ENGR2210 - Engineering Mechanics I

Credits:	3 (3/0/0)
Description:	This course provides an introduction to the principles of mechanics, including equilibrium of particles and rigid bodies; distributed forces, centroids and centers of gravity; moments of inertia of areas; analysis of simple structures and machines; and various types of friction.
Prerequisites:	• MATH1134
Corequisites:	
Pre/Corequisites*:	
Competencies:	1. Perform vector analysis (addition, and resolution into components) of forces in 2 and 3 dimensions, and find the resultant of forces acting on a particle. 2. Understand equilibrium of a particle in 2 and 3 dimensions, and be able to solve for unknown forces. 3. Find moments of a force about a point and about a line. 4. Draw free body diagrams of particles and rigid bodies, and solve rigid body problems for equilibrium in 2 and 3 dimensions. 5. Utilize calculus to determine geometric properties such as centers of gravity, centroids, and moments of inertia of areas. 6. Determine reactions and internal forces on members of structures such as trusses, frames or machines. 7. Utilize calculus to determine internal forces and moments in beams. 8. Apply laws of friction to solve problems involving dry friction, such as sliding blocks and wedges.
MnTC goal areas:	None

**Can be taking as a Prerequisite or Corequisite.*