

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

FRESHMAN			FALL			SPRING		
*CHEM 111	General Chemistry II <i>C or better Math 170; sufficient test scores or permission</i>	3				BE 204	Intro to Biological Engineering Seminar	1
CHEM 111 L	General Chemistry 1 Lab	1				BIOL 115	Cells & the Evolution of Life <i>CHEM 111</i>	3
ENGL 102	College Writing and Rhetoric <i>English 101 or sufficient test scores</i>	3				BIOL 115 L	Cells & the Evolution of Life Lab	1
ENGR 123	First Year Engineering	2				*CHEM 112	General Chemistry II <i>CHEM 111</i>	4
*MATH 170	Calculus I <i>C or better in Math 143 and 144 or sufficient test scores</i>	4				CHEM 112 L	General Chemistry II Lab	1
ELECTIVE	Humanities/Social Science-American Diversity	3				ELECTIVE	Humanities/Social Science-International	3
						*MATH 175	Calculus II <i>C or better in Math 170</i>	4
							Total Credits	17
			Total Credits	16				
SOPHOMORE			FALL			SPRING		
*BE 242	Biological Engineering Analysis and Design <i>MATH 170, MATH 175, Fall only</i>	3				CHEM 277	Organic Chemistry	3
BIOL 250	General Microbiology <i>BIOL 115/115L, CHEM 101 or CHEM 111</i>	3				CHEM 278	Organic Chemistry Lab	1
BIOL 255	General Microbiology Lab	2				ECON ELECTIVE	ECON 201 Prin. Of Macroeconomics OR ECON 202 Prin. Of Microeconomics	3
*PHYS 211	Engineering Physics <i>MATH 170 or MATH 170</i>	3				ENGR 210	Engineering Statics <i>MATH 170</i>	3
PHYS 211 L	Engineering Physics Lab	1				*MATH 310	Ordinary Differential Equations <i>MATH 175 (MATH 275 recommended)</i>	3
*MATH 275	Calculus III <i>MATH 175</i>	3				PHYS 212	Engineering Physics II (no lab) <i>PHYS 211, MATH 175</i>	3
							Total Credits	16
			Total Credits	15				
JUNIOR			FALL			SPRING		
BIOL 380	Biochemistry I (no lab) <i>CHEM 112, CHEM 277</i>	4				BE 361	Biotransport Processes <i>ENGR 320, ENGR 335</i>	3
ELECTIVE	Biological Engineering Elective (UPDV)	3				BE 404*	Electronics in Biological Engineering <i>PHYS 212</i> * (course number may change)	3
ENGR 335	Engineering Fluid Mechanics <i>ENGR 210, MATH 275</i>	3				ELECTIVE	Humanities/Social Science Elective	3
ENGR 350	Engineering Mechanics of Materials <i>ENGR 210, MATH 175, MATH 310</i>	3				ELECTIVE	Technical Elective (UPDV)	3
STAT 301	Probability & Statistics <i>MATH 175</i>	3				ELECTIVE	Communications Elective <i>Fulfills U of I General Degree Requirements (J-3)</i>	3
						ENGR 320	Engr. Thermodynamics/Heat Transfer <i>MATH 310</i>	3
							Total Credits	18
			Total Credits	16				
SENIOR			FALL			SPRING		
BE 441	Instrumentation & Measurement <i>ENGR 240, STAT 301</i> (check pre-reqa for updates)	3				BE 461	Bioprocess Engineering <i>MATH 310, ENGR 320 & 335</i>	3
BE 478	Engineering Design I	3				BE 479	Engineering Design II <i>BE 478</i>	3
BE 491	Senior Seminar <i>Senior Standing</i>	1				ELECTIVE	Biological Engineering Elective	3
ELECTIVE	Biological Engineering Elective	3				ELECTIVE	Biological Engineering Elective	3
ELECTIVE	Technical Elective	3				ELECTIVE	Technical Elective (UPDV)	3
ELECTIVE	Humanities or Social Science Elective	3				ELECTIVE	Humanities/Social Science Elective	3
							Total Credits	18
			Total Credits	16				



University of Idaho
College of Engineering



BIOLOGICAL **ENGINEERING**

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.

DEPARTMENT OF CHEMICAL & BIOLOGICAL ENGINEERING

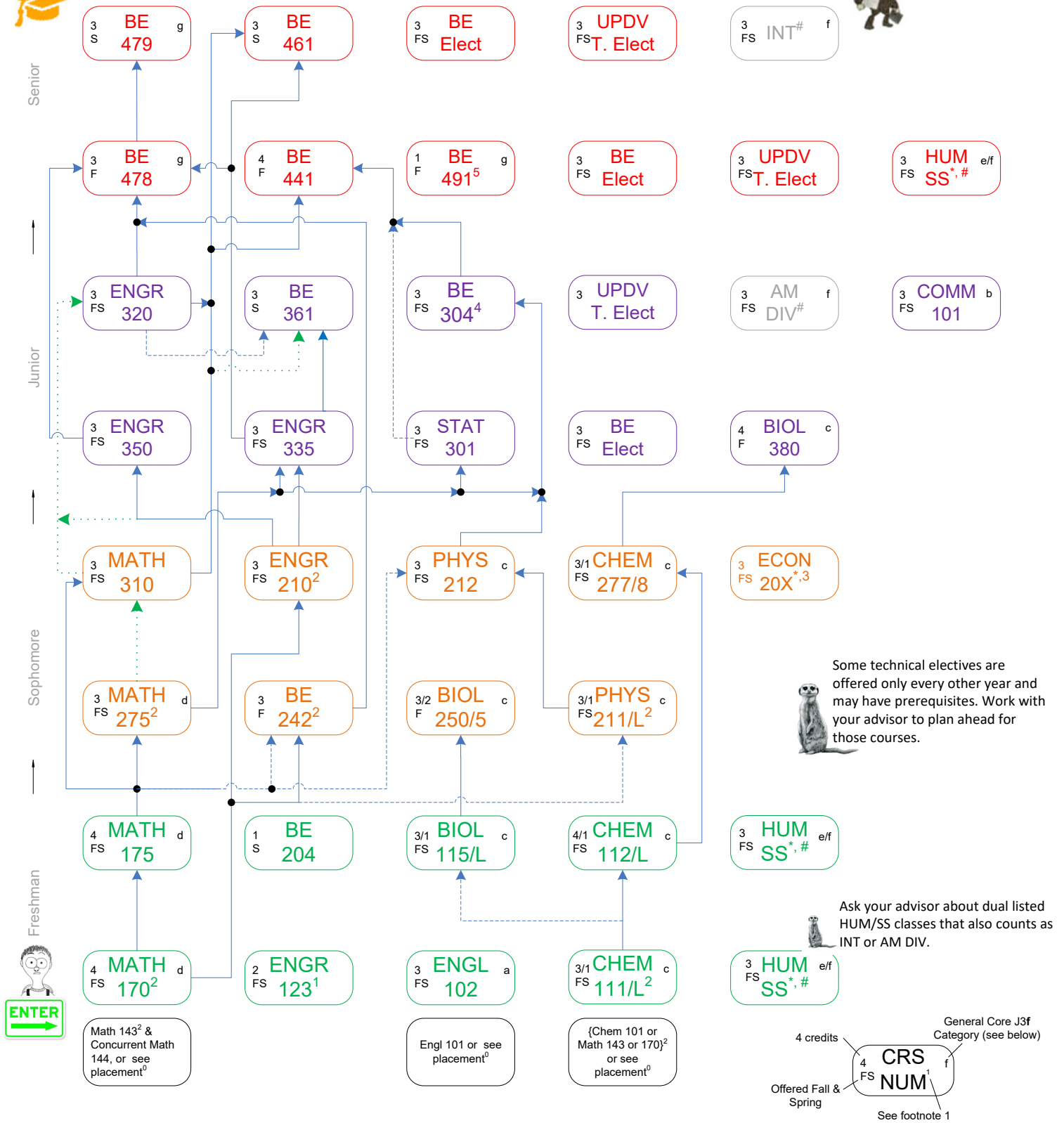
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Engineering Physics Bldg. 419

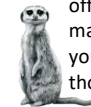
chembloeng@uidaho.edu

uidaho.edu/engr/departments/chbe

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.



Ask your advisor about dual listed HUM/SS classes that also counts as INT or AM DIV.



⁰ 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

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

J3a: Written Comm. (3-6)

J3b: Oral Comm. (2-3)

J3c: Science (8)

J3d: Math (3)

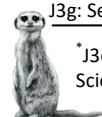
J3e: Hum/SS(12¹)

J3f[#]: One course and Am. Diversity + One course in International

J3g: Senior Experience(1 class)

^{*}J3e: Select 6 Credits of Humanities **from 2 different disciplines** and 6 credits of Social Sciences also **from 2 different disciplines**.

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



- Prerequisite
- - - Can be taken concurrently
- ... Recommended (not required)