

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

The MSMME program emphasizes the teaching and learning of middle and high school mathematics and offers a combination of courses addressing key topics in mathematics content and pedagogy. The MSMME curriculum incorporates equity-oriented, problem-based, and active learning and aligns with recommendations from national professional organizations. The 30-credit-hour program includes four core content courses, two core pedagogy courses, and four electives. Students are approved to take one online course at a time in semesters when they are working full-time as classroom teachers. Completing the program requires two academic years and three summers, one of which is a required in-person summer session. Embedded in the coursework are classroom-based research projects that address specific challenges in teaching, that investigate new instructional strategies, or that allow teachers to design, teach, and assess lessons in mathematics.

## 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)
- Licensured 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
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### 2. Pedagogy Courses (2 required):

Required:		
M 520	Access and Equity in Mathematics Teaching	
Choose at least 1 of 3:		
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	

<b>Total Credits</b>	<b>30</b>
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## MSMME Program Portfolio

Graduates of the MSMME program must demonstrate a thorough understanding of the current research and recommendations that guide their profession. 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. 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 during their final semester, represents the capstone event of the program.