

Mathematics Program Assessment Plan

Mission

Our mission to our majors and minors is to spark a life-long interest in learning and to provide them with

- a spirit of fellowship and a learning community in which they are able to develop their mathematical and computing abilities to their full potential,
- the foundation necessary to begin a career in the mathematical sciences, and
- an understanding of how a liberal arts education will enhance their careers and their lives.

In addition, we impart on our mathematics majors

- problem solving skills that transcend specific environments and tool sets,
- the ability to use those skills to design and implement solutions to complex problems, and
- the skills requisite for success in postgraduate careers and study.

Goals

Graduating senior mathematics majors should be able to

1. gain independent understanding of mathematics,
2. construct correct mathematical proofs,
3. solve complicated computational problems correctly, and
4. express mathematics both orally and in writing.

Further, all recent graduates from our department should

1. gain acceptance by graduate schools or offers for career positions, and
2. possess the ability to succeed in graduate school or ability to succeed in their first position.

Learning Outcomes

Upon completion of a degree in mathematics, students should demonstrate

1. an understanding of algebra and calculus, the essential computational frameworks of mathematics,
2. a basic understanding of analysis and algebra, the core branches of mathematics,

3. the ability to use logic and correct mathematical terminology to write mathematical proofs, and
4. the ability to apply logic and correct mathematical terminology in the development of a mathematical theory.

Courses associated to learning outcomes

Expected levels of mastery per class (M=mastery, P=proficient, D=developing, B=beginner)

	LO 1	LO 2	LO 3	LO 4
MATH 109 College Algebra	X (B,D)			
MATH 205 Math Connections	X (B,D)			
MATH 211 Precalculus	X (B,D)			
MATH 213 Trig and Vectors	X (B,D)			
MATH 227 Intro to Statistics	X (B,D)			
MATH 231 Calculus I	X (B,D)			
MATH 232 Calculus II	X (D,P)			
MATH 233 Calculus III	X (P,M)			
MATH 234 Intro to Proof			X (B,D)	
MATH 235 Linear Algebra		X (B,D)	X (D,P)	X (B-P)
MATH 301 Abstract Algebra		X (D,P)	X (P,M)	X (D,P)
MATH 421 Real Variables		X (P,M)	X (M)	X (P,M)
MATH 493 Senior Seminar			X (M)	X (P,M)
MATH 326 Probability Theory			X (D,P)	X (D,P)
MATH 327 Mathematical Stats			X (P,M)	X (P,M)
MATH 366 Differential Equations	X (M)			X (P,M)
MATH 432 Complex Variables		X (P,M)	X (P,M)	X (P,M)
MATH 330 Geometry			X (P,M)	X (P,M)
MATH 428 Regression Analysis	X (M)		X (P,M)	X (P,M)

Three-Year Assessment Plan

We assess all learning outcomes during each three-year period. The schedule for mathematics appears below.

Year 1 – assess learning outcomes 2

Year 2 – assess learning outcomes 3 and 4

Year 3 – assess learning outcome 1

The academic year 2025-26 is Year 1 in this cycle.

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