Rules and standards for
advanced practical courses
at the chairs of the physics department
Ludwig-Maximilians-Universität München

Munich, April 2025

1. The practical course consists of three (= 6ECTS) or more (five=9ECTS; six=12ECTS) advanced experiments in an experimental physics content.

2. At least two experiments (=3ECTS) have to be completed within the cycle of one semester term. A transfer of grades form partially completed courses (less than two) or an individual experiment to another semester term is not possible.

3. In case of an experiment fails to be completed successfully, the student is in charge to apply in time for a replacing experiment at the course coordinator (Martin Benoit).

4. The graded certification for a participation in the advanced practical course will be assigned only after at least two experiments were completed successfully.

5. In every experiment the students' preparation, the conduction of the experiment, the evaluation report of the results and the final knowledge about the experimental topic will be graded each.

6. An experiment will be conducted in a group of two to three students. Never the less, each student is responsible on her/his own for preparing, conducting and evaluating her/his experiment.

7. The experiments will be conducted at the physics chairs assigned below.

8. The time frame of an experiment is two weeks, including two oral exams and the elaboration of a written report evaluating the experimental results. (see: "conducting a typical experiment" further down)

9. The time frames for each experiment are assigned by the coordinator of the courses and shall be completed and graded by the tutoring scientist within one month after the experimental day.

10. Each student participating in an experiment appropriately notes details of the preparation, data from measurements, sketches and details of the equipment, and especially experimental difficulties.

11. The evaluation shall form a completed scientific report of the experiment. It may be written as a separate manuscript (pdf-formate). The two to three manuscripts of one group may be identical and shall contain the aim, the work and the results of the experiment as well as a detailed discussion of the results. There shall be an emphasis on a critical discussion and a comprehensive consideration of the error values.

12. A reference library Theresienstr. 37, Zi 107, 1.OG and am Coulombwall 1 in Garching are open for every student participating in the course. Opening hours will be found at the entrance.

13. While conducting an experiment carefully follow the security instructions by your supervisors.
    In particular for x-ray experiments you are obliged to carry a radiation protection tag and to exactly register the duration in a list present there. Additionally you have to ware a stick dosimeter to control your personal dose of radiation during the experiment.

14. Further information and details are provided on the web page:
    http://www.physik.uni-muenchen.de/lehre/praktika/f-praktikum/f1-praktikum .

Locations of the experiments (opening hours in agreement with the supervisor):

- Chair of condensed matter biophysics, Altbau der Sektion Physik
- Chairs of semiconductor physics and systems biophysics, Altbau der Sektion Physik
- Chairs of Nano-photonics and opto-electronics, Königinstr. 10
- Chair of laser spectroscopy, Schellingstr. 4, III. Stock,
- Chair of quantum optics, Garching, Am Coulombwall 1
- Chair of nuclear and elementary particle physics, Garching, Am Coulombwall 1
- Chair of molecular physics of life, Martinsried, Am Klopferspitz 18

Conducting a typical experiment:

- get in contact with your supervisor latest on the first Friday. Find agreement to a date (usually Wednesday of the next week) for the day of the experiment within the following week and about the literature (usually on a webpage) required for the preparation of the experiment.
- There will be an oral colloquium to check your preparation level. The experiment will take place only, if you are prepared enough to conduct the experiment. Now the experiment begins and you collect data from your measurements.
- Complete the evaluation of the experiment at home. Then find agreement for a date of the final colloquium.
- The final colloquium about the manuscript and the main topics of the experiment complete the experiment. Hand over your grading sheet to the supervisor.