

College of Engineering

Requirements for a Minor in Electrical Engineering

- A Minor in Electrical Engineering is earned through completion of 20 credits. Twelve credits must be unique to the minor and may not count toward the fulfillment of majors or additional minors. No more than 8 credits can be used to satisfy the student's major degree program requirements.
 - Five courses (20 credits) selected from the list below.
- Students are expected to obtain the necessary background (prerequisites or equivalents) to complete their chosen minor program.
- A minimum 2.00 GPA is required in the courses used to satisfy the minor, with no grade less than a C–.
- Students must have a declared major on record in order to apply for the Minor in Electrical Engineering.
- The student's application is subject to the approval of the Associate Chair for Undergraduate Studies of the Department of Electrical and Computer Engineering.
- Students planning to pursue a minor in Electrical Engineering should apply as early as possible—or by May 1 of the junior year—to facilitate course planning.

The following courses may be used to satisfy the requirements of the EE Minor: (Note that many of these are advanced courses with pre-requisites, and students are responsible for fulfilling these)

- o ENC EC 311: Logic Design
- o ENG EC 401: Signals & Systems
- o ENG EC 402: Control Systems
- ENG EC 410: Electronics
- ENG EC 412: Analog Electronics
- o ENG EC 414: Machine Learning
- ENG EC 415: Communication Systems
- ENG EC 417: Electrical Energy Systems
- ENG EC 418: Reinforcement Learning
- o ENG EC 455: Electromagnetics I
- ENG EC 456: Electromagnetics II
- ENG EC 471: Physics of Semiconductor Devices
- ENG EC/ME/SE 501: Dynamic System Theory

- o ENG EC 503: Introduction to Learning from Data
- o ENG EC 505: Stochastic Processes
- o ENG EC 508: Wireless Communication
- ENG EC 516: Digital Signal Processing
- o ENG EC 517: Introduction to Information Theory
- o ENG EC/BE 519: Speed Processing
- ENG EC 520: Digital Image Processing & Communication
- <u>ENG EC 522</u>: Computational Optical Imaging
- o ENG EC/SE 523: Deep Learning
- o ENG EC/EC/SE 524: Optimization Theory and Methods
- o ENG EC/ME/SE 543: Sustainable Power Systems
- <u>ENG EC/BE 555</u>: Introduction to Biomedical Optics
- ENG EC/BE 556: Optical Spectroscopic Imaging
- ENG EC 560: Introduction to Photonics
- ENG EC 562: Engineering Optics
- <u>ENG EC 565</u>: Electromagnetic Fundamentals
- ENG EC 568: Optical Fibers and Waveguides
- ENG EC 569: Introduction to Subsurface Imaging
- o ENG EC 570: Lasers and Applications
- o ENG MS 508: Computational Methods in Materials Science
- ENG EC 573: Solar Energy Systems
- o ENG EC/MS 574: Physics of Semiconductor Materials
- ENG EC 575: Semiconductor Devices
- ENG EC/MS 577: Electronic Optical and Magnetic Properties of Materials
- o ENG EC 578: Fabrication Technology for Integrated Circuits
- ENG EC/ME 579: Nano/Micro-Electronic Devices Technology
- o ENG EC 580: Analog VLSI Circuit Design
- o ENG EC 583: Power Electronics
- o ENG EC 591: Photonics Laboratory
- <u>ENG EK 481</u>: Introduction to Nanotechnology

Please reference the list of duplicate classes when planning your minor.