

MANUFACTURING PROCESSES(ME-313)

Pre-requisite: None

Credit Hours: 03

Contact Hours: 48

RECOMMENDED BOOK(S)

Fundamentals of Modern Manufacturing, By M. P. Groover John Wiley & Sons

Manufacturing Engineering and Technology ByKalpakjian Prentice Hall

Process and Materials of manufacture By F.A Lindberg.

Introduction to Manufacturing Process by John Aschey.

REFERENCE BOOK(S)

Materials and Processes in Manufacturing by E. P Degarmo Prentice Hall

Manufacturing Process by B. H Amstead, P. F Ostwald

COURSE OBJECTIVES

State basic properties of materials and apply these properties to manufacturing process and product design. Compare and contrast the design and production advantages of traditional mechanical manufacturing processes (casting, forming, machining, and joining). Evaluate material-process-geometry relationships in manufacturing processes. Differentiate advanced mechanical manufacturing processes e.g. micro-scale and Nano-scale technologies

S. No.	CLO/PLOS MAPPING	DOMAIN	PLO
1	Define and describe the fundamentals and principals of advanced manufacturing processes.	C1, C2	01
2	Explain manufacturing processes via experimental and theoretical analyses	C2	02
3	Differentiate products simply in terms of their basic shape.	C4	04

COURSE CONTENTS

Forming & shaping processes and equipment, material removal, cutting tools, machining processes for producing various shapes, extrusion and drawing, sheet metal forming, forming & shaping plastics & composite materials, joining process & equipment, solid state welding process, metal casting process & equipment: powder metallurgy, surface treatment, non-conventional machining process, jigs & fixtures