# Biomedical Engineering

## Department Information

- **Department Phone:**
  701-231-8839
- **Department Web Site:**
  [www.ndsu.edu/coe/bme](http://www.ndsu.edu/coe/bme/)
- **Credential Offered:**
  Minor
- **Program Overview:**
  [catalog.ndsu.edu/programs-study/undergraduate/biomedical-engineering/](http://catalog.ndsu.edu/programs-study/undergraduate/biomedical-engineering/)

## Minor Requirements

**Minor: Biomedical Engineering**

**Required Credits: 21**

### Minor Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>Core Requirements</strong></td>
<td></td>
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<tr>
<td>BIOL 150 &amp; 150L</td>
<td>General Biology I and General Biology I Laboratory</td>
<td>4</td>
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<tr>
<td>BIOL 151</td>
<td>General Biology II</td>
<td>3</td>
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<tr>
<td>BIOL 370</td>
<td>Cell Biology</td>
<td>3</td>
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<tr>
<td>or BIOL 460</td>
<td>Animal Physiology</td>
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<tr>
<td><strong>Elective Requirements (at least 9 of the 11 credits must be courses with an engineering prefix)</strong></td>
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<tr>
<td>BIOC 461</td>
<td>Foundations of Biochemistry and Molecular Biology II</td>
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<tr>
<td>BIOL 220</td>
<td>Human Anatomy and Physiology I</td>
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<tr>
<td>BIOL 220L</td>
<td>Human Anatomy and Physiology I Laboratory</td>
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<tr>
<td>BIOL 221</td>
<td>Human Anatomy and Physiology II</td>
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<tr>
<td>BIOL 221L</td>
<td>Human Anatomy and Physiology II Laboratory</td>
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<tr>
<td>BIOL 370</td>
<td>Cell Biology (if not used in the core)</td>
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<tr>
<td>BIOL 460</td>
<td>Animal Physiology (if not used in the core)</td>
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<tr>
<td>CE 486</td>
<td>Nanotechnology and Nanomaterials</td>
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<tr>
<td>ECE 483</td>
<td>Instrumentation for Engineers</td>
<td></td>
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<tr>
<td>ECE 485</td>
<td>Biomedical Engineering</td>
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<tr>
<td>ECE 487</td>
<td>Cardiovascular Engineering</td>
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<tr>
<td>ECE 488</td>
<td>Cardiovascular Engineering II</td>
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<tr>
<td>IME 411</td>
<td>Human Factors Engineering</td>
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<td>IME 453</td>
<td>Hospital Management Engineering</td>
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<tr>
<td>ME 331</td>
<td>Materials Science and Engineering</td>
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<tr>
<td>ME 468</td>
<td>Introduction to Biomechanics</td>
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<tr>
<td>ME 480</td>
<td>Biofluid Mechanics</td>
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<tr>
<td>ME 486</td>
<td>Nanotechnology and Nanomaterials</td>
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<tr>
<td>MICR 445</td>
<td>Animal Cell Culture Techniques</td>
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<tr>
<td><strong>Undergraduate Research: ENGR 193, 293, 393, 493, 194, 294, 394 or 494</strong></td>
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</tbody>
</table>

**Total Credits** 21
Minor Requirements and Notes

- A minimum of 8 credits must be taken at NDSU.
- Course pre-requisites apply.
- At least 12 credits that apply to this minor must be unique from courses that apply to the student’s major.