

WRITING FORMAL LAB REPORTS

You have to understand the material in order to write a good lab report. For this course, I would like you to seriously regard the lab reports as a means of learning about the subject. If you do not understand the lab, or how the report should be written, you will be unable to write a good report! Your lab report should be divided into sections with headings. This makes it easier for the reader to find information quickly. The five sections are: Introduction (including experimental aim), Procedures (sometimes called "Methods"), Results, Discussion and Conclusion.

If you have used information from a source other than yourself, you must cite the reference. Add a section of References to the end of your report! To do otherwise is PLAGIARISM, which is a very serious offense. In the professional world it can cost you your career or reputation. In college it can cause you to fail a course or even be dismissed from school.

Introduction and Experimental Hypothesis:

This section should contain the following:

1. Background information consisting of a brief overview of the concepts behind the lab,
2. A statement of what general technique(s) were used and,
3. A statement of the purpose(s) or hypothesis of the lab. This should be written as a formal statement in the form of an "if.....then" statement. Your hypothesis statement should include the relationship between the dependent and independent variable in the experiment.

Do not rely exclusively on the lab handouts for the background; use, *at least*, your textbook as another source. But be careful in using your sources. Read your source material well enough to clearly understand it. Then put this down in your own words. Think what you did during the lab exercise and decide what the major purpose of the exercise was. Then put this down in your own words.

Procedure (or Materials/Method):

You should include the equipment used and any solutions (identity and concentration) used in the experiment.

You should write your method in the past tense explaining what you actually did. The method should be presented as a list of numbered steps taken to complete the experiment.

You should define the dependant and independent variables as well as any controls used in your experiment in this section.

This report should be written so that a person with a basic knowledge of the subject could follow your method and repeat your experiment. You should NOT include results here!

Results:

A graph(s) or table(s) of the data should be used to allow the reader to easily see the data.

Any table or figure used to present the results **MUST** have an explicit title, table/figure number and a legend below the figure or table briefly describing what data is presented in the figure. The figure and table numbers allow you to refer the reader to the correct figure when explaining your results in the discussion section of your report.

All columns (or axis on graphs) must indicate what is measured and the units of measurement.

Discussion:

In this section you should relate the results to the "big picture" and the points you raised in your introduction. You must explain to the reader your data or results in your own words explaining the relationship between the variables you measured and the patterns and trends (or lack of trends) in your findings. Explain how major findings support or refute your hypothesis. You should always indicate which table or figure you are referring to when discussing each section of your results (as mentioned above).

Review your results part by part, making comments as to whether you expected that result or not. You might want to make comments about what you might have changed or done differently and any applicable methods you know that could have been done in follow-up experiments to support your findings. Finally, you may want to make comments about what you might have changed or done differently. What are the possible sources of error in your experiment?

Conclusion:

This should be a couple of sentences summarizing whether your findings support or refute your hypothesis. Was your experiment successful?

References:

You must cite all sources used at the end of your laboratory report. All references should be listed correctly using **APA format**. Read the section in course information on how to cite references correctly using APA format from the college library.

Some Writing Tips:

When you are finished writing re-read it, asking yourself if each sentence makes sense. Does one sentence make a logical connection to the previous one? For most of us writing takes work; changing, deleting, adding, rearranging.

In fact writing may be the most important skill you develop while in college. After all it is through writing that so much information is communicated, especially in the Forensics lab where unclear writing, misinterpretation or mistakes could be the difference between conviction or exoneration of a suspect!