

MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY, JAMSHORO
DEPARTMENT OF INDUSTRIAL ENGINEERING AND MANAGEMENT

Title of Subject	:	Manufacturing Processes (INM131)	05 (03+02)
Discipline	:	Industrial Engineering and Management	
Semester	:	(2 nd Semester 1 st Year)	
Effective	:	20-Batch and onwards	
Assessment	:	20% Sessional, 20% Mid Semester, 60% Final Semester Examination.	
Credit Hours	:	Th=02&Pr = 02	
Marks	:	Th: 50&Pr=100	
Minimum Contact Hours	:	Th: 30&Pr: 90	

Course Learning Outcomes:

After completion of this course each student would be able to;

CLO	CLOs	Taxonomy	PLO
1	Understand the theoretical concepts of manufacturing processes	C2	1
2	Understand benefits limitations and appropriate use of different process	C2	1
3	Carry out hands on practices on various machines using different methods and techniques	P3	3

Course Contents:

- **Basic machine tool elements:**
Introduction to machine tools and their operation (Lathe, milling, shaper, and drilling operations, Nature and scope of tool manufacturing engineering, tools used in machining processes, and preventive measures, Introducing to different measuring tools.
- **Molding:**
Introduction to molding, and its types, molding tools, sands their types and properties.
- **Welding Operation**
Introduction to welding, Types of welding used in manufacturing processes, advantages and disadvantages of different types of welding.
- **Jigs and Fixtures:**
Introduction to jigs and fixtures and there uses.
- **CNC Machine Operation:**
Introduction to CNC Machines, design of parts on CNC, advantages and disadvantages of CNC over conventional machines, G-Code, M-Code.
- **Grinders And Grinding Operation:**
Introduction to grinders, composition of grinding wheels, wheel dressing, abrasives and its types, different grinding operations.
- **Plastics and its manufacturing processes:**
Introduction to plastic, its types, application of plastics, merits and Demerits, Injection Molding.
- **Coating and its processes:**
Introduction to Coating operation on metals, types of coatings, galvanizing, anodizing, chrome plating, and electroplating.

Practical: will be based on theory:

Recommended Books:

- Manufacturing Processes by H.S.Shan, Pearson, New Delhi, Latest edition.
- Manufacturing Processes: for Engineering Materials by SeropeKapakjian, Pearson, New Delhi, Latest edition.
- Paul Degamo, "Materials and Processes in Manufacturing", Latest edition.
- Philp F. Oswald, Jairo Munoz, John Wiley and Sons, "Manufacturing Processes and Systems", Latest edition.
- Kalpak Ian , "Manufacturing Engineering and Technology", Addison-Wesley Publishing Company, Latest edition.

Approval:	Board of Studies:	Res. No. 40.02	Dated: 27.08.2019
	Board of Faculty:	Res. No. 38.03	Dated: 08.10.2020
	Academic Council:	Res. No.	Dated: