

Assessment of Student Learning Plan (ASLP): Physics

2016-17 Academic Year

A. College, Department, Date

College CSTH
Department Physics Dept
Date May 31, 2017

B. Contact Person for the Assessment Plan

Name and title: Paul Nakroshis, Assoc Prof and Chair

C. Degree Program

Name of Degree Program: BA in Physics

D. Assessment of Student Learning: Program Assessment

Step 1: Identify the Student Learning Outcomes (SLO's)

a. *Do you have your student learning outcomes published on your department's website? Not yet*

i. *If no, please list 3-5 of the most important student learning outcomes for your program. **What will students know by the end of your program?***

1. Understand how physicists explore, model and make predictions about the universe at a variety of scales.
2. Acquire knowledge of key concepts in classical & quantum mechanics, electricity & magnetism, and thermodynamics.
3. Apply and integrate physics knowledge and skills to understand real problems.

- b. Please identify **which of your student learning outcome(s) were assessed this past academic year**. (One or more of the outcomes and corresponding assessment plans could come from your department's CORE Course Blueprint(s).

In the past year, we have been introducing pre and post testing of our introductory physics courses (PHY 121). In the upcoming academic year, we will be expanding this to include PHY 111, 112, and 123. Our department is also a member of the PhysTec Coalition (<http://www.phystec.org>) as well as the Learning Assistant Alliance. Last year, we have been assessing our students learning gains in Mechanics, and will be expanding this to Electricity and magnetism in the 2017-18 AY.

- c. Do you have a **matrix or curriculum map** showing when your student learning outcomes are assessed and in which courses? No

Step 2: Assessment Methods Selected and Implemented

- d. Identify which direct measures (other than course grades), that were used to determine whether students achieved the stated learning outcomes for the degree.
- e. Briefly describe when you implemented the assessment activity, and if a scoring rubric was used to evaluate the expected level of student achievement. (This information may be shown on your curriculum map).

We have used the FCI (Force Concept Inventory) to assess learning in mechanics; this is a nationally known evaluation instrument. Student in our iLab (PHY 240) are assessed on multiple rubrics or their written and oral presentations (Outcomes 1 and 3).

We implement a pre & post testing strategy to measure learning gains (Outcome 2).

Step 3: Using the Assessment results to Improve Student Learning

- a. Briefly describe your unit's process of reviewing the program assessment results (i.e. annual process by faculty committee, etc).

Next year (2017-18), will be the first comprehensive review with the pre and post testing data.

- b. What specific changes have been or will be made to improve student learning, as a result of using the program assessment results?

We are expanding our use of LA's (Learning Assistants) to improve student learning.

- c. Date of most recent program review/self-study? 2012

The visiting committee recommended that we have 6 faculty members; at that time, we had four; since then we have lost one faculty member to retirement. We need 3 more faculty to improve our program and to provide more student research projects.

E..Course Assessment Activities: *Is your program able to report any assessment-related activities at the Course-Level... (i.e. created grading rubrics to use in required courses, examined student progress in entry-level courses, developed a new course, etc)? Please briefly explain any assessment projects.*

F. Community Engagement Activities in your departmental curriculum:

- a. Does your department have a student learning outcome that is related to any community engagement activities? If so, please state the outcome. NO

b. Please indicate if any of the community engagement activities listed below are included in your program's curriculum, by noting which activities are required or optional for students in your major.

<u>Community Engagement Activity</u>	<u>Required/Optional</u>
Student Research (related to a community-based problem)	Optional (strongly urged)
Student-Faculty Community Research Project	Optional
Internship, or a Field Experience	Optional
Independent Study (community-related project)	Optional
Capstone Course (community-related project)	Required
Service-Learning (course-based)	Optional
Study Abroad, or an International Program	Optional
Interdisciplinary Collaborative Project (community related)	Optional
Student Leadership Activities (related to a team project)	Required
Students/Faculty Community Leadership (advisory boards, committees, conference presentations)	Optional
Other Activities (not mentioned above):	*Learning Assistant (LA) program positions for students