COURSE SYLLABUS (2 Page)

Course Number: MEGR 2141
Course Name: Engineering Mechanics I: Statics

Credits and Contact Hours: 3

Instructor: Nicole Braxtan

Textbook: *Title:* Engineering Mechanics – Statics, 8th Edition
Authors: Meriam, Kraige, and Bolton
Year: 2015

Other Supplemental Materials: Handouts

Catalog Description: Introduces the principles of particle and rigid body mechanics with engineering applications; force systems and resultants; the equilibrium of particles and rigid bodies; friction; and properties of areas and volumes.
Most Recently Offered (Day): Spring 2016, Fall 2015, Spring 2015
Most Recently Offered (Evening): Summer 2015, Spring 2012

Pre-Requisites/Co-Requisites: Physics 2101 and Math 1242 with grades of C or above

Course is: Required (R)

Goals: The objective of this course is to provide students with the tools for analyzing systems in static equilibrium. Upon completion of this course, students will be expected to (at a minimum):

1. Represent and calculate force and moment vectors and their resultants.
2. Draw free-body diagrams for static systems.
3. Solve for loads in truss systems using method of joints and method of sections.
4. Solve for loads in frame/machine systems.
5. Draw the shear and moment diagrams of beams with concentrated forces, distributed forces and couples.
6. Analyze loads in static systems involving friction.
7. Calculate the first and second moments of area (centroid and area moment of inertia) by integration or method of composites with utilization of the transfer of axis theorem.

Student Outcomes Addressed:
In this course, students will develop the following Student Outcomes:
A. an ability to apply knowledge of mathematics, science, and engineering
E. an ability to identify, formulate, and solve engineering problems

Course Topics:
Review of basic physics; Force, moment and position vectors; Equivalent force-couple systems; Static equilibrium; Loads in truss systems; Loads in frames/machines; Centroids of areas and distributed forces; Shear and moment diagrams; Friction; Second moments of area (area moments of inertia).