**Teaching - Topic Presentations**

**If you do not want to do this alone, you may make two presentations with a partner. These usually will be sections from the book which you will need to cover, coming up with examples, demonstrations if possible, and whiteboard problems for the class to try out. This is what I expect from you and your grade will reflect how well you live up to these expectations:**

**Organization:** - **The student follows a clearly organized and well thought out lesson plan.**

Your lesson should follow a clearly organized plan. You must make lesson plans. (usually 2-4 pages of your notes) I will collect these when you have finished your lesson. I put examples, formulas, example problems, whiteboard problems, and stories in my notes. I break the subject down into small logical pieces and explain each with examples or demos. If you have the book open in front of you, with few exceptions, I will know you have no lesson plans.

**Examples:** - **The student is able to think up and explain examples for each new concept or phenomenon in their lesson.**

Think up examples of how your new concepts apply to the class. Tell a story that relates to the subject. Demonstrate the phenomenon, or if that's not possible, do a mock demo. (i.e. mousetraps and ping pong balls instead of Nuclear Fission)

**Example Problems:** - **The student has a set of well thought out and challenging whiteboard problems.**

Come up with one or two problems that you will work for the class. If there is a formula to apply, or new application of an old formula, then write whiteboard problems for the class to try. Double check your answers - I will help if you want. Write your whiteboard problems on lined notebook paper in pencil with the letters twice as high as you normally would - use two lines per line of text. If you get the problems to me more than a day in advance, I can have a transparency made for you. (Use the copier that has overhead transparencies in one of the trays, if you used pencil, test the copy on paper first - you might need to darken the copy) Make your first problem pretty easy, but don't be afraid to challenge the class later. Do 6 if they're pretty straight forward, do 3 if they're pretty involved - Like complex conservation of energy problems.

**A typical lesson looks like:**

1. Explain what your agenda is (what you will be teaching them) - brief

2. Explain how it fits with what we already know. - brief

3. Explain the key concepts and give examples. Do demonstrations.

4. Show us any relevant formulas using the symbols from the Higher Level data packet as well as the symbols from the book. Label the symbols in the formula and give the units.

5. Do an example using each formula.

6. Ask for questions and answer them.

7. Go to whiteboards.

- you don't have to be typical, just effective and timely.