

# Physics 2108 Experimental Methods I

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## Report writing instructions

### 1. Expectations

For the methods course, I would like the reports to be short and to the point. The purpose is for you to convince the marker that you understand the material and have completed the work.

### 2. Report requirements:

This report is to emulate a technical memo, as you might submit to a supervisor in a job. Thus, you can assume that your boss (the marker) is already familiar with what you want to accomplish. As a result, there is no need to write a long introduction that reproduces the material you have been given. Feel free to arrange your report in an order that makes sense. Do not feel constrained by titles of sections. The following is therefore only an approximate guide.

Use as many or as few sections as you believe makes sense to best communicate your work. The following information should be somewhere in the report:

1. Your name (First and Last) and student number.
2. Purpose or Introduction: What was the purpose of the exercise?
  - i.e. what experimental method did you learn about?
  - e.g. we learned about opamps, in particular how to build and analyse circuits using opamps.
  - Do not make this section longer than required.
2. Pre-lab results (include where appropriate).
3. Prove that you did the work (as much material as necessary), for example:
  - Your experimental data
  - Include a picture or two (from your mobile camera?), and draw diagrams if useful.
  - Pass in the completed circuit if applicable
4. Provide proof that you have understood the material
  - Include the appropriate analysis
    - e.g. analysis of circuits
  - Include the data, and compare the data to the theory
5. Discussion / Conclusions
  - If something did not work, be sure to provide an explanation.
  - Include anything additional that may have been interesting
  - e.g. unexpected phase change using...

### 3. Marking

#### 3.1 Examples of marks off:

- Missing name on lab report.
- Missing explanations of method, data, photos, graphs, figures etc. (see text above)
- Incorrect or imprecise equations or analysis.
- Insufficient proof that you did the work, or understand the exercise.
- Experiment does not work correctly
- Late penalties: 20% per day (or fraction thereof as agreed in class) – **capped at 40%**

### 3.2 Examples of extra marks:

- Extra initiative
- More precise measurements
- Short description of an application of what you have done
- Something new that the marker was not expecting

### 4. Additional notes and submission instructions:

- Submit your report by email **in PDF format**.
  - Send your report to: [williamedcotter@ucc.ie](mailto:williamedcotter@ucc.ie) and [f.peters@ucc.ie](mailto:f.peters@ucc.ie)
- The official submission time will be the time your report is received by the UCC email server. Thus, do not wait until the last minute, especially if you have a poor internet link.
- If you are unable to email the report, a hard copy can be handed in, but this is due 24 hours before the soft copy deadline
- Since you should submit electronically, please concentrate on communicating effectively. Feel free to include diagrams and graphs within the main text, or multiple per page.

### 5. Warning:

- The lab write up requires many items which have not explicitly been asked for, such as:
  - Analysis, graphs, units, data, etc.
- Before trying to take measurements make certain that you have completed the pre-lab section.
- The report should be in a single pdf file, and needs to communicate well what you have done. If the marker needs to flip back and forth through your report to understand what you are doing, this will result in a loss of marks.