Week 10 In-Lab

BIOE 320 Systems Physiology Laboratory

Designing an Experiment

1. Specific question:

2. General research question:

3. Hypothesis:

4. Experimental protocol and variables:

Parameter	Decision
Baseline or reference values	
Sample size	
Activity your test subject will perform	
Duration of recording and number of repetitions	
Values to analyze	
Statistical test to perform	

Experimental Methods

Data Collection

1. If you need reference values, show a table with the baseline values measured. Otherwise, draw a sample of your data for each group and specify what values you will measure and why.

2. Write down the instructions that you will provide to the subject before you begin the experiment. Make sure the instruction are concise and repeatable.

3. Create a table will all experimental values measured. Make sure your table includes the subject number and the parameters you are planning to compare.

Data Analysis

1. Choose a graph and/or table that summarizes your collected data.

2. Perform a statistical analysis of your choosing.

3. State whether or not your hypothesis is supported by the data. Be as specific as possible.

4. Did your data have any interesting findings? If so, suggest a reason for these interesting findings.

5. Were there factors not measured that you believe would affect the results? List these factors and justify why they would affect the results.

6. What are the implications of your results? Relate your findings back to your understanding of physiology. Support your claims with literature if necessary.