DUAL DEGREE PROGRAM: BIOMEDICAL ENGINEERING COMBINED WITH COMPUTER ENGINEERING

Major Completion Map

Distinctive Requirements for Degree Program:

TO PREPARE FOR FIRST SEMESTER: The curriculum for this major assumes students enter college prepared to take calculus.

The undergraduate programs in Biomedical Engineering synergize with our partner major undergraduate degrees by providing additional coursework in biology, chemistry, physiology, statics, dynamics and biomedical engineering to synthesize robust dual degree programs.

In order to maintain professional standards required of practicing engineers, the Department of Electrical and Computer Engineering requires a cumulative grade point average of at least 2.000 in Electrical Engineering courses as a graduation requirement. It is the responsibility of any student who fails to maintain a 2.000 average to work with their advisor to correct grade point deficiencies. In addition, it is required that students retake any Electrical Engineering course at the 300-level or below in which they receive a grade below C (2.000).

Freshman

Semester 1		**Critical**	**Recommended**	**AUCC**	**Credits**
CHEM 111	General Chemistry I (GT-SC2)		X	3A	4
CHEM 112	General Chemistry Lab I (GT-SC1)		X	3A	1
ENGR 111	Fundamentals of Engineering	X			3
MATH 160	Calculus for Physical Scientists I (GT-MA1)	X		1B	4
First course from Group A, B, or C (See options in Program Requirements Tab)		X		3B	3
	Total Credits				**15**
Semester 2		**Critical**	**Recommended**	**AUCC**	**Credits**
CO 150	College Composition (GT-CO2)		X	1A	3
ENGR 114	Engineering for Grand Challenges	X			3
MATH 161	Calculus for Physical Scientists II (GT-MA1)	X		1B	4
Remaining course(s) from Group A, B, or C (See options in Program Requirements Tab)		X			4
	Total Credits				**14**

Sophomore

Semester 3		**Critical**	**Recommended**	**AUCC**	**Credits**
BIOM 200	Fundamentals of Biomedical Engineering	X			2
CS 165	CS2--Data Structures	X			4
ECE 205	Analog Circuits I	X			2
LIFE 102	Attributes of Living Systems (GT-SC1)	X		3A	4
MATH 261	Calculus for Physical Scientists III	X			4
	Total Credits				**16**
Semester 4		**Critical**	**Recommended**	**AUCC**	**Credits**
ECE 206	Analog Circuits II	X			3
ECE 232	Introduction to Project Practices	X			1
ECE 252	Introduction to Digital Circuits	X			3
ECE 303/ STAT 303	Introduction to Communications Principles	X			3
MATH 340	Intro to Ordinary Differential Equations	X			4
	Total Credits				**14**

Junior

Semester 5		**Critical**	**Recommended**	**AUCC**	**Credits**
BMS 300	Principles of Human Physiology		X		4
ECE 311	Linear System Analysis I	X			3
PH 141	Physics for Scientists and Engineers I (GT-SC1)	X		3A	5
CpE Electives/Technical Electives (See lists on Program Requirements tab)			X		4
	Total Credits				**16**

Semester 6		**Critical**	**Recommended**	**AUCC**	**Credits**
BIOM 300	Problem-Based Learning Biomedical Engr Lab	X			4
CS 214	Software Development	X			3
ECE 253	Microcontrollers and C for Internet-of-Things	X			3
PH 142	Physics for Scientists and Engineers II (GT-SC1)	X		3A	5
	Total Credits				**15**
Senior					
Semester 7		**Critical**	**Recommended**	**AUCC**	**Credits**
CHEM 113	General Chemistry II		X		3
CS 220	Discrete Structures and the Applications	X			4
MECH 337	Thermodynamics		X		4
Select one course from the following:		X			3-4
DSCI 369	Linear Algebra for Data Science		X		
MATH 369	Linear Algebra I		X		
Select one course from the following:			X		3
CO 301B	Writing in the Disciplines: Sciences (GT-CO3)			2	
JTC 300	Strategic Writing and Communication (GT-CO3)			2	
	Total Credits				**17-18**
Semester 8		**Critical**	**Recommended**	**AUCC**	**Credits**
BIOM 431/ ECE 431	Biomedical Signal and Image Processing	X			3
CHEM 245	Fundamentals of Organic Chemistry		X		4
CT 301	C++ Fundamentals	X			2
MECH 262	Engineering Mechanics	X			4
CpE Electives/Technical Electives (See lists on Program Requirements tab)			X		4
	Total Credits				**17**
Fifth Year					
Semester 9		**Critical**	**Recommended**	**AUCC**	**Credits**
BIOM 486A	Biomedical Design Practicum: Capstone Design I	X		4A,4B,4C	4
ECON 202	Principles of Microeconomics (GT-SS1)		X	3C	3
CpE Electives/Technical Electives (See lists on Program Requirements tab)			X		4
Arts and Humanities (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)			X	3B	3
Historical Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)			X	3D	3
	Total Credits				**17**
Semester 10		**Critical**	**Recommended**	**AUCC**	**Credits**
BIOM 486B	Biomedical Design Practicum: Capstone Design II	X		4A,4B,4C	4
BME Technical Elective (See list on Program Requirements tab)		X			3
CpE Electives/Technical Electives (See lists on Program Requirements tab)		X			6
1C (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)			X	1C	3
	Total Credits				**16**
	Program Total Credits:				**157-158**