MIME 3220	Mechanics of Machines I	3 Credit Hours
Prerequisite	MIME 3101	
Goal	To provide the students with the basic principles of mechanics of machines and the application to machines elements and systems	

Objectives	Outcomes
The course should enable the student to: 1. Grasp the basic theories and technical terms involved in the dynamics of machines. 2. Study, analyze and synthesize a wide range of mechanisms. 3. Understand the basic mechanics of some types of cams, gears and belt drives. 4. Conceive the condition of static and dynamic balancing of machines (rotating and reciprocating types) .	Upon completion, the student should be able to: 1. Apply Newton's laws on common machine components. 2. Deal with plane Kinematics and kinetics of rigid bodies. 3. Synthesize graphically and analytically the type and dimension of mechanisms 4. Practically handle the balancing of rotating masses; static balance and dynamic balance. 5. Be familiar with the balancing of reciprocating masses. 6. Deal with power transmission and movement through cams, simple gear trains, belt drivers. 7. Carry out computer simulations and calculations for some mechanisms and machine elements. 8. Carry out experiments and practical work and measurements on some mechanisms and machine elements.