EXPECTED EDUCATIONAL RESULTS
As a result of completing this course, the student will be able to do the following:

1. Apply sound analytical techniques and logical procedures in problem solving;
2. Apply the kinematics of a point in rectilinear motion and motion in two or three dimensions using rectangular Cartesian and cylindrical coordinates and tangential and normal components;
3. Apply the concepts of kinetics of particles and mass centers of bodies;
4. Apply the concepts required for understanding the kinematics of a rigid body in plane motion;
5. Apply at an introductory level the concepts and applications of kinetics of a rigid body in plane motion;
6. Apply work-energy and impulse-momentum methods to the plane motion of rigid bodies.

GENERAL EDUCATION OUTCOMES
I. This course addresses the general education outcome relating to communications as follows

A. Students enhance reading skills by reading topics to develop working knowledge of fundamental principles and laws from the prescribed textbook. They are also assigned other reading material through handouts.

B. Students develop writing skills by finding solutions to realistic examples and problems in a systematic way with careful evaluation of answer(s) for acceptability. They also learn to express in their own words when and why one approach to apply a law or principle would produce reasonable results and the other may not. Many problems require graphing or sketching diagrams as the first step which is a useful skill to not only provoke thinking about possible methods of solution but also an important tool as engineers who often are required to communicate effectively in work environment.

C. Students improve their listening skills by actively participating in class discussion/lecture or demonstration the focus of which is to emphasize the importance of concepts and applications of dynamics in subsequent courses in engineering curricula.

II. This course addresses the general education outcome relating to problem-solving and critical thinking skills as students

A. Learn why, how and when to make assumptions as they develop a strategy to solve problems of various degree of difficulty, which are a major part of their course work.

B. Evaluate, judge and state if the answers are acceptable or not.

III. This course addresses the general education outcome relating to mathematical concepts and scientific inquiry as follows:

A. Use units appropriately (problems use both SI and US customary units) to manipulate equations,

B. Use elementary differential and integral calculus, basic vector algebra to apply laws and principles in the form of equations to arrive at a solution.
ALL SIX EER’S WERE ASSESSED THRU QUESTIONS IN THE FINAL EXAM

Dunwoody campus:

Students scored 70% or higher in 33 questions out of a total of 50 questions ~66%

Comments:

The performance is slightly below the average expected. However, most students understood the basic concepts of Dynamics (questions 1-5), although with this sample size, not much could be inferred from any assessment.

It seems as if problem solving was more the issue related to poor performance. In reviewing the exams, determining what information was given and or useful in solving the problem was usually the reason for poor performance on a problem. Most students were able to articulate the theories needed, but were not able to identify when to use which theory in the process.

Clarkston campus:

Students scored 70% or higher in 39 questions out of a total of 55 questions ~71%

Comments:

The assessment results of 66% and 71% reflect the EEOs were achieved to a satisfactory level.

Students knew about study skills required to do well in this course. They learnt it from taking Statics course which gave them the first taste of “real” engineering course.

Seven were on the way to Tech under RETP. Their performance at Georgia Tech would be a good measure of their preparation at GPC (thru their emails)

Making this course 4 hour to cover 3d kinetics would help students transfer credits in ME at Tech.

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