### Curriculum Overview for B.S. in Biomedical Engineering

<table>
<thead>
<tr>
<th><strong>Fall [17 cr]</strong></th>
<th><strong>Spring [15 cr]</strong></th>
<th><strong>Fall [17 cr]</strong></th>
<th><strong>Spring [16 cr]</strong></th>
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<th><strong>Spring [14 cr]</strong></th>
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<tr>
<td>ENGIN 114</td>
<td>ENGLWRT 112</td>
<td>BME 210</td>
<td>CHEM-ENG 226</td>
<td>ENGIN 351</td>
<td>BME 320</td>
<td>BME 430</td>
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<td>MATH 131</td>
<td>MATH 132</td>
<td>MATH 233</td>
<td>MATH 331</td>
<td>BME 310</td>
<td>STAT 515</td>
<td>BME 470</td>
<td>BME Track Elective [3 cr]</td>
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<td>PHYSICS 151</td>
<td>PHYSICS 152</td>
<td>BME 230</td>
<td>MIE 211</td>
<td>KIN 270</td>
<td>BME 330</td>
<td>BME Track Elective [3 cr]</td>
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<td>ENGIN 191ENG</td>
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<td>BME Track Elective [3 cr]</td>
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**B.S. Tracks:**

**Biomechanics and Medical Devices (BMD):**
- **Track Foundations**
  - BME 235 – Intro to Biomedical Devices
  - MIE 201 – Intro to Materials Science
  - MIE 340 – Fluid Mechanics I
  - MIE 397B – System Dynamics
- **Track Electives**
  - BME 530 – Cell & Matrix Mechanics
  - MIE 444/ECE 580 Feedback Control
  - MIE 597 – Finite Element Analysis
  - MIE 597SM – Soft Tissue Biomechanics
  - MIE 597T – Orthopedic Biomechanics
  - MIE 597R – Biomechanics
  - KIN 530 – Mechanical Analysis of Human Motion
  - KIN 535 – Muscle Mechanics and Modeling
  - BME 296/396/496 – Research

**Molecular Therapeutics (MT):**
- **Track Foundations**
  - CHEM 261 – Organic Chemistry I
  - CHEM 262 – Organic Chemistry II
  - BIOCHEM 420 – Elementary Biochemistry
  - KIN 272 – Anatomy & Physiology I OR CHEM 551 – Advanced Organic Chemistry
- **Track Electives**
  - BME 540 – Drug Delivery and Design
  - BME 541 – Immunology
  - BME 543 – Pathophysiology
  - BME 550 – Experimental Techniques in Genetics
  - MICROBIO 310 – General Microbiology or MICROBIO 255 - Intro to Medical Microbiology
  - MICROBIO 390B – Intro to Microbiology Laboratory (requires MICROBIO 310)
  - MICROBIO 680 – Advanced Microbial Physiology
  - BME 296/396/496 – Research

**Sensors and Bioinstrumentation (SB):**
- **Track Foundations**
  - E&C-ENG 211 – Circuit Analysis I
  - E&C-ENG 212 – Circuit Analysis II
  - E&C-ENG 242 – Data Structures and Algorithms
  - E&C-ENG 313 – Signals and Systems
- **Track Electives**
  - BME 520 – Bioinstrumentation II
  - BME 521 – Biomedical Devices
  - BME 522 – Biosensors
  - BME 550 – Experimental Techniques in Genetics
  - MIE 444/ECE 580 Feedback Control
  - MICROBIO 310 – General Microbiology or MICROBIO 255 - Intro to Medical Microbiology
  - BME 296/396/496 – Research