# DEGREE COURSE PLAN 2019-20

## BIOMEDICAL (MOLECULAR-CELLULAR)

### 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
- OPTIONAL ELECTIVE

### SECOND YEAR

**FALL SEMESTER**
- BME 202
- MATH 126 OR 129
- PHYS 151L (GE E)
- OPTIONAL ELECTIVE

**SPRING SEMESTER**
- BME 210
- MATH 245
- PHYS 152L
- OPTIONAL ELECTIVE

**FALL SEMESTER**
- BISC 320L
- CHEM 322aL
- BME 423
- FIRST PANEL COURSE
- OPTIONAL ELECTIVE

**SPRING SEMESTER**
- EE 202L
- CHEM 322bL
- BISC 330L
- TECHNICAL ELECTIVE

### THIRD YEAR

**FALL SEMESTER**
- GE C
- BME 405L
- WRIT 340
- BME 413

**SPRING SEMESTER**
- GE C
- CHE 489
- BME 403L
- OPTIONAL ELECTIVE

### FOURTH YEAR

**FALL SEMESTER**
- THIRD PANEL COURSE
- BME 416

**SPRING SEMESTER**
- OPTIONAL ELECTIVE

### 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 (12 UNITS)
- BISC 220L: Cell Biology & Physiology
- BISC 320L: Molecular Biology
- BISC 330L: Biochemistry

### 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)

### WRITING (7 UNITS)
- WRIT 150: Writing and Critical Reasoning
- WRIT 340: Advanced Writing

### ENGINEERING (55 UNITS)
- BME 101: Intro. to Biomedical Engineering
- BME 202: Control & Comm. in Nervous Sys.
- BME 403L: Physiological Systems
- BME 405L: Senior Projects Measurements & Instrumentation
- BME 406L: Intro Bioengineering & Medicine
- BME 410L: Intro. to Biomaterials & Tissue Engr.
- BME 413: Bioengineering Signals & Systems
- BME 416: Dev. & Reg. of Medical Products
- BME 423: Statistical Methods in BME
- BME 459: Nanomedicine and Drug Delivery

### TECHNICAL ELECTIVES
- CHE 489: Biochemical Engineering
- EE 202L: Linear Circuits
- ENGR 102: Engineering Freshman Academy

### SPECIAL NOTES
- Courses with the AP/IB 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 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.
- PANEL CLASSES: Choose 3 out of 4 classes
- TECHNICAL ELECTIVES: 5 units of engineering, at least 3 units upper-division