



Degree Map

CATALOG YEAR: 2026-2027

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. |
|--|----------|---|----------|
| <b>FIRST YEAR</b>                        |          |   |          |
| Semester: Fall Total Credit Hours: 16    |          | Semester: Spring Total Credit Hours: 16 |          |
| CHE 1015 Intro to Chemical Engineering   | 2        | CHE 1025 CHE Prof., Ethics, & Skills    | 2        |
| MATH 1910 Calculus I                     | 4        | MATH 1920 Calculus II                   | 4        |
| CHEM 1110 General Chemistry I            | 4        | Social/Behavioral Science Elective      | 3        |
| ENGL 1010 Writing Composition I          | 3        | CHEM 1120 General Chemistry II          | 4        |
| Social/Behavioral Science Elective       | 3        | ENGL 1020 Writing Composition II        | 3        |
| Course                                   | Cr. Hrs. | Course                                  | Cr. Hrs. |
| <b>SOPHOMORE YEAR</b>                    |          |   |          |
| Semester: Fall Total Credit Hours: 14    |          | Semester: Spring Total Credit Hours: 17 |          |
| CHE 2050 Material & Energy Balances      | 4        | FIN 2000 – Personal Finance             | 3        |
| XXX xxxx: CPM Elective <sup>2</sup>      | 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        |
|  |          | COMM 2025 or PC 2500 Communication      | 3        |
|  |          | ENGL 2130, 2235, or 2330 Lit.           | 3        |
| Course                                   | Cr. Hrs. | Course                                  | Cr. Hrs. |
| <b>JUNIOR YEAR<sup>1</sup></b>           |          |   |          |
| Semester: Fall Total Credit Hours: 17    |          | Semester: Spring Total Credit Hours: 15 |          |
| 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        |
|  |          |   |          |
| Course                                   | Cr. Hrs. | Course                                  | Cr. Hrs. |
| <b>SENIOR YEAR</b>                       |          |   |          |
| Semester: Fall Total Credit Hours: 15    |          | Semester: Spring Total Credit Hours: 18 |          |
| CHE 4050 TS3: Diff and Mass Transfer     | 3        | CHE 4255 ChE Capstone Lab               | 3        |
| 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 <sup>2</sup>     | 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. Students must apply to the ChE Fast-Track MS program by the end of their second junior term.
2. 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.