Mathematics for Secondary School Teachers (MSST)

Chairperson: Rebecca L. Sanders, Ph.D.
Program Director: Marta Magiera, Ph.D.

Degree Offered
Master of Science, students are admitted under Plan B (non-thesis option) but Plan A (thesis option) is also offered

Program Description
Although the mathematics for secondary school teachers (MSST) program is designed for teachers, it is also open to others who want to deepen their understanding of post-baccalaureate mathematics and mathematics education. Students may also choose core courses from the computational sciences program. This program does not prepare students for doctoral studies in pure mathematics.

Prerequisites for Admission
Applicants should have an undergraduate degree. Students whose previous mathematics course work was not at least equivalent to a minor in mathematics may be required to complete some prerequisite undergraduate courses before beginning master's courses.

Application Deadline
Applications are accepted on an ongoing basis. However, applicants should allow at least a month for the application process to be completed once all application materials have been submitted.

Application Requirements
Applicants must submit, directly to the Graduate School:

1. A completed application form and fee online (http://marquette.edu/grad/future_apply.shtml).
2. Copies of all college/university transcripts except Marquette.*
3. Three letters of recommendation addressing the applicant's academic qualifications for graduate study in the intended program.
4. (For international applicants only) GRE scores (General Test only).
5. (For international applicants only) a TOEFL score or other acceptable proof of English proficiency.

* Upon admission, final official transcripts from all previously attended colleges/universities, with certified English translations if original language is not English, must be submitted to the Graduate School within the first five weeks of the term of admission or a hold preventing registration for future terms will be placed on the student's record.

Mathematics for Secondary School Teachers Master's Requirements
A master's student must complete a 30-credit plan of study prepared in cooperation with an adviser and approved by the Graduate Committee of the Department of Mathematics, Statistics and Computer Science.

A master's student is admitted to the non-thesis program (Plan B). A formal request to pursue a thesis (Plan A) must be approved by the department's Graduate Committee and the Graduate School.

All Plan A students in the mathematics for secondary school teachers specialization must complete a minimum of 24 credit hours of course work. At least 12 credits of the total course work requirement must be taken at the 6000-level. In addition, students must complete six credit hours of MSCS 6999 Master's Thesis and submit a thesis that must be an original contribution to the student's field of study. A public defense of the thesis is required.

Required courses
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MSCS 5310</td>
<td>History of Mathematical Ideas</td>
<td>3</td>
</tr>
<tr>
<td>MSCS 6953</td>
<td>Seminar in Mathematics Curriculum Development and Material 1</td>
<td>3</td>
</tr>
<tr>
<td>or MSCS 6954</td>
<td>Seminar in Mathematics Curriculum Development and Material 2</td>
<td></td>
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Elective courses
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<thead>
<tr>
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<tr>
<td>MSCS 5020</td>
<td>The Teaching of Mathematics</td>
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<tr>
<td>MSCS 5030</td>
<td>Concepts in Geometry and Calculus from an Advanced Standpoint</td>
</tr>
<tr>
<td>MSCS 5040</td>
<td>Concepts in High School Algebra and Number Theory from an Advance Standpoint</td>
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</table>
MSCS 5120  Abstract Algebra 1
MSCS 5320  Theory of Numbers
MSCS 5420  Foundations of Geometry
MSCS 5720  Statistical Methods
MSCS 6010  Probability
MSCS 6030  Applied Mathematical Analysis
MSCS 6040  Applied Linear Algebra
Additional courses as approved by the Graduate Committee.

MSCS 6999  Master's Thesis  6

Total Credit Hours  30

All Plan B students in the mathematics for secondary school teachers specialization must complete a minimum of 30 credit hours of course work. At least 15 credits of the total course work requirement must be taken at the 6000-level. In addition, students must complete a non-credit essay that reflects the student's ability to synthesize source materials relating to a particular area of research or professional practice. A public oral presentation of the essay is required.

Required courses
MSCS 5310  History of Mathematical Ideas  3
MSCS 6953  Seminar in Mathematics Curriculum Development and Material 1  3
or MSCS 6954  Seminar in Mathematics Curriculum Development and Material 2  3

Elective courses
MSCS 5020  The Teaching of Mathematics  24
MSCS 5030  Concepts in Geometry and Calculus from an Advanced Standpoint
MSCS 5040  Concepts in High School Algebra and Number Theory from an Advance Standpoint
MSCS 5120  Abstract Algebra 1
MSCS 5320  Theory of Numbers
MSCS 5420  Foundations of Geometry
MSCS 5720  Statistical Methods
MSCS 6010  Probability
MSCS 6030  Applied Mathematical Analysis
MSCS 6040  Applied Linear Algebra
Additional courses as approved by the Graduate Committee.

Total Credit Hours  30