INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
भारतीय प्रौद्योगिकी संस्थान तिरुपति
Yerpedu-Venkatagiri Road, Yerpedu Post, Tirupati District, Andhra Pradesh - 517 619

1.	Title of the course	Forming and Machining Processes
2.	Course number	ME216L
3.	Structure of credits (L-T-P-C)	3-0-0-3
4.	New course/modification to	Modified with ME301M/MACHINING PROCESSES
5.	To be offered by	Mechanical Engineering
6.	Proposed by	Anup Basak
7.	Prerequisite	None
8.	**Course Objective(s):** To discuss the traditional machining processes, forming techniques and bulk deformation processes used in manufacturing industries. To analyse the principles, mechanics and applications of machining and forming processes to design and produce high-quality components.	
9.	**Course Content:** Principles of machining: orthogonal and oblique cutting; Mechanics of chip formation; Merchant's analysis; Effect of tool geometry on cutting forces and surface finish; Thermal aspects in machining; Cutting tools and fluids; Tool wear and tool life; Machinability; Practical machining processes; Abrasive based machining processes; Principles of metal forming and deformation processes; Analysis of forging processes; Analysis of wire drawing; Tube drawing and extrusion processes; Mechanics of rolling operations; Punching and blanking; Analysis of deep drawing; Die design and considerations bending operations; Defects in various forming processes.	
10.	**Textbook(s):** 1. Lal G K, Introduction to Machining Processes, 3rd Edition, New Age Publisher (2007). 2. Ghosh A and Mallik A K, Manufacturing Science, 2nd Edition, East-West Press (2010).	
11.	**Reference(s):** 1. Kalpakjian S and Schmid S R, Manufacturing Engineering and Technology, 4th Edition, Pearson (2013). 2. Rao P N, Manufacturing Technology Volume – 2: Metal Cutting and Machine Tools, 3rd Edition, Tata McGraw Hill (2009). 3. Lal G K, Reddy N V and Dixit P M, Modelling Techniques for Metal Forming Processes, Alpha Science International (2011).	