

*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](http://uidaho.edu/registrar/classes/catalogs).

Updated 7/31/2023

FRESHMAN			FALL			SPRING		
*CHEM 111	General Chemistry I <i>C or better Math 170; sufficient test scores or permission</i>	3	**CHE 123	Computations in Chemical Engineering <b>MATH 143, MATH 170 or higher</b>	2	*CHEM 112	General Chemistry II <i>CHEM 111</i>	4
CHEM 111 L	General Chemistry 1 Lab	1	CHEM 112 L	General Chemistry II Lab	1	**MATH 175	Calculus II <i>C or better in Math 170</i>	4
**ENGL 102	College Writing and Rhetoric <i>English 101 or sufficient test scores</i>	3	**PHYS 211	Engineering Physics <b>MATH 170</b>	3	PHYS 211 L	Engineering Physics Lab	1
ENGR 123	First Year Engineering	2				<b>Total Credits 15</b>		
ELECTIVE	Humanities/Social Science-American Diversity	3						
*MATH 170	Calculus I <i>C or better in Math 143 and 144 or sufficient test scores</i>	4						
<b>Total Credits 16</b>								

SOPHOMORE			FALL			SPRING		
**CHE 220	Programming for Chemical Engineers <i>MATH 170, CHEM 111 &amp; CHEM 112 or permission</i>	3	*CHE 223	Material and Energy Balances <i>CHEM 112, CHEM 112L, MATH 175</i>	3	CHEM 372	Organic Chemistry II <i>CHEM 277/278</i>	3
CHEM 277	Organic Chemistry <i>CHEM 112</i>	3	CHEM 374	Organic Chemistry II Lab	1	*ENGR 320	Engineering Thermodynamics/Heat Transfer <i>(ENGR 201 &amp; MATH 310 recommended)</i>	3
CHEM 278	Organic Chemistry Lab	1	*ENGR 335	Engineering Fluid Mechanics <i>ENGR 210, MATH 275</i>	3	*MATH 310	Ordinary Differential Equations <i>MATH 175 (MATH 275 recommended)</i>	3
ENGR 210	Engineering Statics <i>MATH 170</i>	3				<b>Total Credits 16</b>		
*MATH 275	Calculus III <i>MATH 175</i>	3						
PHYS 212	Engineering Physics II (no lab) <i>PHYS 211, MATH 175</i>	3						
<b>Total Credits 16</b>								

JUNIOR			FALL			SPRING		
CHE 326	Chemical Engineering Thermodynamics <i>CHE 223, ENGR 320, ENGR 335, Math 310, CHEM 305</i>	3	CHE 330	Separation Processes I <i>CHE 326, CHEM 305</i>	3	CHE 341	Transport and Rate Processes II <i>CHE 340</i>	4
CHE 340	Transport and Rate Processes I <i>ENGR 335, MATH 310, and CHE 223 or MSE 201</i>	4	CHE 423	Reactor Kinetics and Design <i>CHE 223, MATH 310, CHEM 305</i>	3	ELECTIVE	Math Elective 300 or higher	3
CHEM 305 & CHEM 307	Physical Chemistry/Physical Chemistry Lab <i>CHEM 112, MATH 275</i>	4	ELECTIVE	Communications Elective <i>Fulfills U of I General Degree Requirements (J-3)</i>	3	<b>Total Credits 16</b>		
ELECTIVE	Humanities/Social Science-International Elec.	3						
ELECTIVE	Economics 201 or Economics 202	3						
<b>Total Credits 17</b>								

SENIOR			FALL			SPRING		
CHE 433	Chemical Engineering Lab I <i>CHE 330, CHE 341, CHE 423</i>	1	CHE 434	Chemical Engineering Lab II <i>CHE 330, CHE 341, CHE 423</i>	1	CHE 454	Process Analysis and Design II <i>CHE 453</i>	3
CHE 444	Process Analysis & Control <i>CHE 223 and MATH 310 recommended</i>	3	ELECTIVE	Upper Division CHE Elective <i>May not include 398, 498 or 598</i>	3	ELECTIVE	Technical Elective 300 or higher <i>May not include 398, 498 or 598</i>	3
CHE 453	Process Analysis & Design I <i>CHE 330, CHE 341, and CHE 423</i>	3	ELECTIVE	Humanities Elective	3	ELECTIVE	Social Science Elective	3
CHE 491	Senior Seminar <i>Senior Stanidng</i>	1						
ELECTIVE	CHE/BE Elective 300 or higher <i>May not include 398, 498 or 598</i>	3						
ELECTIVE	Humanities Elective	3						
ELECTIVE	Technical Elective 300 or higher <i>May not include 398, 498 or 598</i>	3						
<b>Total Credits 17</b>						<b>Total Credits 16</b>		



University of Idaho  
College of Engineering



# 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](http://www.abet.org).*

DEPARTMENT OF CHEMICAL & BIOLOGICAL ENGINEERING

208-885-6182

Engineering Physics Bldg. 419

[chembloengr@uidaho.edu](mailto:chembloengr@uidaho.edu)

[uidaho.edu/engr/departments/chbe](http://uidaho.edu/engr/departments/chbe)

# 2023-27 Chemical Engineering Course Sequence



Senior

Junior

Sophomore

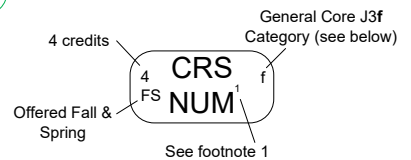
Freshman



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

Junior Certification is required to take upper division CHE classes

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

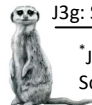


Footnote:  
<sup>0</sup> See <http://www.uidaho.edu/registrar/registration/placement>

<sup>1</sup> Open to first year students only  
<sup>2</sup> Must have grade of C or better  
<sup>3</sup> Must pass for Junior Certification  
<sup>4</sup> ECON 201 or ECON 202. Counts as SS  
<sup>5</sup> Must have senior status to enroll

General Core (≥ 36 credits) ([www.uidaho.edu/academics/general-education](http://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(12<sup>1</sup>)      J3f<sup>#</sup>: One course and Am. Diversity + One course in International  
 J3g: Senior Experience(1 class)



<sup>\*</sup> J3e: Select 6 Credits of Humanities **from 2 different disciplines** and 6 credits of Social Sciences also **from 2 different disciplines**.

<sup>#</sup>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)

