

## Faculty of Engineering & Technology

### Properties of Materials

#### Information :

**Course Code :** EMP223

**Level :** Undergraduate

**Course Hours :** 2.00- Hours

**Department :** Mechatronics Engineering

#### Instructor Information :

Title	Name	Office hours
Lecturer	SAMAH ELSAYED ELMETWALLY ELKHATIB	2
Assistant Lecturer	Moustafa Raafat Aziz Shousha	

#### Description :

Introduction to materials, Crystal structure of solids, Relationship of crystal structures to properties of metallic materials and their applications, Deformation of crystal structures, Mechanical Properties of materials, Static Failure, Fatigue, Construction and use of phase diagrams in materials systems, Heat treatment of steels, Types of polymers: ceramics, glasses, and semi conducting materials and their applications, load-stress relations, Generalized concepts of stress, strain and material relations, Stress concentrations, Basics of material selection.