

**Rubric for lab reports completed in PLNU General Education lab courses (BIO 101, 103, 105, 210, and 211)
for assessment of GE Learning outcomes 1a, 1d, and 1e:**

Written: Students will be able to effectively express ideas and information to others through written communication.

Critical Thinking: Students will be able to examine, critique and synthesize information in order to arrive at reasoned conclusions.

Quantitative Reasoning: Students will be able to solve problems that are quantitative in nature.

Component	Initial (2 pts.)	Emerging (3 pts.)	Developed (4 pts.)	Highly Developed (5 pts.)
Introduction and hypothesis (Written)	<ul style="list-style-type: none"> No indication of purpose of the research Provides no background information Hypothesis is missing 	<ul style="list-style-type: none"> Some indication of purpose of the research Provides some background information, but some is inaccurate or irrelevant Provides the hypothesis, but the hypothesis is unclear /confusing 	<ul style="list-style-type: none"> Clearly articulates the purpose of the research Provides some accurate and relevant background information Clearly identifies the hypothesis 	<ul style="list-style-type: none"> Clearly articulates the purpose of the research, beyond the narrow topic Provides excellent background information Clearly identifies the hypothesis and makes a prediction
Methods and Materials	<ul style="list-style-type: none"> Methods are unclear and incomplete and materials are not sufficiently identified No variables correctly identified 	<ul style="list-style-type: none"> Methods are basically explained, but incomplete with some materials not included Some variables correctly identified 	<ul style="list-style-type: none"> Explains methods and materials, but missing some details Most variables correctly identified 	<ul style="list-style-type: none"> Clearly and completely explains methods and materials All variables correctly identified
Results (Quantitative reasoning)	<ul style="list-style-type: none"> Graphs and tables are poorly/inaccurately done No mention of tables/graphs in text Many opinion statements 	<ul style="list-style-type: none"> Graphs and tables are inaccurate/missing labels with some errors Summarizes tables and graphs in text No clear reference to specific tables/graphs in text Obvious opinion statements 	<ul style="list-style-type: none"> Graphs and tables are adequate but some labels/titles missing Generally accurately summarizes the tables and graphs in text Clear reference to some tables/graphs in the text Some opinion statements 	<ul style="list-style-type: none"> Graphs and tables are well done and accurately labeled and titled Accurately summarizes the tables and graphs in text Clear reference to all tables/graphs in the text No opinion statements
Conclusion(s) (Critical thinking)	<ul style="list-style-type: none"> Fails to identify conclusions, or conclusion is a simplistic summary with no connection to original hypothesis No mention of problems with the study No consideration of future research 	<ul style="list-style-type: none"> Identifies conclusions and refers to some specific pieces of evidence, but no connection to original hypothesis Minimal consideration of problems with the study Minimal mention of future research 	<ul style="list-style-type: none"> Clearly links evidence with the conclusion Some consideration of problems with the study Some mention of possible future research 	<ul style="list-style-type: none"> Clearly links evidence with the conclusion and the original hypothesis Thorough consideration of problems with the study Several ideas for possible future research
Writing quality (Written)	<ul style="list-style-type: none"> No sections labeled Simplistic and/or unclear writing Consistent use of present or future tense Many errors 	<ul style="list-style-type: none"> Some sections clearly labeled Unclear writing Mostly uses present or future tense Some errors 	<ul style="list-style-type: none"> Most sections clearly labeled Clear writing Sometimes uses past tense Few errors 	<ul style="list-style-type: none"> All sections clearly labeled Clear and sophisticated writing using advanced vocabulary; enjoyable to read Consistently uses past tense No errors