

Tutoring Guide for Engineering Lab Reports

The Assignment in General

The student must sum up his experience with a laboratory assignment in the form of a report. Primarily, the student must include the steps taken in the lab, the data gathered from that lab, and an interpretation/analysis of that data.

The Paper's Structure and Development

Professors' expectations for lab reports may vary, but students should normally follow this general sequence:

- **Cover Page:** Structure explained in detail in Lab Writing guides (see Writing Center file). Generally speaking, students normally should include the following: course title (name and catalog number of course), laboratory number, title of lab, name(s) of author(s), name of faculty member to whom report is submitted, day and time the laboratory group meets, the date(s) when the experiment was conducted, and the date of the report's submission.
- **Introduction:** The introduction should include a description of the objectives of the laboratory exercise as well as any applicable and introductory information pertaining to the theory or concept tested in the lab.
- **Data:** The data section should present the information gathered in the lab. Tables, charts, graphs and other visual tools can add visual appeal to the report, but they must be clearly titled and labeled. The data should be presented in the order in which it was gathered. When the student cites information from a visual tool, the text should refer to the specific table, graph, or figure being discussed.
- **Analysis and Discussion of Results:** This section should connect the writer's findings and information to the theory behind them. If the student feels that his or her data is consistent with the theory, s/he should explain how his or her data supports it. However, if the writer feels that the data s/he gathered does not line up with the theoretical concept, s/he should try to explain what might have contributed to the inaccuracy of the data.
- **Uncertainty Analysis:** This section should include the methods and equations used to calculate the uncertainty of the data.
- **Conclusions:** This section should include both a synopsis of the previous material and any other findings that the student learned from the lab.

Helpful Strategies

- **Active voice vs. passive voice:** Unless passive voice is explicitly asked for as an assignment guideline, the writer should assume a more prevalent active voice throughout the paper. *Use of first person is acceptable.*
- **Help writers identify fragmented or run-on sentences** within the body of the text. The writers should then correct such errors themselves.
- **Clarity and concision are key to good lab reports.** Writers should concisely explain and discuss the whole of the laboratory experience and be clear when referencing equations, graphs, tables, and figures. *No visual tool should substitute for the writers' own writing.* Yet, that writing must also be concise.