

Bachelor of Science in Electrical Engineering with Biomedical Engineering Focus

Required 128 credits (36 of which must be numbered 300 or above including):

I. Essential Studies Requirements (see University ES listing)

II. Electrical Engineering required courses

Code	Title	Credits
EE 101	Introduction to Electrical Engineering	1
EE 201 & 201L	Introduction to Digital Electronics and Digital Electronics Laboratory	4
EE 206 & 206L	Circuit Analysis and Circuits Laboratory I	4
EE 304	Computer Aided Measurement and Controls	3
EE 313 & 313L	Linear Electric Circuits and Circuits Laboratory II	4
EE 314 & 314L	Signals and Systems and Signal and Systems Laboratory	4
EE 316	Electric and Magnetic Fields	3
EE 318	Engineering Data Analysis	3
EE 321 & 321L	Electronics I and Electronics Laboratory I	4
EE 405 & 405L	Control Systems I and Control Systems Laboratory	4
EE 409	Distributed Networks	3
EE 421 & 421L	Electronics II and Electronics Lab II	4
EE 452 & 452L	Embedded Systems and Embedded Systems Design Laboratory	4
EE 480	Senior Design I	3
EE 481	Senior Design II	3
Total Credits		51

III. Program Required Electives

Code	Title	Credits
Electrical Engineering Electives ²		9
Non-Electrical Engineering Electives ³		3
CSCI 242	Algorithms and Data Structures	
CSCI 260	Advanced Programming Languages	
CE 306	Fluid Mechanics	
ENGR 201	Statics	
ENGR 202	Dynamics	
ENGR 203	Mechanics of Materials	
MATH 208	Discrete Mathematics	
ME 301	Materials Science	
ME 306	Fluid Mechanics	
ME 341	Thermodynamics	
Total Credits		12

IV. College of Engineering and Mines Requirements

Code	Title	Credits
ENGR 340	Professional Integrity in Engineering	3
ENGR 460	Engineering Economy	3
Total Credits		6

V. Requirements outside of the College of Engineering and Mines

Code	Title	Credits
BIMD 220 & 220L	Human Anatomy Physiology I and Human Anatomy Physiology I Lab	4
BIMD 221 & 221L	Human Anatomy Physiology II and Human Anatomy Physiology II Lab	4
BIOL 150 & 150L	General Biology I and General Biology I Laboratory	4
BIOL 151 & 151L	General Biology II and General Biology II Laboratory	4
CHEM 121 & 121L	General Chemistry I and General Chemistry I Laboratory	4
MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 265	Calculus III	4
MATH 266	Elementary Differential Equations	3
PHYS 251	University Physics I	4
PHYS 252	University Physics II	4
PSYC 111 or SOC 110	Introduction to Psychology or Introduction to Sociology	3
Total Credits		46

VI. Additional Recommended Pre-Medical Courses

Code	Title	Credits
BIMD 301	Biochemistry	3
BIMD 302 & 302L	General Microbiology Lecture and General Microbiology Laboratory	4
BIOL 315	Genetics	3
BIOL 369 & 369L	Histology and Histology Lab	4
BIOL 420	Neuroscience	3
CHEM 341 & 341L	Organic Chemistry I and Organic Chemistry I Laboratory	4
CHEM 342 & 342L	Organic Chemistry II and Organic Chemistry II Laboratory	4

¹ Grade of "C" or better in all EE courses required for graduation.

² Maximum of three credits of EE 490 Electrical Engineering Problems, are allowed as an independent study, it can count towards one of the Electrical Engineering or non-Electrical Engineering elective requirements, it cannot be double counted. 2 credits of EE 397 Cooperative Education (40 hours/week) is equivalent to 3 credits of the EE Electives with S/U grading, maximum 4 credits of EE 397 is equivalent to maximum of 6 credits of EE Elective.

³ Non-EE Elective choices: Engr 201 Statics, Engr 202 Dynamics, Engr 203 Mechanics of Materials, ME 301 Materials Science, ME/CE 306 Fluid Mechanics, and ME 341 Thermodynamics, Computer Science, Engineering (including EE), Math, and Physics courses approved by advisor, normally 300 level or higher. Math 308 History of Math and Math 321 Applied Statistical Methods do not meet the requirement for Non-EE elective. CSci 242 Algorithms and Data Structures, CSci 260 Advanced Programming Languages, and Math 208 Discrete Mathematics are permitted.

⁴ Students must ensure all appropriate pre-requisites are met prior to registering for all courses in the curriculum.