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) *Begin according to placement:* 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) *Select one from the following courses:* BE 121 – Cellular Engineering BE 124 – Biomechanics of Movement and Assistive Robotics BE 125 – Tissue Engineering BE 128 – Intro to Biomedical Imaging and Devices BE 129 – Intro to Bioelectronics BE 130 – Neural Control of Movement BE 131 – Intro to Neuroengineering BE 191 – Biomaterials ES 157 – Biological Signal Processing 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
Required Courses					
ES 53	Fall			**Co: A or B**	
BE 110	Fall	*21a,b*		*B*	*ES 53*
ES 123	Spring	**21a,b**		**A**	
Selected Electives					
BE 121	Fall	**21b**	**LS 1a,1b**	**A,B**	**ES 53, Co: BE 110**
BE 124	Spring	*21b*		**A**	**CS 50 or equiv.**
BE 125	Spring		*LS1a, Chem 17*		
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	*21a,b*	*LS 1a*		
ES 227	Spring				*ES 51 or ES 50*

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

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