

Physics 222, Section 4
Studio Session
Fall 2012

Teaching Assistants: Patrick Copinger and Ryan Rawl

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Help: Physics Tutorial Center, Room 201. We will be there from 1:25-2:25 on Fridays.

Office: Nielsen Physics Building teaching assistants' office. Please send an email to meet.

Grading Portion for the Studio Session:

Lab reports: 80%

Please prepare your lab report while you are performing the experiment. One lab report for the group will be enough. It is strongly encouraged to complete the lab report during the studio session. However a rough draft may be turned in instead, in which case the final lab report should be dropped off in either of our mailboxes by the following lab. A lab report should include the following sections:

- (1) Title page: A title page should include the following: The name of the experiment, everyone's name, the course name and number with section number, and the date.
- (2) Introduction: Discuss the background and theory of the lab. Briefly go over what you are doing and why you are doing it.
- (3) Body: Refer to the studio session handout. A few criteria are:
 - Data tables: The original or photocopies of the original data sheets, collected in-class and initialed by the instructor, should come first. Neatened or expanded versions of the data with additional derived quantities may come next. Remember labels, units, and uncertainties.
 - Calculations, including error analysis: Whenever possible calculations should be done in the lab. Include in your calculations the units associated with any variable and, where appropriate, cancel units or change them to derived units. If you do the calculations with a spreadsheet, remember to put labels and units on any additional columns, and state in the report how these columns were calculated.
 - Graphs, when appropriate, should include a title and 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 a linear regression program, remember to record the slope and intercept and their uncertainties.
- (4) Conclusions: This should include a brief discussion of the main findings. For example: "We found that there is a linear relationship between the measured variable ... and ... This can be seen from the graph and is predicted by the theory".

Quizzes: 20%

Short quizzes will be given during the lab covering current material.

Lab Schedule:

Aug 28- Electric Fields
Sept 4- Ohm's Law 1
Sept 11- Ohm's Law 2
Sept 18- Wheatstone Bridge
Sept 25- Resistance vs. Temperature
Oct 2- Electrical Energy
Oct 9- No Lab/ Fall Break
Oct 16- e/m Ratio
Oct 23- Ampere's Law
Oct 30- RC and RL Circuits
Nov 6- Photoelectric Effect
Nov 13- Balmer Series
Nov 20- No Lab/ Thanksgiving Holiday
Nov 27- Half-life of Ba-137m
Dec 4- Classes end