

PHYSICS LABORATORY

GOALS

- Work in a team
- Develop experimental skills
- Learn how to take accurate notes (lab journal)
- Write scientific reports
- Add to and consolidate physical knowledge

UTILITIES

Always bring the **calculator** and the **formula book** ("Formeln, Tabellen, Begriffe") to the lab session.

JOURNAL

During the lab session, you **take notes** (*lab journal*), which I sign at the end of the session.

Bear in mind that the journal is **part of a report** and therefore follow some basic formal rules: Use a clean sheet of paper, respect the borders, write legibly. Do not forget to put the **title** of the experiment, the **date** of the lab session, your **names** and **class** on top of the first page.

The journal should enable anyone to interpret the data, even if he or she has not done the experiment. A **sketch** of the experimental setup is therefore compulsory. Every measured quantity must be well defined.

Try to record the values as you read them directly from the meters. Conversions (as simple as they may seem) and graphical representations can be made at a later time. Write down all data needed for the interpretation, e.g. environmental parameters and do never forget to take note of the **accuracy** of meters, etc. Series of measurements must be displayed in neatly formatted **tables**.

If you finish the measurements before the end of the lesson, start working on the interpretation on a new sheet.

REPORTS

Every group writes **three full reports** and **three short reports** per semester. Each report has to be handed in **two weeks** after the corresponding lab session. If you cannot hand it in in due time, inform me as soon as possible. Unjustified **delays are severely penalised**.

The lab counts as **one third of the semester grade** in physics. This usually is a good opportunity for students to improve their mark, although it is quite difficult to achieve an excellent mark in a report.

Do not underestimate the effort that has to be made to write a good report and try to spread the work across the whole semester. Be aware of cancelled lab sessions.

DEADLINES: Hand in the first report before Friday, 8 April 2011, the last report before Friday, 24 June 2011.

CONTENT

A **short report** contains the lab journal and the analysis of the experiments according to the instruction sheet. In addition to the complete analysis, a **full report** contains about five pages of text (formal font, 12 points font size and double line spacing). Use the **sample report** as a reference. Drawings and formulas may be added by hand. Do not use low quality images from the internet or "improvised" formulae.

When **quoting** passages from books or internet articles, you must indicate the source (author, title, publisher, year). For internet sources indicate the date of your last visit. When using online encyclopedias as a reference, include the keyword.

It is **not allowed to exchange** results or texts between the teams.

The time spent on a report should not exceed **half a day per person**.

TESTS

Topics covered in the lab can and will be tested in subsequent exams.