EE Technical Elective courses listed by focus area  

B.S. Electrical Engineering degree

~ plan ahead ~

‘EE Technical Elective’ courses are offered in the various areas of specialty (focus areas) within ECE. These are not concentrations and are not listed on your diploma. Check the Course Descriptions and Schedule of Classes (SOC) 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 Technical Elective credit. A concentration will be listed on the diploma.

Special Topics vary: EE 4800 Check SOC 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  (not always available)

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 3373 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  (not offered recently)
EE 5527 Digital Communications  Spring

Electronics:

EE 4231 Physical Electronics  Fall (sometimes Spring)
EE 4232 Electronic Applications  Spring
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 always available)
EE 4490 Laser Systems and Applications  Fall or Spring-check SOC  4 cr.  (offered fall 2019)

EE Technical Electives are courses that are not specifically required, are lecture-based, and not EE3010, EE3805, EE4000, EE4805, EE3901, EE4901, EE4910. EEnXXE – may not be used unless course is approved by the department (syllabus required).

Use Curriculum Add/Drop form to add a concentration in Photonics with BSEE.