**BioE Core and Capstone Courses (44-48 Credits)**

- **BIOEN 215 (3cr)** - Intro to BioE Problem Solving  
  (Bioen 215 is not required but strongly encouraged)
- **BIOEN 315 (3cr)** - Biochemical & Molecular Engineering
- **BIOEN 316 (4cr)** - Biomedical Signals and Sensors
- **BIOEN 317 (2cr)** - Biomedical Signals and Sensors Lab
- **BIOEN 325 (4cr)** - Biotransport I
- **BIOEN 326 (4cr)** - Solid and Gel Mechanics
- **BIOEN 327 (2cr)** - Fluids and Materials Lab
- **BIOEN 335 (3cr)** - Biotransport II
- **BIOEN 336 (3cr)** - Bioengineering Systems and Control
- **BIOEN 337 (2cr)** - Mass Transport and Systems lab
- **BIOEN 345 (4cr)** - Failure Analysis of Human Physiology
- **BIOEN 400 (3cr)** - Fundamentals of Bioengineering Design

**BioE Senior Concentrations (15 Credits)**

Students complete one concentration: Molecular and Materials Bioengineering; Cells, Tissues, and Systems; Diagnostics and Therapeutic Instrumentation, or a degree option in NanoMolecular Engineering. See website for details.

**Approved Engineering Electives (9-12 Credits)**

See BioE Advising for a list of acceptable courses. Extra Bioengineering senior elective credits may fulfill this requirement.

**Free Electives (varies)**

This varies based on AP/IB/Running Start credit.

**Total Credits Required for Graduation (180 Credits)**

**Programming - Choose one option (4-5 Credits)**

- **AMATH 301* (4cr)** - Beg. Scientific Computing  
  [pr: Math 125]
- **OR-**
  CSE 142 + BIOEN 498: MatLab Fundamentals may Substitute (5cr)

**BioE Graduation Requirements**

University of Washington  
https://bioe.washington.edu

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**Requirement Sheet Key**

- = Upper-Division Admission Requirements
* = Pre-requisite may be in progress at time of application
** = Contact BioE adviser if Biol 180 is full during Aut. Qtr.

**Mathematics (24-25 Credits)**

- MATH 124 (5cr) - Calculus I
- MATH 125 (5cr) - Calculus II
- MATH 126 (5cr) - Calculus III
- MATH 307 (3cr) - Differential Equations  
  [pr: Math 125]
- MATH 308 (3cr) - Matrix Algebra  
  [pr: Math 126]
- (AMATH 351/352 may substitute for Math 307/308)
- IND E 315 (3cr) - Probability & Statistics  
  [pr: Math 307]
- (Stat 390 may substitute for IND E 315)

**Natural Sciences (44 Credits)**

- CHEM 142 (5cr) - General Chemistry I with Lab
- CHEM 152 (5cr) - General Chemistry II with Lab
- CHEM 162 (5cr) - General Chemistry III with Lab  
  (CHEM 143 or 145 series can substitute for 142 series)
- CHEM 237* (4cr) - Organic Chemistry  
  [pr: Chem 162]
- OR-
  CHEM 223* (4cr) - Org. Chem. Short Program
- PHYS 121 (5cr) - Mechanics with Lab  
  [pr: Math 124]
- PHYS 122*(5cr) - Electro/Oscillatory with Lab II
- BIOL 180** (5cr) - Intro Biology I
- BIOL 200* (5cr) - Intro Biology II  
  [pr: Chem 152]
- BIOL 220 (5cr) - Intro Biology

**Written & Oral Communications (5 Credits)**

- English Comp (5cr) - English Composition

**Visual, Literary & Performing Arts/Individuals & Society (VLPA/I&S) (24 Credits)**

- Minimum 10 credits of VLPA
- Minimum 10 credits of I&S
- Remaining 4 credits can be either VLPA or I&S
- Minimum 3 credits of Diversity (can overlap with VLPA or I&S)

**Programming - Choose one option (4-5 Credits)**

- AMATH 301* (4cr) - Beg. Scientific Computing  
  [pr: Math 125]
- OR-
  CSE 142 + BIOEN 498: MatLab Fundamentals may Substitute (5cr)

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**Early Admission Requirements**

1. Early Admission is an option for Autumn Qtr. only.
2. Students must be enrolled at UW Seattle.
3. MATH 124, 125 & 126 or equivalent.
4. CHEM 142, 152 & 162 or equivalent.
5. 5 credits of English composition.
6. If you do not have all of these courses done by the deadline, speak with a BioE Advisor about a petition.
7. Running Start students should consult with a BioE advisor.
8. This admission cycle will be open to engineering undeclared students starting in Summer 2019

**Application Deadlines**

- Early Admission - July 1st
- Spring 2019 admission and beyond - Jan. 15th annually

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*Last revised January 2018*
**This is a sample four-year plan. It is intended to provide a framework for students to reference as they create their own individual academic plan.**

<table>
<thead>
<tr>
<th>Freshman - Autumn Quarter</th>
<th>Freshman - Winter Quarter</th>
<th>Freshman - Spring Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MATH 124 - Calculus I</strong></td>
<td><strong>MATH 125 - Calculus II</strong></td>
<td><strong>MATH 126 - Calculus III</strong></td>
</tr>
<tr>
<td><strong>CHEM 142 - Chemistry &amp; Lab I</strong></td>
<td><strong>CHEM 152 - Chem &amp; Lab II</strong></td>
<td><strong>CHEM 162 - Chem &amp; Lab III</strong></td>
</tr>
<tr>
<td>BIOEN 215 - Intro to BioE Prob. Solv.</td>
<td><strong>English Composition</strong></td>
<td>Diversity</td>
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<td>VLPA/I&amp;S</td>
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<td>Quarter Total 16</td>
<td>Quarter Total 15</td>
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<thead>
<tr>
<th>Sophomore - Autumn Quarter</th>
<th>Sophomore - Winter Quarter</th>
<th>Sophomore - Spring Quarter</th>
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</thead>
<tbody>
<tr>
<td><strong>BIOL 180 - Intro Biology I</strong></td>
<td><strong>BIOL 200 - Intro Biology II</strong></td>
<td>MATH 307 - Diff. Equations</td>
</tr>
<tr>
<td><strong>PHYS 121 - Mechanics &amp; Lab I</strong></td>
<td><strong>PHYS 122 - Electro &amp; Lab II</strong></td>
<td>BIOEN 315 - BioChem &amp; Mol BioE</td>
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<td><strong>CHEM 223 or 237 - Organic Chem</strong></td>
<td><strong>AMATH 301 - Scientific Comp.</strong></td>
<td>BIOEN 316 - Biomed Signals &amp; Sensors</td>
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<td>-OR- CSE 142 + BIOEN 498: Matlab Fund.</td>
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<td>BIOEN 317 - Signals &amp; Sensors Lab</td>
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<tr>
<th>Junior Autumn - Quarter</th>
<th>Junior Winter Quarter</th>
<th>Junior Spring Quarter</th>
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<td>BIOEN 325 - Biotransport I</td>
<td>BIOEN 335 - Biotransport II</td>
<td>BIOEN 345 - Failure Analysis of Human Physiology</td>
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<td>BIOEN 326 - Solid and Gel Mech.</td>
<td>BIOEN 336 - BioEn. Sys. &amp; Control</td>
<td>BIOEN 400 - BioE Design ENGR</td>
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<tr>
<td>BIOEN 327 - Fluids and Materials Lab</td>
<td>BIOEN 337 - Mass Transport Lab</td>
<td>Elective</td>
</tr>
<tr>
<td>IND E 315 - Stats for Engineers</td>
<td>BIOL 220 - Intro Biology III</td>
<td>ENGR Elective</td>
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<td>MATH 308 - Matrix Algebra</td>
<td>ENGR Elective</td>
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<td>Quarter Total 16</td>
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<table>
<thead>
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<th>Senior - Autumn Quarter</th>
<th>Senior Winter Quarter</th>
<th>Senior Spring Quarter</th>
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</thead>
<tbody>
<tr>
<td>BIOEN 402 - Capstone or ENGR elective - variable credit</td>
<td>BIOEN 402 or 404 - Capstone variable credit</td>
<td>BIOEN 402 or 405 - Capstone variable credit</td>
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<td>BIOEN Concentration Elective III</td>
<td>BIOEN Concentration Elective IV</td>
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<td>BIOEN Concentration Elective II</td>
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<td>Quarter Total 15</td>
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</tr>
</tbody>
</table>

**Bold face** - Required for Upper-Division admission.

* - May be in progress during quarter of admission

Students planning on attending medical school are encouraged to meet with an advisor to discuss additional requirements

**For more information, contact:**

Engineering Advising
Office: 301 Loew Hall Box 352180, Seattle, WA 98195-2180
Phone: (206) 543-1770   Email: engradv@uw.edu

-OR-

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Phone: (206)685-2022   Email: bioeng@uw.edu

Last revised January 2018