# Biomedical (Electrical) Major Course Plan

## First Year

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

### Spring Semester
- **BME 101** or **GE B**
- **GE A**
- **MATH 126 or MATH 129**
- **CHEM 105bL**
- **ITP 165**

## Second Year

### Fall Semester
- **BME 402**
- **GE C**
- **MATH 226 or MATH 229**
- **PHYS 151L** (GE E)
- **OPTIONAL ELECTIVE**

### Spring Semester
- **EE 109L**
- **BME 210**
- **MATH 245**
- **PHYS 152L**
- **OPTIONAL ELECTIVE**

## Third Year

### Fall Semester
- **EE 202L**
- **EE 250L**
- **BME 423**
- **BME 425**
- **WRIT 340**

### Spring Semester
- **BME 210** (or **EE 202L**)
- **BISC 220L**
- **BME 416**
- **TECHNICAL ELECTIVE**

## Fourth Year

### Fall Semester
- **BISC 320L**
- **CHEM 322aL**
- **GE C**
- **BME 413**
- **BME 403L** or **405L**

### Spring Semester
- **ITP 165**
- **SECOND TRACK COURSE: EE 338 or 354L**
- **TECHNICAL ELECTIVE**
- **OPTIONAL ELECTIVE**

### Mathematics (20 Units)
- MATH 125: Calculus I
- MATH 126 or 129: Calculus II
- MATH 226 or 229: Calculus III
- MATH 245: Mathematics of Phys. and Engr. I

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

### Chemistry (12 Units)
- CHEM 105AL: General Chemistry
- CHEM 105BL: General Chemistry
- CHEM 322AL: 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 (60 Units)
- BME 101: Intro. to Biomedical Engineering
- BME 210: Biomed. Comp. Simulation Methods
- BME 402: Control & Comm. in Nerv. System
- BME 403L: Physiological Systems
- BME 405L: Senior Projects Measurements & Instrumentation
- BME 413: Bioengineering Signals & Systems
- BME 416: Development and Regulation of Medical Products
- BME 423: Statistical Methods in BME
- BME 425: Basics of Biomedical Imaging
- EE 109L: Introduction to Embedded Systems
- EE 202L: Distributed Systems for the Internet of Things
- EE 250L: Linear Circuits
- ITP 165: Introduction to C++ Programming
- DIGITAL TRACK: EE 334L: Introduction to Digital Circuits
- & EE 454: Introductions to System on Chip
- ENGR 102: Engineering Freshman Academy
- TECHNICAL ELECTIVES

### Special Notes
- Courses with this symbol may be satisfied with AP, IB or A-Level exams. See page 22 for more information.
- GE: Engineering students are encouraged to satisfy GE G 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, or C, only. See page 21 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
- Six units of upper-division engineering coursework, including at least three units of 400-level BME coursework.