

PMR (262)381

Polymeric Materials

3(3/3-0/0)

**Prerequisite**

CHEM 321 and CHEM 327 : or consent of the instructor

**Course Description**

Introduction, properties of polymers, polymerization techniques, thermoplastics, thermosetting polymers, additives, mechanical properties of polymers, rubbers, and synthetic fibers.

**Objective**

Students will be able to understand the types, physical and mechanical properties of various polymeric materials.

**Course Content****Lecture Hours**

1. Introduction	1
2. Properties of polymers	8
3. Polymerization techniques	4
4. Thermoplastics	6
5. Thermosetting polymers	4
6. Additives	3
7. Mechanical properties of polymers	11
7.1 Tensile strength, compressive strength, flexural strength	
7.2 Impact strength, creep, stress relaxation, fatigue test	
7.3 Hardness, shear test	
8. Rubbers	5
9. Synthetic fibers	3

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Total	45
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