ENGR 212S : 3D DYNAMICS FOR MECHANICAL ENGINEERS

Transcript title
3D Dynamics

Credits
1

Grading mode
Standard letter grades

Total contact hours
10

Lecture hours
10

Prerequisites
ENGR 211; PH 211; and MTH 252Z.

Prerequisites with concurrency
ENGR 212.

Recommended preparation
PH 213.

Course Description
Introduces and applies concepts of kinematics and kinetics of particles and rigid bodies in 3 dimensions, with applications to mechanical systems of current interest to engineers.

Course learning outcomes
1. Perform three-dimensional analysis of particles and bodies in Cartesian, cylindrical, and Spherical Coordinates.

Content outline
1. Three-dimensional kinematic analysis of particles and bodies in Cartesian, cylindrical, and Spherical Coordinates.
2. Three-dimensional kinetic analysis of systems using F=ma and M = Iα.
3. Three-dimensional Work-Energy analyses of systems.
4. Three-dimensional Momentum-Impulse analyses of systems.

Required materials
None.