## University of Utah - Department of Mechanical Engineering

## COURSE OUTLINE

## ME 1300 Statics and Strength of Materials Spring 2010

Texts: (1) Engineering Mechanics *Statics*, Hibbeler (12th), Pearson/PrenticeHall (2004) ISBN: 0-13-141167-5 (Two Required):(2) Mechanics of Materials, Hibbeler (7th), Pearson/PrenticeHall (2008) ISBN: 0-13-220991-8

Prerequisites: Math 1210; Co-requisite: Math 1220 and Physics 2210

Class Time: MTWHF 7:30 AM - 8:20 AM, WEB 105

Instructor:Gerald E. Wheeler, PhD, P.E.gwheeler@mech.utah.eduIf an emergency arises, call Dr.Office:2151b MEB, Telephone581-5131DeVries phone no. (581-7101)Office Hours:T, Th8:30 - 11:30 AM or by appointment.and leave a message.TA:Raghu Ravuri, Office: MEB 2151b, Office Hours: M,W,F9:30 - 11:00 AM, raghu.ravuri@utah.edu

Grading will be based on:	Homework	100 points
	Computer Problems	100 points
	3 Midterms	300 points
	Final	200 points

- Homework: (A) There is only one way to learn Mechanics, i.e. by doing it. Accordingly, extensive homework is assigned and **must** be worked to pass the course. You are encouraged to work "synergistically" with others on the homework. However, copying will not be tolerated.
  - (B) Assigned homework will be turned in on the indicated due date. For homework turned in after the due date, 50% of the possible points will automatically be deducted, until the solution sets are posted. After the solution sets are posted, no points will be given for homework turned in.
  - (C) To pass the course, at least 75% of homework must be worked. (21 of the 28 homework sets)
  - (D) <u>Homework must be neat and legible on the front side of engineers' quadrille paper, stapled (no</u> <u>"dog ears"), your name at the top left, the class number in the middle, and HW# marked at the</u> <u>top right. Linear thinking must be evident. Answers must be circled or boxed.</u>
  - (E) NOTE: Total Homework is equal to one exam grade.
  - (F) **NOTE:** Computer Problems will be handed out during class and are equal to **one exam grade.** Computer problems turned in after the due date will **NOT** be scored.
- Exams: (A) One half of one side of an 8<sup>1</sup>/<sub>2</sub>" x 11" page will be allowed as a "formula sheet" for each exam. The second exam will add one half sheet to the first exam sheet. And so on.
  - (B) Makeup exams are **NOT** allowed unless arrangements are made **PRIOR** to the exam.
- Website: Homework, computer problems, and exam solutions will be posted at the class website. Students can gain access from the internet at http://www.mech.utah.edu/~me1300/

## The Course.

- Scope: This freshman level engineering course covers the subjects of **STATICS** and an introduction to the study of the behavior of engineering materials under loads, commonly called Strength of Materials or Mechanics of Materials (referred to as **STRENGTHS** by students). Statics is the study of forces and moments on bodies that don't move. Strengths is the study of the deformation of materials (bending, twisting, stretching, buckling, etc.) when forces or moments are applied to them.
- Purpose: This course is a foundation course for all of mechanical, civil, material science, mining, industrial and other engineering branches. It is the start of the study of mechanics, which is the science that describes and predicts the conditions of rest and motion of bodies under the action of forces. Mechanics is divided into three parts: mechanics of rigid bodies (statics and dynamics), mechanics of deformable bodies (strengths, elasticity) and mechanics of fluids. Mechanics is an applied science; its purpose is to explain and predict physical phenomena and, thus, lay the foundations for engineering applications.

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the instructor and to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD) to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification.