Math 484 Technology in 5-12 School Mathematics (3 semester hours)

**Course Description:**

Numerical, verbal, symbolic and graphical representations of quantitative relationships, concatenations in written mathematics, problem solving, dynamic geometry, perspective drawing, parametric equations, geometric probability, transition matrices, statistics and calculus using technology.

*Prerequisites: MATH 290 with “C” (2.0) or better or consent*

**Learning Outcomes:**
The student will be able to

1. Demonstrate the use of calculators and computers to enhance instruction in mathematics.
2. Demonstrate proficiency in the use of calculators and computers in problem solving in mathematics.
3. Demonstrate proficiency in the use of calculators and computers in statistical analysis of data.
4. Students will demonstrate the ability to write mathematics using software such as Microsoft Equation Editor, or LaTeX.
5. Students will demonstrate an understanding of national and state standards for 5-12 mathematics and its relation to teaching with technology in the classroom.

**Content Outline:**

1. Numerical, symbolic and graphical representations of quantitative relationships
2. Approximations, scaling, end behaviors and patterns of functions
3. Concatenations in written mathematics
4. Problem Solving
5. Programming
6. Geometry and Perspective Drawing
7. Statistics/Data Analysis
8. Matrices
9. Parametric Equations
10. Field Trip (Optional)

**Related Readings / Textbook / Materials:**

Minnesota Mathematics Standards for Profile of Learning
North Carolina School of Science and Mathematics, *Contemporary Precalculus through Applications*
Steen, *On the Shoulders of Giants*