

MACHINE DESIGN AND CAD-II (ME-315)

Pre-requisite: None

Credit Hours: 02

Contact Hours: 32

RECOMMENDED BOOK(S)

Mechanical Engineering Design, *By J.E. Shigley*, McGraw Hill.

REFERENCE BOOK(S)

Machine Design, An Integrated Approach, By R L Norton, McGraw Hill.

Design of Machine Elements, By M.F. Spotts, Prentice Hall

COURSE OBJECTIVES

To design common machine elements and to gain experience in solving design problems. To prepare professional quality solutions and to effectively communicate the results of analysis and design.

S. No.	CLO/PLOS MAPPING	DOMAIN	PLO
1	To know the different criteria of design to solve the problems of machine elements like gears, bearings, shafts, belts and chains	C3	01
2	Analyze the behavior of machine element like gears, bearings, shafts, belts and chains	C4	02
3	Ability to evaluate design problems related to transmission.	C6	04

COURSE CONTENTS

Kinematics, force analysis and design of spur, helical, bevel & worm gears.

Design of rolling contact bearings, hydrodynamic theory of lubrication, journal bearings.

Design of mechanical springs, design of belts, ropes and chains, design of shafts.

Introduction to experimental stress analysis.

Introduction to Finite Element Analysis.