# Imaging & Sensing Track Curriculum Map

<table>
<thead>
<tr>
<th>Fall Year 1</th>
<th>Spring Year 1</th>
<th>Fall Year 2</th>
<th>Spring Year 2</th>
<th>Fall Year 3</th>
<th>Spring Year 3</th>
<th>Fall Year 4</th>
<th>Spring Year 4</th>
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<tbody>
<tr>
<td>MATH 221 (4) Calculus I</td>
<td>MATH 231 (3) Calculus II</td>
<td>MATH 241 (4) Calculus III</td>
<td>MATH 285 (3) Intro Diff Eq.</td>
<td>BIOE 476 (3) Tissue Engineering</td>
<td>BIOE 310 (3) Comp. Tools for Bio Data</td>
<td>BIOE 435 (2) Sr. Design I</td>
<td>BIOE 436 (2) Sr. Design II</td>
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<tr>
<td>ENG 100 (0) Engineering Lecture</td>
<td>PHYS 211 (4) Univ. Physics, Mechanics</td>
<td>PHYS 212 (4) Univ. Physics, Elec &amp; Mag</td>
<td>BIOE 205 (3) Systems in Bioengineering</td>
<td>BIOE 202 (3) Cell &amp; Tissue Engineering Lab</td>
<td>BIOE 360 (3) Transport &amp; Flow in Bioengineering</td>
<td>BIOE 420 (3) Intro. Bio Control Systems</td>
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<td>BIOE 199/100 (1) Undergraduate Seminar</td>
<td>BIOE 120 (1) Introduction to Bioengineering</td>
<td>BIOE 201 (3) Conservation Princ Bioeng</td>
<td>BIOE 210 (3) Linear Algebra for Biomedical Data Science</td>
<td>BIOE 302 (3) Modeling Human Physiology</td>
<td>BIOE 414 (3) Biomedical Instrumentation</td>
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<td>RHET 105 (4) Principles of Composition</td>
<td>MCB 150 (4) Molec&amp;Cellular Basis of Life</td>
<td>BIOE 206 (3) Cellular Bioengineering</td>
<td>BIOE 202 (2) Cell &amp; Tissue Engineering Lab</td>
<td>BIOE 303 (2) Quant Human Physiology Lab</td>
<td>BIOE 415 (2) Biomedical Instrumentation Lab</td>
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<td>CHEM 102 (3) General Chemistry I</td>
<td>CHEM 104 (3) General Chemistry II</td>
<td>BIOE 198 (2) Biomedical Data Analysis</td>
<td>CHEM 232 (4) Organic Chemistry I</td>
<td>ECE 210 (4) Analog Signal Processing</td>
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<td>CHEM 103 (1) General Chem Lab I</td>
<td>CHEM 105 (1) General Chem Lab II</td>
<td>BIOE 200 (1) BIOE Career Immersion</td>
<td>ECE 110 (3) Introduction to Electronics</td>
<td>ECE 329 (3) Fields &amp; Waves I</td>
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<td>BIOE 298 AMS (1) Career Ecosystems</td>
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**Imaging & Sensing Track Elective:**
- BIOE 477 – Imaging & Therapeutic Probes (3 hr)
- BIOE 498 NIE – Surgical Technologies (3 hr)
- BIOE 498 WD – Preclinical Molecular Imaging (3 hr)
- ECE 310 – Digital Signal Processing (3 hr)
- ECE 311 – Digital Signal Processing Lab (1 hr)
- ECE 380 – Biomedical Imaging (3 hr)
- ECE 416 – BioSensors (3 hr)
- ECE 460 – Optical Imaging (4 hr)
- ECE 467 – Biophotonics (3 hr)
- ECE 473 – Fundamentals of Engineering Acoustics (3hr)
- ECE 480 – Magnetic Resonance Imaging (3 hr)

**Course with dashed line borders are not currently required as part of the Core BIOE Curriculum**

**Note – if outlined in RED then the BIOE course is offered both Fall & Spring Semesters**

**Courses with dashed line borders are not currently required as part of the Core BIOE Curriculum**

**If not taking courses as advised may result in a delayed graduation date. Students are responsible for any impact resulting from not following departmental advising.**
Other Requirements

### General Education Requirements
- 6 hours in Humanities
- 6 hours in Social/Behavioral Sciences
- 6 hours in Liberal Education
- 1 Advanced Composition Course
- 1 Western Comparative Cultures Course
- 1 Non-Western Comparative Cultures Course
- 1 US Minority Cultures Course (FA 2018 admits and beyond only)
- 3rd Level of a Foreign Language

### Premed Requirements
- Meet with Engineering Career Services Premed advisor
- **Common Courses** *(additional requirements may apply depending on school)*:
  - MCB 450/354 (BioChem)
  - CHEM 233 (Orgo 1 lab)
  - Social/Behavioral Science Sequence (3 courses)