

CWU Student Learning Outcome Assessment Plan
 Department: Mathematics
 Program: Bachelor of Arts: Teaching Secondary

Many Student Learning Outcomes for this program are assessed either through Portfolios or the WEST-E Examination.

For all Portfolio based assessment, the Criterion of Achievement is “75% of applicable Portfolio artifacts achieve a rating of Exemplary or Proficient” referred to as “Portfolio Criterion” in the table below.

For all WEST-E based assessment, the Criterion of Achievement is “60% of responses correct on applicable WEST-E category” referred to as WEST-E Criterion” in the table below.

Student Learning Outcomes	Method(s) of Assessment	Who Assessed	When Assessed	Criterion of Achievement
1. Graduates will be able to explain the concepts and applications of elementary functions.	499E Portfolios	Students in MATH 499E	Fall	Portfolio Criterion
	WEST-E “Functions and Calculus” Exam	Students taking WEST-E Exam	Spring	WEST-E Criterion
2. Graduates will be able to explain the concepts of calculus to model dynamic change.	499E Portfolio	Students in MATH 499E	Fall	Portfolio Criterion
	WEST-E “Functions and Calculus” Exam	Students taking WEST-E Exam	Spring	WEST-E Criterion
3. Graduates will be able to explain the concepts, methods, and applications of logic and discrete models.	499E Portfolio	Students in MATH 499E	Fall	Portfolio Criterion
	WEST-E “Matrix Algebra and Discrete Mathematics” Exam	Students taking WEST-E Exam	Spring	WEST-E Criterion

Student Learning Outcomes	Method(s) of Assessment	Who Assessed	When Assessed	Criterion of Achievement
4. Graduates will be able to apply and explain the concepts, methods, and applications of algebra systems.	499E Portfolio	Students in MATH 499E	Fall	Portfolio Criterion
	WEST-E "Algebra and Number Theory" Exam	Students taking WEST-E Exam	Spring	WEST-E Criterion
5. Graduates will be able to apply and explain the concepts, methods, and applications of Euclidean and Non-Euclidean geometry using inductive and deductive approaches.	499E Portfolio	Students in MATH 499E	Fall	Portfolio Criterion
	WEST-E "Measurement, Geometry, and Trigonometry" Exam	Students taking WEST-E Exam	Spring	WEST-E Criterion
6. Graduates can plan, teach, and assess lessons concerning topics presented in Student Learning Outcomes 1–5 using their understanding of mathematics, learning theory, and pedagogy.	324 Portfolio	Students in MATH 324	Winter	Portfolio Criterion
7. Graduates can use appropriate technology to investigate and represent concepts, methods, and applications of mathematical problems. Graduates can use appropriate technology to teach and assess student understanding of mathematical concepts.	299E Portfolio 324 Portfolio	Students in MATH 299E and 324	Fall and Winter	Portfolio Criterion
8. Graduates will be able to use the principles of mathematical thinking to solve and prove mathematical problems.	299E Portfolio	Students in MATH 299E	Fall	Portfolio Criterion

Student Learning Outcomes	Method(s) of Assessment	Who Assessed	When Assessed	Criterion of Achievement
9. Graduates will be able to plan, teach, and assess lessons involving mathematical thinking using their understanding of mathematics, learning theory, and pedagogy.	324 Portfolio	Students in MATH 324	Winter	Portfolio Criterion
10. Graduates will be able to apply and explain the historical and cultural development of each branch of mathematics to the discovery of important mathematical ideas.	324 Portfolio	Students in MATH 324	Winter	Portfolio Criterion