

INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE

1.	Title of the Course	Manufacturing Technology
2.	Course Number	ME2204
3.	Status of the Course	Core
4.	Structure of Credits	3-0-2-4
5.	Offered To	UG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Mechanical Engineering
8.	To take effect from	July 2018
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	Course Objective: To develop in-depth understanding on manufacturing processes namely casting, welding, forming and powder metallurgy. Further, various non-destructive examination methods to detect the defects in the manufactured components are introduced.	
12.	Course Content: Methods of manufacturing – metal casting, metal forming, metal joining and powder metallurgy: basic principles, classification, equipment, process variables, defects in manufactured components, and applications; Basic methods of manufacturing of plastics, ceramics, and composite parts; 3D printing; Non-destructive examination of manufactured components. Lab component: Measurement of moulding sand properties, gas tungsten arc welding and gas metal arc welding processes, non-destructive testing evaluation of cast and welded products, metal forming, powder metallurgy, and 3D Printing.	
13.	Text book(s): 1. Groover M P, <i>Fundamentals of Modern Manufacturing</i> , 4th Edition, John Wiley and Sons (2010). 2. Rao P N, <i>Manufacturing Technology</i> , 4th Edition, Tata McGraw Hill (2013).	
14.	Reference(s): 1. Kalpakjian S and Schmid S R, <i>Manufacturing Engineering and Technology</i> , 6th Edition, Pearson Education (2009). 2. O'Brien R L, <i>Welding processes</i> , Volume 2, 8th Edition, American Welding Society (1995). 3. Parmar R S, <i>Welding processes and technology</i> , 3rd Edition, Khanna publications (2003).	