

FIZ 117 General Physics Laboratory

The aim of this course is to make the basic experiments related to the physics course, and to gain the ability of analyzing and presenting the experimental data obtained from the experiments.

At the end of this course, the measurement and analysis methods that are required for a laboratory study will be learned. Students will gain experiences on the physical events covered in the physics course and ability to bring the work into a report in scientific format.

General Information for Lecturers:

1th Week: Grouping will be done with the participation of all students registered to the course. Participation in grouping is mandatory. On the day of grouping, the operation of the laboratory and the rules to be followed in the laboratory are explained to the students by the course instructor and research assistants at the laboratory.

2nd Week: The lecturer will discuss “**Analysis of an Experiment and Graphing**”.

Note: “Analysis of an Experiment and Graphing” is the 1th experiment of the course. The analysis of an experiment is presented in the course book that you can find in the given link below: <https://library.hacettepe.edu.tr/hubooks/index.php?fn=read&key=p5c4x1>. As can be seen, the graphs in Part-1 are already given for pedagogical purposes, the graphs in Part-2 are left blank. The students should submit their reports in the next day until 23:59 through the assignment activity that will be created by the lecturer in MOODLE (hadi.hacettepe.edu.tr). There will be no make-up for students who are absent from the "Analysis and Graphical Drawing of an Experiment" experiment. These students are also required to prepare the experiment report using the document related to the experiment and bring it with the other students 1 (one) week later.

3rd Week: All the students do the “**Measurement**” experiment.

One (1) experiments will be done every week in the remaining time. The schedule of the course will be announced on the board at the entrance of the laboratory.

General Rules:

1. Students who do not come to the laboratory, regardless of their excuse, will receive a Make-Up for the corresponding experiment.
2. Students who are more than 10 minutes late will not be admitted to the laboratory and will receive a Make-Up for the corresponding experiment.
3. A student can take a maximum of 2 (two) make-ups.

4. Please make sure you are doing the correct prelab work. Each week, there will be an oral exam and/or a short-15-minute quiz on the theoretical knowledge required for the experiment, which will be worth 30-40% of the total grade of that week's experiment. The lecturer or assistant of the related experiment can take the exams at a time he/she sees fit during the hour of the lesson.
5. After the quiz, the lecturer, or the assistant who is in charge of a particular experiment, will synchronously explain the objectives, familiarize the students with the equipment and discuss the theoretical details. At this stage, the lecturer can ensure that students participate in the lesson actively by asking some questions. In this case, active participating students may be given full points, others less.
6. Before the lecture, the experimental setup and the data collection process will be recorded. The experiment video and the data set will be shared with the students during or after the lecture.
7. Based on the data set, students should write their reports in the format described in the Laboratory Notebook and submit them in the next day until 23:59 through the assignment activity that will be created by the lecturer in MOODLE. All the graphs required for the data analysis should be drawn by hand on a millimeter paper. Each page of the report should have the student's name, surname, ID number and signature on it.
8. The lecturer or the assistant will grade the lab reports, which will be worth 60-70 % of the total grade of that week's experiment.
9. The average grade of all experiments will comprise 45% of the total course grade. The grade of "Analysis of an Experiment and Graphing" will comprise 5% of the total course grade.
10. Make-up experiments will be held at the end of the semester in accordance with the schedule announced. Students who do not attend any of the make-up experiments will fail the course with an "F1" grade.
11. The Final Exam (and the Makeup Exam) will be held at the end of the term and it will consist of 25 multiple-choice questions related to all of the experiments. It will be taken by all the students from different sections at the same time and the duration of the exam will be determined by all lecturers jointly. The Final Exam Grade will comprise 50% of the total course grade.