Written Homework Rules

The entire point of having written assignments is to help you improve your professionalism. Therefore, unlike the CAPA portion of each weekly assignment, your grade will be based on factors other than whether you get the right answer.

1) Use exactly 8½ × 11 inch paper. I will measure it with a ruler. Do not use spiral ring paper.
2) Use only one side of each sheet
3) Put your name on the top of every sheet. Put the assignment number on the top of the first page (e.g., "Applied, Assignment #3).
4) **Staple** all your sheets together. Paper-clips and torn corners are not permitted.
5) Clearly and systematically indicate what is given, and what is sought.
6) Work must progress linearly down the page. If your solution initially meanders around the page, I expect you to **recopy your solutions**.
7) Use a pencil. Erase errors instead of blotching them out.
8) Draw and use Free Body diagrams as appropriate for all problems. Define and use coordinate systems. Specify your choice of "free body". Label your forces.
9) **Define your symbols**, and **use subscripts**. Not all forces can be called "*F*", not all tensions can be called "*T*", and not all normal forces can be "*N*". Every symbol must be unique and clearly defined. Make a list or table of relevant symbols and their values when this will help me to understand your solution.
10) Do not even bother to submit nonsensical results (e.g., a negative tension in a chain or rope).
11) **Use words** and/or pictures to clarify your method of solution and your symbol definitions.
12) Solutions should be symbolic. Include the initial fundamental formulas, but don't show every step of intermediate algebra. If, for some reason, your solution uses numeric values, show no more than 4 significant figures, and include units.
13) Box your answers.
14) Plots should be professional and no smaller than 3 × 5 inches. Do not use default font sizes, default trendline formatting (where every variable is apparently an *x* or a *y*), default line widths, etc.

Working together is strongly discouraged. Obviously, this rule is unenforceable. But over the years, I have observed an *extremely* strong correlation between working together and getting bad exam grades. You must arrive at your own answers for each problem. Copying any portion of another student's work (as from a blackboard) will be considered cheating. When you discuss problems with each other, you should not discuss the details of any solution. If you are stuck, talk to me instead.

SUNY-Geneseo
Department of Physics and Astronomy
Class: MWF 10:30pm, Bailey 010C
Web: http://www.geneseo.edu/~pogo/

Dr. Pogo
Office: Bailey 118
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Applied Mechanics

(Phys 313)

Spring 2009

What am I doing here? The main objective of this course is to help you gain the ability to analyze structural engineering problems in a simple and logical manner. The first part of the course focuses on the analysis of "rigid bodies" in equilibrium. Problems will emphasize structures, including beams, cables, and trusses. The second part of the course focuses on structures made of "real" materials having elasticity and finite strength. You will use the concepts of stress and strain in structural members experiencing tension, compression, shear, bending, and twisting to evaluate the possibility of their failure. Finally, you will use Mohr's circle and the Von Mises stress to ensure that your analysis is performed from the appropriate perspective.

There are two textbooks for this class: *Vector Mechanics for Engineers – Statics*, by Beer, Johnston & Eisenberg (8th edition, McGraw Hill), and *Mechanics of Materials*, by Beer, Johnston, & DeWolf (4th edition, McGraw Hill). These books will be used in the first and second parts of the course, respectively. You may also use earlier editions.

Hey! Why are there *two* books? This material is typically presented in two different courses at engineering schools, and these are texts for those courses. We will cover chapters 1 through 7 of *Statics*, and 1 through 8 of *Materials*. Both books have great example problems and illuminating text. If you are planning on a career in mechanical, civil, or environmental engineering, I strongly recommend that you purchase and keep both books, even after the semester ends.

How will I be graded? Your grade will be determined by:

Assignments:	30%
Bridge Competition:	10%
Exams (4 exams):	60%
	100%

Each of the four exams (including the "final") will cover the specific material from the weeks preceding it. However, all of the exams are effectively cumulative for the course, since you cannot master the material for the second exam unless you understand the material from the first (and so on). Really.

The bridge competition will be held in Bailey 135 beginning at 3:45pm on Thursday, April 30, 2009.

Can I do written homework on Post-it notes? Are you kidding? In the real world, neatness counts, and it counts in this class, too. More information concerning written homework can be found on the reverse side of this syllabus.

When are the tests? Here is a **tentative** schedule of exams. Exams #1 through #3 are currently scheduled as "in class" exams. If the entire class (including Dr. Pogo) agrees, any exam time, date, or length can be changed (to a two hour evening exam, for example). Such changes will not affect the exam questions itself. In any case, the time limit for exams #1 through #3 will not exceed two hours.

Exam #1: Friday, February 13, 2009 (chapters 1 through 4 of *Statics*)
Exam #2: Wednesday, March 11, 2009 (chapters 5 through 7 of *Statics*)
Exam #3: Monday, April 13, 2009 (chapters 1 through 3 of *Materials*)
Exam #4: Tuesday, May 12, 2009, 8:00am - 11:00am (chapters 4 through 8 of *Materials*)