General Physics Laboratory Grading Rubric

Each lab is graded on a 10-point scale. The points indicated for each criterion can be broken down as you see fit for a given lab. For example, under the data criterion, I would generally take off ½ point for forgotten units if it were done once or twice. For multiple offenses, I might move it up to a whole point or more. For some labs, there may be occasion to redistribute some of the points. For example, if the lab is mostly repetitive graphing and very little calculation, points would be moved into the former category from the latter.

Late lab notebook entries (those complete writeups not in the lab by 6:00 PM on the Tuesday it is due) will be awarded a 3-point penalty. If the lab writeup is not turned in by the following Saturday at 9 AM, it will be given zero credit.

	Criterion	Points
1.	Name + partner(s) names, date, experiment number and title	0.5
2.	Objective and Procedure – a very brief statement of the overall goal and experimental plan with narrative throughout the write-up explaining various steps, sources of data, *etc.*; diagrams of all apparatus/models are diagramed and briefly described, with all appropriate variable names labeled.	2.0
3.	Data – presented with appropriate notation, units, and uncertainties; tables should be used when appropriate to make data more easily understandable; data taken with a computer should be pasted into the notebook, either in tables or as graphs; all graphs must have appropriately labeled axes and titles; sufficient data are presented for the experiment.	2.0
4.	Calculations/results – complete mathematical statements should be used; any formulas used should be written in their skeleton form before plugging in numbers; data should be plugged into equations with units and the result clearly indicated; if spreadsheets are used for calculations, an indication must be made of what mathematics was used; for multiple calculations, one sample calculation may be sufficient; calculations must be appropriate and correct; results are reasonably accurate.	2.5
5.	Uncertainties – all measurements (data) and results should show uncertainties; calculations of uncertainties should be shown and explained; for multiple calculations, one sample may suffice.	1.5
6.	Conclusion – includes a summary of results (using correct physical principles), including an explicit statement of numerical results, with uncertainties, discusses shortcomings of the mathematic modeling of the experiment, problems with the experimental setup, and suggestions for changes/improvements to the lab; reasonable rationale are given for all discrepancies (justified by specific evidence).	1.5
	Total	10.0

General Physics Lab Notebook Entry Rubric

Note that some reallocation may be necessary if the lab has a format that deviates from this approximate distribution of emphasis.

Lab Entry Component					Score
Heading [0.5]	Lab title, name + partner(s) names, date, experiment number and title **[0.5]**	Two or more of the items listed are missing **[0]**			
Objective/ Procedure/ Narrative [2.0]	A concise statement of goals and experimental plan with narrative throughout the write-up; apparatus/models are diagramed and briefly described, with all appropriate variable names labeled. **[2.0]**	One of the items listed are missing or inadequately addressed **[1.0]**	Two of the items listed are missing or inadequately addressed **[0.0]**		
Data [2.0]	Presented with appropriate notation, units, and uncertainties; tables used when appropriate; data taken with a computer should be pasted into the notebook, as tables or graphs; all graphs have appropriately labeled axes and titles; sufficient data are presented for the experiment. **[2.0]**	One of the items listed are missing or inadequately addressed **[1.5]**	Two of the items listed are missing or inadequately addressed **[0.5]**	Three of the items listed are missing or inadequately addressed **[0.0]**	
Calculations/ Results [2.5]	Complete mathematical statements; all formulas shown; data should be plugged into equations with units and the results clearly indicated; any spreadsheet output shown and explained; calculations must be appropriate and correct; results are reasonably accurate. **[2.5]**	One of the items listed or calculations are missing or incorrect or result somewhat inaccurate. **[1.5]**	Two of the items listed or calculations are missing or incorrect or result somewhat inaccurate. **[0.5]**	Three of the items listed or calculations are missing or incorrect or result is completely inaccurate. **[0.0]**	
Uncertainties [1.5]	All measurements (data) and results should show uncertainties; calculations of uncertainties should be shown and explained; for multiple calculations, one sample may suffice. **[1.5]**	Uncertainties incorrectly stated/calculated or inappropriate in at least one instance. **[1.0]**	Uncertainties incorrectly stated/calculated or inappropriate in two or three instances. **[0.5]**	Uncertainty issues are not addressed or are completely inadequate. **[0.0]**	
Discussion/ Conclusions [1.5]	Includes a summary of results (using correct physical principles), including an explicit statement of numerical results, with uncertainties, discusses shortcomings of the mathematic modeling of the experiment (validity), problems with the experimental setup, and suggestions for changes/improvements to the lab; reasonable rationale are given for all discrepancies (justified by specific evidence) . **[1.5]**	The conclusion lacks one of the items listed or inadequately addresses one of the items. **[1.0]**	The conclusion lacks two of the items listed or inadequately addresses one of the items. **[0.5]**	The conclusion is grossly incomplete or is not present **[0.0]**	