

Course Title: Dynamics
Course Number: ME 231

3 Hours Credit
3 Contact Hours/Week

Course Coordinator: Dr. J. A. M. Boulet

Text: *Dynamics*, 6th Edition, Meriam and Kraige, Wiley, 2007

Course Description: Kinematics of rigid bodies, center of mass, and kinetics of systems of particles. Mass moments of inertia. Kinetics of rigid bodies. Newton's laws, work-energy, and impulse-momentum.

Prerequisites: EF 152, ME 202

Corequisites: None

Required Course in ME Curriculum

Outcomes of Instruction

- The student will be able to analyze motion and loads for systems of particles
- The student will be able to analyze motion and loads for rigid bodies in plane motion.
- The student will be able to apply Newton's laws, work-energy principles and impulse-momentum principles.

Criterion 3 Outcomes

- a) An ability to apply knowledge of mathematics (vector algebra, calculus) and engineering
- e) An ability to identify, formulate and solve engineering problems

Topics Covered

- Kinematics and kinetics of a particle (partly review).
- Kinetics of systems of particles.
- Planar kinematics of rigid bodies.
- Kinetics of rigid bodies in plane motion: Newton's laws, work-energy principles and impulse-momentum principles.