

OFFICIAL SYLLABUS
MATH 112A – MATHEMATICS FOR ELEMENTARY TEACHING
Adopted – Fall 2010
(Committee: Drs. M. Hasty, C. Traub, T. Voepel)

Catalog Description. These courses (Math 112a & 112b) are designed to meet state certification standards for elementary teachers. a) Number Sense and Algebra; b) Probability, Statistics, and Geometry.

Textbook – *MATHEMATICS FOR ELEMENTARY TEACHERS, A CONCEPTUAL APPROACH*, by Bennett, Burton, & Nelson (8th Edition)

Course Outline and Topics

Chapter 1 – Problem Solving

- 1.1 Introduction to Problem Solving
- 1.2 Patterns and Problem Solving
- 1.3 Problem Solving with Algebra

Chapter 2 – Sets, Functions, and Reasoning

- 2.1 Sets and Venn Diagrams
- 2.2 Functions and Graphs
- 2.3 Introduction to Deductive Reasoning

Chapter 3 – Whole Numbers

- 3.1 Numeration Systems
- 3.2 Addition and Subtraction
- 3.3 Multiplication
- 3.4 Division and Exponents

Chapter 4 – Number Theory

- 4.1 Factors and Multiples
- 4.2 Greatest Common Divisor and Least Common Multiple

Chapter 5 – Integers and Fractions

- 5.1 Integers
- 5.2 Introduction to Fractions
- 5.3 Operations with Fractions

Chapter 6 – Decimals: Rational and Irrational Numbers

- 6.1 Decimals and Rational Numbers
- 6.2 Operations with Decimals
- 6.3 Ratio, Percent, and Scientific Notation
- 6.4 Irrational and Real Numbers

Any instructor should cover all of the material specified, additional sections are optional.