Laboratory Rules:
The experiments are spread over 4 rooms in the Department of Physics and Astronomy. The laboratory has an informal atmosphere and you should try to maintain and enjoy the work environment. Please adhere to the following rules:

- The lab is scheduled for 170 minutes. Plan to spend the whole 170 minutes in the lab. We expect you to be on time. You have two weeks (4 classes – 680 minutes) to complete your lab work and submit it via Moodle. Submit the laboratory work (as instructed in each lab manual) in one single document in pdf format.
- Record the data and other laboratory activity in a Lab notebook, which should be a bound Composition Note Book.
- Do not eat, drink, or smoke in the labs, and follow Laboratory safety rules.
- Do not move equipment from table to table or from room to room unless authorized by your Instructor.
- Do not turn on equipment unless authorized by your Instructor. Note that some equipment could be hazardous unless used properly. Take proper precautions. If in doubt, ask your Instructor.
- Come to the lab prepared. This means you should read the manual, answer the exercise questions and compose the introduction for the experiment of the day. You should also review the relevant physics topic in your physics lecture text. Most of the work: including recording data, analyzing, making graphs, calculations, drawing conclusions, answering questions, etc. is best done by you during the lab period when the instructor is available to assist you.
- Do not congregate at a lab-station if you are not performing that lab.
- Do not play with laboratory tools, including screwdrivers, optical components etc.

We trust that you will find this course a worthwhile and educational experience. As a laboratory course, it is quite different from the lecture courses. The experiments you will perform here should give you hands-on experience with the physical laws and phenomena that you study in the physics lecture courses. You will work together with a partner, who should rotate after two weeks. You will work in the lab with a partner. "Doing a lab" means that — with your partner — you will take data (make measurements) on some piece of apparatus, record these data in a note book, analyze them, and draw conclusions. However, you will write up your lab individually; do not copy from your partner. This will improve your writing skills and lead you to a deeper understanding of the underlying physical principles. Aside from helping you comprehend the material in the physics lectures; it introduces you to the experimental method in science and affords you some experience with scientific apparatus.

Policy on Plagiarism
Do not copy your lab-partner's write-up or let your partner copy yours. Duplication of text in your electronically submitted report will be checked automatically, so take this warning seriously. If you are copying text from someone else, or from some other source such as lab manual, textbooks and the Internet – rather than doing your own work, this is considered cheating and will be caught by the automatic checking system. Copied or duplicate reports will lead to severe penalties (typically a 0 will be given for the lab). This penalty will apply to ALL individuals found to have duplicate text in their reports.
Submission of Lab Reports: Please see the Lab Report page for more details. Submit the report in the Moodle page before the dead line. One week late reports will be graded at 80% and beyond one week late will have 50% of the grade points.

The Laboratory Routine: You will receive a schedule of the experiments that you will perform during the semester. A summary of each experiment can be found on the abstract page. However, it is your obligation to read the write-up for each experiment in the lab manual prior to coming to the lab, and to be able to answer simple questions concerning the underlying physics of the experiment. There are "lab exercise problems" questions that are located at the back of each experiment in the lab manual. These must be answered in advance at the beginning of each lab period.

A lab session lasts four sessions of 170 minutes each. Students are expected to read the manual and review the topic of the experiment in their physics lecture text in advance. Students are also expected to bring the proper supplies (Sharp pencil, calculator, lab manual, ruler, computation book) to the lab. After the pre-lab and introduction is complete, you should enter in your notebook the day's date, your partner's name, and your initial impression of the physical principle you are exploring and purpose of the experiment you will be performing in the laboratory. The instructor will visit the lab time to time. You should make use of his presence by asking question as much as you can.

Then you begin to make measurements, take data, etc. according to the experiment outline. Record all data and analysis work directly in your computation book, not on loose paper, even at first! If you make a mistake, cross it out (everybody makes mistakes!). Your computation book should be a complete record of your work, errors and all. It should be well organized; data put into clearly arranged and labeled tables and with comments and explanations throughout, so that the flow of your work becomes apparent. Always record data as indicated by the apparatus and not as you thought it ought to be, if different. The entire experiment has to be done during the lab period. This includes becoming familiar with the apparatus, taking data and logging them properly in the computation books, and checking that everything is done right, is reproducible and makes sense. Plot (plots should always use a full page!) and analyze data as soon as you obtain them, for each intermediate stage, and state clearly what you find. Discuss possible errors in your measurements.

After you have followed all steps in the experiment outline, complete the day's work by another brief statement of the purpose of the experiment (often this will be different from your initial statement) and the conclusions you draw from your data and analyses. Sometimes you will find a discrepancy between your results and theoretical values. This is OK, but you need to discuss possible errors, and try to explain the reasons for any discrepancy.

When you are through, and have answered all questions, turn off your equipment and leave your table neat for the next person to use.

You have one week to complete your lab report and submit it in Moodle. The lab grade should appear within one week on the Moodle site. If it does not, please email your Instructor. There are seven experiments that have to be done and all seven will be used in computing the final course grade. The student will receive a numerical grade (0 – 100) for each lab. The grade is based on preparation and Introduction, experimental work, data tables, calculations, graphs, analysis, conclusions and answers to questions. At the end of the semester, the average of the numerical grades is used for latter grading.

(Adopted from Northwestern University)