

SYLLABUS

MATH 10771 – Basic Mathematical Concepts I Plus

(5 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. Additional concepts covered: place value, logic, sets, algebra concepts, and problem solving. Students cannot earn credit toward a degree for both this course and MATH 14001. Prerequisite: minimum 22 ACT mathematics sub score, or minimum 520 SAT mathematics sub score; or minimum ALEKS® math placement assessment score of 35; or MATH 00022 with a minimum grade of C (2.0).

Text: Mathematics for Elementary Teachers: A Contemporary Approach, 10th edition, by Musser, Peterson, & Burger. This course covers chapters 1-9 and Topics 1 and 2. No calculator is used in the course to encourage students to develop number sense. This NO CALCULATOR policy is also a requirement in the regular Math Concepts I course.

Topics

- Logic and argument (4 days)
- Set theory (6 days)
- Place value in base ten and other bases (4 days)
- Operations with whole numbers (10 days)
 - Properties of operation
 - Algorithms
 - Models for operations
 - Order of operations
 - Operations in other bases
 - Exponents
- Number Theory (4 days)
- Integers (4 days)
 - Properties of operations
 - Models for operations
 - Algorithms for operations
- Clock and modular arithmetic (2 days)
- Rational numbers (7 days)
 - Fractions
 - Properties of operations

(MATH 10771 Syllabus, continued)

- Models for operations
- Ratio, proportion, and percent (10 days)
- Irrational numbers (3 days)
 - Radicals
 - Rational exponents
- Real numbers (1 day)
- Problem Solving (4 days as primary focus; permeates course)
- Relations, functions, algebra (7 days)

Tests: 5 days

Review for Tests: 5 days

Review for Final Exam: 1 day