Student: _____   Grade: _____ / _____

Experiment: _____

Common Abstract Errors
Purpose
☐ Purpose refers to the lab manual or other outside information
☐ Purpose is incorrect (the correct purpose is almost always "to measure …")
Equipment & Procedure
☐ Abstract lists the equipment rather than describing it
☐ Procedure is too detailed
☐ Procedure is insufficiently detailed or refers to the lab manual
☐ Procedure does not reflect what you actually did
☐ You accepted measurements that are not believable
Analysis & Uncertainties
☐ Abstract doesn't state why a plot was made
☐ Abstract blames or credits a plot for making a decision
☐ Abstract blames or credits Excel for making a decision
☐ Result is computed incorrectly
☐ Uncertainty is computed incorrectly
Results & Conclusions
☐ Numeric result has incorrect significant figures
☐ Numeric result has bad units
☐ Numeric result uses "E" or '^' notation (scientific notation must be in the form $(1.23 \pm 0.04) \times 10^{-2}$)
☐ Conclusion blames "human error" or the equivalent
☐ Conclusion doesn't state the primary source of error (what improvement would most improve the result?)
☐ The stated primary source of error was already accounted for, so it can't still affect the results
Mechanical
☐ Abstract has spelling and/or capitalization errors
☐ Abstract has grammar errors (such as run-on sentences, missing verbs, missing nouns)
☐ Abstract has tense errors (every part should be in past tense)
☐ Abstract uses future tenses like "would" or "could" inappropriately
☐ Abstract uses a pronoun inappropriately (usually, you don't say what "it" is)
☐ Abstract uses an article incorrectly ("a" and "the" mean different things)
☐ Abstract has poor word choice (usually, a word doesn't mean what you think it does, or is too fancy)
☐ Abstract is not sufficiently concise
☐ Abstract contains forbidden elements (such as pictures or equations)

Comments:

Student: _____   Grade: _____ / _____

Experiment: _____

Logbook & Excel Grading Checklist
Overall
☐ The logbook is the correct quad-ruled, hard bound notebook
☐ All pages are numbered, on both sides, including pages that you haven't used
☐ Student's name and contact information are on the cover
☐ Pages 1 and 2 (Not the inside cover!), at a minimum, are reserved for the table of contents
☐ Table of contents is complete for all completed labs
☐ Logbook has no torn-out pages
Preparatory Work
☐ Pre-Lab quiz work is recorded in the logbook
☐ Addresses main ideas, not just answers to questions
☐ Main ideas are summarized for easy access
Lab Work & Effort
☐ Recorded lab partner's name and contact info
☐ Recorded all *original* measurements (*before* making any calculations or conversions)
☐ Recorded all necessary quantities
☐ Repeated measurements that were obviously incorrect
☐ Uses appropriate symbols for each quantity (including equations on plots)
Analysis & Uncertainties
☐ Has a copy of relevant plots
☐ Relates results from plots (e.g., slopes) to basic equations (i.e., understands purpose of each plot)
☐ Presents algebraic representations of all uncertainties
Clarity & Presentation
☐ Mistakes, although crossed out with a single line, are still legible
☐ Includes complete, clear, labeled drawing of the experiment without extraneous detail
☐ Includes a summary table with all relevant quantities
☐ Summary includes units and uncertainties
☐ Provides sufficient description (procedure) so that someone else could repeat the experiment without the assistance of the lab manual or any other external reference
☐ Data, analyses, etc. are not crammed into too small a space or in illogical order
☐ All numerical information is labeled (i.e., not just floating numbers without context)
☐ Includes an original copy of appropriate abstract
Excel
☐ Recorded all *original* measurements (*before* making any calculations or unit conversions)
☐ Uses only Excel **equations** for *all* other cells? (that is, you may never enter any value from a calculator)
☐ Each measured value is entered only once
☐ Includes labels and units
☐ Worksheet includes all partners' names and the date that the experiment was performed
☐ Plots are formatted properly (uses template, has proper labels, etc.)