

Plan of Study for the Biomedical Engineering AB Concentration

Effective for Students Declaring the Concentration after August 1, 2024

NAME: _____

CLASS: _____

EMAIL: _____

DATE: _____

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

Please list your selected concentration courses in the schedule below:

Fall 1	Spring 1	Fall 2	Spring 2	Fall 3	Spring 3	Fall 4	Spring 4

REQUIRED COURSES	Selected Courses
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 22b or 23a) Math 21b – Linear Algebra and Differential Equations (or Math 22a or 23a)	
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)	

REQUIRED COURSES	Selected Courses
Biomedical Engineering Core (5 courses) ES 53 – Quantitative Physiology BE 110 – Physiological Systems ES 123 – Fluid Mechanics ES 181 – Engineering Thermodynamics (or ES 112 – Thermodynamics by Case Study) <i>Select one from the following courses:</i> BE 121 – Cellular Engineering BE 131 – Intro to Neuroengineering BE 124 – Biomechanics of Movement and Assistive Robotics BE 125 – Tissue Engineering BE 191 – Biomaterials BE 128 – Intro to Biomedical Imaging and Devices BE 129 – Intro to Bioelectronics ES 157 – Biological Signal Processing BE 130 – Neural Control of Movement ES 221 – Drug Delivery	
Approved Elective (1 course) BE 121, BE 124, BE 125, BE 128, BE 129, BE 130, BE 131, BE 191, Chem 27, Chem 30, Chem 160, ES 120, ES 157, ES 221, ES 227, MCB 60, MCB 80, OEB 53, AM 10, Sci 5, CS 32, CS 50, or 100- or 200- level engineering courses by prior approval (ES 91r cannot count as an elective).	
Independent Project ES 91r, 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

Associate/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			Co: A or B	
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 CS 50 or equiv.
BE 124	Spring	<i>21b</i>		A	
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	1b		B	
BE 191	Fall	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 or ES 50</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