EXAMPLE BIOENGINEERING UNDERGRADUATE CURRICULUM

(For students entering the program Fall 2014 through Fall 2021)

One possible four-year path for pre-med students through the curriculum
BOLDFACED courses are Bioengineering Core or Track Elective courses
Italicized courses/text are prerequisites/requirements for medical/dental school

FRESHMAN 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 0110: General Chemistry 1	4	*CHEM 0120: General Chemistry 2*	4
ENGR 0011: Introduction to Engineering Analysis	3	ENGR 0012: Introduction to Engineering Computing	3
Humanities/Social Science Elective[a]	3	Humanities/Social Science Elective[a]	3
ENGR 0081: Freshman Engineering Seminar 1	0	ENGR 0082: Freshman Engineering Seminar 2	0
	18		18
Other semester activities: Volunteer (V)/Clubs		*Other semester activities: V/Clubs*	

SUMMER SEMESTER: *V and/or Research (R) and/or Shadow (S) and/or Fellowships (F)*

[a] *Psychology is required for medical/dental school. Students can take, e.g., PSY 0010 or PSY 1250 to meet this requirement*

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	*BIOSC 0067: Foundations of Biology Research Lab*	1
CHEM 0310 *: Organic Chemistry 1*	3	***CHEM 0320*** *: Organic Chemistry 2*	3
BIOENG 1085: Introduction to Bioengineering (Seminar)	0	*CHEM 0345: Organic Laboratory*	2
	17	**BIOENG 1085**: Introduction to Bioengineering (Seminar)	0
			18
Other semester activities: V/R/Leadership (L)		*Other semester activities: V/R/L*	

SUMMER SEMESTER: *V and/or R and/or S and/or F or Study Abroad. Start MCAT preparation*

JUNIOR YEAR

FALL SEMESTER	Credits	SPRING SEMESTER	Credits
BIOENG 1000: Statistics for Bioengineering	4	**BIOENG 1002**: Intramural Internship	3
BIOENG 1220: Biotransport Phenomena	3	**BIOENG 1150**: Bioengineering Methods & Applications	3
BIOENG 1320: Biological Signals & Systems	3	Biosignals App Course (**BIOENG 1580/1680**) or **Track Elective**[b]	4 or 3
BIOSC 1250: Human Physiology	3	**Track Elective**[b] if not selecting Biosignals Application	3
MATH 0280: Introduction to Matrices & Linear Algebra	3	**Track Elective**[b] or **Imaging Elective**	3
BIOENG 1085: Introduction to Bioengineering (Seminar)	0	Humanities/Social Science Elective	3
	16	**BIOENG 1085**: Introduction to Bioengineering (Seminar)	0
			16 or 18
Other semester activities: V/R/L; MCAT preparation		*Other semester activities: V/R/L; MCAT preparation*	

SUMMER SEMESTER: *R/F; Take MCAT in May or June; Apply to Health Professions Committee; Apply to AMCAS, AACOMAS, or AADSAS; Study Abroad*

[b] *Biochemistry/chemical biology is required for medical/dental school. Students can take* ***BIOSC 1000 / CHEM 1810*** *to meet this requirement*

SENIOR YEAR

FALL SEMESTER	Credits	SPRING SEMESTER	Credits
BIOENG 1160: Bioengineering Design 1	3	**BIOENG 1161**: Bioengineering Design 2	3
Biosignals Application Course (**BIOENG 1255**) or **Track Elective**	4 or 3	Biosignals Application Course (**BIOENG 1255**) or **Track Elective** [c]	4 or 3
Track Elective [c] if Biosignals Application already selected	3	**Track Elective** [c] or **Imaging Elective** if Biosignals already selected	3
Track Elective [c] or **Imaging Elective**	3	BIOENG 1241: Bio-Ethics	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
	16 or 18		16 or 18
Other semester activities: V/R/Interview		*Other semester activities: V/R/Interview*	

[c] *Microbology is required for some dental schools. Students can take* ***BIOSC 1850*** *to meet this requirement*

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
NOTE: *Medical/dental schools require 2 English courses (not film)*