

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):		12
M 517	Advanced Mathematical Modeling for Teaching	3
M 518	Statistics for Teaching	3
M 519	Ratio and Proportion in School Mathematics	3
M 524	Linear Algebra for Teaching	3
M 525	Analysis for Teaching	3

M 526	Discrete Mathematics for Teaching	3
M 527	Geometry for Teaching	3
2. Pedagogy Courses (2 required):		8
M 520	Access and Equity in Mathematics Teaching	3
M 521	Mathematics Learning Theory for Teaching	3
M 528	Curriculum Design	3
M 577	Conducting Action Research in Mathematics Education	3

3. Elective Courses (4 required):

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

M 516	Language of Mathematics for Teaching	3
M 522	Assessment of Mathematics for Teaching	3
M 523	Number Structure for Teaching	3
M 533	History of Mathematics for Teaching	3
M 534	Research in Mathematics Education	3
M 535	Technology and Mathematics for Teaching	3

Total Credits **30**

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.