MINOR IN BIOMEDICAL ENGINEERING

The Biomedical Engineering Minor (BME) program requires a total of seven subjects selected from a series of categories as outlined below.

Programming and Computational Modeling Core

6.100A	Introduction to Computer Science Programming in Python	6
6.100B	Introduction to Computational Thinking and Data Science	6

Mathematics Core

Select two of the following options: [1]		24
Option A		
18.03	Differential Equations	
Option B		
18.06	Linear Algebra	
Option C		
Select one of the following:		
1.010	Probability and Causal Inference	
6.3700	Introduction to Probability	
9.07	Statistics for Brain and Cognitive Science	

Human Physiology Core

Select one of the following:		12
6.4820[J]	Quantitative and Clinical Physiology	
7.20[J]	Human Physiology [2]	
9.01	Introduction to Neuroscience	

Biomedical Engineering and Applications

Select three of the following: [3, 4]		30-36
2.184	Biomechanics and Neural Control of Movement [2]	
2.750[J]	Medical Device Design [2]	
3.052	Nanomechanics of Materials and Biomaterials [2]	
3.054	Cellular Solids: Structure, Properties, Applications [2]	
3.055[J]	Biomaterials Science and Engineering [2]	
6.4530[J]	Principles and Practice of Assistive Technology [2]	
6.4810[J]	Cellular Neurophysiology and Computing	
7.37[J]	Molecular and Engineering Aspects of Biotechnology [2]	
9.17	Systems Neuroscience Laboratory [2]	
9.24	Disorders and Diseases of the Nervous System [2]	
9.26[J]	Principles and Applications of Genetic Engineering for Biotechnology and Neuroscience [2]	
9.35	Perception	
9.40	Introduction to Neural Computation [2]	
10.424	Pharmaceutical Engineering [2]	
10.443	Future Medicine: Drug Delivery, Therapeutics, and Diagnostics [2]	
10.495	Molecular Design and Bioprocess Development of Immunotherapies [2]	
20.310[J]	Molecular, Cellular, and Tissue Biomechanics [2]	
20.345	Bioinstrumentation Project Lab [2]	
20.352	Principles of Neuroengineering	
20.390[J]	Computational Systems Biology: Deep Learning in the Life Sciences	

Total Units	**78-84**

A maximum of four subjects taken for the biomedical engineering minor can also count toward a major or another minor.

[1] *Contact minor advisor for additional 6–12 unit subjects that satisfy requirement.*

[2] *Subject has prerequisites that are outside of the program.*

[3] *At least one of the subjects must be taken outside the student's major. See the BME Minor website (https://be.mit.edu/academic-programs/current-undergraduate/minor-programs/minor-program-biomedical-engineering) for potential substitutions.*

[4] *Approved biomedical engineering UROPs with sufficient medical focus carried out by students with junior or senior standing with prior approval may be substituted for up to 12 units.*

Students should consult with their departmental BME minor advisor, preferably in sophomore year and no later than Add Date of spring term junior year, to choose a course of study, which must be approved in advance by the BME minor advisor. For the list of BME minor advisors and other information, please visit the Biological Engineering website (*http://be.mit.edu*) or contact the BE Academic Office, Room 16-267, 617-253-1712.