

# TWU Master Mathematics Teacher Certification Programs

## **MATH 5203 Problem Solving in the Mathematics Classroom -**

Study of problems with multiple solutions or alternative approaches; strategies for solving problems; assessment techniques; cooperative grouping methods; critical thinking skills.

**MATH 5313 Geometry in the Mathematics Classroom -** Topics in geometry with an emphasis on problem solving, shapes, angles, polygons, circles, Pythagorean Theorem, symmetry, transformations, measurement of area, volume with an emphasis on technology.

**MATH 5423 History of Mathematics -** A survey of the historical development of various mathematical topics, including geometry, algebra and number theory. A study of the work of past mathematicians, including Archimedes, Euclid, Fermat, Newton and mathematicians of the 19th and 20th centuries.

**MATH 5483 Theory of Probability and Statistics I -** Basic principles of probability; combinations and permutations; conditional probability and independence; common discrete and continuous probability distributions, their properties and applications.

**MATH 5913 Independent Study: Practicum in Professional Development and Assessment -** Provides experiences in mentoring to and conducting professional development sessions for other teachers; analysis and presentation of students' test results (STAAR, etc.); review of TEKS across grades; sequencing of instruction based on research in math education (including student diversity, formative and summative assessment tools, use of appropriate technology, use of error patterns, questioning techniques, etc.)

It is strongly advised that the student take MATH 4003 to review their mathematics content before taking the Master Mathematics Teacher exam.

# Master Mathematics Teacher Overview

Legislation passed in 2001 (House Bill 1144) required the creation of the Master Mathematics Teacher (MMT) Certificate, the development of standards for the certificate and the development of Master Mathematics Teacher certification examinations in grades EC-4, 4-8, and 8-12. The Master Mathematics Teacher certificate was created by the 77th Texas legislature "to ensure that there are teachers with special training to work with other teachers and with students in order to improve student mathematics performance..."

**DEFINITION:** A Master Mathematics Teacher is an individual who holds a Master Mathematics Teacher Certificate and whose primary duties are to teach mathematics and to serve as a mathematics mentor to other teachers.

**PURPOSE:** The Master Mathematics Teacher Certificate is being implemented as a part of the Texas Mathematics Initiative, which offers mathematics educators assistance to improve student performance in mathematics.

**ELIGIBILITY:** The Master Mathematics Teacher Certificate may be obtained by an individual who holds a teaching certificate, has at least three years of teaching experience, completes an SBEC-approved Master Mathematics Teacher preparation program, and passes the Master Mathematics Teacher Certification exam.

## Admissions Requirements

- Application to the Master Mathematics Teacher Certification Program
- Application to the Graduate School (for certification only)
- Hold an earned bachelor's degree or equivalent from a U.S. college or university
- Two semesters of introductory calculus
- Hold a teaching certificate
- 3 years teaching experience

## Additional Courses to Complete Degree: Master of Science in Mathematics Teaching

### Required:

MATH 5303 Algebra in the Mathematics Classroom  
MATH 5323 Euclidean Geometry  
MATH 5333 Technology in the Mathematics Classroom  
MATH 5513 Matrix Algebra  
MATH 5543 Symbolic Logic  
MATH 5973 Professional Paper

Select 3 hours from the following:

MATH 5493 Theory of Probability and Statistics II  
MATH 5523 Introduction to Number Theory  
MATH 5563 Logic Sets & Reals  
MATH 5573 Statistical Methods I  
MATH 5593 Differential Equations

Total of 21 additional hours of graduate coursework beyond MMT certification.  
There will be a total of 36 hours of graduate work for the MSMT degree.

## Admissions Requirements for: Master of Science in Mathematics Teaching

- Hold an earned bachelor's degree or equivalent from a U.S. college or university
- Have a minimum 3.0 GPA for the last 60 hours of undergraduate study and a minimum 3.0 GPA for all prior graduate work
- Two letters of reference
- Two semesters of introductory calculus
- Two additional advanced mathematics courses (to be approved by the department)



## Master Mathematics Teacher Certification for Grades 4-8 and 8-12

*Sponsored by the  
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