

Master of Science in Biomedical Engineering

(This new degree was approved by the CSULB Academic Senate on April 23, 2026, approved by the President on April 29, 2026, approved by the CSU Chancellor's Office on June 30, 2026, and the decision was delivered to the campus by the Chancellor's Office on August 14, 2026.)

The Master of Science in Biomedical Engineering (MS BME) program is designed to provide students with advanced training and development of professional skill sets

demanded by biomedical engineering industries. The program builds upon a strong base of biology, mathematics, physics, chemistry, and engineering to train a biomedical engineer who can work in the related industries—at a more advanced level—or pursue higher education.

30 units required.

Admission Requirements:

- 1) A bachelor's degree from an accredited program in Biomedical Engineering or Bioengineering with a minimum grade point average of 2.70 in the last 60 (semester) or 90 (quarter) upper-division major units attempted.
- 2) A bachelor's degree in engineering, mathematics, science, or other appropriate discipline, with the requirement that essential undergraduate prerequisites in engineering be satisfied.

Core Courses

Complete all of the following (18 units):

- BME 500 Compliance and Quality of Medical Devices (3 units)
- BME 505 Advanced Systems Physiology and Design (3 units)
- BME 510 Advanced Medical Imaging (3 units)
- BME 550 Advanced Tissue Engineering (3 units)
- ENGR 570 Applied Data Analysis for Engineers (3 units)
- BME 560 Advanced Bioinstrumentation (3 units)

Complete one of the following pathways:

Thesis Pathway

- Complete 6 units of electives selected from the student's area of concentration as approved by the graduate advisor:
 - *Elective courses*
 - BME 507 Biomedical Engineering Applications in Sports Medicine (3 units)
 - BME 515 Advanced Bioinformatics and Genomics (3 units)

- BME 530 Engineering Living Matter (to be created Fall 2026) (3 units)
- BME 555 Advanced Cardiovascular Engineering (to be created Fall 2026) (3 units)
- Obtain approval for advancement to candidacy
- Complete 6 units of the following:
 - BME 698 Thesis (6 units)
- Submit a written thesis

Project Pathway

- Complete 9 units of electives selected from the student's area of concentration as approved by the graduate advisor
 - *Elective courses*
 - BME 507 Biomedical Engineering Applications in Sports Medicine (3 units)
 - BME 515 Advanced Bioinformatics and Genomics (3 units)
 - BME 530 Engineering Living Matter (to be created Fall 2026) (3 units)
 - BME 555 Advanced Cardiovascular Engineering (to be created Fall 2026) (3 units)
- Obtain approval for advancement to candidacy
- Complete 3 units of the following:
 - BME 697 Directed Research (3 units)

EFFECTIVE: Fall 2027

Academic Plan Code: EE__MS02PB

CSU Major Code: 09051

CIP Code: 14.0501

Career: Master's

College: College of Engineering

Department: Biomedical Engineering

Summer Requirement: No mandatory summer requirement.

Delivery: Face-to-Face

Support: State Supported