

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