Year	2022-23
Course number and Name:	Math 2311: Precalculus I
Component area:	2: Mathematics
Number of sections offered:	9 sections
Number of students enrolled:	441 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:

In Fall 2017, the state of TX passed HB 2223, which required corequisite education for underprepared students. The department of mathematics at LU took advantage of this change to reevaluate and redesign all of our first-year courses. Combined with our QEP pathways project the past few years, this has allowed us to examine these first-year courses and make adjustments each semester in response to student success and instructor feedback.

Our biggest story of continuous improvement in first-year courses is in Math 2311 (Precalculus I) and it's corequisite course (Math 0372 – Foundations of Precalculus). Our first attempt at this pairing had students working in two parallel homework systems, but their progress did not carry from one class to another, so the corequisite students often had to complete the same work twice. This was not our intent and so, in the following semester, we made other curricular adjustments. Over the past five years we have tried the following adjustments: all corequisite content is in one module, required for the corequisite students and strongly suggested for the TSI complete students; all in-class content and no homework for the corequisite course; cohorted sections where the corequisite students have the same instructor for both the college-level and the corequisite course. These last two attempts have had the most student success, and so that is our model moving forward, though we are continuing to re-pace and refocus the course based on continued feedback from instructors and students.

Course highlights Since Last Report

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

Respond here: Course cohorts for Math 2311 and Math 0372 (the same students in paired sections, taught by the same instructor) were very successful in Fall 2022. We did not have enough enrollment in the Math 0372 course in Spring 2023 to continue to have cohorts, but we are using cohorts again in 2023-2024.

We continue to reassess the curriculum and pacing in Math 2311/Math 0372. A committee in Spring 2022 decided to use a completely new course design starting in Fall 2023, which will be more homework based instead of mastery-based. The mastery-based system that we were using was causing the corequisite students to be left behind and forming barriers to their success. The new homework-based system is designed to remove or alleviate those barriers.

We have also redesigned the core curriculum assessment and are using a new problem to assess the course, based on updated student learning outcomes. Additionally, this will be administered every semester to ensure continuity of data.

Further, we have begun a curriculum audit to make sure that students who are entering our calculus have the skills that they need. The calculus committee began their work in Spring 2023, coming up with a list of skills from precalculus which are required for those courses. We are working during summer 2023 as we implement the redesigned 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.

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 2311 are prepared for, and succeed in, Math 2312. 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.

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	70% of students are acceptable or proficient based on departmental	On goal (a), 63% acceptable or proficient On goal (b), 51%		

		purpose, and (c) develops the content and provides an interpretation	rubric in each area.	are acceptable or proficient On goal (c), 42% are acceptable or proficient		
Critical Thinking (required)	Required core assessment problem	Student demonstrates an (a) explanation of issues, (b) influence of context and assumptions, and (c) gives conclusions and outcomes demonstrating a synthesis of information	70% of students are acceptable or proficient based on departmental rubric in each area.	On goal (a), 60% acceptable or proficient On goal (b), 69% are acceptable or proficient On goal (c), 54% are acceptable or proficient		
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), 57% acceptable or proficient On goal (b), 81% are acceptable or proficient On goal (c), 60% are acceptable or proficient		
Select One: ___Empirical & Quantitative Skills ___Teamwork						

___Social responsibility ___Personal Responsibility						

Table 2. Continuous Improvement Results Since Last Report

STAGE 4: ACT		
Actions/Goals based on data results **copy last cycles 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.*