September 10, 2013, Minutes of the Curriculum Committee Meeting

Added by Bruce Hajek, last edited by Bruce Hajek on Sep 20, 2013

ECE Curriculum Committee Meeting Minutes for September 10, 2013

Members AY 2013-14: Tangul Basar, Mohamed Ali Belabbas, Deming Chen, John Dallesasse, Alejandro Dominguez-Garcia, Bruce Hajek (Chair), Pavan Kumar Hanumolu, Erhan Kudecki (Ex-Officio), Rakesh Kumar, Stephen Levinson, Daniel Liberzon, Yi Lu, Steven Lumetta, Jonathan Makela, Sayan Mitra, Michael Oelze, Maxim Raginsky, Elyse Rosenbaum, William Sanders (Ex-Officio), Paris Smaragdis, Venu Veeravalli, Daniel Wasserman

Attendees: Basar, Ali Belabbas, Dellasasse, Dominguez-Garcia, Hajek, Hanumolu, Levinson, Liberzon, Lumetta, Makela, Mitra, Sanders, Schmitz, Veeravalli

The meeting was called to order at 1pm.

The minutes from September 3 were updated and approved.

The four action items identified in connection with preparation of the proposal for the major revision of the CE curriculum (being drafted by the committee Lumetta (chair), Mitra, and Vaidya) were reviewed.

Item 1: *Algorithms course following ECE 225 for CE majors.* Based on discussions with CS faculty members Jeff Erickson and Sariel Har-Peled in the theory and algorithms area, Steve Lumetta reported that CS is developing a new course, CS 374, which will likely be an algorithms course to be taken following CS 225. The current CS 373 would come after the algorithms course rather than before, as currently. The CS instructors would not welcome another algorithms course growing up within the ECE department. Staffing could be an issue, however, and half the enrollment of the new CS 373 course could be CE majors, so ECE faculty members should help staff the course and play a role in its ongoing development. Sayan suggested the Comp E faculty should discuss the adequacy of CS 373.

Item 2: *How would ECE 445 need to be changed?* We estimate that under the new CE curriculum, for their design project: 15% of CEs would do a thesis, 30% would take ECE 411, and about 55% would take ECE 445. CC member and ECE 445 instructor Jonathan M. discussed with Scott Carney (course director) and Dan Mast about how ECE 445 could accommodate this influx of CE students. The current instructors feel that the best solution would be to keep ECE 445 as one course in which CEs and EEs can collaborate on team projects, rather than dividing the course into two. However, multiple sections of the course may need to be established to allow for a clear delineation of responsibilities. At least four types of resources need to be lined up for an expected new load of 200 students per semester average:

(a) *Instructors* with computer engineering expertise. Sometime back it was agreed that one instructor per 85 students is about the right staffing level, though J.M. is sole instructor for 115 students this semester. There is a critical need for some Comp E. 445 instructors to get involved with the course ASAP, to better scope out resource requirements.

(b) *TA staffing* would probably continue to follow formula ceil(n/12)+1 25% TAs for n enrolled students.

(c) *Space and equipment.* Currently ECE 445 has 16 lab stations, which could increase to 20 with the change in building. One team of two or three students can work at a lab station at a time. The total number of lab stations would need to be increased (to 40?) and the mixture of equipment in some of them changed to accommodate more CE student involvement in projects. Bill Sanders noted that the College is inviting laboratory instrumentation requests for multiyear funding. Need CE instructor involvement now to guide equipment preparation.

(d) *Staffing in mechanical shop.* Student projects often rely on the mechanical shop and the ECE part shops (PCB fabrication) for project support and components. The load gets especially heavy near the end of the semester.

It was pointed out by Daniel Liberzon and Mohamed Ali Belabbas that the new CE curriculum could increase the load on ECE 486, which is currently full. It seems that can be addressed by adding a new section of the lab and using a larger classroom.

Item 3: *Removal of the ECE 329 pre-requisite/co-requisite for ECE 340 and placement of ECE 340 on the 1 of n list.* ECE 340 course director, Jean Pierre Leburton, wrote "the version of ECE 340 taught today conforms with PHYS 2014 as the only pre-requisite, and we are of course in favor of a solution that would place ECE 340 on the same footing as ECE 329 in the CE curriculum. (Incidentally, during discussion on this issue, several ECE faculty members expressed deep reservations about the Spring 2013 vote of the ECE faculty to drop ECE 329 and ECE 340 as required courses from the CE curriculum.)

Item 4: *Review ECE 120/220 and ECE 110.* Earlier in the day, the CE area committee chair Wen-mei Hwu submitted proposals for new courses ECE 120 and ECE 130, totaling four hours each, which were forwarded to the members of the CC. Chris Schmidt prepared a document including a draft revision of ECE 110 as a three hour course. He passed out hard copies and the CC chair will forward the pdf to CC members. Steve Lumetta and Chris briefly described their course proposals---more discussion and study by the CC is needed. (We may not have these courses revised in time for the major CE curriculum change, but it is worth discussing now in connection with minor revisions of both CE and EE curricula anticipated soon.)

These minutes drafted by B. Hajek, September 10, 2013.