Update for the ECE Curriculum

ABET has reported a shortcoming in the Criteria 5 (Curriculum) with respect to "culminating major engineering design" for both EE and CPE programs. ECE department meets this requirement through two elective laboratory design courses with senior design projects. ABET audit summary reports that "*Program lab courses, either individually or collectively, is not culmination of years of student learning and experience."*

Based on the feedback received from ABET, ECE Department has decided to designate one of the senior professional elective courses required as a Major Design Experience (M) course. Major Design Experience courses are designed to meet the ABET requirements (see below).

Curriculum change for ECE Programs (EE, CPE and CCSE)

> *Professional ECE electives may be chosen from any of the 400-level ECE courses identified with (P) in the course descriptions. At least two of the electives must contain laboratories. At least one of the elective courses must be identified as Major Design Experience (M) course.*

Revised ECE441 Course designated as a Major Design Experience (M) course:

> ECE441 is now a 100% project-based course with students working in teams on implementation of a smart and connected system targeting different application domains. Restructured ECE441 schedule include several project milestones that need to be met by students including project proposal, midterm progress reports, final report and presentations.

****ABET requirement for major design experience:**

> *d. a culminating major engineering design experience that 1) incorporates appropriate engineering standards and multiple constraints, and 2) is based on the knowledge and skills acquired in earlier course work.*
>
> *Engineering design is a process of devising a system, component, or process to meet desired needs and specifications within constraints. It is an iterative, creative, decision-making process in which the basic sciences, mathematics, and engineering sciences are applied to convert resources into solutions. Engineering design involves identifying opportunities, developing requirements, performing analysis and synthesis, generating multiple solutions, evaluating solutions against requirements, considering risks, and making trade- offs, for the purpose of obtaining a high-quality solution under the given circumstances. For illustrative purposes only, examples of possible constraints include accessibility, aesthetics, codes, constructability, cost, ergonomics, extensibility, functionality, interoperability, legal considerations, maintainability, manufacturability, marketability, policy, regulations, schedule, standards, sustainability, or usability.*