

CHE 4193 Polymer Engineering
Option for Required Elective for ChE program

Catalog Description: Basic principles of science and engineering applied to polymer technology. Topics include polymer synthesis reactor engineering, structure and properties of polymers, rheology and mechanical properties, polymer processing and technology.

Prerequisite: Permission of instructor.

Prerequisites by Topic: Organic chemistry, chemical reactor design (Chem 3013, ChE 4063)

Required Textbook: “The Elements of Polymer Science and Engineering” by Alfred Rudin, Academic Press

Course Objectives: This course is intended to give an understanding of the basic science and engineering of macromolecules, with examples from industrial practice.

Major Topics Covered in the Course:

Basic polymer concepts and definitions, molecular weight of polymers, free radical polymerization, copolymerization, other polymerization mechanisms, polymer reaction engineering

Class/Laboratory Schedule:

Professional Component: Three hours of engineering science and design