

## Outcome B: Experimentation Grading Rubric

This matrix will be completed with the number of students achieving a level for a criterion.

Details for each student will be in a spreadsheet.

Level/ Criterion	Per cent weight	L5 (5)	L4 (4)	L3 (3)	L2 (2)	L1 (1)
C1: Proposed Solution (Question(s) and Background Information)	10-20 15					
C2: Formulation Of Solution (Hypotheses)	10-20 15					
C3: Analytic Explanation Of Solution (Procedures and lab set-up for obtaining data)	20-40 30					
C4: Implementation (Data collection)	5-15 10					
C5: Execution (Data analysis part of the report)	10-20 15					
C6: Result Interpretation (Conclusion(s) and remaining issues)	10-20 15					

C1: Questions and related background show that student clearly understands the issues to examine.

5: Summary indicates that student understands the issues and what should be explored.

3: Summary indicates that student should learn something from their experiments.

1: Not clear that student will be performing an organized experiment.

C2: Student has decomposed the problem into one or more experimentally testable hypotheses.

5: Hypotheses indicate that student performed initial work leading to testable hypotheses for the given problem.

3: Hypotheses indicate that initial work was hastily performed.

1: Hypotheses are flawed and may not be testable.

C3: The components (e.g. code for 2320) have been implemented, tested, and could be used by others.

5: Components are designed to be useful for anyone performing related experiments.

3: Components are insufficient for performing necessary experiments.

1: Components are incorrect.

C4: The nature of the collected data is accurately described.

5: Quantity of data is appropriate, but not overwhelming, for drawing conclusions.

3: Quantity of data is barely sufficient for drawing conclusions.

1: Experimental set-up precludes obtaining data.

C5: Data is presented appropriately in tables or graphical forms.

5: Trends in the data are clearly identifiable.

3: Trends appear, but are not obvious.

1: Data is very incomplete.

C6: Conclusion(s) regarding hypotheses are presented with support from the data. Possible errors are noted. Remaining issues are discussed, along with additional experimental work that could be performed.

5: Conclusions for all hypotheses, with support from data.

3: Conclusions are related to hypotheses, but questionable support from data.

1: Conclusions related to hypotheses are lacking.