



Syllabus

MET 217 Dynamics and Strength of Materials

General Information

Date

January 11th, 2019

Author

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Department

Science and Technology

Course Prefix

MET

Course Number

217

Course Title

Dynamics and Strength of Materials

Course Information

Credit Hours

3

Lecture Contact Hours

2

Lab Contact Hours

3

Other Contact Hours

0

Catalog Description

Continuation of Strength of Materials topics. Deflection of beams (statically determinate and indeterminate), combined load, welded, bolted and riveted connections, and columns. Dynamics topics include kinematics of rigid bodies, work, energy and power, impulse and momentum.

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. Analyze structures for axial, transverse and torsional loading and determine appropriate materials and cross sectional properties to ensure integrity
2. Analyze dynamic conditions to calculate velocity, acceleration, kinetic and potential energy

Program Affiliation

This course is required as a core program course in the following program

AAS Mechanical Technology

Outline of Topics Covered

- a. Shear Stress and Strains: Torsion
- b. Shear Forces and Bending Moments in Beams
- c. Bending and Shearing Stresses in Beams
- d. Deflection of Beams Due to Bending
- e. Combined Stresses and Mohr's Circle
- f. Columns
- g. Bolted, Riveted and Welded Structural Connections
- h. Kinematics of Particles
- i. Uniformly Accelerated Motion
- j. Kinematics of Rigid Bodies
- k. Kinetics: Laws of Force & Motion