

Laboratory Report Guidelines

Cover Page and Table of Contents: 4 points are required. Include names, date, group and lab number.

Section 1. **Procedure Statement (Abstract): 12 points** State in a summary paragraph what the laboratory assignment is.

Give an overview perspective statement. This should be the equivalent of an abstract of the whole process.

Section 2. **Steps Taken (Methods): 12 points** List and number the steps taken to perform the laboratory. This is similar to listing a recipe. Itemize what steps were followed to accomplish and complete the laboratory experiments. Do this itemization while the procedure is performed in the lab and list here. Label consistently so each step has a unique reference number.

Section 3. **Data Recorded: 12 points** Present observed data from experimental results. Use graphs, plots and photographs. Place a caption on each illustration. Axes and columns should be labeled. Text discussion is included to explain graphs and tables. Refer to illustrations by number (use captions) within the description such as “Table 1” or “Illustration 3”. Also refer to Steps Taken by number to explain where the data came from. Example: “The response shown in Illustration 3 was measured in Step 8 of the procedure.” Discussion about the data should also include information about how the data presented itself; was it easy or difficult to measure, were there any complications, what was obvious or difficult about the readings.

Section 4. **Data Tables(Raw data): 12 points** Explain what data are presented in the prior plots and graphs. Link to Steps Taken and Data Recorded by reference. Place a caption on each table and labels for columns and rows. Example: “The data in Row 1 of Table 3 are samples of the trace in Illustration 3”. Use the cross-references to make it easy to explain the data.

Section 5. **Observations about results: 12 points** Describe observations drawn from the experiment and its data. Is there any insight from having performed the laboratory experiment? Link back to Data Tables, Data Recorded, and Steps Taken by reference. Use the cross-references to link all together with Steps, Data Recorded, and Data Tables.

Section 6. **Answered questions: 12 points** Quote the original questions in italics and then follow each with its answer. Link with cross-references back to Sections 2,3, and 4.

Section 7. **Lessons learned(Conclusions): 12 points** What conclusions can be drawn from Observations, Data Recorded, and Data Tables?

- Were any skills and knowledge acquired from the laboratory experience?

Example: “In step 18 we learned that the amplifier output can saturate (Illustration 3) and it will not work.”

- Is there something that would be done differently if the experiment was repeated?

Example: “Next time we will make sure not to reverse the supply lines.”

- Does this laboratory experience give techniques which can be used with other issues?

Example: “We learned that calibrations are important before using instrumentation.”

Section 8. **Appendix: 12 points** Include a copy of original handwritten entries in the Lab report. This should be the notes produced during the experiment. Sections of the notes can also be numbered for reference within the report text. Example: “Appendix 1.3 is the raw data that was included in Table 3”

- Include additional support materials that help understand the process and/or results – web page, photos, etc...
- *Do not duplicate* the laboratory instructions within the appendix