EXAMPLE BIOENGINEERING UNDERGRADUATE CURRICULUM

(For students entering the program Fall 2014 through Fall 2025)

One possible four-year path through the curriculum

BOLDFACED courses are Bioengineering Core or Track Elective courses

FIRST YEAR

FALL SEMESTER	Credits	SPRING SEMESTER	Credits
MATH 0220: Analytical Geometry & Calculus 1	4	MATH 0230: Analytical Geometry & Calculus 2	4
PHYS 0174: Basic Physics for Science & Engineering 1	4	PHYS 0175: Basic Physics for Science & Engineering 2	4
CHEM 0960: General Chemistry for Engineers 1	3	CHEM 0970: General Chemistry for Engineers 2	3
ENGR 0011: Introduction to Engineering Analysis	3	ENGR 0012: Introduction to Engineering Computing	3
Humanities/Social Science Elective	3	Humanities/Social Science Elective	3
ENGR 0081: Freshman Engineering Seminar 1	0	ENGR 0082: Freshman Engineering Seminar 2	0
	17		17

SOPHOMORE YEAR

FALL SEMESTER	Credits	SPRING SEMESTER	Credits
BIOENG 1070: Introductory Cell Biology 1	3	**BIOENG 1071**: Introductory Cell Biology 2	3
BIOSC 005x: Foundations of Biology Lab 1	1	**BIOENG 1210**: Biothermodynamics	3
MATH 0240: Analytical Geometry & Calculus 3	4	**BIOENG 1310**: Bioinstrumentation	3
MATH 0290: Differential Equations	3	**BIOENG 1630**: Biomechanics 1	3
ENGR 0135: Statics & Mechanics of Materials 1	3	BIOENG 1000: Statistics for Bioengineering[b,c]	4
Track Elective[a]	3	or **Track Elective** (**CHEM 0320** only)	[3]
BIOENG 1085: Introduction to Bioengineering (Seminar)	0	**BIOENG 1085**: Introduction to Bioengineering (Seminar)	0
	17		16

[a] Pre-med and CE Track students should take **CHEM 0310** (Organic Chemistry sequence) as a Track Elective

[b] Pre-med and CE Track students should take **CHEM 0320** (Organic Chemistry sequence) as a Track Elective. BIOENG 1000 moves to Spring Semester, Junior Year

[c] Effective Fall 2018, only BIOENG 1000 satisfies the statistics requirement regardless of year of matriculation to the program

JUNIOR YEAR

FALL SEMESTER	Credits	SPRING SEMESTER	Credits
BIOENG 1002: Intramural Internship[d]	3	**BIOENG 1150**: Bioengineering Methods & Applications	3
BIOENG 1220: Biotransport Phenomena	3	Biosignals Application Course (**BIOENG 1580** or **1680**)[e]	4 or 3
BIOENG 1320: Biological Signals & Systems	3	or **Track Elective**	
BIOSC 1250: Human Physiology	3	**Track Elective**[f]	3
MATH 0280: Introduction to Matrices & Linear Algebra	3	**Track** or **Imaging Elective**	3
BIOENG 1241: Bio-Ethics[d]	3	Humanities/Social Science Elective	3
BIOENG 1085: Introduction to Bioengineering (Seminar)	0	**BIOENG 1085**: Introduction to Bioengineering (Seminar)	0
	18		16 or 15

[d] **BIOENG 1002** & **BIOENG 1241** may be taken Fall or Spring Semester, Junior or Senior Year

[e] The Biosignals Application Course (**BIOENG 1255**) can be taken Fall of Senior Year

[f] Students who took **CHEM 0320** Spring Semester Sophomore Year must take BIOENG 1000

SENIOR YEAR

FALL SEMESTER	Credits	SPRING SEMESTER	Credits
BIOENG 1160: Bioengineering Design 1	3	**BIOENG 1161**: Bioengineering Design 2	3
Track Elective or **Biosignals Application Course**	3 or 4	**Track Elective** or **Biosignals Application Course**	3 or 4
Track or **Imaging Elective**	3	**Track** or **Imaging Elective**	3
Advanced (Free) Engineering/Science Elective	3	Advanced (Free) Engineering/Science Elective	3
Humanities/Social Science Elective	3	Humanities/Social Science Elective	3
BIOENG 1085: Introduction to Bioengineering (Seminar)	0	**BIOENG 1085**: Introduction to Bioengineering (Seminar)	0
	15 or 16		15 or 16

NOTE: All students must have an imaging course that is on the approved list of imaging courses

NOTE: Four (4) of the 8 Advanced Engineering/Science Electives (6 Track plus 2 Advanced (Free) Engineering/Science Electives) **must be** engineering courses (any department)

NOTE: Humanities/Social Science Electives must be taken from the approved School of Engineering list

NOTE: At least one course must have a **W** (writing) designation