

MSE 871 Polymer Engineering

CHs: 3

Pre-requisites: Nil

Course Objectives:

- At the end of the course the student should be able to understand
 - Importance of polymeric materials
 - Polymer developing processes and applications of different types of polymers in different engineering applications

Course Outcomes:

- The student should have knowledge about:
 - Polymer testing including mechanical tests.
 - Characterization techniques for polymeric materials.

Course contents:

- Polymeric Materials Classification, Structure and synthesis, Polymerization,
- Co-polymerization, polymerization conditions and polymers processes,
- Solutions and blends, stabilization of high polymers Mechanical Properties,
- Rheological properties, Structure-property relationship,
- Engineering applications of polymeric materials, Processing and forming of polymers.

Recommended Text / Reference Books:

- Introduction to Polymers (R.J. Young and P.A. Lovell)
- Synthetic Polymers: Technology, Properties, Applications (Feldman and Barbalata)