### University of Rochester Biomedical Engineering (BME) Program

#### First 1 ½ yrs - ALL Students

<table>
<thead>
<tr>
<th>1st Fall</th>
<th>1st Spring</th>
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</thead>
<tbody>
<tr>
<td>BME 101 Introduction to Biomedical Engineering</td>
<td>WRT 105 Primary Writing</td>
</tr>
<tr>
<td>☐ MTH 161 Calculus I</td>
<td>☐ MTH 161C-</td>
</tr>
<tr>
<td>CHM 131 Chemistry I</td>
<td>☐ CHM 131C-</td>
</tr>
<tr>
<td>MTH 162 Calculus II</td>
<td>☐ PHY 121 Physics I Mechanics</td>
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<tr>
<td>PHY 122 Physics II Electricity &amp; Magnetism</td>
<td>☐ PHY 121C-</td>
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### Concentrations

#### Biomechanics

- **Humanities / Social Science & WRT 273** Prof Identity
- **BME 201** Solid Mechanics

#### Biosignals & Biosystems

- **Basic Science Elective**
- **ME 226**
- **BME 201**

#### Cell & Tissue Eng

- **Humanities / Social Science & WRT 273** Prof Identity
- **BME 162**

#### Medical Optics

- **Humanities / Social Science & WRT 273** Prof Identity
- **BME 270** Biomedical Microscopy

### ALL Students

- **BME 210** Biosystems & Circuits
- **MTH 162** Multidimensional Calculus
- **WRT 122**

### Electives

- **BME 296 Senior Design Project**
- **BME 295**

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*An alternative to the MTH 161 and 162 sequence is the MTH 141, 142, 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. Students taking the 141-3 series also take PHY 113 instead of PHY 121. MTH 171-4 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 two additional BASIC SCIENCE Electives (at least 8 credits) in addition to BIO 110, CHM 131/132 and PHY 121/122. Any natural science with a number of 110 or higher (biology, chemistry, microbiology, environmental science, neuroscience, physics, or selected courses from brain & cognitive sciences) may be used to fulfill this requirement. Independent study courses cannot be used to satisfy this requirement. Students in C&I concentration must take either BME 211, BIO 210 or BIO 202 as one of the BSE courses.** See curriculum guide for further information. OPT 242/244 are suggested electives for the Medical Optics concentration but can be substituted.

★ **All students need ONE Upper Level BME course (listed in Curriculum Guide). These are offered in both fall and spring. Three of the four required Humanities/Social Science courses must form a CLUSTER.**

★ **WRT 273 (2 cr.) may be taken either Spring sophomore year or Fall junior year.**

Pre-requisites for each course are noted at the top of each box (underlined courses are co-requisites). **Flexibility**: Boxes with diagonal splits represent alternate choices for that semester. Electives and BSE course may be moved between semesters. Use this flexibility to consider options for study abroad, research, minors, or other interests!**

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Color Code:  
- **BE MATH**
- **Basic Science & Math**
- **Humanities / Soc Sci / Writing**
- **Basic Science Elective**
- **Concentration**
- **Electives**