

**MATH 094 – Fundamentals of Math I (MATH 104), Supplemental – SYLLABUS**  
Department of Mathematics  
Millersville University

**Description**

This course is designed to assist students with the mathematics content that elementary and special education teachers of mathematics at any level need to know and understand before beginning to teach. Includes number systems, structure of algorithms, number theory, properties of integers, rational and real numbers, and beginning geometry and measurement. Emphasis on problem solving and reasoning within each topic. (2 credits)

**Prerequisites**

Department permission; should be taken concurrently with MATH 104.

**Course Objectives**

By the conclusion of this course the successful student will be able to:

- Demonstrate a knowledge of the concepts, procedures, and skill necessary to teach K-8 mathematics.
- Demonstrate an understanding of the importance of patterns in mathematics.
- Explain and model important concepts.
- Appropriately use mathematics terminology and symbolism.
- Demonstrate the appropriate use of physical and technological tools in learning mathematics.
- Demonstrate the ability to transfer knowledge and thinking strategies to new situations.
- Demonstrate basic K-8 arithmetical/mathematical skills.

**Assessment**

Assessment of student achievement of the course objectives will vary from one instructor to another. Typical assessment will be made through work in class, homework, and examinations.

**Use of Technology**

Calculator: Make sure it has the +, -, x, and ÷ buttons; nothing fancy is necessary (e.g., TI-34II or comparable). *You will not be permitted to share a calculator during an exam or quiz. You may not use any other electronic device (cell phone, PDA, iPod, etc.) during an exam or quiz.*

## Topics

- Mental Math
- Numbers and the Base-Ten System
- Fractions and Problem Solving
- Addition and Subtraction
- Multiplication
- Division
- Number Theory