SAN DIEGO STATE UNIVERSITY
ME 200 – Statics (3 units)     COLLEGE OF ENGINEERING
Fall Semester of 2015
Course Requirements, Syllabus, and Grading Scheme

Time: 12:30pm to 1:45pm   (T, TH)                                                Class Room: SSE 1401

Instructor: Morteza. Mohssenzadeh - Professor of Engineering,   Email: mmohssenzadeh@mail.sdsu.edu

TEXTBOOK: ENGE MECHANICS: STATICS W/MAST ENGE HIBBELER /13th edition (Required)
Mastering Engineering Account Access code (Recommended)
Course ID: MEMOHSSENZADEH10657

PREREQUISITES: Physics 195, with a grade of “C” or better, or equivalent.

COREQUISITE: Completion or concurrent enrollment in Math 151 with a grade of at least a C.

CATALOG COURSE DESCRIPTION:
This course is a study of applications of the principles of mechanics to rigid bodies in equilibrium. The course content emphasizes on the areas of principle of Moments, force systems, equilibrium of particles, distributed forces, virtual work, and vector algebra. Determine the forces in truss members, the internal shear and bending moment in simply supported beams, friction, centroids, center of gravity, and analysis of structures, and moments of inertia.

COURSE OBJECTIVES:
This course seeks to develop a basic understanding of the application of vector mathematics to the solution of static problems confronted by engineers in an industrial environment. It applies vector concepts to situations of static equilibrium, develops the ideas of center of gravity and moment of inertia as background to dynamics.

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)

PREREQUISITES BY TOPIC:
1. Basic physical laws of mechanics
2. Differential and integral calculus
3. Basic vector algebra
4. Matrices to solve systems of equations, Dot product, and cross product.
9. Center of Gravity and Centroid, 10. Moments of Inertia

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.

GRADING POLICY AND FINAL COURSE COMPOSITION:

\[
\begin{array}{ccc}
90 – 100 &=& A \\
80 – 89 &=& B \\
70 – 79 &=& C \\
60 – 69 &=& D \\
0 – 59 &=& F \\
\end{array}
\]

\[4 \text{ Exams} \quad 55\%  \\
\text{Online Homework} \quad 20\%  \\
\text{Final} \quad 25\%  \\
\]

Total = 100%

CLASS POLICIES:

- You must bring your Text-Book in each class meeting.
- You are expected to attend each class, arriving on time and remain for the entire class.
- You are responsible for getting class notes from other classmates and getting any schedule changes or other class announcements from classmates or the instructor on days missed from the class.
- You are expected to be courteous to each other and to the instructor. You will be asked to leave the class for display of behavior the instructor deems as disruptive to the class environment.
- No Make-up exam will be given under any circumstances.
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<td>Dec 15</td>
<td>FINAL EXAM (1030-1230)</td>
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**Lectures: Will highlight important portions of each chapter**