

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE
ACADEMIC AFFAIRS

Course Number: Math 126 Class/Lect. Hours: 3 Lab Hours: 0 Credits: 3 Dept.: Mathematics
Course Title: Math Reasoning Semester: Spring Year: 2017

Course Description, Prerequisite, Corequisite:

The goal of this course is to give students the content base and problem solving skills necessary to teach elementary school mathematics as defined by the Massachusetts State Frameworks and the National Council of Teachers of Mathematics. Explorations of mathematics reasoning and problem solving. Topics will cover two of the strands from the Massachusetts State Frameworks. 1) Number Systems 2) Patterns, Functions and Algebra.

Prerequisite(s): MAT-093 or MAT-097 (C- or better); or placement at college-level on math placement test; or MAT-026; or taken with MAT-026.

OBJECTIVES/COMPETENCIES

Course Objectives	Competencies
<p>No changes</p> <p>The student must be able to:</p> <ol style="list-style-type: none"> 1. Understand place value 2. Understand models of whole number arithmetic 3. Understand arithmetic underlying a word problem 4. Demonstrate an understanding of mathematical algorithms for whole number arithmetic 5. Perform the four basic operations of whole numbers using various algorithms 6. Demonstrate knowledge of problem solving techniques. 7. Demonstrate knowledge of various numeration systems other than the Hindu-Arabic system. 8. Demonstrate knowledge of prime and composite numbers and their relation to greatest common factors and least common multiples. 9. Understand the Fundamental Theorem of Arithmetic 10. Demonstrate knowledge of the four basic operations of fractions using various algorithms. 11. Demonstrate knowledge of the four basic operations of decimals using various algorithms 12. Demonstrate knowledge of rates, ratios, and percent. 13. Demonstrate knowledge of the four basic operations of integers using various algorithms 14. Demonstrate knowledge of the real number system 	<p>No changes</p>