

Chemical and Biomolecular

Master of Engineering: 30 Credits or 10 Courses

A Master of Engineering degree in Chemical and Biomolecular Engineering requires the completion of four core courses and six technical electives approved by the advisor. All electives must be part of an integrated program of study. There is no research or thesis required for this degree.

Graduate Certificate in Engineering: 12 credits or 4 courses

Students pursuing a Graduate Certificate in Engineering must complete the following courses:

- **ENCH620** Methods of Engineering Analysis
- **ENCH630** Transport Phenomena
- **ENCH610** Chemical Engineering Thermodynamics, *or* ENCH640, Advanced Chemical Reaction Kinetics
- One additional technical elective

Chemical and Biomolecular Core Courses (take four):

ENCH610 Chemical Engineering Thermodynamics

ENCH620 Methods of Engineering Analysis

ENCH630 Transport Phenomena

ENCH640 Advanced Chemical Reaction Kinetic

Chemical and Biomolecular Pre-approved Technical Electives (choose six):

ENCH647N Bionanotechnology: Physical Principles

ENCH648M Special Problems in Chemical Engineering; Metabolic Pathway Engineering

ENCH648Q Mesoscopic and Nanoscale Thermodynamics

ENCH648K Advanced Batteries and Fuel Cells

ENCH648L Photovoltaics: Solar Energy

ENCH648P Special Problems in Chemical Engineering; Molecular Modeling Methods

ENCH648T Tissue Engineering

ENCH648X Special Problems in Chemical Engineering; Multi-scale and Multiphase Flows

ENCH762 Advanced Biochemical Engineering

ENCH781 Polymer Reaction Engineering [*ENCH640*]

ENPM626 Waste to Energy Conversion

ENPM627 Environmental Risk Analysis

ENPM653 Environmental Law for Engineers and Scientists

[Prerequisite Course]

Preliminary 10-Course Plan

Chemical and Biomolecular

Name:			Date:					
UID:								
Fall			Spring			Summer		
Course	Core/ Elective	Credit	Course	Core/ Elective	Credit	Course	Core/ Elective	Credit
Fall			Spring			Summer		
Course	Core/ Elective	Credit	Course	Core/ Elective	Credit	Course	Core/ Elective	Credit
Fall			Spring			Summer		
Course	Core/ Elective	Credit	Course	Core/ Elective	Credit	Course	Core/ Elective	Credit
Fall			Spring			Summer		
Course	Core/ Elective	Credit	Course	Core/ Elective	Credit	Course	Core/ Elective	Credit
Fall			Spring			Summer		
Course	Core/ Elective	Credit	Course	Core/ Elective	Credit	Course	Core/ Elective	Credit