

UNIVERSITY OF ALABAMA
 Department of Physics and Astronomy
 PH 491/591 Fall 2022

Instructions:

1. This should be turned in as a team - one submission with all names
2. Nominal due date: 22 September 2022

Deliverable: initial analysis & supplies needed

At this point you have had at least a couple of weeks with your first major experiment. In another week or so, your first paper will be due. This is a good moment to review your initial progress, suggest areas for improvement, and define what is needed to achieve your goals.

There is no prescribed format or length for this deliverable. Make it as concise and clear as possible, length is secondary. Brevity is a virtue when it does not distract from clarity or precision. We give some guidelines below. *If you have done this step correctly, you will have generated a rich outline for your first paper.*

Table 1: *Essential elements*

Item	Key characteristics
Hypothesis	Simple but precise statement of what you are trying to do. Should have a specific statement that can be supported (or not).
Key background	No derivations, quick recap of critical physics required.
Experimental techniques	Primary procedures and equipment used.
Preliminary data	Include error estimates and proper units.
Suggested improvements	Address both methods and equipment.
Supplies needed	What things are missing that we can provide?
Skills needed	What don't you know how to do yet?

Table 2: *Plan of Work Grading Rubric*

Item (points)	Unacceptable (0-5)	Developing (6-7)	Proficient (8-9)	Exemplary (10)
Hypothesis points x 1	Not identified or not appropriate	Identified but but not realistic	Appropriately identified, specific, and realistic	Meet proficient criteria, clearly stated, meaningful
Background points x 1	Not present or insufficient	Present but not specific or realistic	Present, specific and realistic	Meet proficient criteria, clearly stated, meaningful
Techniques points x 2	Not identified	Too vague or lacking in detail	Clear and with all key details present	Multiple strategies and overlap/complementary
Data points x 2	Not present or not appropriate	Present, but of poor quality	Present, good quality, uncertainty noted	High-quality data with significant analysis
Improvements points x 2	Not present	Present but unrealistic	Realistic	Allows for multiple eventualities
Supplies points x 1	Not present	Present but unrealistic	Present, realistic, and likely sufficient	Present, sufficient, and with cushions
Skills points x 1	Not present	Unrealistic or irrelevant	Reasonable and achievable	Entirely appropriate, reasonable, and diverse