

Instructions for the Laboratory notebook – 10 ECTS

Research projects (GMB-005, GMB-008)

This guideline is based on instructions given for the GMB-302 Methods in Cell Biology course

Why is a good lab book important?

Keeping an accurate and complete lab book is an essential part of the scientific process. It is a permanent record of what you did in the laboratory, required for publishing and dissemination of your results, and vital for reproducing (by you or someone else) the results that you have obtained. In addition, it is also important to protect your intellectual property rights (e.g. for patents). Moreover, careful documentation of your own work is essential in most professions, not just as a scientist.

Different labs have different practices for keeping a lab book. For example, nowadays it is quite common to keep an electronic lab book. For the 10 ECTS Research project, you are expected to keep a detailed, hand-written lab book. Learning this detailed approach will then allow you to adapt to any other format.

Remember that lab book is one item that is assessed and thus affects your grade! Further, keeping a clear and detailed lab note book during your project is essential to write Materials and Methods and Results in commendable manner.

Considerations

The lab book should contain everything you did, including all the mistakes and possible problems you faced.

You (or in fact anyone) should be able to use your lab book to repeat your work and to obtain same results, even after considerable time has passed.

Therefore, when writing your lab book, ask yourself: with this text, could I repeat this next year? Could someone with a similar technical background make sense of the notes and repeat the work with the same results?

Instructions

- do not use a spiral notebook, instead use a riveted one
- write the lab book as soon as you can!
- write with a pen, not pencil
- try to make it neat, even if you have bad hand writing
- if you make a mistake, cross it out with one line – do not remove any pages number the pages and also include the date!
- Use a descriptive heading for each experiment (makes it easier to find specific things later)
- Include a short summary of what you are trying to do and why (=AIM)
 - 1-3 sentences are usually enough

- Write entries in chronological order
 - If you are continuing with an experiment that you started earlier, refer back to it (For example: “continuing the cell transfection from 13.10. 2018, page 10”)
- If you are doing something exactly like you did before, you can refer back to this information instead of rewriting it again
 - For example: “split cells as on 13.10.2018, page 10, except used 2 ml of trypsin instead on 1 ml”
- Describe the results that you obtained
 - In addition to spelling out what the results was, you should here also include the primary data from the experiments (e.g. printouts of your gels etc.), which should be glued/taped/stapled to the lab book (no loose papers!)
 - If the primary data cannot be included in the lab book (it could be for example a movie from a live cell microscopy experiment), include a comment on where the original data can be found and the file name.
- Include a conclusion (2-4 sentences) at the end of each day. Possible questions to address include:
 - What did you learn today?
 - Did everything go as planned? If not, why was this?
 - Could you do something differently next time?