

Regulations for “Lab Course Modern Physic I and II”

In the lab course, students are learning and applying modern working methods in physics. The aim is to gain the following competencies:

- Applying of physical knowledge
- Set-up of an experiment
- Measurement and evaluation
- Presentation of the results in the form of a report
- Working in a group

Approach:

1. Find out about the content of the various experiments online at http://www.physik.unibe.ch/content/index_ger.html
2. The experiments are described in the experiment instructions and are usually conducted in groups of two. Each group has to draft a joint report. The experiment takes three weeks.
3. Choose an available experiment (see above-mentioned website).
4. Register with the according course supervisor and subsequently contact the supervising assistant of the experiment.
5. Study the theoretical principles, based on the experiment. Before starting the experimental works there will be a talk with the supervising assistant to find out whether the group is sufficiently prepared, e.g. existing knowledge of the theoretical fundamentals to conduct the experiments. Mandatory requirements to conduct an experiment is the adequate preparation according to the respective experiment instructions. If you are not prepared, the experimental works of the tests shall not begin.

6. After consultation with the supervising assistant, you may start with the experimental works. During the experiments, you shall keep the records by maintaining a detailed journal, which consists of all steps to the testing, device setup, measuring data, characteristics during the test, etc. If possible, you should try to get a first overview over the results already during the tests, e.g. in order to remeasure a value. On completion of the course, you discuss the concept and structure of the test report with the supervising assistant.
7. Write the test report (you find guidance on the content on the homepage).
8. Evaluation:
Before the preliminary talk with the assistant, every student will receive an individual evaluation by the supervising assistant (20% of the overall grade). As for the test report, both student will receive the same evaluation (50% for the lab work and analysis, 30% for the preparation and presentation).
9. Safety:
Please follow the safety instructions given by the supervising assistant under any circumstances and insist on an appropriate introduction (e.g. Laser, high voltage, radiation, handling of hazardous substances, etc., wherever necessary).