# Biomedical (Mollecular-Cellular) Engr.

## First Year
### Fall
- **BME 101**: Introduction to Biomedical Engineering
- **MATH 125**: Calculus I
- **ENG 102**: Engineering Freshman Academy
- **CHEM 105aL**: General Chemistry
- **WRIT 150**: Writing & Critical Reasoning

### Spring
- **BME 202**: Introduction to Biomedical Engineering
- **MATH 126**: Calculus II
- **CHEM 105bL**: General Chemistry
- **GEN ED**: General Education
- **OPTIONAL ELECTIVE**: Technical Elective

## Second Year
### Fall
- **BME 202**: Control & Comm. in the Nervous System
- **MATH 226**: Calculus III
- **CHEM 105bL**: General Chemistry
- **PHYS 151L**: Mechanics & Thermodynamics
- **OPTIONAL ELECTIVE**: Technical Elective

### Spring
- **BME 210**: Biomedical Comp. Simulation Methods
- **MATH 245**: Mathematics of Phys. & Engr.
- **BISC 220L**: Biochemistry
- **BISC 320L**: Biochemistry
- **GEN ED**: General Education

## Third Year
### Fall
- **BME 406**: Intro. to Bioengineering in Medicine
- **MATH 226**: Calculus III
- **CHEM 322aL**: Organic Chemistry
- **PHYS 152L**: Mechanics & Thermodynamics
- **GEN ED**: General Education

### Spring
- **BME 410L**: Intro. to Biomaterials & Tissue Engr.
- **MATH 245**: Mathematics of Phys. & Engr.
- **CHEM 322bL**: Organic Chemistry
- **TECHNICAL ELECTIVE**: Technical Elective
- **GEN ED**: General Education

## Fourth Year
### Fall
- **BME 403L**: Physiological Systems
- **BME 413**: Bioengineering Signals & Systems
- **CHEM 322bL**: Organic Chemistry
- **EE 202L**: Linear Circuits
- **GEN ED**: General Education

### Spring
- **BME 405L**: Senior Projects: Measurements & Instrumentation
- **BME 415 or 416L**: Development & Regulation of Medical Products
- **CHE 489**: Biochemical Engineering
- **PANEL COURSE 3**: Technical Elective
- **WRIT 340**: Advanced Writing

## Engineering Courses
- **BME 101**: Introduction to Biomedical Engineering
- **BME 202**: Control & Comm. in the Nervous System
- **BME 210**: Biomedical Comp. Simulation Methods
- **BME 403L**: Physiological Systems
- **BME 405L**: Senior Projects: Measurements & Instrumentation
- **BME 413**: Bioengineering Signals & Systems
- **BME 415**: Regulation of Medical Products
- **BME 416L**: Development & Regulation of Medical Products
- **BME 423**: Stat. Methods in Biomedical Engineering
- **CHE 489**: Biochemical Engineering
- **EE 202L**: Linear Circuits
- **ENG 102**: Engineering Freshman Academy
- **PANEL COURSES (CHOOSE 3)**: 
  - **BME 406**: Intro. to Bioengineering in Medicine
  - **BME 410L**: Intro. to Biomaterials & Tissue Engr.
  - **BME 430**: Principles and Apps. of Systems Biology
  - **BME 459L**: Intro. to Nanomedicine & Drug Delivery
- **TECHNICAL ELECTIVES**: Specialized upper division courses you choose for your major/specialization.

## Mathematics Courses
- **MATH 125**: Calculus I
- **MATH 126**: Calculus II
- **MATH 226**: Calculus III
- **MATH 245**: Mathematics of Phys. & Engr.

## Science Courses
- **BISC 220L**: Cell Biology & Physiology
- **BISC 320L**: Molecular Biology
- **BISC 330L**: Biochemistry
- **CHEM 105abL**: General Chemistry
- **CHEM 322abL**: Organic Chemistry
- **PHYS 151L**: Mechanics & Thermodynamics
- **PHYS 152L**: Electricity & Magnetism

## General Education

As a USC Viterbi student your General Education (Gen Ed) curriculum will include courses in the Arts, Humanistic Inquiry and Social Analysis.

## Writing Courses
- **WRIT 150**: Writing & Critical Reasoning
- **WRIT 340**: Advanced Writing

## Electives

Your optional electives are one way to build engineering+ into your curriculum by choosing classes of interest to you.

Courses with this symbol may be satisfied with certain AP, IB or A-Level exams. With each requirement you replace with prior credit, you increase your optional electives, creating more flexibility for you to pursue additional electives and increase your engineering+ education.

This is a simplified version of a complex curriculum with options and choices made between advisor and student. Course choices can vary by semester and adjust to include relevant topics and materials. Although every attempt has been made to ensure accuracy, the program requirements listed in the USC Catalogue supersede any information which may be contained in this or any other publication of any school or department. The information found in this document is not intended for advising purposes. The University reserves the right to change its policies, rules, regulations, requirements and course offerings at any time.