

M.S. in Mathematics - Mathematics Education Option (MSMME)

The MSMME program emphasizes the teaching and learning of secondary mathematics and offers a combination of courses addressing key topics in mathematics content and pedagogy. The MSMME curriculum incorporates problem-based and active learning and aligns with the NCTM Principles and Standards for School Mathematics as well as the Common Core State Standards for Mathematics. The 30-credit-hour program includes four required core content courses, two required pedagogy courses from a choice of four, and a variety of elective courses. Completing the program typically requires taking a series of online courses over two academic years and attending at least one (required) summer session in Montana. Embedded in the required coursework are classroom-based research projects that address specific challenges in teaching, investigate new instructional strategies, or allow teachers to design, teach, and assess lessons in a specific content area.

Admission

Preference will be given to applicants who have:

1. An earned B.S. or B.A. degree from a mathematics or mathematics teaching program
2. Licensure in at least one state to teach secondary mathematics
3. A current position in secondary teaching
4. Two or more years of teaching experience
5. An undergraduate GPA of 3.0 or higher

Consideration will be given to other applicants as space allows:

- Secondary teachers with a significant mathematics background but not holding secondary mathematics licensure (e.g., private school teachers)
- Licensed secondary mathematics teachers not currently teaching but who intend to teach secondary mathematics in the near future
- Mathematics teachers at other levels with appropriate background and experience (reviewed on a case-by-case basis)

Special Notes:

- GRE scores are NOT required for admission to the MSMME program.
- The MSMME is approved under the Western Regional Graduate Program (WRGP), which allows teachers from Western states to pay in-state resident tuition. The participating states are Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming (<http://www.montana.edu/gradschool/costs.html>).
- MSMME qualifies for reduced out-of-state tuition rates as an online program at MSU (<http://www.montana.edu/online/cost/>).

Program Requirements

1. Core Content Courses (4 required):

M 518	Statistics For Teaching	3
M 524	Linear Algebra for Teaching	3
M 525	Analysis for Teaching	3
Choose either M517 or M527:		
M 517	Advanced Mathematical Modeling for Teaching	3
M 527	Geometry for Teaching	3

2. Pedagogy Courses (2 required):

Required:

M 520	Access and Equity in Mathematics Teaching	
Choose at least 1 of 3:		6
M 521	Mathematics Learning Theory for Teaching	
M 528	Curriculum Design	
M 529	Assessment Models and Issues	

3. Elective Courses (4 required):

Elective courses are offered on a rotating schedule or on demand. 12
The pedagogy courses listed above also serve as electives.

M 516	Language of Mathematics for Teaching	
M 522	Assessment of Mathematics for Teaching	
M 523	Number Structure for Teaching	
M 526	Discrete Mathematics for Teaching	
M 533	History of Mathematics for Teaching	
M 535	Technology and Mathematics for Teaching	
M 577	Conducting Action Research in Mathematics Education	

Total Credits 30

MSMME Program Portfolio

Graduates of the MSMME program must demonstrate a thorough understanding of the standards that guide their profession and how these standards undergird their own professional growth. In addition, they are expected to continuously reflect on their learning; to recognize personal gains in content knowledge and pedagogical skills; and to engage in classroom research experiences. To meet these capstone requirements, teachers build a program portfolio throughout their course of study and present a summative reflection upon completion of coursework. This portfolio, which must be publicly presented and discussed with committee members, represents the capstone event of the program and replaces a comprehensive examination.