

ECE Undergraduate Electives Committee Meeting

Friday, November 1st, 2024

Attending: Arabshahi, Chen, Dela Cruz, Gadre, Hameed, Makhsous, Overly, Shepard, Swanson, Thomas

Minutes of October 18th, 2024: Approved

Agenda:

1. Review of BSEE and BSECE Program Educational Objectives for ABET (Chen)
2. New Course Proposal: EE 347: Intro to Robotics and Control Systems (Makhsous)
3. Course Change Proposal: EE 333: Analog Circuit Design (Naghavi) - Revision of current EE 433
4. Proposal to add EE 233: Circuit Theory to the BSECE Core
5. Proposal Updates:
 - a. EE 452 prereq changes proposed last week by Choi
 - b. EE 4XX/5XX proposed last meeting by Moazeni

Review of BSEE and BSECE Program Educational Objectives for ABET

As part of the annual review of objectives required for ABET accreditation, Chen presented the Program Educational Objectives (PEOs) and asked committee members for feedback.

- Chen and Overly will send out a feedback form to all committee members for feedback on the current version of the PEOs.
 - Due in 2 weeks (Nov. 15th)

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New Course Proposal: EE 347: Intro to Robotics and Control Systems (Makhsous)

Having successfully piloted Introduction to Robotics as a special topic course for two years, Makhsous presented a proposal to make the course a permanent offering in the ECE curriculum as EE 347: Introduction to Robotics and Control Systems. The objective of making this course into a permanent course is to introduce students to controls systems, get them excited about it, and to prepare students for advanced controls systems courses.

- [EE 347 MCD](#)
- See [Presentation slides](#)
- The committee provided the following suggestions:
 - Thomas requested clarification on a couple issues with the listed prerequisites for the course:
 - The CSE prerequisite listing is confusing, and it is unclear if students need both CSE 122 and CSE 123, or if either course will satisfy the prerequisite for the proposed course
 - The prerequisite for EE 241 already includes CSE 122 or CSE 123; if only CSE 122 is needed for the proposed course, only CSE 123 would need to be listed since EE 241 would already require at least CSE 122
 - Since CSE 163 can be used as an option to EE 241 in the degree and as a prerequisite for EE 242, could CSE 163 be used as an option for the EE 241 prerequisite for the proposed course.
 - As there is a lab portion to this course, it is recommended that a comment be added to notes stating this is a lab class.
- **Motion to approve proposal**
 - **Motion approved – no dissents**

Course Change Proposal: EE 333: Analog Circuit Design (Naghavi) - Revision of current EE 433

The committee reviewed Naghavi's proposal for EE 333 and thought that this revision may need more time for review. This course was approved by Chris Rudell, however the committee thought that the presented MCD may need clarification on the learning topics

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as they were unsure if this overlaps with topics from EE 233: Circuit Theory or expands on it as well as how students will be assessed as there are no clear exams stated.

- [EE 333 MCD](#)
- Course has been revised to the junior level from the senior level
 - Labs have been revised
 - Content has been adjusted
- The course is intended to be a part of the Integrated Systems track as well as an opportunity for greater depth in analog circuits for all students
- The committee was in general support, but Hameed raised concerns regarding the following topics:
 - Potential overlap with EE 233
- Thomas raised a concern regarding the heavy weight of the labs in the overall grading for the course. Labs currently comprise 50% of the overall grade, which is unusual, and requested Hossein provide more information on the grading format
- Thomas also had concerns of an apparent lack of individual summative assessment opportunities, and wants to ensure instructors can assess students for their own work
- **Hameed will reach out to Naghavi with questions regarding overlaps with EE 233, student assessments, and providing a syllabus**
 - **Will return to committee with Naghavi's responses**

Proposal to add EE 233: Circuit Theory to the BSECE Core

Following up on previous discussions in both the ECE Undergraduate Core Courses and ECE Undergraduate Elective Courses Committees surrounding the importance of material covered in EE 233: Theory Circuit for all students, the committee took up the motion to add the course to the list of BSECE Core Courses requirement.

- Many faculty feel that the material is important for any student graduating with an ECE degree
- Students report being surprised that the course is not a degree requirement, and feel the material is extremely important, and is a strong vehicle for exposing student to more interesting aspect of circuits and hardware than they receive in EE 215: Fundamentals of Electrical Engineering.

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- Many new faculty are finding a lack of knowledge and preparedness in students regarding material covered in EE 233 and important for success in upper-level course.
- A discussion arose about the possibility of changing the course number to a 300-level, but the committee decided that it was not currently preferred, and felt the number was best left as EE 233 within the current structure.
- **Motion to add EE 233: Circuit Theory to the list of required Core courses for BSECE students, effective for students entering the BSECE program Autumn 2025**
 - **Motion approved**

Update on EE 452 prerequisite changes proposed last week by Choi

- *Postponed*

Update on EE 4XX/5XX: Electronic-Photonic Integrated Systems proposed last meeting by Moazeni

- *Postponed*