

SYLLABUS

MATH 14001 – Basic Mathematical Concepts I

(4 Credit Hours)

Catalog Information: Development of the real number system and its sub-systems, open sentences, numeration systems, modular arithmetic and some number theory concepts. Prerequisite: minimum C (2.0) in MATH 00007 or any math course 00023 or higher; or ALEKS® placement score of 45.

Text: Mathematics for Elementary Teachers – A Contemporary Approach, Musser, Burger & Peterson, 10th Edition, Wiley & Sons. This course covers chapters 1-9 and Topics 1 and 2. No calculator is used in the course to develop number sense

Logic and argument (3 days)

Set theory (6 days)

Place value in base ten and other bases (3 days)

Operations with whole numbers (6 days)

- Properties of operation
- Algorithms
- Models for operations
- Order of operations
- Operations in other bases
- Exponents

Number Theory (3 days)

Clock and modular arithmetic (2 days)

Integers (4 days)

- Properties of operations
- Models for operations
- Algorithms for operations

Rational numbers (5 days)

- Fractions
- Properties of operations
- Models for operations

(MATH 14001 Syllabus, continued)

Ratio, proportion, and percent (8 days)

Irrational numbers (2 days)

- **Radicals**
- **Rational exponents**

Real numbers (1 day)

Problem Solving (3 days as primary focus; permeates course)

Relations, functions, algebra (3 days)

Tests: 5 days

Review for Tests: 5 days

Review for Final Exam: 1 day