MATH 105 – Fundamentals of Mathematics II – SYLLABUS

Department of Mathematics
Millersville University

Description

An extension of MATH 104; covers additional mathematics topics relevant to teaching elementary mathematics. Includes algebra, additional study in geometry and measurement, probability and statistics, graphing and further emphasis on problem solving and reasoning. Required of all early childhood education majors. (3 credits)

This course may be taken for general education credit (G2)

Prerequisites

Math 104 (C or better).

Course Objectives

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

• Demonstrate knowledge of the concepts, procedures and skills necessary to teach pre K-4 mathematics: specifically pertaining to probability, statistics, geometry and measurement.
• Communicate and model important mathematical concepts in probability, statistics, geometry and measurement using a variety of mathematical strategies.
• Demonstrate appropriate and correct application of mathematics terminology and symbolism used in probability, statistics, geometry and measurement.
• Demonstrate the appropriate use of physical and technological tools for representing and connecting mathematical ideas in probability, statistics, geometry and measurement.
• Demonstrate the ability to transfer knowledge and thinking strategies to new situations.

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

Technology use will vary by professor.

Topics

- What is Geometry Points, Lines, Planes
- Line Segments, Rays, Angles Polygons
- Angles of Polygons Triangles Quadrilaterals Translations Reflections Rotations
- Dilations Symmetry Polyhedra
- Systems of Measurement Process of Measuring Perimeter
- Area

- Surface Area Volume
- Statistics – Displaying Data Center of Data
- Normal Curve and Standard Deviations Probability
- Calculating Probabilities Geometric Probability