

Lab Report in PHY294Lab

I. Preparation of the lab report.

The lab partners must consent on the choice of experiments and contents of the report. The wish list with preferred experiments is expected in a survey “Book experiments of your choice” in the section Quizzes of the Lab page on Quercus. Both lab partners must submit the wish list.

Here are some reminders about the lab report requirements that were announced in PHY293Lab.

If a setup of your experiment is not connected to a computer, make notes and preliminary calculations in a notebook. Some number of paper notebooks is always available in the lab room MP 234. Right after you finish direct measurements with this setup, go to the MP 222 to begin writing the lab report, fitting data, calculating results and errors, to not forget important details. Applying fitters and calculating the goodness of fit, use Excel, Python, Matlab or any other efficient software. The Matlab is installed to all computers in MP 257, but not to the computers in MP 222. However, MP 257 is not always available.

You will not be provided with a template for your write-up. We hope you have already got enough expertise in creating a good lab report with all details of the experiment setup, procedure and results included; raw data as results of measurements with reading uncertainties presented in tables and diagrams; calculation of required physical quantities; calculation of propagated uncertainties; analysis of the value of each uncertainty; graphs of functions with captions and properly labelled axes, units and error bars; discussion/analysis of the result(s); and brief summary/conclusion. It would be good to outline the experiment objective at the beginning of your report. However, the report may be informal and written in a style of a diary like a pen-and-paper report in a standard notebook. Begin your report with names and student IDs of the lab partners, the date of accomplishing the experiment and the experiment title.

The maximum acceptable size of a report is 6 pages for a one-weight experiment, 10 pages for a 2-weight experiment and 12 pages for a 3-weight experiment. Extra pages will be penalized by taking off 5% of the assigned mark for every full extra page. Do not include appendices into your report.

The preferable format for your assignment is PDF. MS Word document (*.docx) is also accepted.

You are expected to submit one lab report for the team of lab partners. The report preparation must be a result of a friendly and cooperative team work. If one of the lab partners obviously contributes much less than the other one to the experiment performance and report preparation, a supervising lab demonstrator can deduct points for less industrious student. The comments will be provided explaining the details of the deduction.

Always save your lab report file on a USB drive for all members of your team.

II. Report submission.

A lab report is submitted as an electronic document uploaded to the Quercus section “Assignments” of your lab section.

Be attentive choosing the perfect date of the assignment: each assignment is referred to the date you finished performing the experiment. E.g., if your two-weight experiment was performed on Jan 15 and Jan 29, and you are uploading the report on Feb 5, the correct assignment is “Lab Jan 29 (2 Weights)”.

If your 1-weight experiment is “Holography”, you will submit a report on this experiment to the special assignment “Lab Holography”. The specific date depends on the schedule of your experiments and varies for different teams.

Before uploading the document to Quercus, make sure that your file name includes information about you, your experiment and contains only letters and numbers, e.g.

Interferometers (3 weights) by Arun Paramekanti and Barth Netterfield.

The preferable format for your assignment is PDF. MS Word document (*.docx) is also accepted. Submitting your lab report to Quercus, you will go through the following steps:

1. Together with your lab partner write a report and save it in PDF or MS Word format in your computer. We recommend to save the file to the computers of all lab partners.
2. Click on **Assignments** in the Course Navigation bar.
3. On the *Assignments* page, click on the title of the assignment with proper date and weight.
4. Each assignment page displays a due date, a number of points, a reminder about the submission types (**File Upload** is your choice) and the appropriate file formats. Under the assignment description, you will see a rubric.
5. The file description includes a link to either a template for Exercise or a shortened template for the other reports.
6. On the Quercus page of the assignment, click on the dark-blue button **Submit Assignment** at the upper right corner of the page.
7. In the **File Upload** bar, click on the **Browse...** button, locate your file in your PC and click **Open** to attach your file.
8. If needed, enter your comments into the space **Comments** under the attached file. You may need to notify a Marker about some difficulties you experienced during the lab session(s) or in the process of the report submission.
9. Click on the dark-blue button **Submit Assignment** under your comments.
10. Due to the initial settings, your assignment will be simultaneously and automatically downloaded to the Turnitin.com facility for similarity check.
11. If you find a mistake in the uploaded file, you may re-submit the assignment by clicking on the dark-blue button **Re-submit Assignment** at the upper right corner of the assignment page.
12. There is one more opportunity to send your comments to the Marker from the assignment page after your final submission. A window for the additional comments is to the right.

If your submission is impossible due to technical problems, ask an experiment supervisor a permission to send the report via e-mail to avoid penalty for lateness. However, you still will be required to upload the report to the Quercus assignment later for a marker's access and grading.

Each weight is worth 25% of the final experiment mark. Rubric provides clear and fair marking in a very similar way by different TAs. Late submission is penalized by taking off 5% of the assigned mark for every business day of the delay!

You are allowed two attempts. After your second submission, you cannot re-submit it anymore, and you are not able to re-submit the report after a Marker has started grading the paper.

The deadline for the lab report submission is 11:59 PM on Tuesday in one week after your lab session.

III. Experiment mark, rubric, Marker's comments and similarity index

To see your graded report with rubric and comments, open Grades in the Course Navigation. You will see all scheduled assignments of the course with their due dates, scores, maximum possible scores and icons for opening the rubrics, the Marker's comments, the Turnitin.com report on the similarity index and your *annotated paper*. The annotated paper is the submitted report with the Marker's comments inside. Not all your annotated reports will include the comments, but if your score in the rubric is not the full mark, you will see the Marker's short note as the comment in the rubric.

← Icons to open

1 2 3 the annotated paper (1),
the rubric with comments (2) and
the Turnitin.com report (3).

The latter is red for the very high similarity index of 75-100%, is orange for the high index of 50-74%, is yellow for the moderate index of 25-49%, and is green for the negligible similarity of < 25%. "Orange" and "red" similarity report will result in a very serious penalty for academic misconduct. Whether to report the "yellow" flag to the Engineering Science division, will be decided by the Marker depending on the specific pieces of the paper found similar to the other source. To avoid a penalty for plagiarism, try to not repeat your paper submission. The second trial, being permitted on Quercus, will compare two of your own papers and may cause a "red flag" for the similarity index. Anyways, if you had to re-submit the report, notify the experiment supervising instructor/TA by comments.

All lab reports are the team work. If a team member who did not upload the report has got no grade, while the other team member has got it, e-mail the [course coordinator](#) ASAP.