PROPOSED CHANGE TO ELECTRICAL ENGINEERING MAJOR REQUIREMENTS

To be adopted:

PRESENT:
College Requirements
See The Marlan and Rosemary Bourns College of Engineering, Colleges and Programs section.

The Electrical Engineering major uses the following major requirements to satisfy the college’s Natural Sciences and Mathematics breadth requirement.
1. One course in the biological sciences chosen from an approved list
2. CHEM 001A, CHEM 01LA
3. MATH 008B or MATH 009A
4. PHYS 040A, PHYS 040B

Major Requirements
1. Lower-division requirements (70 units)
   a) One course in the biological sciences chosen from an approved list
   b) CHEM 001A, CHEM 01LA
   c) CS 010, CS 061
   d) EE 001A, EE 01LA, EE 001B, EE 010
   e) MATH 008B or MATH 009A, MATH 009B, MATH 009C, MATH 010A, MATH 010B, MATH 046
   f) ME 010
   g) PHYS 040A, PHYS 040B, PHYS 040C

2. Upper-division requirements (81 units)
   a) EE 100A, EE 100B, EE 105, EE 110A, EE 110B, EE 115, EE 116, EE 132, EE 141, EE 175A, EE 175B
   b) CS 120A/EE 120A, CS 120B/EE 120B
   c) ENGR 180
   d) STAT 155 or STAT 164
   e) Twenty (20) units of technical electives (chosen with the approval of a faculty advisor) from CS 122A, CS 130, CS 143/EE 143, CS 161, CS 168; EE 117, EE 128, EE 133, EE 134, EE 135, EE 136, EE 137, EE 140, EE 144, EE 146, EE 150, EE 151, EE 152, EE 160.

PROPOSED:
College Requirements
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Major Requirements
1. Lower-division requirements (70 units)
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   b) CHEM 001A, CHEM 01LA
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   d) EE 001A, EE 01LA, EE 001B, EE 010
   e) MATH 008B or MATH 009A, MATH 009B, MATH 009C, MATH 010A, MATH 010B, MATH 046
   f) ME 010
   g) PHYS 040A, PHYS 040B, PHYS 040C

2. Upper-division requirements (81 units)
   a) EE 100A, EE 100B, EE 105, EE 110A, EE 110B, EE 114, EE 115, EE 116, EE 132, EE 141, EE 175A, EE 175B
   b) CS 120A/EE 120A, CS 120B/EE 120B
   c) ENGR 180
   d) Twenty (20) units of technical electives (chosen with the approval of a faculty advisor) from CS 122A, CS 130, CS 143/EE 143, CS 161, CS 168; EE 117, EE 128, EE 133, EE 134, EE 135, EE 136, EE 137, EE 138, EE 139, EE 140, EE 144, EE 146, EE 150, EE 151, EE 152, EE 160.
The choice of technical electives must ensure that the upper division requirements include at least one coherent sequence of at least three (3) electrical engineering courses to ensure depth in one area of electrical engineering. Example course sequences are available through the Student Affairs Office in the College of Engineering or http://www.engr.ucr.edu/studentaffairs/

**Justification:**
The ABET EE program criteria requires that each "program must demonstrate that graduates have knowledge of probability and statistics, including applications appropriate to EE and its program objectives."

Previously, the EE program tried to address this requirement through STAT155. In a recent site visit, ABET officials stated the lack of probability and statistics appropriate to EE as a "program weakness" which needs to be addressed as soon as possible, and pointed out that the best way to address this "program weakness" was to introduce a new course highlighting EE applications taught by EE faculty. Similar courses or sequences of courses are currently being offered, with the same motivations, at other UC schools (e.g., ECE139A/B and ECE140 at UCSB, ECE 109 and 153 at UCSD, EE131A/B at UCLA). The EE response to ABET describing how we a have addressed this issue states that EE114 has been approved and that we are now in the process of adding the course to the program in place of "Stat 155 or 161."

Approved:
Faculty of the Electrical Engineering Department: 4/06/07
BCOE Executive Committee: 05/01/07
Committee on Educational Policy: 05/11/07
Endorsed by Advisory 6/11/07