ME 200 Statics
Fall 2014 TTh 2:00-3:15 pm Room AL-105 3 units

Prerequisites: Physics 195 and credit or concurrent registration in Mathematics 151.

Textbook: Statics, 13th edition by R.C. Hibbeler, 2012 (Required)
MasteringEngineering Account Access (Recommended)

Instructor: Dr. Ilenia Battiato, Professor of Mechanical Engineering,

Office: E323H

Office Hours: TTh 3:30 pm – 5 pm

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Teaching Assistant: Manali Kunte, graduate student; email available through Blackboard

Course Description

Force systems, equilibrium, structures, distributed forces, friction, virtual work, moments of inertia, vector algebra.

Student Learning Outcomes

SLO#1: Represent of physical quantities using vector notation, compute magnitude and direction of a vector, add vector quantities and resolve vectors into components.
SLO#2: Compute moments caused by planar and 3-D forces acting on rigid bodies
SLO#3: Compute equivalent forces and couples that can replace given system of loading
SLO#4: Draw a correct and complete free body diagram (FBD) of forces and moments acting on a structure.
SLO#5: Compute support reactions of planar and 3D structures under static loading
SLO#6: Analyze truss structures using method of joints and the method of sections.
SLO#7: Calculate the internal forces in frame structures, and mechanisms.
SLO#8: Compute and sketch shear and bending moment distribution diagrams for beams.
SLO#9: Calculate static equilibrium conditions for rigid bodies with friction forces included.
SLO#10: Calculate the centroid and the moment of inertia of lines, areas, and 3D objects using integrations (for continuum shapes) and summation methods (composite shapes)

ABET Program Outcomes

PO# 1: An understanding of physics, chemistry and mathematics and how to apply this knowledge in the solution of engineering problems.
PO# 5: An ability to identify, formulate, and solve engineering problems.
PO# 6: An understanding of professional and ethical responsibility.
PO# 7: Good oral, written and graphical communication skills.

Evaluation Policy

Exams (20% each, no make-ups)
- Tuesday, Sep. 16
- Thursday, October 16
- Thursday, November 6
- Tuesday, December 9

Homework-Based Blackboard Quizzes - best 8 out of 10 (25 pts each)

Grades will be assigned on a standard scale: 90% A- or above; 80% B- or above; 70% C- or above; <70% D or below.