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**MS Mathematics**

**Annual Program Report Template**

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| Year: | 2022 - 2023 |
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| **Program:** | MS Mathematics |
| **Contact Person (include email & phone#)** | Jacqueline Jensen-Vallin, jjensenvalli@lamar.edu, 409-880-7859 |

**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 have 100% success rates in most of the assessed measures. We understand that this is not helping with program improvement and so are working to revise these programmatic goals and measures of success to get more effective feedback for continuous programmatic improvement.

**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: All MS Mathematics curriculum has been examined, and updated objectives and outcomes have been written and submitted to the university for approval. This should allow us to have outcomes and objectives that are more in line with the current versions of these courses after significant faculty turnover.

We are also revisiting all program assessment goals and measures. The Weave committee in Spring 2023 is developing new assessment instruments to be implemented in the next academic year.

Additionally, in Fall 2022 we took feedback about student progress through the curriculum to update our course carousel and ensure our offerings keep students on track for graduation.

**Table 1. Assessment Results and Analyses for Current Cycle.**

| STAGE 1: PLAN | | | | STAGE 2: DO | | STAGE 3: STUDY |
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| **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? |
| Students will learn to read and write mathematics and to evaluate the arguments presented by others | Each graduate student completing the MS Program will demonstrate a high level of mathematical proficiency in three or more areas of mathematics. | Students will demonstrate breadth of knowledge in 3 of the 4 core areas (analysis, algebra, further exploration, applications) by earning a C or better in a course in that area. | Transcript or G3 evaluation for a C or better in at least 3 of the core areas. | 100% of graduating students will score acceptable or above. | Benchmark met by all 5 graduates. | These data do not help us understanding student learning or assess this outcome. We will change this assessment to be the committee grading of work samples from at least three of the four core areas. We will compare samples from mid-term and final assignments to be able to measure growth. These changes are upcoming and mirror changes just implemented in the undergraduate program. |
| Oral mathematics | Each graduate student will demonstrate competency in oral communication skills in mathematics. | Student's oral skills will be assessed during the defense of their thesis or an oral examination over coursework. | A panel of three faculty members will evaluate oral presentations using a rubric. | 90% of students will score acceptable or above on this assessment. | All 5 graduates successfully defended their theses, with all scores on the rubric at "acceptable" or "accomplished" level. | In Spring 2023, we are reevaluating the rubrics to make sure that we are measuring oral communication effectively. These changes are underway and parallel changes being made to the undergraduate assessment plan. |
| Scholarly Work | Each graduate student will demonstrate competency in written communication skills in mathematics. | Student's written skills will be assessed by the progression of their thesis or other written | A panel of three faculty members will evaluate written thesis (or other | 100% of graduating students will score acceptable or above. | All 5 graduate students' work was evaluated as "acceptable"or | In Spring 2023, we are reevaluating the rubrics to make sure that we are measuring scholarly work effectively. |

| | | submissions (for non-thesis options). | submissions) using a rubric. | | "accomplished" in all areas. | |
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**Table 2. Continuous Improvement Results Since Last Report**

| Stage 4: ACT | | |
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| **Actions/Goals Based on Data Results**<br>*Copy last cycle's actions/goals and report on progress toward continuous improvement on those here.* | **Status**<br>*C=Complete*<br>*P=Progressing*<br>*N=No Action Taken* | **Discussion of Status**<br>*If C, describe efforts that led to accomplishment of actions/goals.*<br>*If P, provide update on progress made toward accomplishing actions/goals and what tasks remain*<br>*If N, discuss why action toward accomplishing actions/goals has been delayed and what work will be initiated toward accomplishment.* |
| Mathematical Content Knowledge: Assessment method revision<br><br>We need a better measure of student understanding, as a C in a graduate course is not a good measure of student success in the graduate program. | P | These data do not help us understanding student learning or assess this outcome. We will change this assessment to be the committee grading of work samples from at least three of the four core areas. We will compare samples from mid-term and final assignments to be able to measure growth. These changes are upcoming. |
| Oral Communication Skills: Assessment Revision Needed<br><br>The oral communication rubric is designed to give all students who successfully defend their thesis an acceptable rating in this area. Therefore, we need to redesign the rubric to better measure how our graduates are doing in this area. | P | We are rewriting the rubrics for these expectations, beginning in Spring 2023 for samples collected in Spring 2023 and beyond. |
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