

Insert Academic Degree Name Here

Annual Program Report Template

Year:	AY2021-2022
Program:	Physics
Contact Person (include email & phone#)	Cengiz Sen, <a href="mailto:cse@lamar.edu">cse@lamar.edu</a> , ext. 7876

Summary of Continuous Improvement Efforts since Last Report

*Provide a brief description of how assessment results have been used for program improvement. Point to a specific example of how an assessment provided the program with data it could use for improvement and what that improvement was, if possible, also show evidence of the improvement. You may look at data from the two previous academic years to support this case.*

Respond here: We met all our targets for AY2021-2022. However, due to low enrollment, PHYS 4480 (Optics) has not been offered in AY2021-2022, so this course was not considered in the analysis of the data for outcome #1. Also, we used cumulative data since 2009 to decide whether a target is met, since individual data isn't statistically reliable due to low enrollment for AY2021-2022.

Table 1. Assessment Results and Analyses for Current Cycle.

STAGE 1: PLAN	STAGE 2: DO	STAGE 3: STUDY
---------------	-------------	----------------

			<p>procedure: For each student in each particular skill investigated, we obtained scores by averaging those received from the three faculty members. Then, for each area investigated, we calculated the percentage of students that fall within each skill level.</p>			
<p>Students will learn about basic concepts of quantum mechanics, Schrodinger's equation and wave functions (PHYS 4320, Quantum Mechanics), and about crystal structure, crystal dynamics, energy bands in crystalline solids, semiconductors, magnetism, and superconductivity (PHYS 4370, Solid State Physics). These courses are used to assess SLO #2.</p>	<p>Develop mathematical models and standard derivations in Physics</p>	<p>Met</p>	<p>The students have been tested, late in the semester, their written exams being collected and copied before being returned to them. For each area investigated the results below are given in terms of how the student scores are distributed on the skill levels 1-4, with skill level 1 being the lowest and skill level 4 being the highest (See note (8) below). Their distribution is indicated with</p>	<p>85% at or above skill level 3</p>	<p>In the interest of space, please see note (6) below</p>	<p>See the last paragraph of note (6) below</p>

			percentages in the Rubric. In calculating the percentages, we used the following procedure: For each student in each particular skill investigated, we obtained scores by averaging those received from the three faculty members. Then, for each area investigated, we calculated the percentage of students that fall within each skill level.			
--	--	--	--	--	--	--

Students will learn about crystal structure, crystal dynamics, energy bands in crystalline solids, semiconductors, magnetism, and superconductivity (PHYS 4370, Solid State Physics), and

2022). These courses are used to assess SLO #3.			lowest and skill level 4 being the highest (See note (8) below). Their distribution is indicated with percentages in the Rubric. In calculating the percentages, we used the following procedure: For each student in each particular skill investigated, we obtained scores by averaging those received from the three faculty members. Then, for each area investigated, we calculated the percentage of students that fall within each skill level.			

(5) TARGET COURSE: PHYS-4320 (2 Students) Skill Level #1 Level #2 Level #3 Level #4

- 1) Attaching the correct meaning to the given information with proper units 0% 0% 0% 100%
- 2) Identifying for what the physics problem is asking 0% 0% 0% 100%
- 3) Identifying the physics relationships that need to be used 0% 0% 0% 100%
- 4) Correct application of mathematics and reaching the correct numerical solution 0% 0% 17% 83%

Since every year we test a relatively small number of students, so it is more helpful to compare this year's results (combined) with the cumulative results of the past few years. Such cumulative results and combined results are as follows:

CUMULATIVE DATA FOR OUTCOME 1, 2009-2021 (142 Students) Skill Level #1 Level #2 Level #3 Level #4

- 1) Attaching the correct meaning to the given information with proper units 0.37% 2.56% 18.35% 79.44%
- 2) Identifying for what the physics problem is asking 1.05% 4.06% 24.68% 69.10%
- 3) Identifying the physics relationships that need to be used 2.42% 5.32% 27.99% 63.63.60%
- 4) Correct application of mathematics and reaching the correct numerical solution 2.42% 10.81% 31.63% 53.24%

Based on the above data, we reached our goal of 85% cumulative threshold at or above Level #3 for all skills 1-4. Thus, we consider that Outcome 1 is met. However it should be noted that since the number of students attended in this course was small, the data for academic year 2021-2022 is not as reliable as the cumulative data is. So, our target as being met for Outcome #1 is based on the cumulative data, and not for the academic year 2021-2022.

(6) TARGET COURSE: PHYS-4370 (2 Students) Skill Level #1 Level #2 Level #3 Level #4

- 1) Attaching the correct meaning to the given information with proper units 0% 0% 17% 83%
- 2) Identifying for what the physics problem is asking 0% 0% 0% 100%
- 3) Identifying the physics relationships that need to be used 0% 0% 17% 83%
- 4) Correct application of mathematics and reaching the correct numerical solution 0% 0% 17% 83%

TARGET COURSES: PHYS-4320 (2 Students) Skill Level #1 Level #2 Level #3 Level #4

- 1) Attaching the correct meaning to the given information with proper units 0% 0% 0% 100%
- 2) Identifying for what the physics problem is asking 0% 0% 0% 100%
- 3) Identifying the physics relationships that need to be used 0% 0% 0% 100%
- 4) Correct application of mathematics and reaching the correct numerical solution 0% 0% 0% 100%

Since every year we test a relatively small number of students, it may be helpful to compare this year's results (combined) with the cumulative results of the past few years. Such cumulative results and combined results are as follows:

CUMULATIVE DATA FOR OUTCOME 1, 2009-2021 (156 Students) Skill Level #1 Level #2 Level #3 Level #4

- 1) Attaching the correct meaning to the given information with proper units 0.0% 4.44% 15.49% 80.06%
- 2) Identifying for what the physics problem is asking 0.34% 5.26% 30.94% 63.47%
- 3) Identifying the physics relationships that need to be used 0.34% 6.63% 30.14% 62.88%
- 4) Correct application of mathematics and reaching the correct numerical solution 0.34% 8.33% 26.84% 64.48%

COMBINED RESULTS FOR OUTCOME 1, 2021-2022 (4 Students) Skill Level #1 Level #2 Level #3 Level #4

- 1) Attaching the correct meaning to the given information with proper units 0.0% 0.0% 8.5% 91.5%
- 2) Identifying for what the physics problem is asking 0.0% 0.0% 0.0% 100.0%
- 3) Identifying the physics relationships that need to be used 0.0% 0.0% 8.5% 91.5%
- 4) Correct application of mathematics and reaching the correct numerical solution 0.0% 0.0% 8.5% 91.5%

Combining both courses, and based on the above data, we consider that Outcome 2 is met. However it should be noted that since the number of students attended in these classes were small, the data for academic year 2021-2022 is not as reliable as the cumulative data is. So, our target as being met for Outcome #2 is based on the cumulative data, and not for the academic year 2021-2022.



