

Core Curriculum Annual Assessment

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| Year | 2022-23 |
| Course number and Name: | Math 2413: Calculus I |
| Component area: | 2: Mathematics |
| Number of sections offered: | 8 sections |
| Number of students enrolled: | 376 students |
| Contact Person (include email & Phone#) | Jacqueline Jensen-Vallin, jjensenvalli@lamar.edu , x7859 |

Summary of Continuous Improvement Efforts since Last Report

Provide a brief description of how assessment results have been used for core course improvement. Point to a specific example of how an assessment provided the department 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 noticed a wide variation in pass rates in sections of Math 2413. In fall 2022 and spring 2023, we created two committees to address calculus – one is a textbook committee and the other is a curriculum committee. The textbook committee examined and decided on a new text for the calculus sequence (Math 2413, Math 2414, and Math 2415) and created a new policy that all calculus sections that use a book must use the departmentally selected text.

In spring 2023, the calculus curriculum committee began a curriculum audit to make sure that students who are entering our calculus have the skills that they need. The calculus committee developed a list of skills from precalculus which are required for those courses. We are working during summer 2023 as we implement the redesigned Math 2311 course for Fall 2023 to make sure that we have included all of those required topics in the updated version of Math 2311 and Math 2312. This audit additionally created a list of mandatory topics and suggested (time permitting) topics for each of the calculus courses.

Course highlights Since Last Report

Identify and briefly discuss any changes made to the course since the last report.

Respond here:

We have also redesigned the core curriculum assessment and are using a new problem to assess the course, based on updated student learning outcomes. Based on instructor feedback from the first administration of this problem in Spring 2023, we will be making changes for the future administrations of the assessment.

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Additionally, this core assessment problem will be administered every semester to ensure continuity of data.

In Spring 2023, we received raw data from IR to allow for student tracking. Our assistant chair is examining student tracking data to verify that students who do well in Math 2312 are prepared for, and succeed in, Math 2413. This is allowing us to better respond to student need in a way that is beyond the information provided by the core assessment report, but is longitudinal and will not immediately reflect changes.

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Table 1. Assessment Results and Analysis for Current Cycle

| Stage 1: PLAN | | | STAGE 2: DO | | Stage 3: STUDY | |
|--|---|--|--|---|---|--|
| General Education Competencies Addressed in this Course: | Assessment Method(s) – e.g. pre/post tests, embedded questions, portfolio evaluation, rubric-scored essay; list only activities for which you are reporting assessment data | Proficiency – e.g. the proficient student will correctly answer 5 out of the 6 embedded questions on the final exam | Benchmark – e.g. 80% of students taking the final exam will correctly answer 5 of the 6 embedded questions on the final exam | Results of course assessment(s) | Analysis of results – e.g. strengths and weaknesses What does this 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? | Recommendations for Course based on assessment |
| Communication (required) | Required core assessment problem | Student demonstrates (a) control of syntax and mechanics, (b) content and purpose, and (c) develops the content and provides an interpretation | 70% of students are acceptable or proficient based on departmental rubric in each area. | On goal (a), 94% acceptable or proficient On goal (b), 88% are acceptable or proficient On goal (c), 88% are acceptable or proficient | We met this goal, but will measure this again without adjustment as we transition to new course materials. | |
| Critical Thinking (required) | Required core assessment problem | Student demonstrates an (a) explanation of issues, (b) | 70% of students are acceptable or proficient based on departmental | On goal (a), 94% acceptable or proficient | We met this goal, but will measure this again without adjustment as we | |

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| | | influence of context and assumptions, and (c) gives conclusions and outcomes demonstrating a synthesis of information | rubric in each area. | On goal (b), 88% are acceptable or proficient On goal (c), 88% are acceptable or proficient | transition to new course materials. | |
| Select One: _x_ Empirical & Quantitative Skills ___ Teamwork ___ Social responsibility ___ Personal Responsibility | Required core assessment problem | Student can (a) represent mathematical ideas symbolically, (b) can calculate and analyze information, and (c) can finalize their analysis | 70% of students are acceptable or proficient based on departmental rubric in each area. | On goal (a), 88% acceptable or proficient On goal (b), 88% are acceptable or proficient On goal (c), 88% are acceptable or proficient | We met this goal, but measure again as we transition to new course materials. | |
| Select One: ___ Empirical & Quantitative Skills ___ Teamwork ___ Social responsibility ___ Personal Responsibility | | | | | | |

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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 <i>*copy last cycles actions/goals and report on progress toward continuous improvement on those here</i> | Status <i>C=Complete</i> <i>P=Progressing</i> <i>N=No action taken</i> | Discussion of status <i>If C, describe efforts that led to accomplishment of actions/goals</i> <i>If P, provide update on progress made toward accomplishing actions/goals and what tasks remain</i> <i>If N, discuss why action toward accomplishing actions/goals has been delayed and what work will be initiated toward accomplishment.</i> |
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