

# All Fields

## PHYS 4C 20676 SLO 3 Spring 2020

### Main

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Assessment Type: Individual Instructor Assessment of Course Outcome

#### Assessment Information

**Assessment Report Title** PHYS 4C 20676 SLO 3 Spring 2020

**Originator** Stahl, Benjamin

**Department A - PHYSICAL SCIENCES**

**Semester Assessed** Spring

**Year Assessed** 2020

**Number of students assessed** 18

**Students Meeting Success Criteria** 18

**Number of students on roster** 18

#### Subject

Physics

#### Choose Course

PHYS 004C - General Physics with Calculus

#### Choose Course Version

PHYS 004C - General Physics with Calculus (11/06/2019 - Current)

#### Choose Course Outcome

3. Set up laboratory equipment safely, Plan and carry out experimental procedures, Identify possible sources of error, Reduce and interpret data, and Prepare clear written reports.

Co-Contributor

### Assessment Methods / Tools

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Assessment Methods / Tools

Check all that apply.

- **Description and additional details about the assessment method(s)/tool(s)**

Student lab reports are selected from a lab which covers the following facets of the SLO: (i) identification of possible sources of error, (ii) data reduction and interpretation, and (iii) preparation of clear written reports. Reports are assessed for coverage of the aforementioned facets.

- **Description and additional details about the assessment method(s)/tool(s)**

For the lab activity yielding the aforementioned reports, student groups are observed to ensure that, following on from the prior enumeration, (iv) laboratory equipment are set up safely and (v) experimental procedures are planned for and carried out effectively.

**Describe how you are measuring success. Success criteria should be determined BEFORE analyzing your data. What percentage of students would you want to perform at what level to consider the class successful with that outcome? For example, "80% of the students must earn at least 70% of the points in order to meet the expectations for this outcome."**

#### Success Criteria

One point is available for each of the 5 items collectively identified in the Assessment Methods. 80% of students will earn a score of 3/5 or greater.

**Attachments may include rubrics, assignments, test questions, student scores, analysis reports, example of student work, etc. While attachments are not technically required for launch, your campus approval process will generally require one or two relevant attachments.**

Attached File

### Assessment Results

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#### Outcome (Read only)

3. Set up laboratory equipment safely, Plan and carry out experimental procedures, Identify possible sources of error, Reduce and interpret data, and Prepare clear written reports.

**Delivery Method** Face to Face / Online Hybrid

What do these results tell you about how well students are mastering the skills for:

**Category** PHYS 004C - General Physics with Calculus

**Number of students assessed** 18

**Students Meeting Success Criteria** 18

**Percent of students successful** 100.00

**Generally, results are likely to be numerical; analysis should be a brief narrative describing what you feel the numbers mean in the context of your program. What strengths did you find when you evaluated your students' work?**

#### Results and Analysis

Using Lab 5 (in which students assemble an experimental apparatus and then use it to make measurements which ultimately allow for the speed of light to be determined), 10 students scored 5/5, 7 scored 4/5, and 1 scored 3/5 in terms of the established criteria. Altogether, then,  $18/18 = 100\%$  of students scored  $3/5 = 60\%$  or better. Therefore, the established success criteria have been met.

**There may be some overlap with your analysis narrative. Learning gaps are the areas where students need to improve, and should be the main issues from the analysis that you will address with an action plan.**

#### Learning gaps identified based on analysis

While the success criteria were met, learning gaps were identified. Specifically, while students did make an effort to identify possible sources of error in their lab reports, there were some who failed to identify certain expected sources or who identified sources that are probably not significant. Moreover, the reports that some students submitted were moderately disorganized.

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Attached File

## Reflection

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**Review previous action plan below, along with previous and current assessment results. Discuss the efficacy of planned actions from past assessments of the same SLO. Did your previous action plan result in better student learning? What worked, what didn't work, etc.? If you have never assessed this SLO before, please put N/A.**

N/A

## Action Plan

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#### Results and Analysis entered on the results tab

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#### Learning gaps identified on the results tab

While the success criteria were met, learning gaps were identified. Specifically, while students did make an effort to identify possible sources of error in their lab reports, there were some who failed to identify certain expected sources or who identified sources that are probably not significant. Moreover, the reports that some students submitted were moderately disorganized.

Actions to Take at Course Level

- **Increase in-class discussions and activities**

**Provide details of your action plan. Be specific and concrete. Attach Evidence on the Attach Files Tab.**

For labs occurring early in the semester, I plan to facilitate a class discussion near the end of the lab (once students have had the chance to make measurements, consider sources of error, and reach conclusions) where groups share the potential sources of error that they identified. I will then moderate the discussion emphasizing/justifying those that are relevant, and removing those that aren't. This will help to clarify my expectations of students and make them aware of other relevant sources that they may not have considered.

- **Provide models of strong student work**

**Provide details of your action plan. Be specific and concrete. Attach Evidence on the Attach Files Tab.**

I will provide a model lab report (with proper content/response organization) early in the semester. This will help to clarify my expectations as well as improve student efficiency during labs.

Actions to Take Beyond Course Level

**You should plan to assess all SLOs/SAOs for a program within a 3-year cycle, but you may want to assess more often if you feel it is critical to implement your action plan and assess the same SLO/SAO again.**

**Next Assessment**

2023 Spring

***Attachments may include rubrics, assignments, test questions, student scores, analysis reports, example of student work, etc. While attachments are not technically required for launch, your campus approval process will generally require one or two relevant attachments.***

Attached File

**Attach Files**

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Attached File

Lab 5.pdf (/Form/Module/\_DownloadFile/3262/1450?fileId=2947)