

MATH 110E Mathematical Reasoning: Applications for Elementary School Teachers

Course objectives:

1. Investigate topics in the elementary school curriculum from an advanced standpoint. Math 110E satisfies the Quantitative Reasoning requirement in the General Education program.
2. Analyze and solve real life problems using a mathematical modeling process.
3. Use technology as an aid to problem solving.
4. Analyze and interpret statistical data and graphs
5. Explore concepts in probability, measurement, and geometry.

Usual course content:

Unit One: Statistics. Key concepts in this unit include analyzing and graphing data, mean, median, mode, standard deviation, normal distribution, percentile, and z-scores.

Unit Two: Probability. Key concepts in this unit include single and multi-stage experiments, experimental and theoretical probability, odds, expected value, simulations, and counting problems.

Unit Three: Geometric Shapes. Key concepts include analysis and properties of two and three-dimensional shapes.

Unit Four: Measurement. Key concepts include non-standard and standard units of measurement, length, area, surface area, and volume

Unit Five: Triangle Congruence and Similarity. Key concepts in this unit include similarity of triangles.

Technology:

Students will be using calculators and various software and internet resources.

Students who may benefit:

All students majoring in Elementary Education are required to take this course. This course will also satisfy the Quantitative Reasoning requirement for the General Education program.

Follow up courses:

Math 381 (Teaching Mathematics in Elementary School)