

UNIVERSITY OF CALIFORNIA, DAVIS
Bachelor of Science in Biomedical Engineering
 2024-2025 Undergraduate Curriculum

Lower Division Program

Subject Areas	Courses	Minimum Units
BIS 2A	Introduction to Biology: Essentials of Life on Earth	5
CHE 2A, 2B, 2C	General Chemistry	15
CHE 8A or 118A; CHE 8B or 118B	Organic Chemistry (Brief or Health & Life Sciences)	6
MAT 21A, 21B, 21C, 21D	Calculus, Vector Analysis	16
MAT 22A or 27A/BIS 27A	Linear Algebra or Linear Algebra with Applications to Biology	3
MAT 22B or 27B/BIS 27B	Differential Equations or DE with Applications to Biology	3
PHY 9A or 9HA; 9B, 9C	Classical Physics	15
ENG 6	Engineering Problem Solving	4
ENG 17/17V	Circuits I	4
BIM 1	Introduction to Biomedical Engineering	2
BIM 20	Fundamentals of Bioengineering	4
BIM 20L	Graphics Design for BME	2
One course from the following: UWP 1/1V/1Y, ENL 3/3V, Comp Lit 1, 2, 3, 4, NAS 5 (grade of C- or better required)	Lower Division Composition/Writing	4

Upper Division Program

Subject Areas	Courses	Minimum Units
NPB 101 or BIM 116	Physiology for BME or Systemic Physiology	5
ENG 100 or EEC 100	Electronic Circuits & Systems or Circuits II	3
ENG 105	Thermodynamics	4
ENG 190	Professional Responsibilities of Engineers	3
BIM 105	Probability & Data Science for Biomedical Engineers	4
BIM 106	Biotransport Phenomena	4
BIM 107	Manufacturing Processes for BME	2
BIM 108	Biomedical Signals and Control	4
BIM 109	Biomaterials	4
BIM 110ABC	BME Senior Design Experience	9
BIM 111	Biomedical Instrumentation Laboratory	6
Science Electives	According to Specialization	7
Engineering Electives	According to Specialization	20
One course from the following: UWP 101/101V/101Y, 102B, 102E, 104A/104AV/104AY, 104E, 104F/104FV/104FY, 104I, 104T (grade of C- or better required); or passing the Upper Division Composition Exam	Upper Division Composition or Exam	4/0

Minimum Total Units for Major: 158

General Education Electives: 29

MINIMUM TOTAL UNITS FOR B.S. IN BIOMEDICAL ENGINEERING: 187

Additional elective policies:

1 unit from MAT 27A/BIS 27A, and 1 unit from MAT 27B/BIS 27B may be applied to Science Electives.

2 units from CHE 118A may be applied towards Science electives if CHE 118A is also used to satisfy lower division subject credit.

2 units from EEC 100 may be applied towards Engineering electives if EEC 100 is taken to satisfy upper division subject credit.

Science and Engineering electives are to be selected in consultation with a staff or faculty advisor.