

Syllabus: MA 201

Mathematics for Elementary Teachers

Updated Spring 2010

Bulletin description:

An examination of some of the major ideas encountered in the teaching of elementary mathematics. Topics include introduction to problem solving, sets, relations, logic, numeration systems, elementary number theory, properties and operations for whole numbers, integers, rational numbers, and real numbers. NOTE: MA 201 does not fulfill graduation requirements for any curriculum other than College of Education. Credit for both MA 112 and MA 115 not allowed. Prerequisite: C or better in DS 090 or sufficient mathematics placement test score. Core Course.

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Text:

Mathematics for elementary School Teachers: A Contemporary Approach (Eighth Edition), by Gary Musser, William Burger, and Blake Peterson, 2008, published by Wiley & Sons, Inc. ISBN: 13 978-0470-10583-2

Coverage: Chapters 1-9.

The sections required for each chapter are listed below, as well as the recommended time to spend on each chapter. The other sections in each chapter are optional.

Chapter 1:	Introduction to Problem Solving (1.1)	1 week
Chapter 2:	Sets, Whole Numbers, and Numeration (2.1)	1 week
Chapter 3:	Whole Numbers: Operations and Properties (3.1, 3.2)	1.5 weeks
Chapter 4:	Whole Number Computation--Mental, Electronic, and Written (4.1, 4.2)	2 weeks
Chapter 5:	Number Theory (5.1, 5.2)	1 week
Chapter 6:	Fractions (6.1 – 6.3)	2 weeks
Chapter 7:	Decimals, Ratio, Proportion, and Percent (7.1 – 7.4)	2 weeks
Chapter 8:	Integers (8.1)	1 week
Chapter 9:	Rational Numbers, Real Numbers, and Algebra (<i>all optional</i>)	1.5 weeks

Learning Objectives:

1. Students will gain a conceptual understanding of basic arithmetic and problem solving algorithms traditionally used in the United States.
2. Students will be introduced to new algorithms through the examination of techniques constructed by children for solving problems.
3. Students will learn to reason about quantities, and to express their reasoning accurately.