

Chemical Engineering BS + MS Roadmap

| FALL | | | SPRING | | |
|----------------------------------|-------------------------------------|--------|----------------------------|-------------------------------------|---|
| Year 1 | | | | | |
| CHEM 1A (GE Area 5A + 5C) | General Chemistry | 5 | CHEM 1B (GE Area 5A + 5C) | General Chemistry | 5 |
| ENGR 10 | Introduction to Engineering | 3 | ENGL 1B (GE Area 3B) | Argument and Analysis | 3 |
| MATH 30 (GE Area 2) | Calculus I | 3 | MATH 31 (GE Area 2) | Calculus II | 4 |
| GE Area 1A | ENGL 1A | 3 | PHYS 50 (GE Area 5A + 5C) | General Physics I: Mechanics | 4 |
| Year 2 | | | | | |
| CHEM 112A | Organic Chemistry | 3 | CHE 110A | Math Methods in Chem and Mat Eng | 2 |
| GE Area 4 + US 1 or US 2-3 | | 3 | CHE 115 | Industrial Chemical Calculations | 3 |
| GE Area 3A | | 3 | CE 99 | Introductory Statics | 2 |
| MATH 32 (GE Area 2) | Calculus III | 3 | CHEM 112B | Organic Chemistry | 3 |
| PHYS 51 (GE Area 5A + 5C) | Gen Phys II: Electricity & Magnetis | 4 | CHEM 113A | Organic Chemistry Lab | 2 |
| | | | GE Area 4 + US 1 OR US 2-3 | | 3 |
| Year 3 | | | | | |
| CHE 110B | Computational Methods in Chem Eng | 2 | CHE 114 | Data Sci in Chem & Mat Eng | 3 |
| CHE 162 | Engineering Statistics and Analysis | 2 | CHE 151 | Process Engineering Thermodynamics | 4 |
| CHE 190 | Introduction to Transport Phenomena | 3 | CHE 160A | Unit Operations I | 4 |
| ENGR 100W (GE UD Area 2/5 + WID) | Engineering Reports | 3 | GE Area 6 | | 3 |
| MATE 25 | Introduction to Materials | 3 | CHE Technical Elective | | 3 |
| GE Area 1C | COMM 20 | 3 | | | |
| Year 4 | | | | | |
| CHE 158 | Kinetics and Reactor Design | 3 | CHE 163L | Undergrad Chem Eng Lab II | 2 |
| CHE 160B | Unit Operations II | 4 | CHE 165B | Plant Design II | 2 |
| CHE 161L | Undergrad Chem Eng Lab I | 2 | CHE 185 | Process Dynamics and Control | 2 |
| CHE 165A | Plant design I | 2 | CHE 200 | Research Methods | 3 |
| CHEM 130A/135/161A | Biochem/ General Biochem/ Phys Chem | 3 or 4 | Technical Major Elective | | 3 |
| GE UD Area 3 | | | GE Area 4 | | 3 |
| Year 5 | | | | | |
| CHE 219 | Transport Process | 3 | CHE 211 | Adv. Chem. Eng. Thermodynamics | |
| CHE 281 | MS Thesis/Project Prep Seminar | 3 | CHE 218 | Reaction Kinetics | |
| Technical Elective Grad Level | | 3 | CHE 280/280I | Graduate Reasearch | |
| | | | CHE 298/298I/299 | MS Research Project/ Intern/ Thesis | |