SYLLABUS

PHYSICS 221-Section 004 Elements of Physics (Recitation/Lab)

SEMESTER: Spring 2006

Instructor: Madhusudan Ojha.

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Office Hours: Tuesday, 1:15 pm – 2:25 pm in Tutorial Center or by an appointment

Class Hours:  Wednesday, 1:25 pm – 2:15 pm, Physics 608, Recitation
             2:30 pm – 4:25 pm, Physics 508, Lab

The Lab schedule can be found at: http://www.phys.utk.edu/labs/ph221syl.pdf

Grading Policy: The grade for the course will be determined by the following:

Quizzes – 20%, Lab Participation – 10% and Lab Report - 70 %
There will be in class quiz in every week.

Attendance: Attendance is mandatory for both recitation and lab. If you can’t avoid missing a lab, you must make an arrangement beforehand for a makeup; failure to do so may result in a lower grade.

Lab Manual: The lab manual for this course is “SelectedIntroductory Physics Experiments” and it is available at the university book store.
Everyone is expected to have a copy of the lab manual and must bring it to every lab.
You are also expected to read the week’s lab before coming to the lab.

Format for lab report (As taken from the Physics Department’s Lab Manual):

The lab report should include the following:

1. Title Page:
A title page should include the following:
i) The name of the experiment  
ii) Experimenter’s Name  
iii) Your partner’s name  
iv) Course name and number  
v) The name of the lab instructor  
vi) The date on which the experiment is performed  
vii) The date on which the report is submitted  

2. **Purpose and methods:**  
This should be short: a paragraph or two describing what measurements were made and for what purpose. Here you are trying to show that you understand the relationship between the experimental procedure and the theory.  

3. **Data Tables:**  
The original or photocopies of the original data sheets, collected in class and initiated by the instructor should come first. Neatened and expanded versions of data with additional derived quantities may come next.  

4. **Calculations including Error Analysis:**  
If possible calculations should be done in the lab. Always remember to include the units associated with any variable in your calculation. Describe and show all your work. If you do the calculations with the spreadsheet, remember to put labels and units on any additional columns, and state in the report how these columns were calculated.  

5. **Graphs:**  
When appropriate, should include a title, the axis labels with units. These should also be done in the lab, if possible. If straight line fitting is performed on the data, either by hand or with linear regression program, remember to record the slope and intercept and their uncertainties. Draw in the regression line determined from the slope and intercept. Whenever possible put error bars on each graph point. This is too tricky to do with the spreadsheet program, so you may have to add them after the printout from the spreadsheet has been made. If the error bars are too small or data points are difficult to see on the graph, put a small circle around each one.  

6. **Conclusion:**  
This should include a brief discussion of the main findings. Also state whether your results agree with expectations to within the uncertainties of the measurements.