TO: The Faculty of the College of Engineering

FROM: Elmore Family School of Electrical and Computer Engineering

RE: New Graduate Course, ECE 60001 Concepts to Innovation I

The faculty of the School of Electrical and Computer Engineering has approved the following new course. This action is now submitted to the Engineering Faculty with a recommendation for approval.

ECE 60001   Concepts to Innovation I
Sem. 1 & 2, Lecture 2 Recitation 1, Cr. 3.
Prerequisite: Master student standing

Description:
This course is part of the Concepts to Innovation (I2I) Project course sequence, which forms the core of the ECE Project Track MS program. In this sequence of courses, student transform ideas and concepts into innovations, including improved components, systems or processes. Building from topics suggested by faculty, companies, prior I2I teams and inventions helps focus the projects on current and relevant problems. Students analyze the competitive landscape and define required performance for their designs, which allows them to identify the novel. The I2I team project is comparable in scope and rigor to a 6-credit MS thesis but is focused on design rather than research. In addition to building technical depth in current technology areas, the project definition, design and reporting phases serve as the vehicles for developing communication, project management and other professional skills.

Concepts to Innovation Project-I focuses on definition and preliminary design of a team-based design project. Starting from topics suggested by faculty, companies, previous teams or inventors, students work individually to define the context and challenges associated with the topic. Teams then define a specific focuses for the design projects, including specific goals, deliverables and approach, and complete preliminary designs. Course staff and technical mentors guide the teams through these project definition and execution stages. The course helps develop essential professional skills necessary to complete the project successfully, including communication and project definition/management.

Reason: This course is part of the professional development component for our professional masters program. It is part one of a two course series that students need in order to complete our project-track course requirements.

Course History: Fall 2019 – 2, Fall 2020 – 25, Fall 2021 – 20, Fall 2022 – 62, Fall 2023 – 55, Fall 2024 – 56

T.S. Muth

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