

Plan of Study for the Biomedical Engineering AB Concentration

Effective for Students Declaring the Concentration after August 1, 2020

NAME: _____

CLASS: _____

EMAIL: _____

DATE: _____

This Plan of Study Form is for a (*Circle One*): DECLARATION REVISION

REQUIRED COURSES (Circle or fill-in for courses planned in each category.)	Semester (FA/SP Year)
Mathematics (2-4 courses) <i>Begin according to placement:</i> Math 1a – Introduction to Calculus I (or Math Ma & Mb) Math 1b – Calculus, Series, and Differential Equations Math 21a – Multivariable Calculus (or Math 22a or 23b, or Applied Math 21a or 22b) Math 21b – Linear Algebra and Differential Equations (or Math 22b or 23a, or Applied Math 21b or 22a)	_____ _____ _____ _____
Probability & Statistics (1 course) AM 101 – Statistical Inference for Scientists & Engineers (or Statistics 111 – Introduction to Theoretical Statistics)	_____
Physics (2 courses) AP 50a – Physics as a Foundation for Sci. & Eng. Part I (or PS 2, PS 12a, Physics 15a, or Physics 16) AP 50b – Physics as a Foundation for Sci. & Eng. Part II (or PS 3, PS 12b, or Physics 15b)	_____ _____
Life Sciences/Chemistry (3 courses) Life Sciences 1a – Chemistry, Molecular Biology, and Cell Biology (or Life & Physical Sciences A – Foundational Chemistry and Biology) Life Sciences 1b – Genetics, Genomics, and Evolution Chemistry 17 – Principles of Organic Chemistry (or Chemistry 20 – Organic Chemistry)	_____ _____ _____
Sophomore Forum <i>Required, non-credit.</i>	_____
Biomedical Engineering Core (5 courses) ES 53 – Quantitative Physiology BE 110 – Physiological Systems ES 123 – Fluid Mechanics ES 181 – Engineering Thermodynamics (or MCB 199 – Statistical Thermodynamics and Quantitative Biology) (or ES 112 – Thermodynamics by Case Study) <i>Select one from the following five courses:</i> BE 121 – Cellular Engineering BE 125 – Tissue Engineering BE 160 – Chemical Kinetics BE 191 – Biomaterials ES 227 – Medical Device Design	_____ _____ _____ _____ _____

REQUIRED COURSES (Circle or fill-in for courses planned in each category.)	Semester (FA/SP Year)
Approved Elective (<i>1 course</i>) BE 121, BE 125, BE 128, BE 129, BE 130, BE 131, BE 160, BE 191, Chem 27, Chem 30, Chem 160, ES 120, ES 221, ES 227, ES 228, MCB 60, MCB 80, OEB 53, CS50, or 100- or 200- level engineering courses by prior approval (ES 91r and BE 91r cannot count as electives).	_____
Independent Project BE91r or ES 91r or ES 100hf or summer project resulting in a significant written report	_____

For courses that are co-listed in another department, students must enroll in the Engineering Sciences offering.

Required Signatures:

Student

Date

Assistant/Director of Undergraduate Studies (BME)

Date

Prerequisite Planning Table for the Biomedical Engineering AB

	Typically Offered	Math	Biology / Chemistry	Physics	Other
<i>Required Courses</i>					
ES 53	Fall				
BE 110	Fall	<i>21a,b</i>		<i>B</i>	<i>ES 53</i>
ES 123	Spring	21a,b		A	
<i>Selected Electives</i>					
BE 121	Fall	21b	LS 1a,1b	A,B	ES 53, Co: BE 110
BE 125	Spring		<i>LS1a, Chem 17</i>		
BE 128	Spring	1b		B	
BE 129	Spring	1b	LS 1a, Chem 17	B	
BE 130	Spring				
BE 131	Fall				<i>ES 54</i>
BE 191	Spring	1b	LS1a or PS 1		
ES 112	Spring				
ES 120	Spring	21a, Co: 21b		A	
ES 181	Fall			A	
ES 221	Spring	<i>21a,b</i>	<i>LS 1a</i>		
ES 227	Spring				<i>ES 51</i>
MCB 199	Spring (alt)	<i>1a,b</i>		<i>A</i>	

¹Courses listed as Recommended Preparation, and not an enforced prerequisite, are shown in italics

²Courses marked with a "Co:" may be taken as a co-requisite