Chemical Engineering - Materials Engineering, B.S.

Plan Name: Chemical Engineering - Materials Engineering, 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)
Junior Year - Semester 1

18 Units
- MASC 310 Materials Behavior and Processes - CHE Required Elective #1 (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)
- PHYS-152 Fundamentals of Physics II: Electricity and Magnetism (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 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)
- WRIT-340 Advanced Writing (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)
Materials Engineering Emphasis - Upper Division Elective Requirements

Core Requirements - 4 units

MASC 310 Materials Behavior & Processing

Select three of the following electives - 12 units

CHEM 452: Advanced Inorganic Chemistry
CHE 475: Physical Properties of Polymers
MASC 350L: Nanostructured Materials
MASC 483: Machine Learning for Materials
MASC 455: Atomistic Simulations
MASC 334L: Mechanical Behavior of Materials
MASC 471: Applied Quantum Mechanics for Engineers
BME 410L: Biomaterials and Tissue Engineering
PHYS 304: Mechanics
CHEM 455: Chemical Nanotechnology

This is a copy of a plan you created with your advisor. Go to Advise USC to refer to the plan and any related advising notes.