

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)
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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)
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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)
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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

- 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)
 - WRIT-340 Advanced Writing for Engineers Topic (4.0 Units)
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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)
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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)
 - PHYS-152 Fundamentals of Physics II: Electricity and Magnetism (4.0 Units)
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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)
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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.