

**Catalog Description:**

This course is the first in a two semester sequence for teachers of elementary and middle grade students. This course focuses on concepts of numbers and arithmetic operations, including modern and historical perspectives.

**Prerequisite:**

A grade of C- or above in 1075; or credit for 1074, 75, or 104; or Math Placement Level R or above; or ACT math subscore of 22 or higher that is less than 2 years old.

**Exclusions:**

Not open to students with credit for 106.

**Text:**

*Mathematics for Elementary Teachers, with Activity Manual*, 4th Edition, by Sybilla Beckmann, Pearson, ISBN for the package is 9780321836715 (loose-leaf).

**Purpose:**

This course covers the concepts of whole numbers (positive and negative), place value (base-ten and alternate bases), decimals, and fractions. Some content on irrational numbers appears at the end, and this is extended in Algebra and coordinate geometry for teachers (2137). The four arithmetic operations are covered both conceptually and algorithmically. Attention is given to ensuring that students can perform the algorithms correctly and explain why they give accurate answers. Lastly, the course covers the concepts of proportions and how they are related both to multiplication/division and to fractions. Factors, divisibility, and some elementary number theory complete the course.

**Topics List:**

1. Counting numbers, decimals
2. Meaning of fractions
3. Meaning of addition and subtraction
4. Meaning of multiplication
5. Multiplying fractions, decimals, integers
6. Meaning of division
7. Dividing fractions, decimals, integers
8. Meaning of ratios, rates, proportions
9. Greatest common divisor, least common multiple
10. Rational and irrational numbers