

2017-2018 Assessment Cycle COS_Mathematics MS

Mission (due 12/4/17)

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 / VP and Program / Department Mission

Mission of College or VP-area

Provide the mission for the College or VP-area in the space provided. If none is available, write "None Available in 2017-2018."

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.

Mission of Program / Department

Provide the program / department mission in the space provided. The mission statement should concisely define the purpose, functions, and key constituents. If none is available, write "None Available in 2017-2018."

The mission of the graduate program is to educate and prepare graduate students to make original contributions to mathematical sciences and to apply their knowledge to solve important problems facing society. The goal of the M.S.

program in particular is to further provide a solid basis that will prepare the student for either of: (i) pursuit of a higher degree in Mathematics; (ii) application of mathematics, mathematical techniques, statistics, or statistical techniques in an industry or scientific setting; or (iii) teach mathematics at the secondary or college level.

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 worldwide.

Attachment (optional)

Upload any documents which support the program / department assessment process.

Assessment Plan (due 12/4/17)

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

Assessment List

Goal/Objective	Demonstration of Content Knowledge(Imported)		
Legends	SLO - Student Learning Outcome/Objective (academic units);		
Standards/Outcomes			
Assessment Measures	Assessment Measure	Criterion	Attachments
	Direct - Comprehensive Exam (graduate level)	Candidate is required to either pass three written Ph.D. Comprehensive exams at the M.S. level; or create a committee and pass a written exam on three subjects. Success in the outcome for terminal MS students is defined as at least 70% of students in any three-year period who attempt the examination are given rating which is at least satisfactory in accordance to the departmental rubric. Definition of success for students who are continuing to a PhD. is at least 70% of the students in a three-year period pass the exams at the PhD level with a rating which is at least satisfactory in accordance to departmental rubric.	

Goal/Objective	Demonstration of understanding of Mathematical Theory(Imported)		
Legends	SLO - Student Learning Outcome/Objective (academic units);		
Standards/Outcomes			

Assessment Measures			
	Assessment Measure	Criterion	Attachments
	Direct - Thesis	The student will defend the thesis in an oral defense before a committee made up of at least three mathematics graduate faculty members. Success is defined as more than half of the students taking this option will successfully defend their thesis and answer questions during the oral examination, with all examiners scoring the student "Satisfactory" or better with the departmental rubrics. Please note that very few students take this option.	

Goal/Objective	Demonstration of research potential(Imported)		
Legends	SLO - Student Learning Outcome/Objective (academic units);		
Standards/Outcomes			
Assessment Measures			
	Assessment Measure	Criterion	Attachments
	Direct - Writing Exam	The student will demonstrate research potential by obtaining mathematical solutions and producing mathematical proofs that are not readily available in the literature.	

Program / Department Assessment Narrative

The primary purpose of assessment is to use data to inform decisions and improve programs (student learning) and departments (operations); this is an on-going process of defining goals and expectations, collecting results, analyzing data, comparing current and past results and initiatives, and making decisions based on these reflections. In the space below, describe the program's or department's overall plan for improving student learning and/or operations (the "assessment plan"). Consider the following:

- 1) What strategies exist to assess the outcomes?
- 2) What does the program/department expect to achieve with the goals and objectives identified above?
- 3) How might prior or current initiatives (improvements) influence the anticipated outcomes this year?
- 4) What is the plan for using data to improve student learning and/or operations?
- 5) How will data be shared within the Program/Department (and, where appropriate, the College/VP-area)?

Assessment Process

For exams, defenses, and comprehensive exams, the outcomes are assessed through feedback from examiners on the performance of the students. By requiring these activities of the students, the Department ensures that the student has retained the knowledge gained through their time in the program, and they are able to synthesize it into a coherent whole.

This preparation will allow the students to either continue on to pursue a PhD, which requires independent development of mathematical knowledge; to teach at an advanced level (high school and undergraduate), an activity that is most successful when the teacher has a deep understanding of the subject matter and is knowledgeable about its connections with other areas; and to apply the knowledge to problem-solving in the real world.

Prior outcomes have highlighted certain issues, most particularly that there is not always consistency in expected level from year to year in the comprehensive exams. The Department is working to establish solid baselines that can be used (and slowly modified as needed). We expect this data will also inform the content of the basic courses, thus ensuring a more uniform level among graduates.

Data on the performance of students is shared with the Dean of the College and with members of the Department during each start-of-the-semester meeting; for those courses which have not enjoyed a stable level of expectations, more active feedback to the professors is already being undertaken and will continue throughout the academic year.

Results & Improvements (due 9/15/18)

Results and Improvement Narratives

Assessment List Findings for the Assessment Measure level for Demonstration of Content Knowledge(Imported)

Goal/Objective	Demonstration of Content Knowledge(Imported)													
Legends	SLO - Student Learning Outcome/Objective (academic units);													
Standards/Outcomes														
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Assessment List Findings for the Assessment Measure level for Demonstration of understanding of Mathematical Theory(Imported)

Goal/Objective	Demonstration of understanding of Mathematical Theory(Imported)	
Legends	SLO - Student Learning Outcome/Objective (academic units);	
Standards/Outcomes		
Assessment Measures	Assessment Measure	Criterion
	Direct - Thesis	The student will defend the thesis in an oral defense before a committee made up of at least three mathematics graduate faculty members. Success

	is defined as more than half of the students taking this option will successfully defend their thesis and answer questions during the oral examination, with all examiners scoring the student "Satisfactory" or better with the departmental rubrics. Please note that very few students take this option.				
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	Direct - Thesis	Has the criterion The student will defend the thesis in an oral defense before a committee made up of at least three mathematics graduate faculty members. Success is defined as more than half of the students taking this option will successfully defend their thesis and answer questions during the oral examination, with all examiners scoring the student "Satisfactory" or better with the departmental rubrics. Please note that very few students take this option. been met yet? Met	There were no thesis submitted during this period.		- Assessment Process: Continuous monitoring: Objective will be monitored when applicable.

Assessment List Findings for the Assessment Measure level for Demonstration of research potential(Imported)

Goal/Objective	Demonstration of research potential(Imported)	
Legends	SLO - Student Learning Outcome/Objective (academic units);	
Standards/Outcomes		
Assessment Measures	Assessment Measure	Criterion
	Direct - Writing Exam	The student will demonstrate research potential by obtaining mathematical solutions and producing mathematical proofs that are not readily available in the literature.

Assessment Findings					
	Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
	Direct - Writing Exam	Has the criterion The student will demonstrate research potential by obtaining mathematical solutions and producing mathematical proofs that are not readily available in the literature. been met yet? Met	During the MS Exam and courses, the student obtaining her degree demonstrated competence and solved problems that required complex application of knowledge obtained in the courses taken. It was a satisfactory performance, reflected in the success of the student.		- Assessment Process: Continuous monitoring: This requires continuous monitoring to ensure that students are challenged and demonstrate mastery of the subject.

Reflection (Due 9/15/18)

Reflection

The primary purpose of assessment is to use data to inform decisions and improve programs and operations; this is an on-going process of defining goals and expectations, collecting results, analyzing data, comparing current and past results and initiatives, and making decisions based on these reflections. Recalling this purpose, respond to the questions below.

1) How were assessment results shared in the program / department?

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

Other (explain in text box below)

2) How frequently were assessment results shared?

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
Dean / Asst. or Assoc. Dean (selected)
Departmental assessment committee (selected)
Other faculty / staff (selected)

4) Consider the impact of prior applied changes. Specifically, compare current results to previous results to evaluate the impact of a previously reported change. Demonstrate how the use of results improved student learning and/or operations.

Following through with MS students has ensured timely completion of the program.

5) Over the past three assessment cycles, what has been the overall impact of "closing the loop"? Provide examples of improvements in student learning, program quality, or department operations that are directly linked to assessment data and follow-up analysis.

We have been able to ensure that students in the MS program progress appropriately and finish in a timely fashion; are well aware of the requirements and proactive in meeting them. In particular, when the MS exam option is selected, the planning required is now undertaken earlier in the program to ensure that the students can graduate in the Spring.

Attachments (optional)

Upload any documents which support the program / department assessment process.