Guide for planning

EE Elective courses listed by focus area

B.S. Electrical Engineering degree

~ plan ahead ~

‘EE Elective’ courses are offered in the various areas of specialty within ECE. These are not concentrations and are not listed on your diploma. Check the Course Descriptions and Schedule of Classes for current course information. It is a good idea to have a strong focus in at least one area for your career or grad school. You can mix and match classes as you like. Plan your electives at least 3 semesters in advance – when you are in JR EE courses and are learning what the different areas involve. Graduate level, lecture-based courses qualify as EE Elective credit. A concentration will be listed on the diploma.

Special Topics vary: EE 4800 Check schedule and catalog descriptions for additional EE course offerings each semester using EE4800.

Power & Energy:
- EE 4219 Introduction to Electric Machinery and Drives Spring
- EE 4220 Introduction to Electric Machinery and Drives Lab Spring
- EE 4221 Power System Analysis 1 Fall
- EE 4222 Power System Analysis 2 Spring
- EE 5223 Power System Protection Spring or Odd Springs – check schedule of classes
- EE 5224 Power System Protection Lab Spring or Odd Springs - ”
- EE 5250 Distribution Engineering Spring or Even Springs – check schedule of classes
- EE 4226 Power Engineering Lab Spring, Summer D(1st week of May)
- EE 4227 Power Electronics Fall
- EE 4228 Power Electronics Lab Fall
- EE 4295 Intro Propulsion Systems for Hybrid Elec Vehicles Fall
- EE 4296 Experiential Studies in HEV Fall

Photonics: ~ Also See EE Photonics Concentration Requirements (Degree Services –audit)
- EE 2190 Introduction to Photonics Spring (begins Spring 2019)
- EE 3090 Geometrical & Wave Optics Fall (ends Fall 2017)
- EE 3190 Optical Sensing and Imaging Spring
- EE 3290 Photonic Material, Devices & Apps Fall 4 cr.
- EE 4490 Laser Systems and Applications Spring 4 cr.
- EE 4290 Optical Communication Spring

Control
- EE 4219 Introduction to Electric Machinery & Drives Spring
- EE 4220 Introduction to Electric Machinery and Drives Lab Spring
- EE 4262 Digital & Non-Linear Control Spring
- EE 4777 Open-Source 3-D Printing Fall
- EE 5750 Distributed Embedded Control Systems Spring
- EE 4373 Intro to Programmable Controllers (PLC’s) Fall
- EE 4373 Advanced Programmable Controllers Spring 4 cr.

DSP:
- EE 4252 Digital Signal Processing and It's Applications Fall 4 cr
- EE 4253 Real-time Signal Processing Spring
- EE 5527 Digital Communications Spring

Electronics:
- EE 4231 Physical Electronics Spring (previously offered in falls)
- EE 4271 VLSI Design Fall (if offered)
- EE 4240 Introduction to MEMS Alternating Falls 4 cr

Communication:
- EE 5527 Digital Communications Spring
- EE 4272 Computer Networks Fall (Co-listing with CS4461) CpE's
- EE 4723 Network Security Spring CpE's

Electromagnetics:
- EE 4411 Engineering Electromagnetics Fall (Not offered fall 2018)
- EE 4490 Laser Systems and Applications Fall or Spring-check SOC 4 cr. (offered fall 2018)

Computer Systems:
- EE 4272/CS4461 Computer Networks Fall/Spring (Co-listing with CS4461) CpE's
- EE 5496 GPU and Multicore Programming Fall CpE's
- EE 4737 Embedded System Interfacing Spring 4 cr. (begins Spring 2019) [EE4735 ended spring 2016]
- EE 4723 Network Security Spring CpE's
- EE 4271 VLSI Design Fall

Check online descriptions for most current pre-requisites and semester offerings. Plan ahead. See schedules for new offerings.

EE Electives are EE courses that are not specifically required, are lecture-based, and not EE3010, EE3805, EE4000, EE4805, EE3901, EE4901, EE4910. Graduate level EE lecture courses may be used - Instructor/level waiver approval needed to register.