

BMEG 236 – Quantitative Analysis in Human Physiology

Student Outcome b: an ability to design and conduct experiments, as well as to analyze and interpret data

Performance Criterion #1: *Formulate your own scientific hypothesis about human physiology from the scientific literature*

Scoring Rubric:

Aspect	1: Not proficient	2: Progressing to proficiency	3: Proficient	4: Superior proficiency
Formulate a hypothesis	No hypothesis given	Hypothesis does not answer the question posed	Hypothesis is given and pertains to the experiment	Hypothesis is clear and relates significantly to the experiment and testing protocol
Uses scientific literature to formulate hypothesis	Literature not used to develop hypothesis	Hypothesis copied directly from literature, no student consideration	One peer-reviewed source used to develop a hypothesis	Multiple peer-reviewed sources used to develop a hypothesis

Performance Criterion #2: *Design, conduct, and analyze/interpret an experiment that looks at monitoring aspects related to human physiology*

Scoring Rubric:

Aspect	1: Not proficient	2: Progressing to proficiency	3: Proficient	4: Superior proficiency
Design a module (formulate hypothesis, create protocol, establish controls)	No module designed	Module designed does not effectively probe the physiological question posed	Module designed probes the physiological question posed, missing controls or sampling diversity	Module probes the physiological question posed and is designed with proper controls and sampling diversity

<p>Conduct an experiment (collect data, follow protocol)</p>	<p>No module designed</p>	<p>Module designed does not effectively probe the physiological question posed</p>	<p>Module designed probes the physiological question posed, missing controls or sampling diversity</p>	<p>Module probes the physiological question posed and is designed with proper controls and sampling diversity</p>
<p>Analyze data collected (formulate hypothesis, create protocol, establish controls)</p>	<p>No module designed</p>	<p>Module designed does not effectively probe the physiological question posed</p>	<p>Module designed probes the physiological question posed, missing controls or sampling diversity</p>	<p>Module probes the physiological question posed and is designed with proper controls and sampling diversity</p>