Physics 221 – Section 022 - Recitation and Lab

Recitation: Nielsen 608, Wednesday 6:45-7:35 PM
Laboratory: Nielsen 508, Wednesday 7:45-9:35 PM

Instructor: Mostafa Hussein
Email: mhussei3@utk.edu
Office Hours: Nielsen 201 (Tutoring Center), Tuesday 12:20-1:20 PM

Lab Manual: Contemporary Introductory Physics Experiments by Dr. James Parks

Grading Scheme: (out of 100%)
- 40% Attendance, Participation and Lab Work
- 30% Lab Reports
- 30% Quizzes

Attendance and Lab work: Attendance is mandatory for both the recitation and the lab sessions. Each student should have an active role in performing the experiments and analyzing the data with the lab partner to produce the results. If for any reason a student cannot attend the recitation or the lab sessions, s/he should let me know as soon as possible.

Lab Assignment: Read and study the experiment due to be performed before the lab.

Lab Reports: Lab reports are due a week from preforming the experiment and should be handed in to me before the start of the lab or before 7:45 PM in my mailbox when there are no labs. Each student must present his/her own lab report. Lab reports should be written in the student’s own words. Each lab report will be graded on a scale from 0 to 10. Plagiarism is not tolerated; copying from the lab manual, or others is an automatic ZERO on the report.

Quizzes: At the start of each recitation, I will give a short quiz on the material covered in the lecture, submitted homework or the previous week’s recitation. Each quiz will be graded on a scale from 0 to 10.

University Disability Statement: Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the Office of Disability Services at 865-974-6087 in 2227 Dunford Hall to coordinate reasonable accommodations for students with documented disabilities.
Laboratory (Technical) Report

Lab Reports should be turned in a week after the experiment has been performed!

I. **Title page**: A title page should include the following:
   i. The Title of the experiment,
   ii. Your name and the name of your lab partner,
   iii. The course name and number and the section number
   iv. The name of your lab instructor,
   v. The date the experiment is performed, and the date the report is submitted.

II. **Introduction**: IN YOUR OWN WORDS, explain the purpose of the experiment and its significance. Clearly state the relevant physical laws, main equations and the definitions of the symbols used.

III. **Experimental method**: (bullet form recommended)
   i. List the materials and apparatus used in the experiment.
   ii. IN YOUR OWN WORDS, briefly outline the procedure followed highlighting what measurements were made and for what purpose.

IV. **Data, Tables and Graphs**: The data obtained from the experiment should be neatly presented in an appropriate form. All tables should be organized with a clear heading, each column must be labeled with the corresponding quantity symbol and units. You should include the original data sheets filled during the lab with the additional derived quantities. Graphs should include a title, and axis labels with units. The information obtained from the graphs should be clearly marked (such as regression lines and significant points).

   **REMEMBER HEADINGS, LABELS AND UNITS.**

V. **Results**: The calculations from the data, tables and graphs should be in this section. Describe and show the details of your computations as well as the units and associated error analysis (such as percentage error). If you do the calculations with the spreadsheet, remember to put labels and units on any additional columns, and state in the results how these columns were calculated.

VI. **Discussion and Conclusions**: Discuss the main findings of the experiment, referring to the graphs and results obtained, and point out the key relationships between the variables. Compare the experimental results to the known or expected theoretical values. Comment on the error analysis and identify the sources of the errors, systematic and random. Indicate ways of improving the experiment in order to reduce the errors and obtain better results.

VII. **Questions**: Answer all the questions posed in the lab manual giving FULL answers, describing and showing all your work.