

# Minnesota State University Moorhead

## MATH 406: Mathematics in the Elementary School

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites:

This course requires both of these prerequisites

MATH 303 - Foundations of Number Systems (Minimum grade: 1.67 GPA Equivalent)

MATH 304 - Informal Geometry

Corequisites: None

MnTC Goals: None

Materials and methods of teaching elementary school mathematics. Open only to elementary education majors. Taught as part of PFY. Prerequisites: MATH 303 and 304 with grades of "C" or higher.

**B. COURSE EFFECTIVE DATES:** 06/01/1995 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Basic concepts and professional vocabulary for teaching mathematics for understanding.
2. Examination, practice with, and critique of Minnesota Standards and Benchmarks for Mathematics K & 7 as well as texts and materials for teaching mathematics in the elementary school and the content which they must know prior to trying to teach it.
3. Multiple representations and algorithms for addition, subtraction, multiplication, and division.
4. Understanding and teaching the basic pre-knowledge for algebraic thinking
5. Specific skills for giving clear instructions, teaching problem solving strategies, using appropriate technology.
6. Creating appropriately detailed, and thoughtful lesson plans which connect to the Big Ideas of Elementary School Mathematics..

### D. LEARNING OUTCOMES (General)

1. Use context in lesson plans to improve student understanding,
2. Describe and connect lesson material to the elementary mathematics curriculum.
3. Familiar with Minnesota standards and benchmarks
4. Demonstrate and explain multiple methods (algorithms) for performing addition, subtraction, multiplication and division.
5. Name and give examples of the topics students need to develop prior to 7th grade in order for them to be ready for the algebra topics in 7th and 8th grade. (Minnesota standards)
6. List and give examples of problem solving techniques appropriate to elementary curriculum.
7. Write appropriate mathematics lessons plans for elementary grades.
8. Be familiar and work efficiently with 4th to 6th grade mathematics problems.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted