Academic Program Assessment Report for AY 2024-2025

Program: Mathematics **Date report completed:** 5 June 2025

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Please describe the 2024-2025 assessment activities and follow-up for your program below. Please complete this form for each undergraduate major, minor, certificate, and graduate program (e.g., B.A., B.S., B.A.S, M.S.) in your department. Please copy any addenda (e.g., rubrics) and paste them in this document, save and submit it to both the Dean of your college/school and to the Executive Director for Assessment as an email attachment by June 1, 2025. You'll also find this form on the assessment website at https://www.csupueblo.edu/assessment-and-student-learning/resources.html. Thank you.

Brief statement of Program mission and goals: Program Overview: The Mathematics BA/BS program is designed to prepare students to use quantitative and analytical methods and powerful mathematical problem-solving strategies necessary for lifelong independent learning.

Students will learn to formulate and solve problems using mathematical tools while working alone or in groups on routine problems, nonroutine, and open-ended problems, problems involving applications to other fields, problems involving real-world data, and abstract problems within mathematics.

Students in the Mathematics program can specialize in their field of interest or choose a concentration in Secondary Certification. The Mathematics program prepares students for professional careers and graduate studies in actuarial science, computer science, engineering, operations research, biomathematics, cryptography, finance, pure and applied mathematics, and teaching.

Student Learning Outcomes: At the conclusion of the mathematics programs:

1. Students will have facility in the core mathematical content areas: calculus, algebra, and other additional topics.
2. Students will formulate and solve problems using mathematics, working alone or with others at the three cognitive levels: routine problems, non-routine problems and applied problems. They will also be able to formulate and solve applied problems involving applications to other fields and problems involving real-world data.
3. Students will create, analyze and use mathematical abstraction. They will understand and write formal mathematical arguments. They will appreciate the standards for mathematical rigor, elegance and beauty.
4. Students will produce and deliver effective written presentations of mathematical material and ideas. 5. Students will find and select appropriate written sources of mathematics and learn independently from these sources.

I. Assessment of Student Learning Outcomes (SLOs) in this cycle. Including processes, results, and recommendations for improved student learning. Use Column H to describe improvements planned for 2025-2026 based on the assessment process.

A. Which of the program SLOs were assessed during this cycle? **Please include the outcome(s) verbatim from the assessment plan.**	B. When was this SLO last reported on prior to this cycle? (semester and year)	C. What method was used for assessing the SLO? **Please include a copy of any rubrics used in the assessment process.**	D. Who was assessed? Please fully describe the student group(s) and the number of students or artifacts involved (N).	E. What is the expected proficiency level and how many or what proportion of students should be at that level?	F. What were the results of the assessment? (Include the proportion of students meeting proficiency.)	G. What were the department's conclusions about student performance?	H. What changes/improvements to the program are planned based on this assessment?
1. Students will have facility in the core mathematical content areas: calculus, algebra, and other additional topics.	AY 2022-2023	The Mathematics Major Field Test, given to each student at the end of their second capstone course (Math 421 and Math 427).	Students in either Math 421 Spring 2025 or Math 427 Fall 2024 who were completing the second of these two capstone courses. These are generally students who will graduate in this or the subsequent term. (N=2)	90% of students above the 50th percentile in the national rankings.	All students met the benchmark score (92nd percentile, 98th percentile)	We did not reevaluate the benchmark. However, student performance this year was very far above expectations. We still need to collect several years of data and meet to discuss the statistics from these data	No changes agreed upon.

Comments on part I: Departmental faculty members met 22 April 2025 to review the program goals. We agreed in principle to reviewing each goal during the next academic year. For each goal on which we agree, we agreed to develop quantitatively measurable outcomes by which we may assess

that goal. Assessment was discussed at that time, but no plan formulated. We agreed to bring the goals to our students in fall 2025 (potentially at the Tea Time social, potentially starting up the Math Club and bringing them there) for student feedback. We discussed how to do that and identified faculty members interested in the process.

We also discussed the idea of bringing in alumni for student/ alumni discussions and information interviews regarding program utility.

II. Closing the Loop. Describe at least one data-informed change to your curriculum during the 2022-2023 cycle. These are those that were based on, or implemented to address, the results of assessment from previous cycles.

A. What SLO(s) or other issues did you address in this cycle? **Please include the outcome(s) verbatim from the assessment plan.**	B. When was this SLO last assessed to generate the data which informed the change? Please indicate the semester and year.	C. What were the recommendations for change from the previous assessment column H and/or feedback?	D. How were the recommendations for change acted upon?	E. What were the results of the changes? If the changes were not effective, what are the next steps or the new recommendations?
No loops closed this academic year				

Comments on part II: