



Degree Map

CATALOG YEAR: 2025-2026

Degree: BSChE

MAJOR: Chemical Engineering

CONCENTRATION: Chemical Process Manufacturing (CPM)

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
ENGR 1120 Programming ¹	2		MATH 1920 Calculus II	4
MATH 1910 Calculus I	4		Social/Behavioral Science Elective	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-Sci I	3		CHE 2020 Intro to Chem/Bio An-Sci II	3
XXX xxxx: CPM Elective ³	3		CHE 3735 ChE Operations	2
MATH 2110 Calculus III	4		PHYS 2119 Cal-based Physics II	3
PHYS 2109 Cal-based Physics I	3		MATH 2120 Differential Equations	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 3340 Industry 4.0	3		CHEM 3020 Organic Chemistry II	4
Humanities/Fine Arts Elective	3		CHE 4400 Engineering Safety	3
			Humanities/Fine Arts 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		XXX xxxx: CPM Elective ³	3
CHE 4410 Process Design I	3		MET 4650: Lean Six Sigma	3
CHEM 3510 Physical Chemistry I	4		CHE 4560: Agile Manufacturing	3

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

1. ENGR 1120 must be MATLAB.
2. Students must apply to the ChE Fast-Track MS program by the end of their second junior term.
3. Two courses related to CPM must be from the following list: **CHEM 3410 – Quantitative Analysis (4)** | CHE 3745 – Innovation in Energy (3) | CHEM 4210 – Chemistry of Polymers (3) | CHE 4330 – Polymer Engineering (3) | CHE 4340 – Introduction to Rheology (3) | **CHEM 4520 – Instrumental Analysis (4)** | CHE 4990 – Intro to Research (Credit 1 to 3 per semester.)
 - a. A Minor in Chemistry can be earned by completing both of the courses in bold in addition to other courses in the program. Please consult with advisor for details.