

Course Outcomes Guide (COG)

Course Title: EGR 204 Dynamics

Date: 5/3/12

Course Team: Joshua Stover

Expected Learning Outcomes

1. Derive and apply the relationships between position, velocity, and acceleration of a particle in rectilinear and curvilinear motion.
2. Derive and apply relations defining the velocity and acceleration of any particle on a rigid body for translation, rotation and general plane motion.
3. Correctly apply Newton's second law to analyze the motion of a particle in rectilinear or curvilinear translation acted upon by forces, or a rigid body in plane motion acted upon by forces and moments.
4. Apply the method of work and energy to problems involving a single particle, a system of particles, or a rigid body in plane motion.
5. Select the method of analysis that is best suited for the solution of a given problem. (Newton's Law, Work and Energy, Impulse and Momentum, or a combination of these methods.)
6. Describe and analyze the plane motion of a particle relative to a rotating frame.
7. Determine the Coriolis acceleration in plane motion.
8. Apply the principle of impulse and momentum to problems of direct and oblique central impact, as well as eccentric impact.

Assessment

Each outcome will be assessed by homework problems, midterm exams and a final exam. The assessments are attached in the following appendix.

Validation

See above.

Results

Assessments have been developed during the 2011-2012 academic year. The assessment will be in place for the upcoming fall semester and data collection is schedule to begin at that time. Data analysis will be performed following the Fall 2012 semester. Subsequent analysis will be performed every three years.

Follow-up

Results from the assessments will be used to identify areas in which student performance is less than satisfactory and make the necessary adjustments. In addition, each section of the course will be given the same assessments.

Budget Justification

No further resources are needed.