What You Need to Know About Year-Long Mechanical Engineering Senior Design
Summary

- Beginning fall 2019/spring 2020, ME capstone senior design will become year-long

- First semester (fall only) will be MAE 415 (3 credits)

- Second semester (spring only) will be MAE 416 (4 credits)

- MAE 415 replaces the ME Design Elective currently showing in first semester senior year of the ME degree plan

- There is no change to the total number of credit hours required for the ME degree (126)
• There will be 2 or 3 one-semester sections of MAE 416 offered in fall 2019 for those graduating in December 2019 (enrollment by permission only)

• There will be 1 one-semester section of MAE 416 offered in spring 2020 for May/July/Aug 2020 graduates who have made unchangeable plans to be away from campus in fall 2019 (co-op, internship, study abroad, etc.) (enrollment by permission only)

• Any senior who is on campus both fall 2019 and spring 2020 and planning to graduate in spring or summer 2020 must enroll in year-long senior design (MAE 415 in fall 2019, MAE 416 in spring 2020)
Fall 2020 Graduates

- Every effort should be made to incorporate year-long senior design into fall2019/spring2020 or fall2020/spring2021

- There will be no single-semester MAE 416 sections offered after spring 2020

- Fall 2020 graduates who have planned a one-semester MAE 416 in fall 2019 or spring 2020 will need approval from the MAE academic advising office
Senior Design Requisites

• For fall 2019 ONLY requisites for MAE 415 (first semester senior design) will be either set of (MAE 315 and 316) OR (MAE 302, 308 and 310)

• After fall 2019 requisites for MAE 415 will be all 300-level ME lecture courses (MAE 302, 308, 310, 315, and 316)

• After fall 2019 requisite for MAE 416 (second semester senior design) will be MAE 415

• Most 300-level ME courses are offered in the summer for those who need to complete a requisite for senior design
Entrepreneurship Senior Design

- ME students may choose Entrepreneurship (EEP) senior design in lieu of traditional ME senior design.

- Students are not required to be participants of the EEP program to participate in EEP senior design.

- EEP senior design is year-long: MAE 482 (3 credit) in fall, MAE 483 (3 credits) + MAE 484 (1 credit) in spring (these substitute for MAE 415 and MAE 416).

- Requisites for this option are a bit looser than for traditional – completion of some ME 300-level lecture courses required for fall 2019/spring 2020 enrollment (any ECE course requisites can be ignored).
Traditional vs. EEP Senior Design

• Traditional ME senior design
  – Company sponsored, typically 4-5 projects/sponsors per year
  – Work in teams of 5-6 students, multiple teams working on same project
  – Interaction with company throughout year
  – Design, build and test prototype
  – Great opportunity to connect with companies

• Engineering Entrepreneurship (EEP) senior design
  – Multidisciplinary (EE, CPE, ME, BME, CHE, etc.)
  – Work in teams of 4-6 students, teams working on different projects
  – Teams propose idea for project, subject to approval by instructors
  – Develop business/marketing plan concurrently with design and build prototype
  – Great option for those interested in start-ups, business management, entrepreneurship
Design Electives: MAE 412 and “old” MAE 415

Students who are eligible for one-semester senior design (MAE 416) in fall 2019 or spring 2020 and need an ME design elective (MAE 412 or “old” MAE 415) will enroll in one of the following:

• Fall 2019
  – **MAE 495-021 Analysis for Mechanical Engineering Design**: serves as “old” MAE 415 (reserved for fall 2019 graduating seniors, enrollment by permission only, requisites: MAE 315 and 316)
  – **MAE 495-020 Design of Thermal Systems**: serves as MAE 412 (reserved for fall 2019 graduating seniors, enrollment by permission only, requisites: MAE 302, 308 and 310)

• Spring 2020
  – MAE 412 likely to be offered under its regular number and can be taken as a tech elective by any senior
  – “old” MAE 415 likely to be offered as MAE 495 and can be taken as a tech elective by any senior
Seniors who already completed MAE 412 and plan to enroll in the year-long senior design (MAE 415 + 416) in fall 2019/spring 2020 will use MAE 412 as an MAE technical elective

Seniors who already completed “old” MAE 415 and plan to enroll in year-long senior design in fall 2019/spring 2020 should contact the MAE undergraduate office

Students with any other special case not covered in this presentation should contact the MAE undergraduate office if academic planning assistance is needed