

BIOMEDICAL ENGINEERING MAJOR

Plan of Study

A typical, full-time, four-year plan of study appears below. Some variation may be possible. Students should always discuss their individual plan of study with their advisor prior to registering for courses.

Course	Title	Credits
First Year		
Fall		
ENGR 1031	Fundamentals of Engineering	3
MATH 1141	Calculus I for Chemistry, Engineering, and Physics Majors	4
PHYS 1171	General Physics I	3
PHYS 1171L	General Physics I Lab	1
Modern/Classical Language Orientation Tier ⁵		3
History Orientation Tier ¹		3
Credits		17
Spring		
CPSC 1131	Fundamentals of Programming	3
ENGL 1001	Introduction to Rhetoric and Composition	3
MATH 1142	Calculus II for Chemistry, Engineering, and Physics Majors	4
PHYS 1172	General Physics II	3
PHYS 1172L	General Physics II Lab	1
ENGR 2130	Engineering Graphics I	3
Credits		17
Second Year		
Fall		
BIEG 3201	Biomechanics	3
ELEG 2213	Introduction to Electric Circuits	3
ELEG 2213L	Electric Circuits Lab	1
MATH 2243	Calculus III for Chemistry, Engineering, and Physics Majors	4
CHEM 1171	General Chemistry I	3
CHEM 1171L	General Chemistry I Lab	1
Credits		15
Spring		
BIEG 3301	Biomedical Instrumentation	4
ENGR 2145	Mathematical Analysis	3
ENGR 2145P	Mathematical Analysis PLG	0
MATH 2251	Ordinary Differential Equations	3
CHEM 1172	General Chemistry II	3
CHEM 1172L	General Chemistry II Lab	1
PHIL 1101	Introduction to Philosophy	3
Credits		17
Third Year		
Fall		
CHEM 2271	Organic Chemistry I	3
CHEM 2271L	Organic Chemistry I Lab	1

BIEG 3331	Biomedical Signal Processing	3
MEEG 2207	Materials Science	3
Religious Studies Orientation Tier ¹		3
Behavioral and Social Sciences Exploration Tier ³		3
Credits		16
Spring		
BIEG 4332	Biomedical Imaging	3
CPEG 2245	Digital Design I	3
CPEG 2245L	Digital Design I Lab	1
History or Philosophy or Religious Studies Exploration Tier ²		3
Select one Biology course with lab from the following: ⁸		4
BIOL 1171	General Biology I (or)	
BIOL 1172	General Biology II (or)	
BIOL 1173	General Biology III	
Credits		14
Fourth Year		
Fall		
ENGR 4961	Senior Design Project I	3
BIEG 4350	Medical Device Design	3
Major Elective ⁴		3
ELEG 3348	Embedded Microcontrollers	3
ELEG 3348L	Embedded Microcontrollers Lab	1
History or Philosophy or Religious Studies Exploration Tier ²		3
Credits		16
Spring		
ENGR 4962	Senior Design Project II	3
Major Elective ⁴		3
Behavioral and Social Sciences Exploration Tier ²		3
Visual and Performing Arts Exploration Tier ⁶		3
Literature Exploration Tier ⁷		3
Credits		15
Total Credits		127

¹ Choose an appropriate History or Religious Studies course at the 1000 level

² Choose any appropriate Religious Studies, History, or Philosophy core course

³ Core Social Science course may be filled by appropriate courses in Communication, Economics, Psychology, Politics, or Sociology and Anthropology.

⁴ Major electives are chosen from the department, but may be chosen with approval of advisor and department chair from among other courses offered in the School of Engineering.

⁵ Choose any Language offered by the Modern Language Department, based on placement exam.

⁶ Visual and Performing Art History courses may be chosen from Art History, Music, Film, Television, and Media Arts, Studio Art, or Theatre.

⁷ Approved English, Modern Languages and Literatures, and Classics courses.

⁸ Corequisite lab is required.