CE Town Hall on Capstone

Where: Baskin 152
When: Monday 4/17/17 2:50-3:40pm

Hosted by:
Professor Martine Schlag, CE Department Chair
Professor Matthew Guthaus, CE Undergraduate Director
Professor Anujan Varma, CE Capstone Instructor
Professor Tracy Larrabee, Associate Dean for Undergraduate Affairs
Capstone Options for 2017-18

1. CMPE 123 A/B
2. Solo Thesis Option
3. Group Thesis Option
4. CMPE 129 A/B/C
1) CMPE 123 A/B offered Winter/Spring

- CMPE 123A Winter 18 (5 credits)
- CMPE 123B Spring 18 (7 credits)
- Choice of 3 pre-defined open-ended projects
Some example projects:

- Campus parking infrastructure management system
- NFV-based network router
- Autonomous wheelchair
Problem: Automobiles are getting smarter, but parking lots are not.
Project Goals:

- Develop system for management of parking infrastructure for campus
- Consists of sensors, network, cloud app, smartphone app
System Architecture:
NFV Router:

- Develop an FPGA-based “soft” router for data centers
- Tools to synthesize specifications into hardware
Autonomous Wheelchair:

- GPU-based learning platform for indoor navigation
- Senses environment using cameras and navigates to desired destination
Project Guidelines for 123 A/B

- All projects involve design of systems combining hardware and software
- Specifies required features, leaves room for innovation
- Designed to serve different CE concentrations
- Basic kit of parts provided
2) CMPE (Solo) Thesis Option

- CE faculty advisor,
- CMPE 129A (2 credits) or CMPE 123A (5 credits),
- CMPE 195 (5 credits), and
- Submit thesis

https://www.soe.ucsc.edu/departments/computer-engineering/undergraduate/senior-thesis
or Google: “ucsc cmpe senior thesis”
3) CMPE (Group) Thesis Option

- CE faculty advisor for group,
- CMPE 129A (2 credits) or CMPE 123A (5 credits),
- CMPE 195 (5 credits), and
- Submit thesis (each member writes up their part of the project separately)

https://www.soe.ucsc.edu/departments/computer-engineering/undergraduate/senior-thesis
or Google: “ucsc cmpe senior thesis”
4) Custom Senior Projects

• CMPE 129A (2 credits) in Fall 17 to plan project (co-taught with section of EE 129A?)

• Accepted projects continue in CMPE 129B/C (Faculty panel approves projects for 129B/C based on project plans and qualifications for the project at end of 129A)

• Students can take CMPE 123A/B in W/S18
Interdisciplinary Projects

• Double majors in CMPE/EE or RE/EE may substitute EE 129ABC for CMPE 129ABC to meet the CMPE or RE BS requirements. (existing reciprocal agreement with EE)

• Approval for alternate capstone sequences will be considered on a case-by-case basis taking into account the project plans and qualifications.