### FIRST TWO YEARS – ALL STUDENTS

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

**Fresh Spring**
- Primary Writing or Humanities/Social Science
- MTH 162 Calculus II
- CHM 132 Chemistry II
- PHY 121 Electricity & Magnetism

**Soph Fall**
- BME 201 & 201L Biomechanics & MATLAB
- □ MTH 164 Multidimensional Calculus
- □ MTH 162 Differential Equations
- □ PHY 122 Electromagnetic Waves

**Soph Spring**
- □ BME 210 Biosystems & Circuits
- □ BME 230 Intro to Signals & Imaging
- □ BME 228E Fluid Dynamics

**JR Fall**
- □ MTH 165
- BME 201/201P Biomedical Computation & Statistics
- □ ME 123 Thermodynamics
- □ ECE 221 Elec Devs & Cfts of BME 228 Electromagnetic Waves

**JR Spring**
- □ MTH 162 & PHY 121
- BME 245/ 099 Lab Biomaterials
- ME 225 Fluid Dynamics
- □ MTH 164, MTH 165 & PHY 122 Thermodynamics

**SR Fall**
- BME 295 Design Seminar
- BME 260 Quantitative Physiology
- BME 228E Fluid Dynamics
- □ ECE 246 Digital Signal Processing

**SR Spring**
- BME 296 Senior Design Project
- Humanities/Social Science
- Elective
- Elective

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### CONCENTRATIONS:

#### BIOMECHANICS
- □ BME 201
- □ MTH 162
- □ CHM 131
- □ PHY 121

#### BIOSIGNALS & BIOSYSTEMS
- □ BME 201
- □ MTH 162
- □ CHM 131
- □ PHY 121

#### CELL & TISSUE ENGR
- □ BME 201
- □ MTH 162
- □ CHM 131
- □ PHY 121

#### MEDICAL OPTICS
- □ BME 201
- □ MTH 162
- □ CHM 131
- □ PHY 121

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### Upper-Level Electives

- □ MTH 164
- □ PHY 122
- □ CHE 243
- □ BME 295

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### Important Notes

† 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.

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