REGULAR COURSE SYLLABUS

College of: Professional Studies
Department: Engineering and Engineering Technology
Prefix & Course Number: SSE 2150
Crosslisted With*: ___
Course Title: Mechanics of Static Systems
Transcript Course Title (30 characters): Mechanics of Static Systems
Check All That Apply: Required for Major: X Required for Minor: ___ Specified Elective: ___
Required for Concentration: ___ Elective: ___ Service Course: ___

To receive Title IV financial aid funds, all institutions of higher education must comply with the federal definition of a credit hour. The Higher Learning Commission requires institutions to maintain policies and procedures for verifying compliance with this definition.

Federal Credit Hour Definition: A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than:
(1) one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or (2) at least an equivalent amount of work as required in paragraph (1) of this definition for other activities as established by an institution, including laboratory work, internships, practica, studio work, and other academic work leading toward the award of credit hours. 34CFR 600.2 (11/1/2010)

Credit Hours: 3 (3+0) Schedule Type: L Grade Mode: L
Face-to-Face or Equivalent Hours per course:
Lecture 45 Lab ___ Internship ___ Practicum ___ Other (please specify type and hours): ___
Additional Student Work Hours per course: 90

Variable topics umbrella course: No X Yes ___ If yes, number of credits/repeats allowed ___

APPROVED:

Department Chair OR Program Director
Dean OR Associate Dean

Associate VP, Academic and Student Affairs

*If crosslisted, attach completed Course Crosslisting Agreement Form
Prefix and Course Number: SSE 2150

Specified repeatable course: No X Yes _____ If yes, number of credits/repeats allowed _____

Prerequisite(s): PHY 2311 and MTH 2410 with “C” or better or permission of instructor

Corequisite(s): ______

Prerequisite(s) or Corequisite(s):

Banner Enforced Coding:

Prerequisite(s): PHY 2311 with “C” or better
Corequisite(s): ______
Prerequisite(s) or Corequisite(s):

Registration restrictions: Level _____ Class _____ Program/Major _____ Student attribute _____

Catalog Course Description:
In this course students study the principles of mechanics of static systems in two- and three-dimensions: static equilibrium of particles and rigid bodies; section properties; internal forces in statically determinate trusses and beams; friction; and virtual work.

Specific Variable Topics Course Description (if applicable, umbrella course description included above):

Required Reading and Other Materials will be equivalent to:

Specific, Measurable Student Behavioral Learning Objectives:
Upon completion of this course the student should be able to:

1. Describe static force and moment systems.
2. Analyze statically determinate trusses, beams, frames, machines, and systems with friction.
3. Determine section properties.
4. Practice finite element software on statically determinate trusses, beams, and frames.
5. Apply principle of virtual work to the equilibrium of a system of connected rigid bodies.

Detailed Outline of Course Content:

I. Fundamental Concepts
II. Force Systems
   A. Vector operations
   B. Force Vectors
   C. Moment Vectors
   D. Distributed Loading

III. Equilibrium of Rigid Bodies
   A. Free Body Diagrams
   B. Equilibrium conditions
   C. Statical Determinacy

IV. Structural Analysis (Statically Determinate)
   A. Trusses
   B. Frames
   C. Machines
   D. Beams

V. Section Properties
Prefix and Course Number: SSE 2150
   A. Center of Gravity
   B. Moments of Inertia

VI. Friction

VII. Virtual Work
   A. Principle of Virtual Work
   B. Conservative Forces
   C. Potential Energy
   D. Stability

Evaluation of Student Performance:
   1. Examinations
   2. Assignments
   3. Presentation