

Calculus Lab Instructions

The Laboratory Session

- Read over the laboratory instructions carefully before the lab session begins.
- Work in groups of three or four students.
- If work is called for in a *Pre-Lab*, make sure to do it with understanding. A successful lab experience will depend upon this work.
- Record your data, along with your thoughts and observations, as you work through the lab. You will likely want to add detail to your observations on your final lab write-up that you will turn in for a grade. Only one lab sheet is needed per group (make sure to put all group members' names on the sheet).

The Lab Report

The lab report should be a thoughtful, well-written, and neatly organized document that summarizes both your experience in the lab and what you learned as a result of that experience. Labs should be written up neatly on the lab sheet with graphs and tables carefully created and sketched. Your report should contain the following details.

1. *Summary and Conclusions:* A write-up of the important points of each activity within the lab stating your observations and answering the questions. This should be organized by section in accordance with the numbered sections of the lab handout. Use complete sentences to summarize your observations. Your conclusions should be inferences you draw from your data and calculations. This is your opportunity to show that you understand the purpose of the lab, saw patterns in the data, and gained significant insights. Be as sweeping in your conclusions as you dare, but back them up by explicit references to your data and calculations.
2. *Data & Calculations:* Your data and calculations should appear within the subsections of the *Summary and Conclusions*. You will want to follow the suggestions stated below for organizing your data and calculations.
 - *Data:* Summarize the data you collect in a succinct, easy-to-grasp form such as a table or a picture with labels. Keep in mind that I am interested in your answers, thoughts, and analysis, rather than output from the computer or calculator.
 - *Calculations:* If the lab instruction sheet asks for calculations or graphs based on your data, present them succinctly. Explain briefly how you did your calculations, perhaps by writing out one typical calculation in full.

Grading Scheme

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| | 0 pts. | No report turned in. |
| (E) | 10-11 pts. | Good faith effort to complete the report, but several parts missing or wrong. Very sketchy write-up. |
| (D) | 12-13 pts. | Write-up incomplete or several <i>key</i> mistakes. Weak job of answering questions requiring written responses. |
| (C) | 14-15 pts. | Report generally okay, but flawed. Adequate, but not thorough or thoughtful prose. No insightful comments made. |
| (B) | 16-17 pts. | Good job, but with some mistakes. A few insights stated. |
| (A) | 18-19 pts. | Very well done, complete and correct with only very minor flaws. Well written with several insightful comments. |
| (A+) | 20 pts. | Great report! Complete, typed or neatly written, and correct. Your write-up indicates that major ideas of the lab were understood. (i.e. <i>neatness = 1 point</i>) |