FIRST TWO YEARS – ALL STUDENTS

Fresh Fall
- BME 101 Introduction to Biomedical Engineering
- ▲ MTH 161 Calculus I
- CHM 131 Chemistry I
- Primary Writing or Humanities/Social Science

Fresh Spring
- Primary Writing or Humanities/Social Science
- ▲ MTH 162 Calculus II
- ▲ MTH 164 Multidimensional Calculus

Soph Fall
- ▲ MTH 165

Soph Spring
- BME 201 & 201L Biomechanics & MATLAB
- ▲ PHY 121
- ▲ MTH 162

Color Code:
- BME CORE
- Basic Science & Math
- Humanities/Social Science
- Basic Science Electives
- Concentration
- Electives

CONCENTRATIONS:

BIOMECHANICS

- BME 210 Biosystems & Circuits
- ▲ MTH 164
- ▲ MTH 162
- BME 201/201P
- BME 230 Intro to Signals & Imaging
- ▲ MTH 165
- ▲ MTH 162
- BME 210 & 201L
- CHM 132, PHY 122
- ME 226 Solid Mechanics
- Prof Writing
- BME 228 Electromagnetic Waves
- BME 221 ECE Elective
- ECE 221 Elec Devs & Ckts
- ECE 230 Electromagnetic Waves
- PHY 211 Electromagnetism
- PHY 212 Electricity & Magnetism
- BME 270 Biomedical Microscopy
- BME Senior

BIO SIGNALS & BIOSYSTEMS

- BME 220 Biomedical Computation & Statistics
- BME 221/201P
- ▲ MTH 162 & PHY 121
- BME 245/201 Lab Materials
- ME 123 Thermodynamics
- BME 240/240 Lab Materials
- BME 230
- PHY 121 & MTH 165
- CHE 244 Heat & Mass Transfer
- CHE 243 Fluid Dynamics
- CHE 244 Heat & Mass Transfer
- Junior Standing

CELL & TISSUE ENGR

- BME 295 Design Seminar
- BME 260 Quantitative Physiology
- ▲ MTH 164, MTH 165
- BME 201, ME 123
- ME 225 Fluid Dynamics
- BME 230
- ECE 244 Heat & Mass Transfer
- ECE 246 Digital Signal Processing
- ECE 245
- Elective Basic Science Elective
- Elective Basic Science Elective
- Elective Basic Science Elective
- Elective Basic Science Elective
- Elective Basic Science Elective

MEDICAL OPTICS

- BME 296 Senior Design Project
- Humanities/Social Science
- Elective
- Elective
- Elective
- Humanites/Social Science
- BME 295 Design Seminar
- BME 260 Quantitative Physiology
- ▲ MTH 164, MTH 165
- BME 201, ME 123
- ME 225 Fluid Dynamics
- BME 230
- ECE 244 Heat & Mass Transfer
- ECE 246 Digital Signal Processing
- ECE 245
- Elective Basic Science Elective
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- Elective Basic Science Elective

† An alternative to the MTH 161 and 162 sequence is the MTH 141, 142, and 143 sequence. Careful attention
must be paid to the effects of this longer sequence, including the possible need to take a course in the
summer following the first year. MTH 171-4 series also fulfills the Math requirements.

‡‡ MTH 164 may be taken before MTH 165 – both courses are taught Fall & Spring.

All students must complete at least three additional BASIC SCIENCE ELECTIVES (at least 12 credit hours)
beyond BIO 110, CHM 131 & 132, and PHY 121/141 & 122/142. Any biology, microbiology, neuroscience,
chemistry, or physics course with number greater than 109 may be used to fulfill this requirement (excluding
BIO 111, 112, 113). At least two courses must be life science courses (i.e., biology, microbiology,
neuroscience). BME/BIO 258 fulfills a life science with a lab. Independent study courses cannot be used to
satisfy this requirement. At least one Basic Science elective must have a lab component.

For list of Upper-Level BME’s for each concentration, see Curriculum Guide.

Three of the four required Humanities/Social Science courses must form a CLUSTER.

**WRT 273 is required for Classes ≥ 2018.

Pre-requisites for each course are noted at the top of each box below (underlined courses are co-requisites).