

b) Transcript-recognized undergraduate academic certificate programs must require a minimum of 18 hours of certificate course work, but not more than 24 hours.
c) At least half of the required coursework in the certificate program must be completed in residence at The University of Texas at Austin.

d) A student may not earn a certificate in the same field of study as his or her major, and at least one course required in the certificate program must be outside the requirements of the major. However, courses in the certificate program outside the major may fulfill other degree requirements such as general education requirements or required elective hours.

e) Students apply for transcript recognized undergraduate academic certificates at the time they complete their undergraduate degree or the certificate program, whichever comes later. Transcript recognition is awarded at that time.


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 Certificates will not appear on the University transcripts until next catalog.

5 Use the federal CIP code selector site to pick a code, http://nces.ed.gov/ipeds/cipcode. After all other areas of this form are completed, forward a copy to Institutional Reporting, Research, and Information Systems (IRRIS) IMA@austin.utexas.edu with a request to verify the CIP code (“CIP CODE” in the subject line). Include your contact information, so an IRRIS member may contact you with any questions.

6 Include heading in Undergraduate Catalog where changes will be made.

7 See footnote 1b above: 18-24 hours are required.

8 For inclusion on transcripts, the faculty committee must have a minimum of five members and at least 2/3 of the committee must be tenured or tenure-track.

Note with an asterisk those faculty members who are tenured or tenure-track. Please also note the program chair who will be responsible for authorizing the students’ certificates. Specify changes to the committee membership by noting those no longer on the committee and those added to the committee. (Add and delete rows as needed.)

9 Note with an asterisk (*) courses that would be added if the certificate program is approved. Specify changes to the qualifying courses by noting those no longer qualifying and those now qualifying. (Add and delete rows as needed.) If the course numbers and titles change on a regular basis, please indicate the types of courses and number of hours for required for each.

Note with a hashtag (#) courses that require a prerequisite and provide the prerequisite course numbers.

10 Semester Credit Hours.