

ECE Curriculum Committee Meeting Minutes for January 21, 2010

Members present: Stephen Bishop, Donna Brown, Andreas Cangellaris, Kent Choquette, Todd Coleman, Lynford Goddard, Mark Hasegawa-Johnson, Douglas Jones, Erhan Kudeki, Stephen Levinson, Steven Lumetta, Jonathan Makela, Michael Oelze, Sanjay Patel, Nitin Vaidya, Pramod Viswanath

1. The Minutes of the December 10, 2009 meeting were approved.
2. ECE 446: Principles of Experimental Research, proposed as a permanent course by Lynford Goddard, was approved. The course will count as well for advanced laboratory credit. Steve Bishop pointed out that the course will be an excellent choice for undergraduates interested in research who are unable to find a research project.
3. The Committee discussed concerns about and ideas for revising the Computer Engineering curriculum.

Steve Bishop noted difficulty in finding sufficient instructors for the core ECE 190 and 290 courses, and suggested some changes might be required to make it possible for a larger fraction of the ECE faculty to teach them. He has received feedback from people at the College level that the course seems to have become more difficult in recent years. It was suggested that this may pose a problem for undergraduates who enter our curricula without substantial prior programming experience in high school. Steve Lumetta said he did a careful study of students in the course, correlating their prior programming experience with their final grade, and he found little correlation.

Andreas Cangellaris said that we should not let manpower concerns constrain our reflections on what a forward-looking Computer Engineering curriculum should be.

Doug Jones expressed concern that the workload of some courses, including particularly ECE 190, ECE 391, ECE 385 and perhaps ECE 290, is reported by students to be greatly in excess of the corresponding credit hours. He suggested that either more hours of credit should be granted for these courses, or the workload reduced, or that the Computer Engineering Core material should be reformatted across a larger number of courses with more total credit hours. Sanjay Patel noted that ECE 385 has a very heavy workload and in his opinion needs to be rethought.

Sanjay Patel stated that we need more flexibility in our Computer Engineering curriculum, perhaps more along the lines of the EE Advanced Core (choose from a list). Sanjay Patel suggested that ECE 329, ECE 440, and Phys 213 may no longer be absolutely essential for all Computer Engineers, and that they might be good candidates. He suggested that we consider a Computer Engineering Advanced Core analogous to the current EE Advanced Core. As an example, he said that with the inclusion of basic computer architecture concepts in ECE 190 and 391, ECE 411 (Computer Architecture) is no longer an absolute requirement for all Computer Engineering students. Steve Bishop pointed out that ECE 411 serves as an advanced design course in our curriculum in loose analogy to ECE 445 in the EE curriculum, and that we must consider the ABET implications of any change. Sanjay suggested that ABET may in fact be more flexible than commonly believed.

The Committee agreed to think further about these ideas, to discuss the matter with colleagues, and to continue the discussion next week with the goal of arriving at a set of major goals and directions for Computer Engineering curriculum revision and a plan for moving forward with developing a specific plan for revision.

4. The Committee adjourned at 2:56 PM.

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