2016-2017 Assessment Cycle COS_Physics BS

Mission (due 1/20/17)

University Mission

The University of Louisiana at Lafayette offers an exceptional education informed by diverse worldviews grounded in tradition, heritage, and culture. We develop leaders and innovators who advance knowledge, cultivate aesthetic sensibility, and improve the human condition.

University Values

We strive to create a community of leaders and innovators in an environment that fosters a desire to advance and disseminate knowledge. We support the mission of the university by actualizing our core values of equity, integrity, intellectual curiosity, creativity, tradition, transparency, respect, collaboration, pluralism, and sustainability.

University Vision

We strive to be included in the top 25% of our peer institutions by 2020, improving our national and international status and recognition.

College / Department / Program Mission

College Mission

Provide the college mission in the space provided. If none is available, write "None Available in 2016-2017." Our mission is to serve our students, the citizens of Louisiana, the nation, and the world, through innovative and stimulating educational experiences and compelling research initiatives that create knowledge, deepen our basic understanding of the world around us, further economic development, and enhance quality of life. In support of our mission, The College of Sciences seeks to:

Develop broad-thinking students into mature, ethical professionals, scientists, and researchers with the necessary creativity, critical thinking, and problem solving skills required to make significant contributions to industry, government, and the academic sector.

Recruit and support top-notch teaching and research faculty engaged in scientific endeavors that are recognized nationally for their relevance and impact.

Enrich scientific research and education through on-campus collaborations, multidisciplinary programs, large-scale multiinstitution initiatives, as well as partnerships with government and industry.

Foster scientific literacy within the University, the citizens of Louisiana, and the nation by providing stimulating courses for our students and by partnering with educators at the K-12 and community college level.

Provide leadership in the translation and application of research into practical solutions that will benefit our local community, the state of Louisiana, our natural environment, industries of the Gulf Coast region, and society as a whole.

The Ray P. Authement College of Sciences will emerge as a preeminent college of sciences in the Southeast and Gulf Coast region of the United States. The College will be recognized nationally for its innovative education, scholarly research activities addressing our nation's grand challenges, and for its diverse student body with exemplary academic achievements, leadership abilities, and global perspectives.

Department / Program Mission

Provide the department / program mission in the space provided. If none is available, write "None Available in 2016-2017".

The mission for the Bachelor's of Science degree in Physics is to produce students who are well rounded, scientific

thinkers. In order to ensure this goal, we are implementing assessment tools to determine how well students are prepared in a few key areas: fundamental laws of physics, how well students assimilate physics material, communication and technical skills.

Assessment Plan (due 1/20/17)

Assessment List (Goals / Objectives, Assessment Measures and Criteria for Success)

Assessment List

Goal/Objective	All candidates for the B.S. Degree in Physics will be able to demonstrate knowledge of fundamental physical laws and ability to apply them to the solution of practical problems in physics and related fields.		
Legends	SLO - Student Lea	rning Outcome/Objective (academic units);	
Standards/Outcomes			
Assessment Measures			
	Assessment Measure	Criterion	Attachments
	Direct - Fundamental Physical Laws (Other)	Assessment Measure: Direct - Other (Academic Direct Measure) Criterion: Each candidate's knowledge is evaluated by their ability to answer a consistent (GRE- Physics type) content-related question, which will be embedded into a final exam for all 300-level and 400-level courses (excluding Phys 491, 492, 497,498) required by the B.S. Program curriculum. Number of students assessed = All At least 70% of students enrolled in a course will answer a consistent embedded question correctly.	

Goal/Objective	All candidates for the B.S. Degree in Physics will be able to evaluate and assimilate new scientific information from scientific journals, books, and web-resources		
Legends	SLO - Student Le	earning Outcome/Objective (academic units);	
Standards/Outcomes			
Assessment Measures			
	Assessment Measure	Criterion	Attachments
	Direct - Presentation	Each candidate is required to review scientific findings on a particular research topic and deliver the presentation at the departmental seminar during the first semester of his/her senior year. The committee of three faculty members evaluates the candidate's understanding of presented scientific information by asking questions and completing	

student's seminar evaluation forms. Number of students assessed = All The outcome will be measured during the senior year when student is enrolled in Phys491.To achieve a goal, a full 100% of students will attain at least 70% average of the maximum score on the content part of the evaluation form	

Goal/Objective	All candidates for the B.S. Degree in Physics will be able to communicate scientific/professional ideas both orally and in writing		
Legends			
Standards/Outcomes			
Assessment Measures			
	Assessment Measure	Criterion	Attachments
	Direct - Presentation	Each candidate will deliver at least two research seminars during their Senior Year, which will be evaluated independently by the committee of three faculty members by completing student's seminar evaluation forms. Each student evaluation form will contain special section evaluating student's ability to communicate scientific/professional ideas both orally and in writing. The outcome will be measured at the end of each student educational period (senior status) when student is enrolled in Phys491 or 492 . To achieve a goal, a full 100% of students will attain at least 70% average of the maximum score on the presentation part of the evaluation form.	

Goal/Objective	All candidates for the B.S. Degree in Physics will have strong independent-learning, analytical, and problem-solving skills for advanced graduate studies in physics or related discipline and/or for careers in science, engineering, and industry.		
Legends	SLO - Student L	earning Outcome/Objective (academic units);	
Standards/Outcomes			
Assessment Measures			
	Assessment Measure	Criterion	Attachments
	Direct - Project	All students are required to enroll and successfully complete Phys498 (Senior Research II) that involves an independent	

produce innovative research results using appropriate physical/mathematical knowledge. Number of students assessed = All The outcome will be measured during the senior year when a student is enrolled in Phys492. To achieve a goal, full 100% of students will attain at least 70% average of the maximum score on the content part of the advanced- research project evaluation form.		research project under a faculty member supervision during their Senior year. The research results are reported at the departmental seminar (during the second-semester of the Senior Year) and evaluated by the committee of three faculty members by completing advanced student's seminar evaluation forms that reflect on candidate's understanding of the nature of the research project, current state of knowledge in a particular research area, as well as candidate's skills to produce innovative research results using appropriate physical/mathematical knowledge. Number of students assessed = All The outcome will be measured during the senior year when a student is enrolled in Phys492. To achieve a goal, full 100% of students will attain at least 70% average of the maximum score on the content part of the advanced- research project evaluation form.	
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Results & Improvements (due 9/15/17)

Results and Improvement Narratives

Assessment List Findings for the Assessment Measure level for All candidates for the B.S. Degree in Physics will be able to demonstrate knowledge of fundamental physical laws and ability to apply them to the solution of practical problems in physics and related fields.

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	Assessment Measure	Assessment Criterion Measure			
	Direct - Fundamental Physical Laws (Other)	Assessment Me Each candidate consistent (GRE embedded into (excluding Phys curriculum. Nun enrolled in a cou	easure: Direct - Othe 's knowledge is eval E-Physics type) cont a final exam for all 3 491, 492, 497,498) hber of students ass urse will answer a co	er (Academic Direct uated by their abi ent-related questi 00-level and 400- required by the B essed = All At lea onsistent embedde	ct Measure) Criterion: lity to answer a on, which will be level courses 3.S. Program st 70% of students ed question correctly.
Assessment Findings					
	Assessment Measure	Criterion	Summary	Attachments of the	Improvement Narratives

Direct - Fundamental Physical Laws (Other)Has the criterion Assessment Measure: Direct - Other (Academic Direct Measure)In the Fall 2016 semester of PHYS 323 Mechanics, 1 student scored 20 out of 30, and a second student scored 25 out of ontent-related question Assessment Process: Continuous monitoring: We are continuing with our action plan from previous cycles without alteration. Our outcomes do not seem to warrant large Herefore this atleration a final exam for all 300-level and 400- level courses (excluding Phys 491, 492, 497,498) required by the B.S. Program curriculum. Number of students assessed = All At least 70% of students enrolled in a coursestint embedded in a consistent embedded enrolled in a coursestient enrolled in a coursetty. been met yet? Not metIn the Fall 2016 senset. The low number of students assessed enrolled in a course will answer a consistent embedded in envirousciencety. been met yet? Not metIn the Fall 2016 senset. the satisficult measure Assessment Process continuous monitoring: We are continuous students senset. this a difficult measure.Difficult contenety. been met yet? Not metIn

Assessment List Findings for the Assessment Measure level for All candidates for the B.S. Degree in Physics will be able to evaluate and assimilate new scientific information from scientific journals, books, and web-resources

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Standards/Outcomes			
Assessment Measures			
	Assessment Measure	Criterion	
	Direct - Presentation	Each candidate is required to review scientific findings on a particular research topic and deliver the presentation at the departmental seminar during the first semester of his/her senior year. The committee of three faculty	

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		members evaluates the candidate's understanding of presented scientific information by asking questions and completing student's seminar evaluation forms. Number of students assessed = All The outcome will be measured during the senior year when student is enrolled in Phys491.To achieve a goal, a full 100% of students will attain at least 70% average of the maximum score on the content part of the evaluation form			
Assessment Findings	Γ				
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Assessment List Findings for the Assessment Measure level for All candidates for the B.S. Degree in Physics will be able to communicate scientific/professional ideas both orally and in writing

Goal/Objective	All candidates for the B.S. Degree in Physics will be able to communicate scientific/professional ideas both orally and in writing				
Legends					
Standards/Outcomes					
Assessment Measures					
	Assessment Measure	Criterion			
	Direct - Presentation	Each candidate will delive Year, which will be evalue members by completing evaluation form will cont communicate scientific/p	ver at least two rese uated independentl student's seminar ain special section professional ideas b	earch seminars de y by the committe evaluation forms. evaluating studer both orally and in	uring their Senior e of three faculty Each student nt's ability to writing. The
		outcome will be measure (senior status) when stud goal, a full 100% of stud score on the presentatio	ed at the end of ead dent is enrolled in F ents will attain at le n part of the evalua	ch student educat Phys491 or 492 . ast 70% average ation form.	tional period To achieve a of the maximum
Assessment Findings					
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100% of students will attain at least 70% average of the maximum score on the presentation part of the evaluation form. been met yet? Met

Assessment List Findings for the Assessment Measure level for All candidates for the B.S. Degree in Physics will have strong independent-learning, analytical, and problem-solving skills for advanced graduate studies in physics or related discipline and/or for careers in science, engineering, and industry.

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Assessment Findings								
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	Direct - Project	Has the criterion All students are required to enroll and successfully complete Phys498 (Senior Research II) that involves an independent	Three students gave presentations during the Spring 2017 semester. Two		- Assessment Process: Continuous monitoring: We are continuing with our action			

	research project under a faculty member supervision during their Senior year. The research results are reported at the departmental seminar (during the second- semester of the Senior Year) and evaluated by the committee of three faculty members by completing advanced student's seminar evaluation forms that reflect on candidate's understanding of the nature of the research project, current state of knowledge in a particular research area, as well as candidate's skills to produce innovative research results using appropriate physical/mathematical knowledge. Number of students assessed = All The outcome will be measured during the senior year when a student is enrolled in Phys492. To achieve a goal, full 100% of students will attain at least 70% average of the maximum score on the content part of the advanced-research project evaluation form. been met yet? Not met	out of the three students scored 70% or greater on the content part of the evaluation.	plan from previous cycles without alteration. Our outcomes do not seem to warrant large alterations, and we will continue to monitor the success of our students in relation to our previous plans.

Reflection (Due 9/15/17)

Reflection

1) How were assessment results shared in the unit?

Please select all that apply. If "other", please use the text box to elaborate. Distributed via email

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Presented formally at staff / department / committee meetings (selected) Discussed informally Other (explain in text box below)

The assessment results will be shared at departmental meetings. The Physics Department as a whole will then be able to discuss any changes we would like to implement as a group.

2) How frequently were assessment results shared in the unit?

Frequently (>4 times per cycle) Periodically (2-4 times per cycle) Once per cycle (selected) Results were not shared this cycle

3) With whom were assessment results shared?

Please select all that apply. Department Head (selected) Dean / Asst. or Assoc. Dean Departmental assessment committee Other faculty / staff (selected)

4) What were the measurable or perceivable effects on your current (2016-2017) findings based on prior action plans (created in 2015-2016)?

We are continuing with our previous action plan which assesses students via seminar performance and how they perform on GRE style questions put into examinations during their coursework. These types of metrics are a standard means of assessing our students current status as well as creating a vehicle for measuring their readiness for possible graduate studies.

5) What has the unit learned from the current assessment cycle?

From the current cycle we see that the level of seminar performance, although adequate, can be improved. We will make certain to work more closely with students regarding what the expectations are for their presentations.

We will also try to increase the number of students who complete a GRE style questions embedded into final exams. Increasing the number of students who respond to these GRE style questions will give us a better measure of this assessment.

Attachments