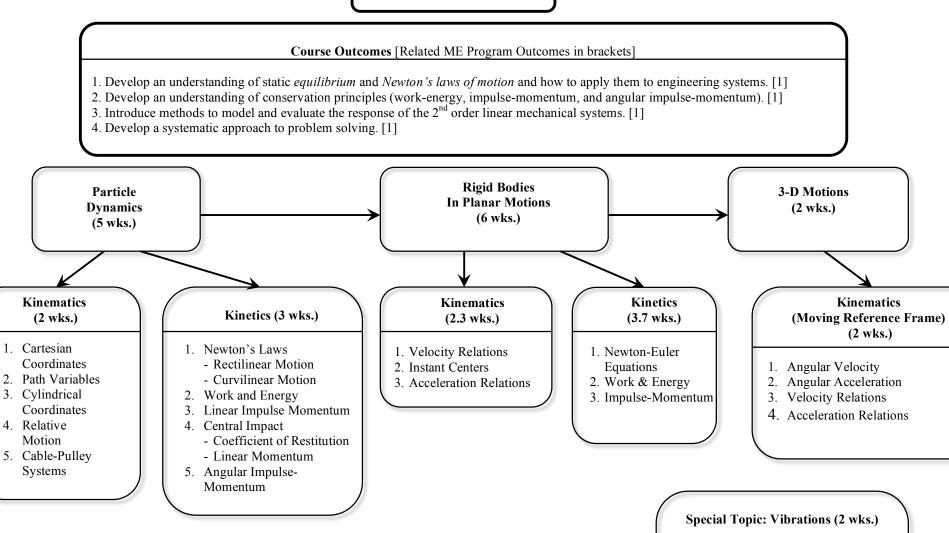
ME 27400 BASIC MECHANICS II



- 1. Drawing Free Body Diagrams
- 2. Deriving Equations of Motions
- 3. Free Response
- 4. Forced Response
 - Homogeneous+particular
 - Harmonic input

COURSE NUMBER: ME 27400	COURSE TITLE: Basic Mechanics II
REQUIRED COURSE OR ELECTIVE COURSE: Required	TERMS OFFERED: Fall, Spring, and Summer
TEXTBOOK/REQUIRED MATERIAL: Dynamics a Lecture Books by C. Krousgrill and J. Rhoads	 PRE-REQUISITIES: ME 27000 – Basic Mechanics I or equivalent and ENGR 13200 – Transform Ideas to Innovation II CONCURRENT PRE-REQUISITIES: MA 26200 – Linear Algebra and Differential Equations or MA 26600 – Ordinary Differential Equations
COORDINATING FACULTY: Adrian Buganza Tepole	
COURSE DESCRIPTION: Review and extension of particle motion to include energy and momentum principles. Planar kinetics of rigid bodies. Kinetics for planar motion of rigid bodies including equations of motion and principles of energy and momentum. Introduction to three-dimensional kinematics of rigid bodies. Introduction to linear vibrations with emphasis on single-degree-of-freedom systems.	 COURSE OUTCOMES [Related ME Program Outcomes in brackets]: 1. Develop an understanding of static <i>equilibrium</i> and <i>Newton's laws of motion</i> and how to apply them to engineering systems. [1] 2. Develop an understanding of conservation principles (work-energy, impulse-momentum, and angular impulse-momentum). [1] 3. Introduce methods to model and evaluate the response of the 2nd order linear mechanical systems. [1] 4. Develop a systematic approach to problem solving. [1]
 ASSESSMENTS TOOLS: 1. Daily homework. 2. Periodic announced or unannounced quizzes during lecture periods. 3. Three, one-hour exams. 4. One comprehensive final exam. 	
 PROFESSIONAL COMPONENT: Engineering Topics: Engineering Science – 3 credits (100%) COMPUTER USAGE: None 	 RELATED ME PROGRAM OUTCOMES: 1. Engineering fundamentals 2. Engineering design 3. Communication skills 4. Ethical/Prof. responsibilities 5. Teamwork skills 6. Experimental skills 7. Knowledge acquisition
COURSE STRUCTURE/SCHEDULE: Lecture - 3 days per week at 50 minutes	
PREPARED BY: Adrian Buganza Tepole (Updated by J.M. Gibert)	REVISION DATE: December 9, 2018