Biomedical Engineering, Minor

Medical imaging and biomedical electronics are important areas of biomedical engineering that are within the province of electrical engineering. The minor in biomedical engineering is open to all students in the university with the prerequisite calculus and physics background. The minor is particularly designed for majors in electrical or computer engineering, biology, health science fields, or other engineering departments who would like a background in relevant aspects of biology and electrical engineering, with the opportunity to complete an interdisciplinary biomedical engineering capstone design project. Coursework in anatomy and physiology and other health science topics is combined with technical engineering courses related to biomedical imaging and instrumentation.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students need to complete the program requirements with at least three courses that are not part of their major required coursework.

Required Biology

Code	Title	Hours
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5

Required Engineering

The course you select may also count toward your major.

Code	Title	Hours
Complete 4 SH from the following:		4
EECE 4512	Healthcare Technologies: Sensors, Systems, and Analysis	
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 5698	Special Topics in Electrical and Computer Engineering	

Required Capstone Design Courses

Complete the following two courses on a biologically oriented project:

Code	Title	Hours
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4

Elective Courses

One course must be outside your home department. Neither course can be used toward your major.

Code	Title	Hours
Complete two of the following:		8-10
Biology		
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	
BIOL 2299	Inquiries in Biological Sciences	
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	
BIOL 3405	Neurobiology	
BIOL 4991	Research	
BIOL 5581	Biological Imaging	
Chemical Engineering		
CHME 5630	Biochemical Engineering	
CHME 5699	Special Topics in Chemical Engineering	

Civil/Industrial Engineering	
CIVE 7251	Environmental Biological Processes
Electrical/Computer Engineering	
EECE 4512	Healthcare Technologies: Sensors, Systems, and Analysis
EECE 4991	Research
EECE 4992	Directed Study
EECE 5698	Special Topics in Electrical and Computer Engineering
Mechanical/Industrial Engineering	
IE 4522	Human-Machine Systems
ME 5665	Musculoskeletal Biomechanics
Physics	
PHYS 4621	Biological Physics 1
PHYS 4623	Medical Physics
PHYS 4651	Medical Physics Seminar 1
PHYS 4652	Medical Physics Seminar 2
Psychology	
PSYC 3452	Sensation and Perception
PSYC 3458	Biological Psychology

GPA Requirement

2.000 GPA required in the minor