BIOMEDICAL ENGINEERING, MINOR

College of Engineering

The minor in Biomedical Engineering is restricted to enrolled College of Engineering students. The intent is to build upon the existing core strengths in other engineering majors by adding expertise in biomedical applications. This additional training makes students more attractive to employers in the medical device industry, and positions students for graduate training in health related applications of engineering.

The minor requires two life sciences courses not typically required for engineering students, one at the cellular level (BIM 102) and the other at the physiological level (NPB 101 or BIM 116). The remaining 12 units are to be selected in consultation with an advisor from this list of upper division Biomedical Engineering courses. Students will be advised to select courses that complement their existing curricula.

Minor Advisors
Rosalind Christian, Dr. Jennifer Choi

Successful completion of the minor requires the following:

- Completing 21 units of minor coursework; all courses must be taken for a letter grade.
- Minimum overall GPA of 2.000 and no grade lower than a C- for coursework completed in the minor.
- No more than one course can be counted towards both the student’s major and the minor.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td><strong>Required Courses</strong></td>
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<tr>
<td>NPB 101 or BIM 116</td>
<td>Systemic Physiology or Physiology for Biomedical Engineers</td>
<td>5</td>
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<tr>
<td>BIM 102</td>
<td>Cellular Dynamics</td>
<td>4</td>
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<td><strong>Elective Courses</strong></td>
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<td>Choose 12 units from upper division BIM courses, in consultation with the academic advisor.</td>
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BIM 140 | Protein Engineering                                    |
BIM 141 | Cell & Tissue Mechanics                               |
BIM 142 | Principles & Practices of Biomedical Imaging          |
BIM 143 | Biomolecular Systems Engineering: Synthetic Biology   |
BIM 143L | Synthetic Biology Laboratory                          |
BIM 144 | Fundamentals of Biophotonics & Bioimaging             |
BIM 152 | Molecular Control of Biosystems                       |
BIM 154 | Computational Genomics                                |
BIM 161A | Biomolecular Engineering                              |
BIM 162 | Introduction to the Biophysics of Molecules & Cells   |
BIM 163 | Bioelectricity, Biomechanics, & Signaling Systems     |
BIM 171 | Clinical Applications for Biomedical Device Design    |