ECE Curriculum Committee Meeting – Minutes

December 6, 2022

12:30 – 1:20 p.m.

CP106 / Zoom

<u>**Attendance**</u>

Voting Faculty: Orlando Baiocchi, Vahid Dargahi, Debasis Dawn, Mohammed Jasim, Max Laddomada, Thillainathan Logenthiran, Mike McCourt, Jenny Sheng, Nafiul Siddique, Matthew Tolentino*****

*=not present for vote

Non-Voting Faculty and Staff: Chris Barrett, Bob Landowski, Don McLane, Beth Jeffrey, Rachel Crook

<u>**Items**</u>

1) Approve the minutes of our ECE Curriculum meeting held on November 22, 2022

> **Moved: J. Sheng**
>
> **Seconded: M. Jasim**
>
> *Eligible to vote: 10 (1 voting faculty member absent for vote)*
>
> **9 in favor, 0 against, 0 abstain**

2) EE and CENGR ABET assessment schedule for Autumn 2022

The Chair shared the assessment plan for Autumn 2022 – we will be assessing outcomes 2, 3, 4, 5, and 7:

EE & CENGR Assessment Plan for AY 2022-2023					
SO	Jun-Fall	Jun-Winter	Jun-Spring	Sen-Fall	Sen-Winter	Sen-Spring
1						
2	TCES 230 Logic	TCES 312 Electronics	TCES 330 Digital System Design	TCES/TEE 480	TCES/TEE 481	TCES/TEE 482

3	TCES 230 Logic	TCES 312 Electronics	TCES 330 Digital System Design	TCES/TEE 480	TCES/TEE 481	TCES/TEE 482
4					TCES/TEE 481	TCES/TEE 482
5					TCES/TEE 481	TCES/TEE 482
6						
7	TCES 230 Logic	TCES 312 Electronics	TCES 330 Digital System Design	TCES/TEE 480 TCES 430 Microprocessors	TCES/TEE 481	TCES/TEE 482

SOs

(1) (a,e) An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

(2) (c) An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

(3) (g) An ability to communicate effectively with a range of audiences.

(4) (f,h,j) An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

(5) (d) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

(6) (b) An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

(7) (i) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3) Updates from our ECE advisor

The advisor discussed situations where students need just one class to graduate in the next quarter, but the course they need isn't offered until a later quarter. In the past, we have allowed students in this situation to complete the required courses as an independent study. The instructor would be asked to provide all course content for the student to complete independently, which isn't too difficult if the course was previously taught fully online during the pandemic since the material is already formatted for virtual learning. Some committee members mentioned that allowing students to do this may be difficult in some of our lab-focused courses, and may not be compatible for someone to complete as an independent study.

The advisor also recommends allowing students in the 100 level ECE courses to work with seniors on their projects – in the past, this got students new to the ECE major excited to participate in the senior project. This is also a great opportunity for students to meet seniors and see what they actually do. If we admit 7 CE and EE freshman direct students, we could possibly encourage them to take 101 and tell them that they'll have the opportunity to work with seniors on their senior design projects, which could encourage them to take this 1 credit course. This is a unique way to motivate students interested in pursuing one of our majors.

4) Updates from our Faculty Council representatives

The Faculty Council hasn't met recently, due to some scheduling changes. They will meet again on 12/8, and updates will be provided at our next meeting.

5) Computer Architecture issues

A committee member shared that there isn't enough time/credits available to teach all of the content needed in this course. Because of this, they would like to increase the credit load for this course to 5 credits, which would provide more opportunity to cover more content and dig deeper into these topics. This isn't an easy thing to request, since there is pushback for reducing our current credit load. This topic will continue to be discussed in future meetings.

6) Emag issue

There is a proposal to move Electromagnetics to the first year. This course heavily depends on math and physics knowledge, and since this course is typically taken in student's final quarter(s), they often forget the math and physics information they learned in their first year. This gap seems to be impeding student success in the course.

Moving this course to the first year could help them remember the information learned in their math and physics courses. Another issue that has been raised by students is that they wish they learned the info from this Electromagnetics course earlier, since it is relevant to the courses they were required to take before this one. This isn't an easy change, and will impact the whole curriculum. The proposal is to first approve this change, and then move towards discussing how we can move it to fit better within the curriculum. Another option is to remove this course from the degree and reallocate the available credits to another course. This item will continue to be discussed in future meetings.

7) Old business

8) New business

One committee member serving on the freshman direct committee shared some updates: the current number of applications for freshman direct: 28 for EE, 29 for CENGR. The freshman direct committee will review the applications; as of right now, they are sticking with their cap of 30 students.