Courses in italics are prerequisites  
Courses in bold are co-requisites  

*A grade of C or better is required before registration is permitted in upper-division courses.  

See course catalog for complete degree requirements and additional information at uidaho.edu/registrar/classes/catalogs.  

Updated 7/24/2023

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<tr>
<th>FRESHMAN</th>
<th>FALL</th>
<th>SPRING</th>
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</table>
| *CHEM 111| General Chemistry II  
C or better Math 170; sufficient test scores or permission | BE 204 | Intro to Biological Engineering Seminar |
| CHEM 111 L| General Chemistry 1 Lab | BIOL 115 | Cells & the Evolution of Life  
CHEM 111 |
| ENGL 102| College Writing and Rhetoric  
English 101 or sufficient test scores | BIOL 115 L | Cells & the Evolution of Life Lab |
| ENGR 123| First Year Engineering | *CHEM 112 | General Chemistry II  
CHEM 111 |
| *MATH 170| Calculus I  
C or better in Math 143 and 144 or sufficient test scores | CHEM 112 L | General Chemistry II Lab |
| ELECTIVE| Humanities/Social Science-American Diversity | *ECON 201 | Prin. Of Macroeconomics  
OR  
ECON 202 Prin. Of Microeconomics |
| | | ELECTIVE | Humanities/Social Science-International |
| | | | *MATH 175 | Calculus II  
C or better in Math 170 |
| **Total Credits** | **16** | **Total Credits** | **17** |

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<tr>
<th>SOPHOMORE</th>
<th>FALL</th>
<th>SPRING</th>
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| *BE 242 | Biological Engineering Analysis and Design  
MATH 170, MATH 175. Fall only | CHEM 277 | Organic Chemistry |
| BIOL 250| General Microbiology  
BIOL 115/115L, CHEM 101 or CHEM 111 | CHEM 278 | Organic Chemistry Lab |
| BIOL 255| General Microbiology Lab | ECON ELECTIVE | ECON 201 Prin. Of Macroeconomics  
OR  
ECON 202 Prin. Of Microeconomics |
| *PHYS 211| Engineering Physics  
MATH 170 or MATH 170 | ENGR 210 | Engineering Statics  
MATH 170 |
| PHYS 211 L| Engineering Physics Lab | *MATH 310 | Ordinary Differential Equations  
MATH 175 (MATH 275 recommended) |
| *MATH 275| Calculus III  
MATH 175 | PHYS 212 | Engineering Physics II (no lab)  
PHYS 211, MATH 175 |
| **Total Credits** | **16** | **Total Credits** | **17** |

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<tr>
<th>JUNIOR</th>
<th>FALL</th>
<th>SPRING</th>
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| BIOL 380| Biochemistry I (no lab)  
CHEM 112, CHEM 277 | BE 361 | Biotransport Processes  
ENGR 320, ENGR 335 |
| ELECTIVE| Biological Engineering Elective (UPDV) | BE 404* | Electronics in Biological Engineering  
PHYS 212  
*(course number may change) |
| ENGR 335| Engineering Fluid Mechanics  
ENGR 210, MATH 275 | ELECTIVE | Humanities/Social Science Elective |
| ENGR 350| Engineering Mechanics of Materials  
ENGR 210, MATH 175, MATH 310 | ELECTIVE | Technical Elective (UPDV) |
| STAT 301| Probability & Statistics  
MATH 175 | ELECTIVE | Communications Elective  
Fulfills U of I General Degree Requirements (J-3) |
| | | ENGR 320 | Engr. Thermodynamics/Heat Transfer  
MATH 310 |
| **Total Credits** | **16** | **Total Credits** | **18** |

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<tr>
<th>SENIOR</th>
<th>FALL</th>
<th>SPRING</th>
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</table>
| BE 441| Instrumentation & Measurement  
ENGR 240, STAT 301  
(check pre-reqa for updates) | BE 461 | Bioprocess Engineering  
MATH 310, ENGR 320 & 335 |
| BE 478| Engineering Design I | BE 479 | Engineering Design II  
BE 478 |
| BE 491| Senior Seminar  
Senior Standing | ELECTIVE | Biological Engineering Elective |
| ELECTIVE| Biological Engineering Elective | ELECTIVE | Technical Elective (UPDV) |
| ELECTIVE| Technical Elective | ELECTIVE | Humanities/Social Science Elective |
| ELECTIVE| Humanities or Social Science Elective | | |
| **Total Credits** | **16** | **Total Credits** | **18** |
Creatively solve problems involving plants, animals, microorganisms and biological materials. Integrate engineering principals into biological systems to improve environmental quality, produce a value-added product, harvest and process food, or manufacture medical devices.

ABOUT YOUR DEGREE PATH

Biological Engineering majors take courses in biology, chemistry, mathematics, and physics to prepare for more advanced courses in transport processes, bio-based products, bioenergy, biomedical engineering, bioprocessing and sustainability.

Much of your education takes place in labs. Explore water flow, quality and use in the water resources lab and in the field, make discoveries about renewable energy in the advanced biofuel lab, design controls and instruments in the power lab, analyze medical images in the neurophysiology lab, and operate bioreactors in our cell and tissue engineering lab.

Graduates apply their technical expertise to solve problems by designing components, processes, and systems. Graduates communicate and work effectively in teams and have adequate knowledge in inorganic/organic chemistry, biochemistry, biological/biomedical sciences, and environmental sciences.

MATCH YOUR INTERESTS

- Biomedical
- Cell and Tissue Engineering
- Biomolecular Modeling
- Drug and Gene Delivery
- Neural Imaging and Modeling
- Medicine and Pharmaceuticals
- Bioenergy and Biofuels
- Precision Agriculture
- Environmental Impact Assessment
- Waste Treatment Technology
- Water Resources and Sustainability
- Biomaterials
- Bionanotechnology
- Bioprocessing
- Food Science
- Synthetic Biology

YOUR DEGREE IS ACCREDITED

Our undergraduate Biological Engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.
2023-27 Biological Engineering Course Sequence

Some technical electives are offered only every other year and may have prerequisites. Work with your advisor to plan ahead for those courses.

General Core (≥ 36 credits) (www.uidaho.edu/academics/general-education for details)

J3e: Hum/SS*                  J3f: One course and Am. Diversity + One course in International
J3g: Senior Experience (1 class)

1 J3e: Select 6 Credits of Humanities from 2 different disciplines and 6 credits of Social Sciences also from 2 different disciplines.

1 J3f Core may be satisfied by taking dual listed J3e (Humanities and Social Sciences) courses and/or by study abroad.

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6 See http://www.uidaho.edu/registrar/registration/placement
1 Open to first year students only
2 Must have grade of C or better
3 ECON 201 or ECON 202. Counts as SS
4 BE 304: Electronics in Bio. Engg. Course number may differ
5 Must have senior status to enroll

Prerequisite

Can be taken concurrently

Recommended (not required)