SOUTHWEST
MINNESOTA STATE UNIVERSITY

GRADUATE OFFICE

Master of Science in Education: Math emphasis

Southwest Minnesota State University is offering a Master of Science in Education with a Mathematics emphasis. The mathematics emphasis is appropriate for licensed secondary (7^{th} – 12^{th}) mathematics teachers who wish to pursue graduate coursework in mathematics education. This emphasis provides educators with an in-depth understanding and practical application of the mathematics that they teach and the processes involved in learning and leadership through research-based coursework. The two-year program is offered with on-campus mathematics courses during the summer, and online/blended education core courses during the fall and spring semesters. See course sequence at the end of this email.

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Course #	Title	Cr.	Course Offered
MATH 505	Topics in the History of Mathematics	4	Summer 2011
MATH 530	Statistics	4	Summer 2011
ED 621	Critical Theory of Educational Systems	3	Fall 2011
ED 622	Applied Research & Assessment in Ed	3	Fall 2011
ED 623	Professional Planning & Assessment	3	Spring 2012
ED 624	Action Research: Project Design	3	Spring 2012
MATH 510	Topics in Number Theory	4	Summer 2012
MATH 515	Advanced Topics in Discrete Math	4	Summer 2012
ED 625	Research Based Analysis of Teach and Learning	3	Fall 2012
ED 626	Democracy, Diversity, and Leadership	3	Fall 2012
ED 627	Action Research: Project Implementation	2	Spring 2013

Note: Classes will be offered based on enrollment.

To start ***NOW*** send your application to the Graduate Office along with:

- ✓ $30 Application Fee—apply online - Priority Deadline is April 1, 2011
- ✓ Official Transcript
- ✓ Personal Statement
- ✓ 2 Letters of Recommendation
- ✓ Copy of your Teaching Licensure

Telephone (507) 537-6819 • Fax (507) 537-6227
1501 State Street, Marshall MN 56258-1598 • www.SMSU.edu

Cost for the program:

- ✓ Total of 11 classes
- ✓ Cost per class is approximately $1,100
- ✓ Pay as you register --- per semester!

Financial Aid Options:

- ✓ Teacher Loan Forgiveness program (possible $17,500)
- ✓ TEACH Grant (possible $4,000 a year)
- ✓ Automatic Payment Plan

Course Descriptions:

MATH 505 Topics in the History of Mathematics (4 credits)
A survey of the history of mathematics. Students will investigate the historical basis for some of the major themes in mathematics including the contributions made by individuals and cultures. Prerequisite: An undergraduate major in mathematics or mathematics education, or consent of instructor.

MATH 510 Topics in Number Theory (4 credits)
Number theory, which is one of the most ancient branches of mathematics and continues to be an active area of research, is the study of integers, the most basic structures of mathematics, and many of their fascinating properties. For example, it has a major recent day application in communications and cryptography. Topics include proof by induction, divisibility, primes, uniqueness of factorization, congruences, Chinese Remainder Theorem, Cryptography, Pythagorean triples and other Diophantine equations, Pell's Equation, primarily testing, factoring methods, primitive roots, perfect numbers, rational versus irrational, and continued fractions, quadratic congruences, and quadratic reciprocity Prerequisite: An undergraduate major in mathematics or mathematics education, or consent of instructor.

MATH 515 Advanced Topics in Discrete Mathematics (4 credits)
An extension of the usual material presented in an undergraduate course in Discrete Mathematics. Topics will include: coding theory, Polya enumeration, scheduling and bin packing, and combinatorial games. A current computer software package will be utilized to explore these topics. Prerequisite: An undergraduate major in mathematics or mathematics education, or consent of instructor.

MATH 530 Statistics (4 credits)
The course is designed to give students both the theoretical and practical aspects of statistics. Topics include probability distributions of discrete and continuous random variables, mathematical expectations, multivariate distributions, correlations, confidence intervals, hypothesis testing, linear regression, and use of technology. Prerequisite: An undergraduate course in statistics, an undergraduate major in mathematics or mathematics education, or consent of instructor.

This is a ***GREAT*** opportunity for you to earn your degree through SMSU. Apply today!