Course Number: MECH 211

Department: MECH (Mechanical Engineering)

Course Title: Statics

Course Designation: required course

Catalog Description: Two and three-dimensional force systems, the concept of equilibrium, analysis of trusses and frames, centroids, bending moment and shear diagrams, friction.

Prerequisites: PHYS 125, MATH 152

Credit Hours: 3 credits, lecture type

Semester/Year: Fall / 2014

Course days, time, duration: MECH 211 Section 2: MWF, 10:20 am -11:10 am, full semester

Class location: 244 McMahon

Instructor name/title: William Carlson, Professor

Office location: 352D McMahon

Office hours: 11:20 am -12:10 pm MWF

E-mail address: carlson@alfred.edu

Website URL: http://mechanics.alfred.edu/ note: class is the official source of information

Course Outcomes: are related to ABET (Accreditation Board for Engineering and Technology) criteria for meeting program outcomes: a, c, e

Outcome a: "an ability to apply knowledge of mathematics, science, and engineering"
Outcome c: "an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability"
Outcome e: "an ability to identify, formulate, and solve engineering problems"
Relationship of course to program outcomes:
a. advances the knowledge of mathematics (calculus, linear algebra),
science (equilibrium physics), and engineering (mechanical systems)
concepts
c. introduces the design of a process (analytical) to meet desired
(mechanical) needs within constraints (boundary)
e. advances efforts to formulate (physical equations) and solve (linear
algebra, calculus, matrix techniques) engineering (statics) problems

Contribution of course to meeting curriculum requirements:
1. contributes to analytic techniques for simple mechanics problems
2. advances the students capability for formulation and design of simple
structures

Required reading:  *Statics and Mechanics of Materials*, Beer, Johnston, DeWolf and Mazurek,

Course Outline:  Chapter 1: Introduction
Chapter 2: Statics of Particles
Chapter 3: Rigid Bodies: Equivalent Systems of Forces
Chapter 4: Equilibrium of Rigid Bodies
Chapter 5: Distributed Forces: Centroids and Centers of Gravity
Chapter 6: Analysis of Structures
Chapter 7: Distributed Forces: Moments of Inertia

Required Materials/Supplies: n/a

Assessment Methods: homework assignments, exams, quizzes, and project

Due dates: will be assigned in class

Grading: assessment weighting: exams 60%, homework 10%, quizzes 20%, project 10%
process: total points in each assessment method is weighted, assessments summed, and the total is used to evaluate the grade.

Attendance Policy: attendance is mandatory, points will be deducted for repeated absences except for excused sports, field trips, and/or illness with excuse. Advanced notification of professor is required for an excused activity.

Laboratory safety: n/a
Make-up policy: per discretion of professor for excused sports, field trip, and illness with excuse.

Late work policy: all work is to be completed as scheduled. Late work will be penalized.

Extra credit policy: n/a

Laboratory hours: n/a

Academic misconduct policy: refer to AU Policy 700 on Academic Dishonesty: http://my.alfred.edu/index.cfm/fuseaction/academic_policies.academic_regulation_ug.cfm