

1.	Title of the course	Advanced Manufacturing Processes
2.	Course number	ME509L
3.	Structure of credits	3-0-0-3
4.	Offered to	PG
5.	New course/modification to	Modification To ME5204/6
6.	To be offered by	Department of Mechanical Engineering
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	Course Objective(s): To develop in-depth understanding on the advanced manufacturing theory and practices for processes like advanced machining, metal forming, welding and foundry processes.	
10.	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.	
11.	Textbook(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).	
12.	Reference(s): 1. Serope Kalpajian and Steven R. Schmid, <i>Manufacturing Engineering and Technology</i> , Pearson Education (2002). 2. Ghosh A, and Mallik A K, <i>Manufacturing Science</i> , East-West Press Pvt. Ltd (2010).	