

Area	Expectation	Criteria for grade	Points
Presentation	<p>Hypothesis or objective</p> <ul style="list-style-type: none"> • Hypothesis or objective clearly and succinctly stated • Background or context clearly presented, clear why someone would be interested • Original idea consistent with time and resources <p>Experimental design</p> <ul style="list-style-type: none"> • Design appropriate to address hypothesis or objective • Design appropriate for time available • Design includes enough replicates for meaningful test of hypothesis • Design clearly presented, easy to follow <p>Results</p> <ul style="list-style-type: none"> • Just the right amount of detail in tables and figures • Easy to follow • Problems encountered and solutions <p>Conclusions</p> <ul style="list-style-type: none"> • Conclusions clearly and succinctly stated • Conclusions supported by data and appropriate statistical tests applied to data • All assumptions, approximations and simplifications stated explicitly (i.e., come absolutely clean on any short-cuts) • Any editorial comments explicitly separated from data and conclusions • Next steps – what you would do if you had it to do over again or had another full month / term to work on the project <p>Delivery</p> <p>Group presentation</p> <p>Audio-visual materials</p> <p>Speaking</p> <p>Audience interaction</p> <p>Length of presentation</p> <p>Response to questions</p>	<p>Every member participates; smooth transitions between speakers; each speaker has a specific topic to cover and the number of transitions between speakers is minimized.</p> <p>Balanced use of multimedia materials, properly integrated; tables and figures legible and professional (cf. Spreadsheet Proficiency exercise) and not overloaded with data; arrive 15 minutes before session starts to load presentation on computer and familiarize yourself with the AV equipment</p> <p>Very poised, clear articulation, proper volume, steady rate, good posture and eye contact, confidence; speaker, and those waiting to speak do not block the audience view of the screen (stand back towards the screen vs in front by the projector)</p> <p>Holds the audience’s attention</p> <p>Covers the most important material in exactly the time allowed (10-15 minutes)</p> <p>Listens to questions, repeats the question if there is any ambiguity and waits for questioner to verify , answers succinctly and correctly (or simply states, “I don’t</p>	

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Report	<p>I. Abstract. A one or two paragraph summary with one or two sentences devoted to each of the following: a statement of the problem, the methodology used, the results (especially numerical results) and the significance of the results.</p> <p>II. Introduction. Include any relevant background material about the type sample analyzed or analyte determined and analytical procedure chosen and the justification for the project. Pertinent literature should also be discussed.</p> <p>III. Experimental</p> <p>a. A complete description of blank, standard, and sample preparation procedures.</p> <p>b. A description of the instrumentation used and experimental conditions. There is no need to review the standard operation of the instrument. If you use an experimental setup equivalent to that used in class, just reference the experimental writeup. Any modifications to a standard procedure or instrumentation should be discussed in detail. The explanation should be detailed enough that another student in the class could reproduce your results by following only the material in your laboratory report.</p> <p>IV. Results. The raw data taken in your laboratory notebook should be attached as well as hard copies or charts of spectra, etc. All data should be summarized in tables along with mean and standard deviation data and the number of data points used in the calculations. The detection limit and precision of analysis should be reported. Exemplary calculations should be included. All tables and figures should be numbered and have titles. In the text, refer to tables and figures by number.</p> <p>V. Discussion. Summarize the results and discuss their meaning. Compare to literature values where possible. Estimate the uncertainty in your results and discuss probable sources of error. Indicate any improvements that could be made.</p>		