Georgia Perimeter College
Common Course Outline

**Course Abbreviation & Number:** ENGR 2605

**Course Title:** Statics

**Credit Hours:** 3

**Prerequisites:**
- PHYS 2211 AND PHYS 2211L each with a C or better

**Co-requisites:**
- MATH 2432 with a C or better

**Course Description:**
The principles of statics in two and three dimensions are covered. Other topics are internal forces in trusses, frames, machines, and continuous beams, dry friction, and centroids or centers of mass of curves, areas and volumes.

**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. Correctly apply force, moment, couple, and resultant force or force-and-couple of a system of forces;

3. Apply vector methods to the solution of problems involving bodies in equilibrium;

4. Develop and apply solution techniques for the reactions between the members that make up trusses, frames and machines;

5. Solve introductory problems involving shear and bending-moment in beams;

6. Use the principles and solve problems involving dry friction;

7. Locate centroids and centers of mass of curves, areas and volumes by integration and the method of composite bodies.
### Course Content:

1. Introduction to Engineering Mechanics, basic laws, use of units and dimensions, developing problem-solving skills (20%)
2. Forces, moments, and resultants (20%)
3. Analysis of equilibrium of bodies (20%)
4. Trusses, frames, and machines (15%)
5. Shear and bending Moment (7%)
6. Dry friction (10%)
7. Centroids and centers of mass (8%)

### Assessment of Outcome Objectives

#### Course Grade:

The course grade is to be determined by the individual instructor by a variety of evaluation techniques consistent with the overall college policy including class attendance. The procedure should include:

- at least three in-class assessments (tests or quizzes) - 30%-40%
- class/homework – 30%-40%
- comprehensive final examination - 20% to 30%.

#### Course Assessment:

Assessment of the expected educational results of this course must be conducted every three years. The assessment instrument will be a set of selected questions that cover majority of the topics in the course content section from the final examination.

#### Use of Assessment Findings:

The Engineering committee will evaluate the findings and determine the level of success in expected educational results and consider recommending to the Discipline Academic Group executive committee, any changes in the curriculum after careful review of curricula of transfer institutions.

### Last Revised:

January 2012 Edited February 2014 Reviewed April 2015