

Chemical Engineering, B.S.

Plan Name Chemical Engineering, B.S.
Assigned To Tommy Trojan
USC ID

Sample Program Plan

Freshman Year - Fall Term

- CHEM-105A General Chemistry (4.0 Units)
 - GE-A The Arts (4.0 Units)
 - MATH-125 Calculus I (4.0 Units)
 - WRIT-150 Writing and Critical Reasoning--Thematic Approaches (4.0 Units)
-

Freshman Year - Spring Term

- MATH-126 or MATH-129 - Calculus II (4.0 Units)
- CHE-120 Introduction to Chemical Engineering (4.0 Units)
- CHEM-105B General Chemistry (4.0 Units)
- GESM-120 Seminar in Humanistic Inquiry (4.0 Units)*

**Students may select a GESM course in GE A,B,C, or D*

Sophomore Year - Fall Term

- MATH-226 or MATH-229 - Calculus III (4.0 Units)
 - CHE-305 Numerical and Statistical Analysis for Chemical Engineers (4.0 Units)
 - CHE-330 Chemical Engineering Thermodynamics (4.0 Units)
 - PHYS-151 Fundamentals of Physics I: Mechanics and Thermodynamics (4.0 Units)
-

Sophomore Year - Spring Term

- CHE-443 Chemical Engineering Fluid Mechanics (4.0 Units)
- CHE-444A Chemical Engineering Laboratory (2.0 Units)
- CHEM-322A Organic Chemistry (4.0 Units)
- GE-C Social Analysis (4.0 Units)
- MATH-245 Mathematics of Physics and Engineering I (4.0 Units)

Junior Year - Fall Term

- CHE Upper-Division Elective #1 (Required) (4.0 Units)
- CHE-447 Heat and Mass Transfer in Chemical Engineering Processes (4.0 Units)
- CHE-444B Chemical Engineering Laboratory (2.0 Units)
- CHEM-430 Physical Chemistry: Thermodynamics and Kinetics (4.0 Units)
- WRIT-340 Advanced Writing for Engineers Topic (4.0)

Junior Year - Spring Term

- CHE Upper-Division Elective #2 (Required) (4.0 Units)
- CHE-442 Chemical Reactor Design (4.0 Units)
- CHE-444C Chemical Engineering Laboratory (2.0 Units)
- CHE-448 Separation Processes in Chemical Engineering (4.0 Units)
- GE-C & GE-H Social Analysis and Traditions and Historical Foundations (p) (4.0 Units)

Senior Year - Fall Term

- CHE Upper-Division Elective #3 (Required) (4.0 Units)
- CHE-460 Chemical Process Dynamics and Control (4.0 Units)
- CHE-485 Computer-Aided Chemical Process Design (4.0 Units)
- PHYS-152 Fundamentals of Physics II: Electricity and Magnetism (4.0 Units)

Senior Year - Spring Term

- CHE Upper-Division Elective #4 (Required) (4.0 Units)
- CHE-480 Chemical Process and Plant Design (4.0 Units)
- GE-B & GE-G Humanistic Inquiry and Equity in a Diverse World (w) (4.0 Units)
- GE-D Life Sciences (4.0 Units)

CHE Upper Division Elective Requirements

- 1) **Chemistry Technical Elective** - *Choose one from the following:*
 - a) CHEM-300 Analytical Chemistry (4.0 units)
 - b) CHEM-322B Organic Chemistry B (4.0 units)
 - c) CHEM-431 Physical Chemistry: Quantum Mechanics (4.0 units)
- 2) **CHE Technical Elective** - *Complete one upper-division CHE elective between CHE 300 through CHE 499*
- 3) **ENGR Elective** - *Complete one approved upper-division engineering elective, in consultation with your advisor*
- 4) **STEM Elective** - *Complete one approved upper-division elective in Math, Science, or Engineering, in consultation with your advisor*