

Lab Report Rubric

<i>Skills demonstrated</i>	1	2	3	4	Score
Experimental design and methods	<p>a. Incorrect and incomplete derived physics equations or prelab questions</p> <p>b. Objective is not clear or copied from lab manual.</p> <p>c. Methods are imprecise or directly copied from lab manual.</p>	<p>a. Major errors in derived physics equations or prelab questions</p> <p>b. Objective is incomplete or includes methods or other unnecessary information.</p> <p>c. Methods list most steps to experiment or include too many extra steps not necessary to reproduce experiment.</p>	<p>a. Few minor errors in derived physics equations or prelab questions</p> <p>b. Objective is clear and describes the point of experiment.</p> <p>c. Methods list main steps to experiment or include some extra steps not necessary to reproduce experiment.</p>	<p>a. No errors in derived physics equations or prelab questions</p> <p>b. Objective clearly states the scientific concept tested in this lab in own words, and key parameters measured.</p> <p>c. Methods explained concisely, listing key steps and parameters to reproduce experiment.</p>	
Data presentation and organization	<p>a. Raw data unorganized and hard to follow.</p> <p>b. Calculations unclear or missing.</p> <p>c. Results unclear or missing.</p> <p>d. Data tables or plots missing.</p>	<p>a. Raw data somewhat organized.</p> <p>b. Algebra and other work not organized.</p> <p>c. Results have missing or incorrect units.</p> <p>d. Data tables and graphs not clear, with missing labeling (axes, titles) and units not generally specified.</p>	<p>a. Well organized report.</p> <p>b. Algebra and other work somewhat organized with respect to data.</p> <p>c. Results presented with units.</p> <p>d. Data tables and graphs clear, with proper labeling (axes, titles) and units specified on <i>most</i> figures.</p>	<p>a. Very neatly organized raw data presented, separated from calculated results.</p> <p>b. Algebra and other work well organized with respect to data.</p> <p>c. Results presented with units, with clear reference to results in discussion</p> <p>d. Data tables and graphs clear, with proper labeling (axes, titles) and units specified in all figures.</p>	
Data Analysis	<p>a. Incorrect calculations (computation issues).</p> <p>b. Analysis methods missing and work not shown.</p> <p>c. Linear regression calculations (and other statistical techniques) not shown, or improperly presented.</p>	<p>a. Some major calculation errors.</p> <p>b. Analysis methods and work partially shown.</p> <p>c. Linear regression calculations (and other statistical techniques) presented with some errors.</p>	<p>a. Few or no calculation errors.</p> <p>b. Analysis methods and work mostly shown.</p> <p>c. Linear regression calculations (and other statistical techniques) presented with few errors.</p>	<p>a. Calculations computed properly.</p> <p>b. Analysis methods shown, algebra shown where appropriate.</p> <p>c. Linear regression calculations (and other statistical techniques) shown and presented properly, including R values or other goodness-of-fit parameters.</p>	

<i>Skills demonstrated</i>	1	2	3	4	<i>Score</i>
Error Analysis & Propagation	<p>a. Incorrect propagation of errors throughout the experiment.</p> <p>b. Incorrect estimates for uncertainties used for each measurement.</p> <p>c. Error calculations missing.</p> <p>d. No sources of error in experimental process identified.</p>	<p>a. Few major issues with propagation of errors throughout the experiment.</p> <p>b. Unreasonable estimates for uncertainties used for each measurement.</p> <p>c. Error calculations partially shown.</p> <p>d. Some significant sources of error in experimental process not identified.</p>	<p>a. Minor issues with propagation of errors throughout the experiment.</p> <p>b. Mostly reasonable estimates for uncertainties used for each measurement.</p> <p>c. Error calculations mostly shown.</p> <p>d. Reasonable sources of error in experimental process identified.</p>	<p>a. Correct propagation of errors throughout the experiment.</p> <p>b. Reasonable estimates for uncertainties used for each measurement.</p> <p>c. Error calculations shown where appropriate. If not shown or if done computationally, algebraic expressions given.</p> <p>d. Sources of error in experimental process identified, and showed what kind of effect it would have on results.</p>	
Overall conclusions and results	<p>a. Unreasonable results and no attempt to explain why, with respect to experimental methods or calculations.</p> <p>b. Unreasonable interpretations of results as prompted by lab manual questions.</p> <p>c. Conclusions do not respond to experiment purpose.</p>	<p>a. Mostly reasonable results but no attempt to explain unreasonable results.</p> <p>b. Mostly reasonable interpretations of results as prompted by lab manual questions.</p> <p>c. Conclusions somewhat respond to experiment purpose.</p>	<p>a. Reasonable results throughout experiment, or some attempt to explain unreasonable results.</p> <p>b. Reasonable interpretations of results as prompted by lab manual questions.</p> <p>c. Conclusions respond to experiment purpose.</p>	<p>a. Reasonable results throughout experiment. If results unreasonable, showed how measurements or measurement errors led to these results.</p> <p>b. Exceptional interpretation of results going beyond the lab manual questions.</p> <p>c. Conclusions respond to experiment purpose and expand on it.</p>	

Total Score: