

ADNAN MENDERES UNIVERSITY

Department of Electrical and Electronics Engineering

EE209 - Circuit Laboratory I

HOW TO PREPARE A LABORATORY REPORT

Fall 2025

Introduction

Engineers, scientists, and managers write reports to communicate the results of research, field work, and other activities. Often, a report is the only concrete evidence of your research, and the quality of the research may be judged directly by the quality of the writing and how well you convey the importance of your findings. Content, organization and clarity are the keywords to remember when preparing a report.

Reporting the results obtained from an experiment is as important as conducting the experiment. A sloppy report significantly deducts from the value of the results. Therefore, a properly prepared report is very important.

Fortunately, a lab report has a fairly consistent format that will help you to organize your information clearly. This document covers some important points on how to prepare a proper report for an EE209 experiments.

Format

The lab report must include:

- The title of the experiment
- The names and the ID-numbers of the students (Upper left corner)
- The name of your instructor (Upper left corner)
- The date that the lab was performed (Upper right corner)
- The lab section (Upper right corner)

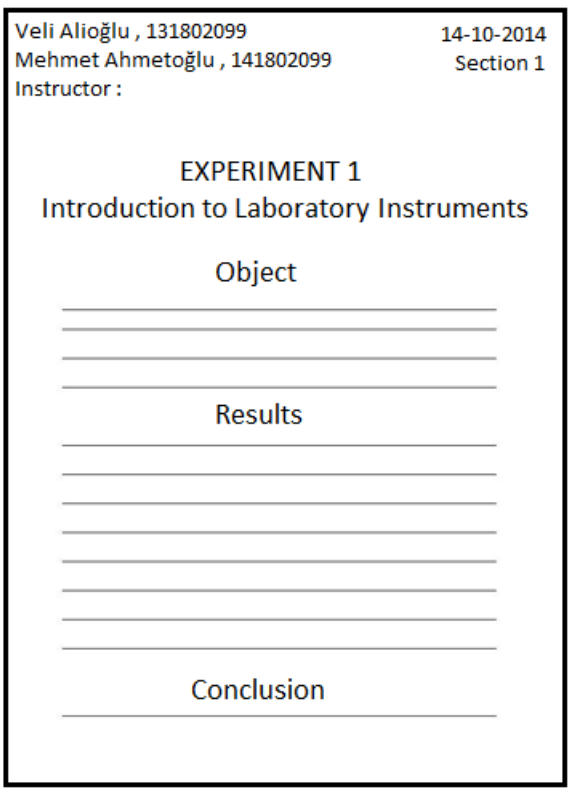


Figure 1: Laboratory report format.

Sections of the Report

There are three main sections of the laboratory report.

- Object
- Results
- Conclusion

Object:

In this section objectives of the report should be summarized. Laboratory manual also contains a section which explains the objectives of the experiment. The object section in the report should not be copied directly from this section. It should represent your understanding of the experiment with your own words.

Results:

This section contains the results obtained in the experiment. The graphical results should be drawn on graphical papers and should be included in the results. You should compare your results with the expected results; in case they are different then you should state the possible reasons. It is strongly recommended that you enrich your results with your comments.

Conclusion:

The conclusion section is a verbal summary of the experiment. It is important that you do not repeat the results section here; this should be a simple summary of what was done, observed and learned in the experiment.

Plotting the Graphs

Some of the results are presented by graphs more efficiently. Therefore, graphs are frequently used in reports. A proper plot should obey the following rules:

- All of the graphs should be plotted on a graphical paper.
- Title of the plot should be written.
- The vertical and horizontal axes should be drawn and clearly named.
- The units of the axis should be written.
- Origin of the plot should be clearly indicated.
- The indicators corresponding to each unit on the axes should be depicted clearly.
- Units of the values should always be mentioned.
- Critical or important values should always be mentioned.

Example: A proper graph:

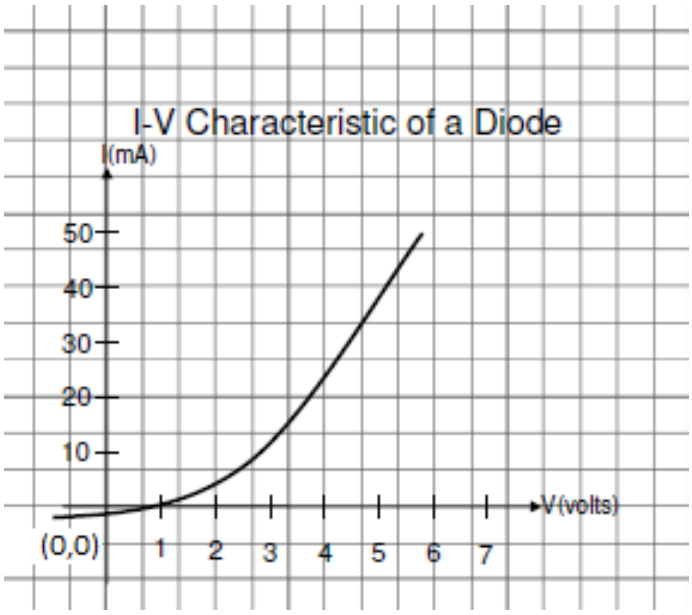


Figure 2: A proper graph example.

An unacceptable graph:

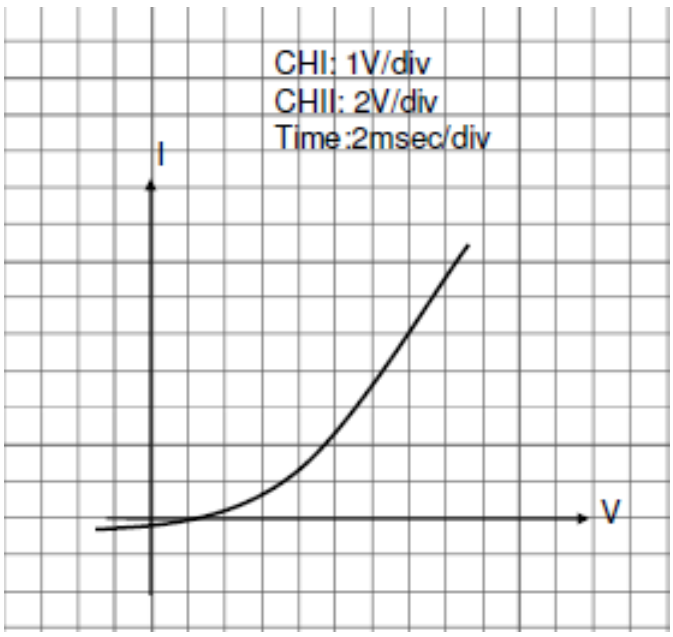


Figure 3: An unacceptable graph example.

The graph shown in figure 3 is completely unacceptable because,

- The title of the graph is not written
- Units of the axes are not given
- Axes are not ‘ticked’. Corresponding values are not shown.

A few important points about the reports

- You should write in complete, grammatically correct sentences.
- If most of your sentences are long (4 or more 'clauses' or parts) you will confuse the reader. Consider making two sentences (with 3 or less parts in each).
- Be concise. If you can use one word instead of a phrase with two or more words, then choose the one word alternative.
- Be objective. Limit your use of personal pronouns (I, you, we), emotionally loaded words (wonderful, useless, lovely), and casual or ambiguous expressions.
- Use technical terms correctly. Learn what they mean, how to use them, and how to spell them.
- Do not use contractions (isn't, doesn't, it's), While these are common in speech, in formal writing the full form (is not, does not, it is) is expected.
- Do not forget to indicate units of the values.

A good lab report does more than presenting the data; it demonstrates the writer's comprehension of the concepts behind the data. Merely recording the expected and observed results is not sufficient; you should also identify how and why differences occurred, explain how they affected your experiment, and show your understanding of the principles the experiment was designed to examine. Bear in mind that a format, however helpful, cannot replace clear thinking and organized writing. You still need to organize your ideas carefully and express them coherently.

*This guide is prepared based on the document “**HOW TO PREPARE A LABORATORY REPORT**” of the Middle East University, Electrical and Electronics Engineering department.