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