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Explanation of Requested ECE Curriculum Modifications

The ECE department needs to modify its curriculum. There are three changes that do not affect the overall degree credits:

1. Introduce ECE 401 – ECE Seminar - 1 sh

Rationale: This seminar course was initially part of the ECE curriculum and was removed to speed up program approval from the state department of education. It is needed to allow instruction on topics that help satisfy the “Professional Skills” learning outcomes required for program accreditation by ABET. The professional outcomes concern communication skills, the impact of engineering solutions on society, ethics and professionalism, awareness of contemporary issues in engineering, and the need for life-long learning. The seminar also provides a venue for ECE students to learn about a variety of off-curriculum topics of interest through lectures given by invited speakers from industry and academe. This seminar course is writing-intensive and is an important part of the proposed ECE writing-across-the-curriculum plan. The WAC plan has been approved subject to re-insertion of the seminar course back into the curriculum.

2. Replace CSC322 – System Programming (3sh) by CSC445- Computer Networks or CSC435 – Web Services (3sh).

Rationale: This change will correct a deficiency in the Computer Engineering Track of the ECE curriculum. ECE students, in the computer engineering track, need to know about Computer Networks, a topic that is not covered elsewhere in the curriculum. The content of CSC322 being replaced is largely covered in other ECE/CS courses including ECE271-Digital Design co-listed with CSC222 – Computer Organization and Programming as well as ECE375-Embedded Systems co-listed with CSC323. For reference, the Software Engineering BS degree program requires students to choose only one of CSC222 or CSC322. ECE students have to take CSC222 as ECE271. This change will therefore improve the quality of the curriculum. Since CSC445 is taught every two years by CS. ECE students on the computer engineering track will still have a two-year window to take this course and will be strongly advised to do so. This situation is common for CS curricula, according to the chair or that department. However, those students who cannot, due to ill-timing of course offerings, can substitute CSC435 – Web Services, which is offered on alternate years with CSC445 until such time as the ECE department completes its own “Wireless Networks” course in the future.

3. Remove ECE472-Advanced Digital (4sh) from the Computer Engineering track and ECE416-Advanced Electronics (4sh) from the Electrical Engineering Track.

This modification allows re-allocation of 1 credit towards the added ECE seminar course mentioned above and an increase of 3 hours in the ECE electives requirements. The increase in electives provides added flexibility to allow students to pursue studies in one of the stated areas of emphasis in the ECE program and it further increases commonality in the EE and CE tracks which reduces complexity in the curriculum.

Since no other department is asked to modify or change its course offerings and the proposed changes do not affect the number of credits in the core, there is not resource impact to the proposed changes. Supervision of the seminar course will be rotated among the faculty to help even out teaching loads.

The ECE department respectfully requests approval of these changes.