

BPBS 4090 laboratory record book guidelines

The following are guidelines for you to get into the good habit of keeping a proper laboratory record book. These guidelines do not represent a marking scheme. However, if you consistently fail to adopt them, as they become relevant, it may be reflected in your final grade.

Although it is important to use some basic format rules that will make your notes organized and easy to navigate through, the highest priority is in the content. Please follow these guidelines as you consider necessary.

Format

- Include contact information on first page or on the inside of the cover.
- Number all pages.
- Date every page or at least at the beginning of every lab session.
- Use ink pen. Pencil can easily be erased and the information lost.
- Do not use it as scratch paper.
- Make sure it is readable to others. These days, scientific collaborations are much more common than experiments run by a single person.

Content

- Objective: explain what you aim to achieve at the beginning of every lab session.
- Note down the type of equipment used.
 - Include uncertainties when relevant.
 - Diagrams of experimental setup, circuits, etc., are very helpful.
- Write down your procedures.
 - Settings, alignment, etc.
 - Pay special attention to non-standard procedures.
- Record all measurements.
 - Use tables when possible.
 - Include units and the corresponding uncertainties.
 - Leave room for graphs if you need them. You can also staple graphs later.

- Label your graphs: axes' labels and legends are very important. A good graph, well labeled and not saturated with data is much easier to understand.
- Document your analysis method
 - Explain your analysis procedure.
 - It is not necessary to have complete complex calculations for each of your measurements, computers can do it. One single example is enough, if necessary.
- Present your results.
 - Comment on your results using scientific evidence collected during the experiment or from previous knowledge.
 - Quote uncertainties: systematic and statistical, when relevant.
- Write down a preliminary conclusion at the end of the lab session.
 - Did you prove your hypothesis?
 - Mention the main reason(s) why your result is not exactly as expected.
 - If your result is too good, maybe something is wrong.