Applied Engineering Statics Syllabus

ETec 224 Applied Engineering Statics

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Text:
Mott, Robert L., *Applied Strength of Materials 4 th Ed.*, Prentice Hall, 2002

Course Objectives: Statics is the study of forces on bodies at rest. At the end of this class, students will be able to draw free body diagrams and apply vectors to analyze the equilibrium of rigid body systems and subsystems, including but not limited to trusses, frames, and machine parts. Students will also reinforce creative problem solving, communication, and teamwork skills as part of this course.

Course Grading:

Homework:	15%
Warm-ups:	5%
Midterm Quizzes (3):	20% ea.
Design Project:	20%
Final Exam:	Special (see description)

Course Outline:

Week 1: W: Introduction
F: Vectors

Week 2: M: Free Body Diagrams
W: Free Body Diagrams
F: Equilibrium

Week 3: M: *MLK Day – No Class*
W: Equilibrium
F: Solution Methods

Week 4: M: Solution Methods

W: **Midterm Quiz 1 1/26/05**
F: Equivalence

Week 5: M: Equivalence
W: Equivalence
F: Equilibrium

Week 6: M: Equilibrium
W: Separation of Bodies
F: Separation of Bodies

Week 7: M: Separation of Bodies
W: **Midterm Quiz 2 2/16/05**
F: Equilibrium

Week 8: M: *Presidents' Day – No Class*
W: Distributed Loads
F: Equilibrium

Week 9: M: Friction
W: **Midterm Quiz 3 3/2/05**
F: Equilibrium

Week 10: M: Equilibrium
W: **Project Presentations**
F: Review & **Project Presentations,Final Project Due 3/11/05**

Homework: Homework assignments are due **at the beginning of class**. There will be a homework assignment due every Friday starting the second week of class (except for the last day of class). Late homework will be accepted, however, late assignments will lose credit on the following schedule:

Friday at end of or after class: -10%

Monday: -25%

Wednesday: -50%

Friday (1 week late): -75%

No credit as of the following week

Homework assignments will be posted one week before they are due. Homework solutions will be posted at the end of the day on Mondays.

Warm-ups: Warm-up questions will be posted on Fridays. Warm-up questions must be completed and submitted by 1:00 p.m. on the Monday after they are posted, unless that Monday is a holiday (1/17 and 2/21), in which case the warm-up question is due on Tuesday by 1:00 p.m.. Students who fully answer a warm-up question will receive full credit for that question independent of whether the answer is correct or not. Incomplete answers will not receive credit, and *no late answers will be accepted* for any reasons under any circumstances.

Design Project: The design project will be a team project that involves the design and analysis of a structural body. There will be some intermediate due dates, but the final project report is due on the last day of class, 3/11/05, and team project presentations will be given on the last two days of class, 3/9&11/05 .

Midterm Quizzes: Midterm quizzes will be given in class on Wednesdays January 26, February 16, and March 2. Students will have the entire class period for the exam. Students who must miss the exam and want a make-up exam must have a valid excuse and make arrangements beforehand. Make-up tests will not be given if no prior arrangements are made, except in the most dire of circumstances, and the make-up exam may be an oral exam.

Final Exam: The final exam is scheduled for Wednesday, March 16 at 3:30 p.m.. The final exam is required for all students, and will result in one of three outcomes: If a student's final exam score is higher than his or her combined test and homework average, the final exam will replace the test and homework grades (the design project grade will remain the same). If a student's final exam score is below his or her test average, but is passing (>60%), the final exam will not figure into the final grade. If a student's final exam grade is below passing (<60%), he or she will lose 10 points (i.e. one letter grade) from the class grade.