

BIOLOGICAL ENGINEERING (B.S.)

Required course work includes the university requirements (see regulation J-3 (<https://catalog.uidaho.edu/general-requirements-academic-procedures/j-general-requirements-baccalaureate-degrees/>)) and:

Code	Title	Hours
BE 142	Introduction to Biological Engineering	2
BE 242	Biological Engineering Analysis and Design	3
BE 441	Instrumentation and Measurements	3
BE 461	Bioprocess Engineering	3
BE 462	Electric Power and Controls	3
BE 478	Engineering Design I	3
BE 479	Engineering Design II	3
BE 491	Senior Seminar	1
BIOL 115	Cells and the Evolution of Life	3
BIOL 115L	Cells and the Evolution of Life Laboratory	1
BIOL 250	General Microbiology	3
BIOL 255	General Microbiology Lab	2
BIOL 380	Biochemistry I	4
CHEM 111	General Chemistry I ^{1,2}	3
CHEM 111L	General Chemistry I Laboratory	1
CHEM 112	General Chemistry II	3
CHEM 112L	General Chemistry II Laboratory	2
CHEM 277	Organic Chemistry I	3
CHEM 278	Organic Chemistry I: Lab	1
ENGR 105	Engineering Graphics	2
or GEOG 385	GIS Primer	
ENGR 210	Engineering Statics ^{1,2}	3
ENGR 240	Introduction to Electrical Circuits	3
ENGR 320	Engineering Thermodynamics and Heat Transfer	3
ENGR 335	Engineering Fluid Mechanics	3
ENGR 350	Engineering Mechanics of Materials	3
ENGR 360	Engineering Economy	2
MATH 170	Calculus I	4
MATH 175	Calculus II	4
MATH 275	Calculus III ^{1,2}	3
MATH 310	Ordinary Differential Equations	3
PHYS 211	Engineering Physics I ^{1,2}	3
PHYS 211L	Laboratory Physics I	1
PHYS 212	Engineering Physics II	3
STAT 301	Probability and Statistics	3

Technical Electives 17

Select 9 credits from any 300 or 400 level Biological Engineering courses

Select 8 credits from any 300 or 400 level engineering or sciences courses

Total Hours 107

¹ A grade of C or better is required in each of the following courses before registration is permitted in upper-division engineering courses: BE 242, CHEM 111, ENGR 210, MATH 275, and PHYS 211.

² To graduate in this program, a grade of C or better is required in each of the following courses: BE 242, CHEM 111, ENGR 210, MATH 275, and PHYS 211.

Courses to total 128 credits for this degree

Students are required to submit a course plan and a statement of how the humanistic and social course requirements complement the technical content of the curriculum and are consistent with the program and institution objectives

1. Graduates will be proficient engineering problem solvers capable of identifying, formulating, and solving engineering problems by integrating their knowledge of mathematics, engineering, physics, biology, and chemistry.
2. Graduates will be effective engineers who can apply their skills to design systems, components, and processes to solve engineering problems for an ever-changing world.
3. Graduates will be effective written and verbal communicators and productive team members.
4. Graduates will have a strong professional identity with a keen awareness of their professional and ethical responsibility and they will practice lifelong learning.
5. Graduates will design for advancement and sustainability of their local, national, and global communities, protecting human health and safety and practicing environmental stewardship.