

Physics 222 Section 012 and 014 Recitation and Laboratory Syllabus

Time

Physics 222014:

Day: Wednesday

Recitation: 2:30pm-3:20pm; Laboratory: 3:35pm-5:30pm

Physics 222012

Day: Thursday

Recitation: 2:30pm-3:20pm; Laboratory: 3:35pm-5:30pm

Instructor

Ann Jennings, ajenni10@utk.edu

Office Hours: Monday 2:30pm- 3:20pm in room 201 or by appointment

Physics Tutorial Center (Nielsen 201)

TA Office: Nielsen 609

Course Description

This is the supplemental laboratory phase of the Physics 222 course. The purpose of this laboratory is to expose you, in a hands-on laboratory setting, to the physics topics covered in lecture. You will be required to perform experiments covering a wide range of physics concepts.

Course Materials

The laboratory manual for Physics 222 is Contemporary Introductory Physics Experiments by James E. Parks, Hayden-McNeil Publishing, ISBN 978-0-7380-3083-8. This manual is available at the UT Book and Supply Store. All of you should have a copy of the laboratory manual before the first lab class. Please make sure to bring this book to every laboratory session.

Recitation

Before every laboratory there will be an hour-long recitation period. You are expected to come to every recitation. **Please come to class having read the new lab!** You will be given a quiz at the beginning of every recitation over the new laboratory material. The quiz will also include a few questions covering basic lecture concepts. There will be no makeup quizzes! Following the quiz, specific problems or topics related to the week's lecture will be covered.

Lab Reports

Every student must write their OWN lab report. At the start of every laboratory session, you will be required to hand in a lab report over the previous week's experiment. **No late lab reports will be accepted.**

Lab Reports: Each lab report is due the next lab session; however, I strongly encourage you to finalize your lab reports after class. Each lab report is worth 40 total points. All lab reports should be written in Times New Roman, 12 point font.

Lab reports should contain the following sections:

1. Title: At the top of the first page, please include the following:

- a) Your name and your partner's name
- b) Lab section number and date of the experiment

- c) The title of the experiment
- d) The submission date.

2. Introduction/objectives: describe the objective and importance of the lab in your own words in a paragraph.

3. Theory and Procedure: Briefly describe the theory behind the experiment in your own words. Don't copy the entire theory section of the lab manual. Write down the important formulas and define all variables with units. Please put each formula on a separate line like the lab manual does. Also, make sure to give each formula a number so you can refer back to it easily. For example, with voltage (V) measured in volts, current (I) in amps, and resistance (R) in ohms. In your own words, describe what you did in the lab so that a student with the same physics background could run the lab themselves. Be brief but make sure all the important steps are stated without copying out of the manual.

4. Data/Results: Report all your data/graphs in an organized fashion, highlight patterns through graphs if applicable. Please do not forget to write down the units of the data obtained.

5. Analysis: Describe the results in your own words by using the physics concepts discussed in the theory section. Make sure to think about your results and whether or not they make sense. Figure out if you had changed a different variable, what that would have done to the experiment. This is where you should show your true understanding of how the theory shows in the experiment. Please come ask for help with this section if you are having trouble with it.

6. Conclusion: State the main findings of the experiment, report trends, establish relationships between variables and make connections with the theory behind the experiment. For example, "We found that there is a linear/exponential/logarithmic relationship between the measured variable ... and ... this can be seen from the graph (insert graph title here)." Also state whether your results agree with what is expected. Explain the possible sources of error and the impact they may have on the results, if any. For example, meters are not always right, human error can be a factor, computers are not always right, heat loss to the environment, constraints of lab conditions, etc. Discuss whether you felt the experiment was successful and things that you learned that are particularly interesting to you.

Be Honest: If your results are not what you expected them to be, talk to me. If you performed the experiment to the best of your ability and there was an error, you should still report your findings – that's a part of the experimental method. Do not copy data from another group or make up your own data to fit the theory.

The graded lab reports will be returned to you the next lab (this means typically one week later). The grades of the lab report will be also posted on Blackboard. You should look for these grades under your specific section rather than under the merged section of your class. If there is a concern about a grade you must contact TA within one week of receiving your graded lab report.

Attendance

Lab attendance is mandatory. It is expected that you are on time for every recitation and lab session. **Do not be late.** If you must miss lab due to extenuating circumstances (i.e. serious injury, illness, or a death in the family) it is your responsibility to contact TA as soon as possible. TA may allow you to make up the laboratory during the same week.

Typical Grading Procedure

Lab Reports 75%

Participation Credit 5%

Quizzes 20%

Lab reports will account 95% of grade when no quiz is given. You earn participation credit if are you present in time and actively contribute to data taking in the lab.

Classroom Policies

Please respect your fellow students and please respect your TA. Do not come to class late. Do not talk when TA is talking. Turn off your cell phones and music players and pay attention!

All students are expected to abide by the University Honor Statement. Any kind of cheating will not be tolerated. In this course, cheating might include making up data, copying off your neighbor on quizzes, or handing in a lab report that is partially or fully identical to another student's. If TA catches you cheating, s/he will assign you a zero for whatever it is you are cheating on. A second offense will result in a grade of zero for the laboratory portion of the course and a report to the Office of Student Judicial Affairs.

Course Outline

The schedule of experiments can be found online at
<http://www.phys.utk.edu/labs/Spring%202014%20P222%20Lab%20Schedule.pdf>
If this schedule changes, TA will notify you by e-mail.

Announcements

For announcements check your Section pages on Blackboard regularly.

If you need course adaptations or accommodations because of a documented disability, please contact the Office of Disability Services (ODS). This will ensure that you are properly registered for the services provided by ODS.

Disability Services
2227 Dunford Hall
Knoxville, TN 37996-4020
Phone: (865) 974-6087 (v/tty)
Fax: (865) 974-9552
Email: ods@utk.edu
Website: <http://ods.utk.edu>