

Bioelectronics & Biophotonics Minor

2023-2024 Curriculum Chart

This minor cannot be combined with the Bioelectronics concentration of the former Bioengineering major, the EE BS, or the EE minor

Mathematics & Statistics

MATH 19A
Calculus

AM 10
Math Methods for
Engineers I

OR

MATH 21
Linear Algebra

MATH 19B
Calculus

AM 20
Math Methods for
Engineers II

OR

MATH 24
Ordinary Differential
Equations

Physics

PHYS 5A/L
Intro to Physics I/Lab

PHYS 5C/N
Intro to Physics III/Lab

Computer Engineering

CSE 12(7 units)
Computer Systems &
Assembly Language/Lab
[Prerequisite(s): CSE 20, or CSE 30,
or BME 160, or equivalent]

ECE 13 (7 units)
Computer Systems & C
Programming

CSE 100/L
Logic Design/Lab

Biology & Biotechnology

(Pick one)

BME 140
Bioinstrumentation

ECE 104
Bioelectronics

ECE 130/L*
Introduction to
Optoelectronics and
Photonics/Lab

*ECE 130 & ECE 130L requires
Phys 5B

Electronics

ECE 101/L
Intro to Electronic
Circuits/Lab

ECE 121(7 units)
Microcontroller System
Design

ECE 103
Signals & Systems

ECE 167(7 units)
Sensing & Sensor
Technologies/Lab

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Fall _____	Winter _____	Spring _____	Summer _____

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The bioelectronics and biophotonics minor is designed for students in chemical, biological, environmental sciences, and biomolecular engineering to learn how to interface biological systems with electronics including sensors, actuators, and wireless communications. Introductory chemistry and physiology is desired, but not required.

Essential courses for the minor in bioelectronics and biophotonics deal with the analog electronics to interface biological systems to sensors and with the signals they produce, both analog and digital, for interfacing to computer systems. The minor requirements may satisfy the requirements of other majors or minors. The minor cannot be combined with the bioelectronics concentration of the former bioengineering major or the electrical engineering B.S. or electrical engineering minor.