NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE

COURSE SYLLABUS

Course Title: Engineering Dynamics **Course #: EGR 212**

The main objective of this course is to develop in the engineering students the ability to analyze any problem in a simple and logical manner and to apply to its solution a few, well understood, basic principles. This course introduces students to the fundamentals of engineering dynamics, including rectilinear and curvilinear motion, translations, rotation, and plane motion; work, energy, and power; and impulse and momentum. The basic principles of dynamics are applied to engineering problems. Vector methods are covered.

Prerequisite: C or better in EGR 211: Engineering Statics

Outcomes: At the end of this course, a student should be able to:

1. Determine the kinematic relationships between position, velocity, and acceleration for two-dimensional motion of systems of particles and rigid bodies.
2. Apply Newton's equation in two dimensions to calculate the motion due to applied forces or to calculated the forces resulting from a specified motion.
3. Analyze the two dimensional motion of particles and rigid bodies using conservation laws for energy, momentum, and angular momentum.
4. Apply dynamics concepts to the design of simple machines and structures to accomplish a specified task.