ENGINEERING MECHANICS I: STATICS (ME-113)

Pre-requisite: None
Credit Hours: 03
Contact Hours: 48

RECOMMENDED BOOK(S)

Hibbler, R. C "Engineering Mechanics, Statics And Dynamics" Pearson Prentice Hall, 11th Edition,

REFERENCE BOOK(S)

Engineering Mechanics, 6th Edition by Meriam& L. G. Kraige, John Wiley & Sons

COURSE OBJECTIVES

Statics is a fundamental course in Mechanical Engineering. It purely emphasizes on bodies that are in Static Equilibrium (i.e. either they are at rest or moves with uniform velocity). The course of Statics is of particular significance because of the extensive use of its principle/techniques in the other core courses of mechanical engineering.

S. No.	CLO/PLOS MAPPING	DOMAIN	PLO
1	**Describe** concepts of vectors and scalars, conditions of equilibrium for particles and rigid bodies in two and three dimensions.	C2	01
2	**Analyze** structures such as trusses, beams and frames for reaction forces	C4	02
3	**Explain** the concepts of shear and bending moment of beams and the concepts of dry friction.	C2	01

COURSE CONTENTS

General Principles
Force Vectors
Equilibrium of a Particle
Force System Resultants
Equilibrium of a Rigid Body
Structural Analysis
Internal Forces
Friction

Center of Gravity
Moment of inertia