CHEMICAL ENGINEERING

2020/2021
Four-Year Academic Plan

University of Idaho
College of Engineering

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. ** Passing grade required.
See course catalog for complete degree requirements and additional information at uidaho.edu/registrar/classes/catalogs. Last updated 7/20/20

FRESHMAN	FALL		SPRING		
CHE 110	Introduction to Chemical Engineering	1 P/F	CHE 210	Integrated Chemical Engineering Fundamentals *CHE 110, CHE 123*	1 P/F
**CHE 123	Computations in Chemical Engineering **MATH 143, MATH 170 or higher**	2	*CHEM 112/ 112L	General Chemistry II with Lab *CHEM 111*	5
*CHEM 111/ 111L	General Chemistry I *C or better in MATH 170; sufficient test scores; or permission*	4	**MATH 175	Calculus II *C or better in MATH 170*	4
**ENGL 102	Writing and Rhetoric *English 101 or sufficient test scores*	3	**PHYS 211/ 211L	Engineering Physics with Lab **MATH 170**	4
ELECTIVE	Humanities/SS - International	3	*ENGR 210	Engineering Statics *MATH 170*	3
*MATH 170	Calculus I *C or better in MATH 143 and 144 or sufficient test scores*	4		**Total Credits**	**17**
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SOPHOMORE	FALL		SPRING		
CHEM 277/278	Organic Chemistry with Lab *CHEM 112*	4	*CHE 223	Material and Energy Balances *CHEM 112, CHEM 112L, MATH 175*	3
*ENGR 320	Engineering Thermodynamics & Heat Transfer *MATH 310 and ENGR 210 recommended*	3	CHEM 372/ 374	Organic Chemistry II with Lab *CHEM 277/278*	4
*MATH 275	Calculus III *MATH 175*	3	*ENGR 335	Engineering Fluid Mechanics *ENGR 210, MATH 275*	3
PHYS 212	Engineering Physics II (no lab) *PHYS 211,* **MATH 175**	3	*MATH 310	Ordinary Differential Equations *MATH 175 (MATH 275 recommended)*	3
**ELECTIVE	Computer Programming Elective	3	ELECTIVE	Economics 201 or 202	3
	Total Credits	**16**		**Total Credits**	**16**

JUNIOR	FALL		SPRING		
CHE 326	Chemical Engineering Thermodynamics *MATH 175*	3	CHE 330	Separation Processes I *CHE 110, CHE 123*	3
CHE 340	Transport and Rate Processes I *ENGR 335, MATH 310, and CHE 223 or MSE 201*	4	CHE 341	Transport and Rate Processes II *CHE 340*	4
CHEM 305/307L	Physical Chemistry with Lab *CHEM 112, MATH 275*	4	CHE 423	Reactor Kinetics and Design *CHE 223, MATH 310, CHEM 305*	3
ENGR 240	Introduction to Electrical Circuits *PHYS 211, MATH 175*	3	ELECTIVE	Math Elective 300 or higher	3
ELECTIVE	Humanities/SS - American Diversity Elective	3	ELECTIVE	Communications Elective *Fulfills U of I General Degree Requirements (J-3)*	2-3
	Total Credits	**17**		**Total Credits**	**15-16**

SENIOR	FALL		SPRING		
CHE 433	Chemical Engineering Lab I *CHE 330, CHE 341, CHE 423*	1	CHE 434	Chemical Engineering Lab II *CHE 330, CHE 341, CHE 423*	1
CHE 444	Process Analysis & Control *CHE 223 and MATH 310 recommended*	3	CHE 445	Digital Process Control *CHE 444 recommended*	3
CHE 453	Process Analysis & Design I *CHE 330, CHE 341, and CHE 423*	3	CHE 454	Process Analysis and Design I *CHE 453 or MSE 453*	3
CHE 491	Seminar *Senior standing*	1	ELECTIVE	Technical Elective 300 or higher *May not include 398, 498 or 598*	3
ELECTIVE	ChE/MSE elective 390 or higher	3	ELECTIVE	Humanities/Social Science Elective	3
ELECTIVE	Technical Elective 300 or higher *May not include 398, 498 or 598*	3		**Total Credits**	**13**
	Total Credits	**14**			

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CHEMICAL ENGINEERING

Design efficient chemical processes to build a better world around you. Decrease pollutants, purify water, end disease and poverty, manufacture better pharmaceuticals, refine chemicals, process food, and refine oil and other petroleum products.

ABOUT YOUR DEGREE PATH

Chemical Engineering majors build a strong foundation in chemistry, math, and physics courses during their first two years. Upper division courses will teach you how to apply these principles to engineering applications and prepare you to design your own solutions to many of the world's chemical, biological and material challenges.

Chemical engineering jobs are in high demand. There is a variety of work available, including in energy resources, environmental protection, biotechnology, medicine, textiles, food products, agricultural products, combustion processes, electronic materials, pulp and paper, chemical manufacturing, oil and gasoline, and more.

MATCH YOUR INTERESTS

- Environmental Protection and Natural Materials
- Water Treatment
- Medicine and Pharmaceuticals
- Energy Resources
- Aerospace
- Agricultural Products
- Computer Chips
- Electricity and Conductivity
- Nuclear Materials
- Polymers and Plastics
- Food and Chemical Processing
- Petroleum
- Magnetics
- Pulp and Paper
- Packaging and Formulation

YOUR DEGREE IS ACCREDITED

Our undergraduate Chemical Engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

DEPARTMENT OF CHEMICAL & BIOLOGICAL ENGINEERING

208-885-6182 or 88-88-UIDAHO ext. 6182 Engineering Physics Bldg. 419 chembioeng@uidaho.edu uidaho.edu/engr/cheme