HOW TO WRITE A SCIENTIFIC LAB REPORT

PERSONAL INFORMATION

At the top of the first page, please put your name, the course number, your instructor’s name, and the date the paper is due. Please save a few trees, do not use cover sheets or blank pages to organize your report. Also, make sure to use an easily readable font.

TITLE

The title is very important. It will be several phrases (not sentences) long. It should include whether it is a computer simulation or ADI System. It should include the processes studied. It should include which variables are studied (temperature, pressure, substances, voltage, etc.). Think about computer searches and how a general word or phrase will generate millions of matches. You want the title to be specific to just a few possible matches.

INTRODUCTION – Subtitle must appear in the paper

Write the introduction before you do the experiments. It is more difficult to write after you have done the experiments. Plus, you will be doing the experiments without thinking through the scientific method.

Define relevant terms to your experiment in the introduction. Do not use bullets or glossary format. Define the words as you use them in the paragraphs about each experiment.

State the hypotheses in the introduction. The hypothesis for each experiment can be the last sentence of the last paragraph describing the experiment or all hypotheses for all the experiments can be contained in the last paragraph of the introduction. A good hypothesis is testable, specific to the experiment conducted, and should explain what you expect will happen to one variable when a second variable is altered.
MATERIALS AND METHODS - Subtitle must appear in the paper

Although this is an extremely important part of a scientific paper, you will be using a computer simulation (or the ADI system) and will be following directions. I know that you all can copy, so instead of spending time re-writing the instructions, I would like you to spend your time analyzing data.

The only thing that is necessary for this section of the paper is which method did you use? Did you use the CD in the back of your lab book? Which edition of the CD did you use? Did you do the same experiment, but used the web site instead? This information is important because occasionally, there are glitches in programs that may affect some students but not others.

RESULTS - Subtitle must appear in the paper

The results section includes the raw data generated in the computer printouts. You may also wish to write other observations made that are not in the printouts. Some students will make graphs or other data tables to summarize data. Be careful not to analyze data here.

DISCUSSION - Subtitle must appear in the paper

The discussion is the section where you analyze data. Do your results support or reject the hypotheses you stated in the introduction?

Use your lab manual to lead your discussion. There are many questions posed during the instructions for the lab. Do not ask the question and then answer it. Discuss your results making sure to emphasize those points.

This is where you may include information from other relevant sources. Make sure that you site any information that you discuss.

Sometimes weird things happen. This section is where you discuss any problems that may have occurred. If it is beyond your control
(Computer program glitches) make sure you talk about it here, otherwise, you may lose points.

Sometimes when you finish experiments, you may have more questions that were not covered. These make great suggestions for further research. The ability to form questions is a part of the scientific method.

REFERENCE LIST - Subtitle must appear in the paper

Cite the source of any material used to support this report. Use CSE format. For a thorough list of examples of this format, please use the following web site.

http://libguides.willamette.edu/c.php?g=56954&p=367143