

**Written Communication Outcomes 1.1A.1, 1.1A.2; and Critical Thinking Outcome 1.5.3 Course: BIOL 442**

**Objectives:**

**Students will effectively develop, express, and exchange ideas in the English language, . . . in writing . . . , with clarity and coherence.**

**Students will recognize, analyze, criticize, evaluate, and formulate arguments in ways characterized by intellectual courage and reflective self-criticism.**

<b>By graduation students will:</b>	<b>Not Proficient</b>	<b>Developing Proficiency</b>	<b>Proficient</b>	<b>Exceeding Proficiency</b>
<p>Write a <i>persuasive essay</i> that includes the following: a clear and debatable thesis, fully developed and supported ideas, clear organizational structure, effective consideration of opposing arguments, use of credible sources, appropriate documentation of sources, consideration of a target audience, and conventional grammar and mechanics.</p>	<p>Information does not address directly the question and is arranged in disorganized way.</p> <p>Conclusion is not tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified</p>	<p>Information somewhat address directly the question and but is not arranged in disorganized way.</p> <p>Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified</p>	<p>Explicit information addresses a question. Use keywords from the question to gather information. The information is arranged in a persuasive way.</p> <p>Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.</p> <p>Writing is clear and appropriate, and sources are credible and cited accurately.</p>	<p>Information directly addresses a question. Uses keywords, a theory behind the experiment/the history of similar experiments or inventions to gather information. The information is arranged in a persuasive way.</p> <p>Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.</p> <p>Writing is exceptionally clear and appropriate, and sources are credible and perfectly cited.</p>
<p>Produce a <i>discipline-specific document</i> judged proficient according to a department-approved rubric in the student's major.</p>	<p>No argument indicating the need for the proposed study and the significance of the study. Project objectives are not clearly described and methodology is insufficient. No justification for proposed methods or research team.</p>	<p>Provided a weak argument for the need for the proposed study and the significance of the study. Objectives described but methodology described does not complete the proposed objectives. Weak justification for proposed methods and proposed research team.</p>	<p>Provided a clear argument indicating the need for the proposed study and the significance of the study. Project objectives and appropriate methodology to complete the objectives are described. Clear justification for proposed methods and proposed research team.</p>	<p>Sophisticated argument for the need for the proposed study and the significance of the study. Project objectives and appropriate methodology were clearly considered and a strong argument for these methods as opposed to alternative methods is provided along with justification for the research team.</p>

<p>Produce a written document on a difficult question involving the disciplinary content of the student's major that subjects the student's reasoning to <i>sustained, intelligent criticism</i> according to the standards of that discipline.</p>	<p>The problem is not written in the form of a verification question that is only for building knowledge and does not address an opposing argument.</p> <p>The hypothesis is not written in a complete sentence and is not a guess to the problem.</p> <p>There were big mistakes when mentioning either variables or controls/missing variables or controls/mixed-up variables or controls</p>	<p>The problem is written in the form of a verification question that is only for building knowledge and does not address an opposing argument.</p>	<p>The problem is written in the form of a significant question that requires explanations, prior knowledge, addresses at least one opposing argument.</p> <p>The hypothesis is a guess or explanation to the problem and comprehensively written.</p> <p>Both variables and controls are identified, but do not include the amount (unit of measurement)</p>	<p>The problem is written in the form of an experimental question that requires explanations, prior knowledge, and is testable. The question addresses two or more opposing arguments.</p> <p>The hypothesis is written as a guess or explanation of the problem and comprehensively written in an "if...then..." statement</p> <p>Both variables and controls are clearly identified and the exact number of variables included.</p>
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**Assignment meeting Outcome 1: Assignment 12: Final grant proposal**

**Assignment meeting Outcome 2: Assignment 12: Final grant proposal**

**Assignment meeting Outcome 3: Assignment 12: Final grant proposal**