Syllabus

MET 216 Statics and Strength of Materials

General Information

Date
January 11th, 2019

Author
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Department
Science and Technology

Course Prefix
MET

Course Number
216

Course Title
Statics and Strength of Materials

Course Information

Credit Hours
3

Lecture Contact Hours
2

Lab Contact Hours
3

Other Contact Hours
0

Catalog Description
Study of force systems, equilibrium; two and three force members, vectors, analytical methods of solution, friction, moments of inertia of areas. Study of strength of materials concepts: stress, strain, torsional stress and strain, shear and moment in beams, load, shear, and moment diagrams.

Key Assessment
This course does not contain a Key Assessment for any programs

Prerequisites
None

Co-requisites
None

Grading Scheme
Letter

First Year Experience/Capstone Designation

This course DOES NOT satisfy the outcomes applicable for status as a FYE or Capstone.

SUNY General Education

This course is designated as satisfying a requirement in the following SUNY Gen Ed category
None

FLCC Values

Institutional Learning Outcomes Addressed by the Course

Inquiry   Perseverance   Interconnectedness

Course Learning Outcomes

Course Learning Outcomes

1. Demonstrate the process of solving for the resultant force/couple

2. Demonstrate the process of solving for equilibrium

3. Calculate and plot shear and moment diagram based on applied loads and determine stress and strain in the member

4. Determine center of gravity and moment of inertia for cross sections

Program Affiliation

This course is required as a core program course in the following program
AAS Architectural Technology and Building Sciences
AAS Mechanical Technology

Outline of Topics Covered

a. Review of Math Concepts

b. Concurrent Force Resultants

c. Concurrent Force Equilibrium

d. Nonconcurrent Force Equilibrium

e. Rigid Body Equilibrium

f. Force Analysis of Structures and Machines

g. Friction

h. Center of Gravity, Centroids, and Moments of Inertia of Areas

i. Internal Reactions: Axial Stress

j. Strain

k. Shear Forces and Bending Moments in Beams