



Degree Map

CATALOG YEAR: 2024-2025

Degree: BSChE

MAJOR: Chemical Engineering
CONCENTRATION: Energy and the Environment

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 15	
CHE 1010 Intro to Chemical Engineering	1	CHE 1020 CHE Processes, Products, & Ethics	1
MATH 1910 Calculus I	4	MATH 1920 Calculus II	4
ENGR 1120 Programming ¹	2	ESS 1100 Intro to Environmental Studies	3
CHEM 1110 General Chemistry I	4	CHEM 1120 General Chemistry II	4
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 17	
CHE 2015 Intro to Chem/Bio An-Scl I	3	CHE 2020 Intro to Chem/Bio An-Scl II	3
CHE 3745 Innovation in Energy	3	CHE 3735 ChE Operations	2
MATH 2110 Calculus III	4	MATH 2120 Differential Equations	3
PHYS 2109 Cal based Physics I	3	PHYS 2119 Cal based Physics II	3
ENGL 2130, 2235, or 2330 Lit.	3	COMM 2025 or PC 2500 Communication	3
		Social/Behavioral Science Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR²			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 18	
CHE 3010 Thermo of ChE Processes	3	CHE 3510 Sep and Sol Thermo	3
CHE 3050 TS1: Cond, Radiation, Diff	3	CHE 3511 Sep and Sol Thermo Lab	1
CHE 3051 TS1: Cond, Radiation, Diff Lab	1	CHE 3550 TS2: Fluid Mechanics	3
CHEM 3010 Organic Chemistry I	4	CHE 3551 TS2: Fluid Mechanics Lab	1
CHE 4550 Green Engineering	3	CHEM 3020 Organic Chemistry II	4
Humanities/Fine Arts Elective	3	CHE 4335 Fuel Cells	3
		Social/Behavioral Science Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 17	
CHE 4050 TS3: Diff and Mass Transfer	3	CHE 4250 ChE Capstone Lab	2
CHE 4051 TS3: Diff and Mass Transfer Lab	1	CHE 4420 Process Design II	3
CHE 4060 ChE Reaction Engineering	3	CHE 4540 Process Dynamics and Control	3
CHE 4061 ChE Reaction Engineering Lab	1	CHE 4552 Energy & the Environment Sp Top	3
CHE 4410 Process Design I	3	4xxx ENEV Elective ³	3
CHEM 3510 Physical Chemistry I	4	Humanities/Fine Arts Elective	3

Notes: (Chemical Engineering (CHE) courses generally only offered in the semester listed above)

- ENGR 1120 must be MATLAB
- Students must apply to the ChE BS/MS Fast-Track program by the end of their second junior term.
- Three hours of CHE ENEV Elective must be from the following courses:
CEE 3413: Environmental Engineering (3) | CHE 4552: Energy/Environment Special Topics (3) | CHE 4340: Rheology (3) | CHE 4560: Agile Manufacturing (3) | CHE 4990: Intro to Research (3) | CHEM 4310: Nuclear Chemistry and Radiochemistry (3) | CHEM 4710: Environmental Chemistry (3) | CHEM 4720: Advanced Environmental Chemistry (3) | ESS 3710: Chemistry and the Environment (3) | ME 4260: Energy Conservation (3) | MET 4650: Lean Six Sigma (3)