Chemical Engineering - Energy & Sustainability, B.S.

Plan Name Chemical Engineering - Energy & Sustainability, B.S.
Assigned To Tommy Trojan
USC ID
Created By Mork Family Department
Primary
Total Units 134.00

Personal Program Plan Terms

Freshman Year - Semester 1

16 Units
- 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 - Semester 2

16 Units
- 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)

Sophomore Year - Semester 1

16 Units
- 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 - Semester 2

18 Units
- CHE-350 Introduction to Separation Processes (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 - Semester 1

18 Units
- CHE 450 Sustainable Energy (CHE Elective #1- Required) (4.0 Units)
- CHE-443 Chemical Engineering Fluid Mechanics (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 Units)

Junior Year - Semester 2

18 Units
- 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-447 Heat and Mass Transfer in Chemical Engineering Processes (4.0 Units)
- GE-C & GE-H Social Analysis and Traditions and Historical Foundations (p) (4.0 Units)

Senior Year - Semester 1

16 Units
- CHE/PTE 463 Transport in Porous Media (CHE 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 - Semester 2

16 Units
- 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)

Energy & Sustainability Emphasis - Upper Division Elective Requirements

Core Requirements - 8 units

CHE 450: Sustainable Energy

CHE 463: Transport in Porous Media

Select two of the following electives - 8 units

CE 363L: Water Chemistry and Analysis

CE 453: Water Quality Science and Engineering

CHE 461: Formation Sensing with Well Logs

CHE 464: Modeling of Subsurface Flow

CHE 465: Drilling Technology

ENE 428: Air Pollution Fundamentals

ENE 429: Air Pollution Control