MATHEMATICS TEACHING MINOR

⌨ **Offered Online**

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Use mathematical concepts to solve problems.
- Use technology such as (but not limited to) computer algebra systems, statistical software, and calculators to solve, analyze, or explore problems in mathematics.
- Demonstrate how students learn mathematics and the pedagogical knowledge specific to mathematics teaching and learning by demonstrating how learners develop mathematical proficiency through the interdependent processes of integrating conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and productive disposition.
- Demonstrate how students learn mathematics and the pedagogical knowledge specific to mathematics teaching and learning by demonstrating an understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments in mathematics and ensure high standards of mathematical work for all students.
- Demonstrate how students learn mathematics and the pedagogical knowledge specific to mathematics teaching and learning by demonstrating an understanding of learning environments that promote mathematical learning, including individual and collaborative learning, positive social interaction about mathematics, active engagement in mathematics learning, and promote self-motivation among mathematical learners.
- Demonstrate how students learn mathematics and the pedagogical knowledge specific to mathematics teaching and learning by demonstrating an understanding of multiple methods of assessment of mathematical learner growth, progress, and decision making.
- Demonstrate how students learn mathematics and the pedagogical knowledge specific to mathematics teaching and learning by demonstrating an understanding of a variety of instructional strategies that encourage learners to develop deep understanding of mathematics.
- Demonstrate how students learn mathematics and the pedagogical knowledge specific to mathematics teaching and learning by demonstrating an understanding of grades 5-12 mathematics curriculum as specified by the State of Montana Content Standards and of the assessment process as specified by the Montana statewide assessment.

For students who are gaining teaching licensure in a content major, the following minor leads to endorsement. All students desiring licensure to teach are required to file an Application for Admission to the Educator Preparation Program (https://catalog.msubillings.edu/undergraduate/college-education/).

Required Courses

Code	Title	Credits
EDU 366	Math Practicum	3
EDU 497B	Methods: 5-12 Mathematics	3
M 121	College Algebra [*]	3
M 122	College Trigonometry [*]	3
M 171	Calculus I [*]	4
M 305	Discrete Structures I	4
M 329	Modern Geometry	3
M 333	Linear Algebra	4
STAT 216	Introduction to Statistics [*]	4
Total Minimum Credits		**31**

[*] May satisfy General Education requirements.

Certain courses in this program have prerequisites; students should check the course descriptions for required prerequisites.

Suggested Plan of Study

Code	Title	Credits
Summer Even Years		
M 121	College Algebra	3
M 122	College Trigonometry	3
Fall Even Years		
M 171	Calculus I	4
Spring Odd Years		
EDU 366	Math Practicum	3
Summer Odd Years		
STAT 216	Introduction to Statistics	4
Fall Odd Years		
EDU 497B	Methods: 5-12 Mathematics	3
Spring Even Years		
M 333	Linear Algebra	4
Summer Even Years		
M 305	Discrete Structures I	4
M 329	Modern Geometry	3