

**EXECUTIVE COMMITTEE
COLLEGE OF ENGINEERING
REPORT TO THE RIVERSIDE DIVISION
MAY 29, 2018**

To be adopted:

Proposed Changes to Computer Engineering Undergraduate Program

PRESENT:
Major Requirements

1. Lower-division requirements (72 units):

- a) ENGR 001G
- b) CS 010 ~~or CS 10V~~, CS 012 ~~or CS 012V~~, CS 014, CS 061
- c) CS 011/ MATH 011
- d) EE 001A, EE 01LA, EE 001B, EE 020
- e) MATH 008B or MATH 009A, MATH 009B, MATH 009C, MATH 010A, MATH 046
- f) PHYS 040A, PHYS 040B, PHYS 040C
- g) CHEM 001A or ME 010

2. Upper- division requirements (77 units minimum):

- ~~a)~~ CS 100, CS 141, CS 153, CS 161, CS 161L
- ~~b)~~ CS 120A/ EE 120A, CS 120B/EE 120B; one course from CS 122A or EE 128
- ~~c)~~ CS 111
- ~~d)~~ CS 168
- ~~e)~~ ENGR 180W
- ~~f)~~ EE 100A
- ~~g)~~ EE 111
- ~~h)~~ EE 114 or STAT 155
- ~~i)~~ Six courses (at least 24 units) as technical electives from the following set of upper division courses
CS 122A, CS 122B, CS 130, CS 133, CS 150, CS 152, CS 160, CS 162, CS 164, CS 165, CS 166, CS 169, CS 170, CS 171, CS 172, CS 177, CS 179 (E-Z), CS 180, CS 181, CS 183, CS 193

- EE 100B, EE 105, EE 115,
EE 123, EE 128, EE 132, EE 133, EE 134,
EE 135, EE 140, EE 141, EE 144, EE 146,
EE 150, EE 151, EE 152, EE 165, EE 175A,

PROPOSED:
Major Requirements

1. Lower-division requirements (72 units):

- a) No Change
- b) CS 010, CS 012, CS 014, CS 061
- c) No Change
- d) No Change
- e) No Change
- f) No Change
- g) No Change

2. Upper- division requirements (77 units minimum):

- a) ENGR 101G
- b) CS 100, CS 141, CS 153, CS 161, CS 161L
- c) CS 120A/ EE 120A, CS 120B/EE 120B; one course from CS 122A or EE 128
- d) CS 111
- e) CS 168/EE 168
- f) ENGR 180W
- g) EE 100A
- h) EE 111
- i) EE 114 or STAT 155
- j) Six courses (at least 24 units) as technical electives from the following set of upper division courses
CS 122A, CS 122B, CS 130, CS 133, CS 150, CS 152, CS 160, CS 162, CS 164, CS 165, CS 166, CS 169, CS 170, CS 171, CS 172, CS 175, CS 177, CS 179 (E-Z), CS 180, CS 181, CS 183, CS 193

- EE 100B, EE 105,
EE 115, EE 123, EE 128, EE 132, EE 133,
EE 134, EE 135, EE 140, EE 141, EE 144,
EE 146, EE 147, EE 150, EE 151, EE 152,

The technical electives selected from h) must include either CS 179 (E-Z) or EE 175A and EE 175B. ~~The selection of the remaining technical electives must be planned, in consultation with a faculty advisor, to include at least one coherent sequence of two classes from either Computer Science or Electrical Engineering.~~ The technical electives must be distinct from those used to satisfy the upper-division requirements specified in items a) and b) above.

Students may petition for exceptions to the above degree requirements. Exceptions to Computer Science and Electrical Engineering course requirements must be approved by the Computer Engineering undergraduate faculty advisor or chair. Visit the Student Affairs Office in the College of Engineering or student.engr.ucr.edu for a sample program.

The technical electives selected from h) must include either CS 179 (E-Z) or EE 175A and EE 175B. The technical electives must be distinct from those used to satisfy the upper-division requirements specified in items a) and b) above.

Students may petition for exceptions to the above degree requirements. Exceptions to Computer Science and Electrical Engineering course requirements must be approved by the Computer Engineering undergraduate faculty advisor or chair. Visit the Student Affairs Office in the College of Engineering or student.engr.ucr.edu for a sample program.

Justification:

1. Due to the conversion to the Banner system, courses being offered on line no longer require the designation of "V". As a result, entries for CS10 and CS12 required deletion of the "V" designation to comply with Banner.
2. ENGR 101G is a required course for upper division that was missing from the catalog. The CEN faculty voted to make the correction. Approved 8-0.
3. CS 168 (Introduction to VLSI Design) is cross-listed with EE 168. Adding EE168 will allow CEN students to register either for CS 168 or EE 168. This was approved by CEN faculty 8-0.
4. Two new courses, CS 175 on Entrepreneurship in Computing and EE 147 on GPU Architectures, were recently introduced in the CSE and ECE departments. The faculty felt that these two courses are highly relevant to the CEN students. Expanding Tech Electives to include CS175 and EE147 will enable students to take these courses for credit. The motion was voted and approved 8-0.
5. The sentence to include "coherent sequence of two classes" was originally introduced to satisfy the depth in an area in computer engineering. However, it was later discovered that this requirement puts undue burden on students and takes away their flexibility in choosing the technical electives. It is also not required by ABET. Hence, the CEN faculty voted (8-0) to remove the sentence on "coherent sequence of two classes" from the technical elective.

Approvals:

Approved by the faculty of the Department of Computer Engineering:
 Approved by the Executive Committee of the College of Engineering:
 Approved by the Committee on Educational Policy:

November 27, 2017
 March 16, 2018
 April 11, 2018