

## Introduction

Physics is an experimental science. Laboratories offer an ideal opportunity to learn and strengthen, by means of actual observations, some of the principles and laws of physics that are taught to you in general physics lectures. You will also become familiar with modern measuring equipment and computers, and learn the fundamentals of preparing a report of the results.

### 1. General Instructions

1. You are expected to arrive on time since instructions are given and announcements are made at the start of class.
2. A work station and lab partners will be assigned to you in the first lab meeting. You will do experiments in a group but you are expected to bear your share of responsibility in doing the experiments. You must actively participate in obtaining the data and not merely watch your partners do it for you.
3. The assigned work station must be kept neat and clean at all times. Coats/jackets must be hung at the appropriate place, and all personal possessions other than those needed for the lab should be kept in the table drawers or under the table.
4. The data must be recorded neatly with a sharp pencil and presented in a logical way. You may want to record the data values, with units, in columns and identify the quantity that is being measured at the top of each column.
5. If a mistake is made in recording a datum item, cancel the wrong value by drawing a fine line through it and record the correct value legibly.
6. Get your data sheet signed by the instructor before you leave the laboratory. This will be the only valid proof that you actually did the experiment.
7. Each student, even though working in a group, will have his or her own data sheet and submit his or her own typed report, for grading to the instructor at the next scheduled lab session. No late reports will be accepted.
8. Actual data must be used in preparing the report. Use of fabricated, altered, and other students' data in your report will be considered as cheating. No credit will be given for that particular lab and the matter will be reported to the Dean of Students.
9. Be honest and report your results truthfully. If there is an unreasonable discrepancy from the expected results, give the best possible explanation.
10. If you must be absent, let your instructor know as soon as possible. A missed lab can be made up only if a written valid excuse is brought to the attention of your instructor within a week of the missed lab.
11. You should bring your calculator, a straight-edge scale and other accessories to class; it might be advantageous to do some quick calculations on your data to make sure that there are no gross errors.
12. Eating, drinking, and smoking in the laboratory are not permitted.
13. Refrain from making undue noise and disturbance.

## 2. Report Format

The laboratory report must include the following:

1. **Title Page:** This page should only carry the student's name, ID number, the name of the experiment, and the names of the student's partners (listed under 'partners').
2. **Objective of the Experiment:** This is a statement giving the purpose of the experiment.
3. **Theory:** You should summarize the equations used in the calculations to arrive at the results for each part of the experiment.
4. **Apparatus:** List the equipment used to do the experiment.
5. **Procedure:** Describe in your own words how the experiment was carried out.
6. **Calculations and Results:** Provide one sample calculation to show the use of the equations. Present your results in tabular form that is understandable and can be easily followed by the grader. Use graphs and diagrams, whenever they are required. Include the comparison of the computed results with the accepted values together with the pertinent percentage errors. Give a brief discussion for the sources of the errors.
7. **Conclusions:** Relate the results of your experiment to the stated objective.
8. **Data Sheet:** Attach the data sheet for the experiment that has been signed by your instructor.