BS Mathematics

Annual Program Report Template

Year:	2021 - 2022
Program:	BS in Mathematics
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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:

There were deficiencies in our assessment process. There was very little data gathered in 2020-2021, and so it was difficult to seek improvements based on that data. Also, many courses were offered online (synchronous or asynchronous) during 2020-2021, so access to oral presentations by students was limited during this period.

Program Highlights Since Last Report

Identify and briefly discuss any programmatic curriculum changes made since the last report (e.g. new courses, course changes, SLO changes, course deletions).

Respond here: We are updating our data collection methods now that students are back in face-to-face courses, hoping to have a more complete set of work samples to score in future semesters. We are also working to develop free materials for students seeking certification who do not pass their Lamar University Math Proficiency Test on their first try. Additionally, we have moved Math 4307 (Problem solving, required for math certification majors) to the spring semester to better serve as a review for students taking that exam in the spring and summer.

Table 1. Assessment Results and Analyses for Current Cycle.

STAGE 1: PLAN				STAGE 2: DO		STAGE 3: STUDY
Departmental Student Learning Goal	**Program Student Learning Outcome**	**Assessment**	**Assessment Method/Location**	**Benchmark Expectations**	**Data Results**	**Actions/Goals Based on Data Results*** What do the data tell you? How will you use this data? How were data from the last cycle used to make changes during this cycle, and What were the results of those changes?
Written Communication	Students should demonstrate growth and self-sufficiency in the proof-writing process.	Two work samples from each of Math 3322, Math 3350/3351, and Math 4325 will be gathered and scored on a rubric.	Students are scored on a rubric (measuring their ability to restate the problem, the correctness of their proof, and indication of growth between samples) for written submissions by their instructors.	100% of graduating seniors will attain at least marginally acceptable on the grading of the work samples in their portfolios.	Of the samples submitted and scored, both were at least marginally acceptable.	Because so many classes were conducted online (synchronous and asynchronous), not all instructors were able to gather samples from all students. In 2021-2022, many courses were again offered face-to-face, increasing our ability to gather samples We also realize that our goal of 100% is unrealistics and will update this goal for future assessment.
Oral Communication	Students should demonstrate self-sufficiency in producing expository material and in presenting that material orally.	The student will give oral presentations in Math 3350/3351 and Math 4325 defending their solution to a problem. Students who are seeking teacher	Students are scored on a rubric (measuring students' use of logic, their visual aids, the style and delivery, word choice, and response to questions) for	80% of the graduating students earn the minimum average score of 15 points on the presentation by earning points in their use of logic, their use of visual aids, their style and word	Three graduating majors successfully completed this. The remaining graduating majors were taking online sections due to COVID and therefore we	During the 2021-2022 academic year, we were able to move more classes back to face-to-face, therefore increasing the availability of data from these students.

		certification will also complete oral presentations in Math 4307.	oral presentations by their instructors.	choice, and their response to questions.	don't have this measure for those students.	
Central Limit Theorem	Mathematics majors will demonstrate proficiency in solving problems using the Central Limit Theorem.	At least 1/3 of the final exam in Math 3370 will contain problems relating to the Central Limit Theorem.	Points earned by students on the Central Limit Theorem problems on the final exam.	Each mathematics major who completes Math 3370 with a C or better must earn at least 70% of the points available for Central Limit Theorem problems on the final exam.	Out of 218 students who registered for Math 3370 in the 2021-2022 academic year, 207 earned a C or better. All of these students earned at least 70% of the points available for Central Limit Theorem problems.	For our 2021-2022 report, this outcome was met. We will allow this to be checked for one more year before making a decision about how to adjust or change this program goal.
Content Proficiency Exam	Mathematics majors seeking teacher certification must take and pass the Content Proficiency Exam	Percentage of students seeking teacher certification must take the assessment and earn at least 75%.	Number of students taking this assessment and their scores on the LU Content Proficiency Test.	100% of the students seeking teacher certification must take and pass the LU Content Proficiency Test with a score of at least 75%.		A draft of a support program was put into place to remediate any students who did not pass the exam on their first try, with a faculty member offering one-on-one support to those students.

Table 2. Continuous Improvement Results Since Last Report

Stage 4: ACT		
Actions/Goals Based on Data Results **Copy last cycle's actions/goals and report on progress toward continuous improvement on those here.*	**Status** *C=Complete* *P=Progressing* *N=No Action Taken*	**Discussion of Status** *If C, describe efforts that led to accomplishment of actions/goals.* *If P, provide update on progress made toward accomplishing actions/goals and what tasks remain* *If N, discuss why action toward accomplishing actions/goals has been delayed and what work will be initiated toward accomplishment.*
Written communication: Implemented Marketing Plan With faculty moving back to face-to-face classes, they are being reminded of this measure, and asked to submit work samples for their students.	P	
Central Limit Theorem: However, this objective will likely be replaced to a programmatic objective to measure the overall success of the program in teaching logic and critical thinking, instead of measuring student learning in a specific class.	C	No change is occurring at this time as we want to make sure that this goal is achieved for at least two years before adapting a new goal.
Content Proficiency Exam We will continue to monitor students who do not pass this exam. We are developing free in-house materials to support students who do not pass the exam on the first try.	P	Most of the traditional support materials require that the students pay for external tutoring. However, the math department is developing in-house materials to be used in face-to-face meetings with students needing review before reattempting the exam.