

Rubric for Evaluation of Physics Lab Exercise (Fall 2008)

Student _____ Evaluator _____ overall score ____

| Attribute | 1 - Not Acceptable | 2 - Below Expectations | 3 - Meets Expectations | 4 - Exceeds Expectations | Score |
|--------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------|-------|
| Experimental Method | | | | | |
| Understanding of the measurement technique | Measurements made in a fundamentally wrong manner | Some conceptual errors in measurement taking | Measurements done properly | Innovative and proper measurement technique | |
| Setup of apparatus | Apparatus set up in a non-functional manner | Apparatus set up will cause data errors | Apparatus properly set up | Apparatus enhanced for better precision | |
| Lab report | | | | | |
| Reports detailed enough to allow duplication of results by another | Errors in documentation of apparatus | Error in documentation of procedures | Documentation complete and correct | Report warns of difficulties and gives alternatives | |
| Reports logically coherent and sequential | Conditions for data and/or graphs not stated. Unclear report | All data present, but not in sequence. Must search for items | Data presented clearly following each procedure | Data presented clearly along with excellent narrative | |
| Reports include all required data | Required data not taken or not reported | Data points poorly chosen or missing | All required data taken and reported | Measurements beyond requirements made and reported | |

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|----------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------|-------|
| Critical evaluation of findings | Blind acceptance of clearly defective results | Recognizes defective results but does not know what to do | Recognizes defective results and figures out the cause | Recognizes defective results and eliminates the cause | |
| Correct data reduction | Data not reduced | Data reduced improperly or incompletely | Data reduced correctly | Extra data taken and reduced correctly | |
| Ability to recognize main sources of error & uncertainty | Not understood | Errors in understanding | Clear understanding | | |
| Correlation between data and theory | Not done | Done poorly or incompletely | Complete and done well | Qualitative accounting for differences | |
| Ability to draw proper conclusions from lab | Conclusions not drawn | Incorrect conclusions drawn | Correct conclusions drawn | Correct conclusions correlated to other material | |
| Spelling and grammar | Many errors | Several errors | No more than two errors | No errors | |
| Computer use | | | | | |
| For data-taking, data analysis and plotting. | Not done | Done incorrectly | Done correctly and completely | | |