

2016-2017 Assessment Cycle COS_Mathematics PhD

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 multi-institution 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 of the graduate program is to educate and prepare students to make original contributions to mathematical

sciences and to apply their knowledge to solve the important problems facing society. The goal of the Ph.D. program is to provide the student with a preparation that has general breadth, and depth in a particular topic, that will enable the student to engage in (i) original research in the mathematical sciences; (ii) advanced application of mathematical knowledge and techniques in private industry or professional settings; (iii) teach advanced mathematics at the college and graduate level. In addition, the graduate will have already contributed original research to the corpus of mathematical knowledge.

Our graduate program is committed to the following core values: Excellence in teaching and research; discovery of new knowledge; diversity in our students; professional and personal integrity. Our graduate program has been a central part of the teaching and research mission of our department, and is an important component of our long term planning. Our commitment to graduate education has enhanced our reputation. Our focus on excellent education is consistent with the College and University's focus on facilitating quality teaching and learning. Our focus on students' preparation is consistent with the College and University's focus on serving and preparing our students. Our mission and values are consistent with those for graduate programs in mathematics nationwide.

Assessment Plan (due 1/20/17)

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

Assessment List

Goal/Objective	Breadth of knowledge		
Legends	SLO - Student Learning Outcome/Objective (academic units);		
Standards/Outcomes			
Assessment Measures	Assessment Measure	Criterion	Attachments
	Direct - Comprehensive Exam (graduate level)	To demonstrate breadth of knowledge, each candidate is required to pass three written comprehensive examination in a variety of content areas. Each exam is prepared and evaluated by a committee made up of at least three mathematics graduate faculty members who have expertise in that particular field. The committee follows a departmental rubric in evaluating the candidate's performance. Success is defined as at least 75% of students who attempt written comprehensive exams in a calendar year will be given a rating which is at least satisfactory in accordance with the departmental rubrics.	

Goal/Objective	Depth of knowledge		
Legends	SLO - Student Learning Outcome/Objective (academic units);		
Standards/Outcomes			
Assessment Measures			

	Assessment Measure	Criterion	Attachments
	Direct - Comprehensive Exam (graduate level)	A candidate will demonstrate depth of knowledge by passing an oral exam in his or her area of research specialization, following at least two semesters of advanced courses in that area. The exam is given by a committee of at least three mathematics graduate faculty members with expertise in the field, and evaluated in accordance to departmental rubrics. Success is defined as at least 75% of students who attempt the oral exam in a given calendar year are rated as at least "Satisfactory" in accordance to the departmental rubric.	

Goal/Objective	Presentation of Mathematical Research - Thesis defense		
Legends	SLO - Student Learning Outcome/Objective (academic units);		
Standards/Outcomes			
Assessment Measures	Assessment Measure	Criterion	Attachments
	Direct - Thesis	A candidate will demonstrate the ability to present complex mathematical ideas and arguments, both orally and in writing, in a coherent, comprehensible, and correct manner. In particular, a candidate should be able to compile research results into a format for submission to a professional journal for publication. Success is defined as at least 75% of students defending their dissertation in a calendar year will be evaluated as at least "Satisfactory" by the defense committee. At least 70% of graduates will have submitted one or more research papers to a refereed professional journal at most one year after successfully defending the dissertation, and at least 50% of graduates will have a paper accepted for publication within the same time-frame.	

Goal/Objective	Ability to conduct original research		
Legends	SLO - Student Learning Outcome/Objective (academic units);		
Standards/Outcomes			
Assessment Measures	Assessment	Criterion	Attachments

	Measure		
	Direct - Thesis	A doctoral candidate in the degree program will demonstrate the ability to contribute to the overall body of mathematical knowledge by successfully carrying out original research in the area of specialty and incorporating research into a Ph.D. dissertation.	

Results & Improvements (due 9/15/17)

Results and Improvement Narratives

Assessment List Findings for the Assessment Measure level for Breadth of knowledge

Goal/Objective	Breadth of knowledge				
Legends	SLO - Student Learning Outcome/Objective (academic units);				
Standards/Outcomes					
Assessment Measures	Assessment Measure	Criterion			
	Direct - Comprehensive Exam (graduate level)	To demonstrate breadth of knowledge, each candidate is required to pass three written comprehensive examination in a variety of content areas. Each exam is prepared and evaluated by a committee made up of at least three mathematics graduate faculty members who have expertise in that particular field. The committee follows a departmental rubric in evaluating the candidate's performance. Success is defined as at least 75% of students who attempt written comprehensive exams in a calendar year will be given a rating which is at least satisfactory in accordance with the departmental rubrics.			
Assessment Findings	Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
	Direct - Comprehensive Exam (graduate level)	Has the criterion To demonstrate breadth of knowledge, each candidate is required to pass three written comprehensive examination in a	There were 15 individual attempted comprehensive examinations during the AY 2016-2017. Twelve (80%) resulted in a		- Assessment Process: Continuous monitoring: Every year information is collected on each student for each exam through an

		<p>variety of content areas. Each exam is prepared and evaluated by a committee made up of at least three mathematics graduate faculty members who have expertise in that particular field. The committee follows a departmental rubric in evaluating the candidate's performance. Success is defined as at least 75% of students who attempt written comprehensive exams in a calendar year will be given a rating which is at least satisfactory in accordance with the departmental rubrics. been met yet? Met</p>	<p>pass, with all three ratings being "satisfactory" or better (26 of the corresponding 36 ratings were "Highly Satisfactory" or better).</p>		<p>internal form, and data is collected for review and action. - Assessment Process: Results Discussed / Shared: The last cycle resulted in discussion about the preparation of students for the exam, and the appropriate level for the exam, for the topics of Ordinary and Partial Differential Equations. Discussed with the professors in the area for implementation in future iterations of the exam.</p>
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Assessment List Findings for the Assessment Measure level for Depth of knowledge

Goal/Objective	Depth of knowledge	
Legends	SLO - Student Learning Outcome/Objective (academic units);	
Standards/Outcomes		
Assessment Measures	Assessment Measure	Criterion
	Direct - Comprehensive Exam (graduate level)	A candidate will demonstrate depth of knowledge by passing an oral exam in his or her area of research specialization, following at least two semesters of advanced courses in that area. The exam is given by a committee of at least three mathematics graduate faculty members with expertise in the field, and evaluated in accordance to departmental rubrics. Success is defined as at least 75% of students who attempt the oral exam in a given calendar year are rated as at least "Satisfactory" in accordance to the departmental rubric.

Assessment Findings	Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
	Direct - Comprehensive Exam (graduate level)	Has the criterion A candidate will demonstrate depth of knowledge by passing an oral exam in his or her area of research specialization, following at least two semesters of advanced courses in that area. The exam is given by a committee of at least three mathematics graduate faculty members with expertise in the field, and evaluated in accordance to departmental rubrics. Success is defined as at least 75% of students who attempt the oral exam in a given calendar year are rated as at least "Satisfactory" in accordance to the departmental rubric. been met yet? Met	Fifteen individual attempts were made in eight different subjects. In 7 of the subjects, all students attempting (totalling eleven of the fifteen attempts) passed the exam with all ratings "satisfactory" or better. In the remaining subject, one student passed, rated "Highly Satisfactory" by all examiners; the remaining three students did not meet the goal. In addition, four students completed the oral portion of the Comprehensive Exam. All four completed it in their first attempt, with all examiners rating their performance "Satisfactory" or better. Nine of the twelve ratings (75%) were "Highly satisfactory" or better.		- Assessment Process: Results Discussed / Shared: After several students failed to pass the oral portion of the Comprehensive Examination during previous academic years, there was a push to better educate both students and junior faculty on the Oral Examination and help the students better prepare for the exam. As a result, the students are waiting less time to take the exam on average, and yet the performance and outcome has improved, with no failed attempts in the last 18 months.

Goal/Objective	Presentation of Mathematical Research - Thesis defense													
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Assessment List Findings for the Assessment Measure level for Ability to conduct original research

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Standards/Outcomes															
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		in the area of specialty and incorporating research into a Ph.D. dissertation. been met yet? Met	submitted part of the results for publication in a professional journal before the defense took place.		before graduating.
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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

Presented formally at staff / department / committee meetings (selected)

Discussed informally (selected)

Other (explain in text box below)

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

Frequently (>4 times per cycle)

Periodically (2-4 times per cycle) (selected)

Once per cycle

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 (selected)

Departmental assessment committee (selected)

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)?

There was a marked improvement in the success at the oral portion of the Comprehensive Examination. This followed an effort to better educate both faculty and students, so the latter would be better prepared and the former (especially junior faculty) had a clearer understanding of the departmental expectations for this portion of the exam.

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

The end-of-semester feedback from professors on the performance of graduate students has helped guide the latter and anticipate potential problems and help avoid them. Informal mid-term feedback has also proven very useful, and there should be an attempt at increasing the flow of that informal feedback (or perhaps turn it into more formal feedback).

Attachments

Attachments

Upload any supporting documents related to your assessment plans, results, or improvements. Documents may include rubrics, survey questions, reports, etc. There is no limit to the number of documents you can upload.

Click "Select File" to upload document(s)