PHYS 111

NOTES FOR THE FIRST HOUR EXAM

The first hour exam will be held in the usual classroom on Thursday 6 October. The exam will run for 60 minutes. I will pass out exams at 4:00 and students will have the full 60 minutes after every-one has their copy of the exam and we have gone over the test. We will not have a formal discussion section that night, but I will hang around to answer questions or go over the test for anyone who is interested.

As noted in the syllabus, all electronic devices, including, but not limited to, calculators and cell phones must be stored out of sight. Any electronic devices that are out during the exam will cause the student to receive a zero on the exam. I will remind the class of this prior to the exam.

I will provide a list of equations and other useful information. You will not need to memorize any equations. However, you will need to know the meaning of each symbol in the equation and under what conditions the equations apply. If you think this sheet is missing any equations you want, please ask me during the exam and I will provide that information (as long as you are not asking for the answers to a question).

The exam will cover all material done in class and assigned for reading from the beginning of the semester. All questions must include complete and clear work showing the logic of your reasoning and your solutions. Responses which consist only of an answer without justification will receive little to no credit, even if the answer is correct.

The exam may include a variety of types of questions including:
• Drawing and interpreting graphs
• Deriving equations
• Conceptual questions as found in the end of chapter questons
• Using dimensional analysis to verify the units of an equation, or to find the values of exponents in an equation
• Using equations to solve problems as you have done on homework assignments

As noted above, calculators will not be allowed. If I include any questions that require a numerical solution, either a) the numbers to be used will be simple integers so that no calculator will be needed, or b) I will ask you to set up the equations which when solved will yield the answer. For instance, if I asked a question where you need to use a quadratic equation to find the time of flight, you would use the proper set of equations to derive an expression for y (t). You would then write out the appropriate quadratic equation :

$$4.9\,t^2 - 19.3\,t - 100 = 0$$

and your final step would be :

$$t = \frac{19.3\,(\text{m}/\text{s}) \pm \sqrt{(19.3\,\text{m}/\text{s})^2 - 4\left(4.9\,\text{ms}^{-2}\right)(-100\,\text{m})}}{2 \cdot 4.9\left(\text{m}/\text{s}^2\right)}$$

This would be the final step in the solution; there will be no need to try to compute a numerical result.

As you study, make use of all the sources of information available to you. Don't focus only on solving problems to the exclusion of all others; don't just review the posted hour exam assuming that is all you need to do. Review homework solutions, do other problems in the book (the odd problems have answers in the back), derive as many equations as you can. The combination of this effort should prepare you well for the exam.