To be adopted:

PROPOSED CHANGE TO COMPUTER ENGINEERING UNDERGRADUATE REQUIREMENTS

PRESENT:
Computer Engineering Undergraduate Program
Major Requirements
1. Lower-division requirements (68 units)
   a) ENGR 001G
   b) CS 010 or CS 10V, CS 012 or CS 12V
      or CS 013, CS 014, CS 061
   c) CS 011/MATH 011
   d) EE 001A, EE 01LA, EE 001B
   e) MATH 008B or MATH 009A, MATH 009B, MATH 009C, MATH 010A, MATH 046
   f) PHYS 040A, PHYS 040B, PHYS 040C
   g) One course of 4 or more units in an engineering discipline outside the field of
      computer science to be selected in consultation with a faculty advisor. Either a
      lower-division or an upper-division course may be used to satisfy this requirement.

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) EE 100A or CS 168, EE 110B
   e) ENGR 180W
   f) MATH 113
   g) EE 114 or STAT 155
   h) Five courses (at least 20 units) as technical electives from the following set of
      Computer Science and Engineering, and Electrical Engineering 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 168, CS 169, CS 170, CS 171, CS 172, CS 177, CS 179 (E-Z), CS 180, CS 181, CS 183, CS 193

PROPOSED:
Computer Engineering Undergraduate Program
Major Requirements
1. Lower-division requirements (72 units)
   a) ENGR 001G
   b) CS 010 or CS 10V, CS 012 or CS 12V
      or CS 013, 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) One course of 4 or more units in an engineering discipline outside the field of
      computer science to be selected in consultation with a faculty advisor. Either a
      lower-division or an upper-division course may be used to satisfy this requirement.

2. Upper-division requirements (73 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 114 or STAT 155
   h) Five courses (at least 20 units) as technical electives from the following set of Computer
      Science and Engineering, and Electrical Engineering upper-division courses:
The technical electives selected from h) must include either CS 179 (E-Z) or both 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 and Engineering 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 course requirements must be approved by the Computer Science and Engineering undergraduate advisor or chair, and exceptions to Electrical Engineering course requirements must be approved by the Electrical Engineering undergraduate advisor or chair. Exceptions to other requirements require the approval of the undergraduate advisors or chairs of both departments.

Visit the Student Affairs Office in the College of Engineering or student.engr.ucr.edu for a sample program.

**JUSTIFICATION:**
Mathematics has submitted a course proposal change to renumber MATH 113 to MATH 031. Any courses that have MATH 113 in the course description either in the prerequisite, description, or any other part have already been updated (in CRAMS); the catalog also needs to be changed within the affected programs to reflect the renumbering. When discussing this change, the CEN faculty have determined that EE 20 would be a better fit for the program as a whole. It is already being offered in the 1st year of the EE undergraduate program. This will decrease the number of units for the upper-division required courses from 77 to 73 and increase the lower division units from 68 to 72.

EE 110B is being removed from the required course list as well, decreasing the units from 73 to 69. EE 110A is being removed from the required Technical Electives lists (to satisfy the EE 110B prerequisite); both EE 110B and 110A will remain as regular Technical Electives.

EE 100A is being made a required course, so it will be removed from 2d and added to 2f; this bring the required course units back up to 73.

CS 182 is a new course. Software testing is an essential and often overlooked aspect in software engineering. This course addresses the need for a solid background in testing theory and a practical experience in software testing for our CS undergraduate students.
APPROVALS:

Approved by the Computer Engineering faculty: February 27, 2013 & March 14, 2013 (CS 182 change)
Approved by the BCOE Executive Committee: 03/20/13
Approved by the Committee on Educational Policy: 4/10/13