

To-Do List – Advanced Master Lab – Sose 2025

You have to read and understand this to-do list to participate in the Advanced Lab Course. Feel free to raise any questions you may have after reading the document. We will request you to sign and acknowledge that you read and understood the criteria for the Master lab course and seminar before you are allowed to start. We will distribute a signature list during the **mandatory** safety lecture.

General

- Students have to register in Campus Management
- Read the Course Rules on our Web page
- Frequently check the web page (schedule and seminar) for changes
<http://www.physik.fu-berlin.de/en/studium/lehre/fortgeschrittenenpraktikum/fp-master/index.html>
- Work together. Each participant should actively contribute to all steps.

Experiments

You will have to work on a total of six different topics/experiments during the lab.

- The first experiment is completed by the students individually. After successful completion you will be grouped into groups of two students.
- The remaining experiments will be performed in the group. There will be 5 experiments and one experiment will be repeated for better preparation of your seminar talk.

The experimental part of the course requires you to successfully complete all experiment and obtain approval for the written lab reports.

Preparation before experiment

- Contact the tutor in advance (email) to arrange your schedule
- Read all instructions for your lab experiment in the Adv Lab Wiki. Study the fundamental of the experiments you will perform using textbooks and the wiki reading material. The Adv Lab website contains a pdf with the topics you need to master in order to perform the experiment
<https://wiki.physik.fu-berlin.de/fp/doku.php>
- Write a pre-experiment report and send it at least two days before the experiment to the tutor. It needs to
 - Concisely describe the fundamental physics of the experiment
 - Contain a schematic draft of the experimental setup and the guidelines for the execution of the experiment.
 - Include answers to the questions/tasks in the instruction
 - Do not exceed five pages in length, normally two pages are enough.

Day of the experiment

Before each experiments the tutors will ensure that you understood the physics of the experiment, the experimental setup, and how to perform the experiment.

- Be prepared and have a preliminary discussion with tutor on the experiment
- Come at the agreed time.
- Get additional instructions by the tutor on the experimental equipment

- Prepare clearly structured data sheets, plots, and sketches
- Try to finish as much of the experimental report as possible
- Get signature of tutor after the end of experiment

After the experiment

- Prepare a lab report on your experiment (< 15 pages)
- Reports have to be handed in within 2 weeks after the experiment
- Correction within 7 days by tutor
- Improve report according to corrections
- Schedule a final discussion (within 4 weeks after day of experiment)
- Obtain certificate by the tutor

Seminar

In addition to the written report, the Advanced Lab requires you to present one experiment in a seminar and to discuss together with the other students their presentations.

- Present one talk as a group
- Actively participate in the discussion of after each talk.

Preparation of the seminar talk

The seminar talk has to be prepared very carefully. You will give two mock-up presentations. One to the tutor of the experiment and one to one of the course instructors.

For the seminar talk you have a 2nd appointment for the same experiment (one week after the initial experiment). You should use this to

- Revisit the experiment
- Clarify all open questions/problems you have with the tutor

You then prepare a seminar talk and give a mock-up presentation to your tutor. Come to the mock-up presentation with a fully prepared talk. The slides need to be ready and you need to know what to say at each slide.

The second mock-up will be given to Prof. Reich, Dr. Müller, or Dr. Püttner (see assignement in schedule). It has to be delivered one week before you are scheduled to present at the latest. It is your responsibility to contact the instructor and ask for an appointment well in advance.

Partial credit

Experiments: We give partial credit for the experiments if you finished the initial experiment plus two group experiments. If not, you will have to redo the complete course next time.

Seminar: There is no partial credit for the seminar. You either passed it in full or failed.