# Biomedical Engineering

## First Year
### Fall Semester
- **BME 101 or GE B** (4 units)
- **WRIT 150** (4 units)
- **MATH 125 (GE F)** (4 units)
- **CHEM 105aL (GE E)** (4 units)
- **ENGR 102** (2 units)

### Spring Semester
- **BME 101 or GE B** (4 units)
- **GE A** (4 units)
- **MATH 126 or MATH 129** (4 units)
- **CHEM 105bL** (4 units)
- **OPTIONAL ELECTIVE** (4 units)

## Second Year
### Fall Semester
- **BISC 220L (GE D)** (4 units)
- **GE C** (4 units)
- **MATH 226 or MATH 229** (4 units)
- **PHYS 151L (GE B)** (4 units)
- **OPTIONAL ELECTIVE** (4 units)

### Spring Semester
- **GE B** (4 units)
- **BME 210 (MATH 126)** (4 units)
- **MATH 245** (4 units)
- **PHYS 152L** (4 units)
- **OPTIONAL ELECTIVE** (4 units)

## Third Year
### Fall Semester
- **WRIT 340** (3 units)
- **EE 202L** (4 units)
- **BME 423** (4 units)
- **CHEM 322aL** (4 units)
- **BME ANCHOR COURSE** (3 units)

### Spring Semester
- **TECHNICAL ELECTIVE** (3 units)
- **BME 302L** (4 units)
- **GE C** (4 units)
- **CHEM 322bL** (4 units)
- **OPTIONAL ELECTIVE** (4 units)

## Fourth Year
### Fall Semester
- **TECHNICAL ELECTIVE** (3 units)
- **BISC 320L** (4 units)
- **BME 403L or BME 405L** (4 units)
- **BME 425** (4 units)
- **BME 413** (4 units)

### Spring Semester
- **TECHNICAL ELECTIVE** (2 units)
- **BME 402** (4 units)
- **BME 405L or BME 403L** (4 units)
- **BME 410** (4 units)
- **OPTIONAL ELECTIVE** (4 units)

## Mathematics (16 Units)
- **MATH 125**: Calculus I
- **MATH 126 or 129**: Calculus II
- **MATH 226 or 229**: Calculus III
- **MATH 245**: Mathematics of Phys. and Engr.

## Physics (8 Units)
- **PHYS 151L**: Mechanics and Thermodynamics
- **PHYS 152L**: Electricity and Magnetism

## Chemistry (16 Units)
- **CHEM 105aL**: General Chemistry
- **CHEM 105bL**: General Chemistry
- **CHEM 322aL**: Organic Chemistry
- **CHEM 322bL**: Organic Chemistry

## Biology (8 Units)
- **BISC 220L**: Cell Biology & Physiology
- **BISC 320L**: Molecular Biology

## General Education (32 Units)
- **GE A**: The Arts (1 Course)
- **GE B**: Humanistic Inquiry (2 Courses)
- **GE C**: Social Analysis (2 Courses)
- **GE D**: Life Sciences (1 Course)
- **GE E**: Physical Sciences (1 Course)
- **GE F**: Quantitative Reasoning (1 Course)
- **GE G,H**: Global Perspectives (2 Courses)*
- **GESM**: General Education Seminar (1 Course)*

## Writing (7 Units)
- **WRIT 150**: Writing and Critical Reasoning
- **WRIT 340**: Advanced Writing

## Engineering (55 Units)
- **BME 101**: Intro to Biomedical Engineering
- **BME 210**: Biomed. Comp. Simulation Methods
- **BME 303L**: Medical Electronics
- **BME 403L**: Control & Comm. in Nerv. System
- **BME 405L**: Physiological Systems
- **BME 405L**: Senior Projects: Meas. and Inst.
- **BME 410**: Intro. to Biomaterials & Tissue Engnr.
- **BME 413**: Bioengineering Signals & Systems
- **BME 423**: Statistical Methods in BME
- **BME 425**: Intro. to Biomedical Imaging
- **EE 202L**: Linear Circuits
- **ENGR 102**: Engineering Freshman Academy
- **BME ANCHOR COURSE**: BME 404 or BME 430 or BME 453 or BME 452

## Technical Electives

### Special Notes
Courses with this symbol may be satisfied with AP, IB, or A-Level exams. See page 17 for more information.

**GE**: Engineering students are encouraged to satisfy GE B and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by exam. Additionally, your GESM course should be taken in categories A, B, C, or D only. See pp. 16-17 for more information and consult your advisor for detailed assistance.

**Optional Electives**: Consult with your academic advisor to explore optional elective courses. These courses are not required.

**Technical Electives**: At least 8 units, taken from ONE of the following three areas of specialization: Bioelectronics/Computers: BME 201, BME 416, BME 430, BME 453, BME 452, CSCE 445, EE 108L, EE 209, EE 328L, EE 394L, EE 454L, EE 454L, ENGR 321L or IT 237L or Biomechanics (AME 201, AME 205, AME 331, AME 332, AME 333 or IT 237L, AME 335, BME 201, BME 404, BME 416, BME 421, BME 423, BME 430, BME 430, CHE 330, CHE 401L, CHE 480L, ENGR 305, IT 305L, or MASC 310L)**