

## PHY 202      General Physics Laboratory (Room S 100) Fall 2017

Thur. 8:00 – 9:50 am CRN 3873    Fri. 10:00 – 11:50 am CRN 3875

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The Physics 202 Lab Manual is the text for this course. The lectures will not always cover the theory necessary for understanding the labs before the lab meets. You should read the theory and procedures in the lab manual before coming. The labs are designed to provide the student with experience in applying the principles covered in the PHY 201 lecture class. The PHY 202 labs use a computer and interfaced apparatus to collect and display data. The computer programs will plot graphs and display results. Often you are required to make predictions, draw your own graphs, and then have the computer plot the results to compare with your predictions. You must work through each exercise, make predictions when asked, and complete all lab requirements. Usually you make predictions based upon a consensus with your partner(s). Cooperate closely with your lab partners during the lab. (Normally, three persons to a table). You will need to work steadily for the full lab period if you expect to complete the lab. Each student at a table is expected to contribute to all parts of each experiment. **You must rotate the use of the mouse each week**. The **homework problems** and **Conclusion** are to be done with **no collaboration** with your partners. The **conclusion** is the most important part of your report. It must be an analysis of the actual experiment that YOU did. A separate short handout in the first lab period will illustrate what makes a “good” conclusion. Your lab partner’s names must be on the first page of the report under your name. (Put LP: in front of each partner’s name). The Conclusion is done on a separate sheet which you attach to the report, either typed or handwritten. If handwritten, it should usually be one page but can be longer.

The experiments cover one and two-dimensional motion, Newton’s laws, momentum and energy conservation laws, vibrations (simple harmonic motion), waves, and heat and thermodynamics.

Work steadily on the report and have the in-lab part initialed by the end of the period. Your report should include all lab manual pages on which data is entered, calculations done, questions answered, and the Conclusion. Any relevant hand-drawn graphs must be included. (You are not provided copies of the computer drawn graphs). Each person must have their own copies of these graphs. Answer all questions. Each lab report will be graded on a 10 point maximum basis (with a full point deducted for each unanswered question). The completed reports are to be stapled and turned in at the immediate beginning of the next lab class. You are not permitted to work on last week’s report or homework in lab. Any report turned in later than the first 10 minutes of the period will be penalized 10% for each minute late. You may not study for any other class during the lab period. Have: (1) A non-programmable scientific calculator (about \$10). (2) Use a pen on the “Conclusion”. DO NOT ERASE. Draw a **single** line through **anything** you want us to **ignore** (it will be invisible to us).

You might want to have a small notebook. Record rough data & calculations in it and then you can enter your results into the report more neatly. (Helpful if you are a messy writer).

If you know you will miss lab, make up that lab in one of the other labs that meet during the same week (while the experiment is set up).

