

Course Objectives/Course Outline
Spokane Community College

Course Title: Mathematics for Elementary Education - B

Prefix and Course Number: MATH 209

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Apply mathematics to the real world, using many different problem-solving strategies
- Demonstrate proficiency in the vocabulary, operations, and properties of integers, rational numbers and real numbers
- Work with relations and functions
- Read and create graphs on the Cartesian plane
- Organize information and present it in appropriate pictorial schemas
- Analyze data, graphs, and statistics
- Calculate simple probabilities, probabilities with permutations and combinations, and differentiate between them
- Calculate odds, conditional probabilities, and expected values
- Design simulations
- Communicate mathematical ideas in both every day and mathematical language, using appropriate vocabulary and notation
- Judge the reasonableness of a solution or answer, and justify all processes used

Course Outline:

I. Integers

- A. Addition and subtraction
- B. Multiplication, division, and order

II. Rational numbers and real numbers

- A. The rational numbers
- B. The real numbers

III. Introduction to algebra, including functions

- A. Algebra
- B. Functions and their graphs

IV. Statistics

- A. Organizing and picturing information
- B. Analyzing data
- C. Misleading graphs and statistics

V. Probability

- A. Probability and simple experiments
- B. Probability and complex experiments
- C. Simulation, expected value, odds, and conditional probability
- D. Additional counting techniques