

INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE

1.	Title of the Course	Advanced Manufacturing Processes
2.	Course Number	ME5204
3.	Status of the Course	Core
4.	Structure of Credits	3-0-0-3
5.	Offered To	PG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Mechanical Engineering
8.	To take effect from	January 2019
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	Course Objective: To develop in-depth understanding on the advanced manufacturing theory and practices for processes like advanced machining, metal forming, welding and foundry processes.	
12.	Course Content: Advanced machining theory & practices, Mechanics of grinding, dynamometry; Processing of polymers, ceramics, and composites; Advanced machining processes - Mechanical, Thermo-mechanical, Thermo-electrical, Chemical, Thermo-chemical, and Hybrid processes; Advanced forming processes - electromagnetic forming, explosive forming, electro-hydraulic forming, stretch forming, contour roll forming; Advanced welding processes - EBW, LBW, USW; Advanced foundry processes - metal mould, continuous, squeeze, vacuum mould, evaporative pattern, and ceramic shell casting.	
13.	Text book(s): 1. DeGarmo E. P., Black J.T. and Kohser R. A., <i>Materials and processing in Manufacturing</i> , Prentice Hall of India, (2011). 2. Rao P. N., <i>Manufacturing Technology</i> , Tata McGraw-Hill Education, (2010).	
14.	Reference(s): 1. Serope Kalpajian, Steven R. Schmid, <i>Manufacturing Engineering and Technology</i> , Pearson Education, (2002). 2. Ghosh A., Mallik A. K., <i>Manufacturing Science</i> , East-West Press Pvt. Ltd, (2010).	