

1.	Title of the course	Theory of Mechanisms and Machines
2.	Course number	ME210L
3.	Structure of credits (L-T-P-C)	2-1-0-3
4.	New course/modification to	Modified with ME205M/KINEMATICS AND DYNAMICS OF MACHINES
5.	To be offered by	Mechanical Engineering
6.	Prerequisite	ES201L/ENGINEERING MECHANICS
7.	Course Objective(s): To analyze the kinematics and rigid-body dynamics of planar linkages. To estimate the motion and forces in machine components using analytical and graphical methods.	
8.	Course Content: Introduction to linkages: kinematics pairs, chains, mobility, kinematic inversion; Analysis of mechanisms: relative velocity method, instantaneous centre, acceleration analysis, force analysis; Gear: gear geometry, law of gearing, kinematics of regular and epicyclic gear trains; Balancing: two-plane balancing, multi-cylinder internal combustion engine balancing; Flywheels: turning moment diagrams, design of flywheel; Gyroscopes: gyroscopic effect and couple; Cam and follower systems: follower motion types, force analysis.	
9.	Textbook(s): 1. Norton R L, Kinematics and Dynamics of Machinery, McGrawHill (2009). 2. Ghosh A and Mallik A K, Theory of Mechanisms and Machines, 3rd Edition, East West Press (2015).	
10.	Reference(s): 1. Uicker J J, Pennock G R and Shigley J E, Theory of Machines and Mechanisms, 4th Edition, McGrawHill (2010).	