

Physics 50 Lab Report Rubric - Spring 2026

Introduction and Writing	The report starts with a clear description of the scientific goal/question the experiment addresses.			
	The report briefly introduces the relevant background physics needed to understand the experiment.			
	The report is clearly worded and proofread, without distracting typos or incomplete sentences, and is well-organized into paragraphs that provide an effective structure for following the train of thought.			
	Quantities are expressed with units and appropriate significant figures.			
	All variables are defined. Equations and variables are formatted correctly (use an appropriate equation editor, no screenshots/pictures or informal formatting).			
	Figures are instructive and include figure labels and captions directly below them.			
Procedure	Includes a description of the experimental setup that is sufficient for someone with knowledge of the equipment to set up the experiment. Typically should include instructive pictures and/or figures.			
	Includes a description of the procedure that is detailed enough to replicate the experiment with your chosen procedure, including what constitutes a trial.			
	Includes an explanation of how steps in the procedure were chosen to optimize the experiment (ex. repeated trials)			
	All procedure and data were documented in the Google Doc/Data Sheet during the lab period (required to receive any credit for procedure).			
Analysis	Equations relevant to calculating quantities of interest (measured quantity and physical quantity of interest) are included.			
	The calculations required to connect the data collected to the physical quantities of interest were performed correctly, with explanations about how the final value was estimated (single measurement? mean over N trials?).			
	Any derivations of equations beyond what is written in the manual are documented in the Google Doc. Calculations are applied in the Google Sheet (required to receive any credit for analysis).			
	When relevant (not for module 1), the report includes one or more plots systematically varying the quantity on the x-axis over ≥ 5 values. This data is correctly fit in the Phys 50 plotter, and the text includes a discussion of observed trends in fits and fit statistics. Any graphs include axes labels and units.			
Uncertainties and Error Analysis	Equations relevant to calculating uncertainties (in measured quantity and physical quantity of interest) are included.			
	Any derivations of equations for error propagation beyond what is written in the manual are documented in the Google Doc. Calculations of uncertainties are applied in the Google Sheet (required to receive any credit for error analysis).			
	Uncertainties are calculated correctly, with explanations about what the uncertainty represents (standard deviation over N trials? SEM from N trials? differences near the maximum?)			
Results and Interpretation	The report recaps the main experimental conclusions at or near the end of the report.			
	All results are quoted with uncertainties.			
	Clear and logical conclusions are drawn from the results in the context of the original question posed.			
	The dominant sources of error (random vs. systematic, which term dominated in the uncertainty of the measured quantity if relevant) are identified and analyzed (quantitatively where appropriate).			
	The report reflects on future experimental changes that would reduce the identified dominant errors.			
Lateness	(-5%) < 5 hours late	(-10%) < 24 hours late	(-15%) < 48 hours late	(-20%) < 72 hours late