Math for Prospective Elementary School Teachers

Program Level Student Learning Outcomes

1. Students will be able to determine an appropriate strategy to solve an application problem, complete the solution of the problem, describe the procedures used to solve the problem, and explain the underlying mathematical concepts using written and oral means.

2. Students will be able to demonstrate and explain mathematical concepts using a variety of methods.

3. Students will be able to analyze a solution to a mathematics problem, determine the appropriateness of the solution, and if errors are made, explain the misconceptions or errors made and how to solve the problem correctly using written and oral means.

Course Level Student Learning Outcomes

Mathematics 110 Structures and Concepts in Mathematics: SLO #1. Students will be able to demonstrate/perform the four basic operations with real numbers and interpret the results.

Mathematics 110 Structures and Concepts in Mathematics: SLO #2. Students will be able to explain the underlying mathematical concepts of the binary operations using written and oral means.

Mathematics 110 Structures and Concepts in Mathematics: SLO #3. Students will be able to solve an application problem and design an application when parameters are given.

Mathematics 111 Mathematics for Elementary School Teachers – Geometry, Probability, and Statistics SLO #1.
Students will be able to compute the probability of an event.

Mathematics 111 Mathematics for Elementary School Teachers – Geometry, Probability, and Statistics SLO #2. Students will be able to draw and interpret statistical graphs.

Mathematics 111 Mathematics for Elementary School Teachers – Geometry, Probability, and Statistics SLO #3.
Students will be able to compute and interpret measures of central tendency and dispersion.

Mathematics 111 Mathematics for Elementary School Teachers – Geometry, Probability, and Statistics SLO #4. Students will be able to solve problems involving congruence and similarity of geometric figures.

Mathematics 111 Mathematics for Elementary School Teachers – Geometry, Probability, and Statistics SLO #5. e able to convert between American and metric units of measurement.

Mathematics 115 Probability and Statistics for Prospective Elementary School Teachers: SLO #1. Students will be able to design a research study, develop an appropriate assessment instrument, collect and analyze data using appropriate methods, and draw statistical inferences from the data in written form

Mathematics 115 Probability and Statistics for Prospective Elementary School Teachers: SLO #2. Given a particular set of data, students will be able to determine the appropriate statistical procedures to analyze and display the data, complete the statistical methods, and explain the mathematical concepts in written and oral forms.

Mathematics 115 Probability and Statistics for Prospective Elementary School Teachers: SLO #3. Given a particular set of data, students will be able to determine the appropriate statistical procedures to analyze and display the data, complete the statistical methods, and explain the mathematical concepts in written and oral forms.
Mathematics 115 Probability and Statistics for Prospective Elementary School Teachers: SLO #4. Students will be able to solve, explain, and interpret informal, experimental, and mathematical probability concepts and application problems both in written and oral forms.
Mathematics 116 Geometry and Measurement for Prospective Elementary School Teachers: SLO #1. Students will identify two- and three-dimensional geometric shapes, explain their attributes and discuss the relationships among the geometric shapes.
Mathematics 116 Geometry and Measurement for Prospective Elementary School Teachers: SLO #2. Students will use geometric tools (compass, protractor, straightedge, and dynamic geometry software) to construct geometric figures.
Mathematics 116 Geometry and Measurement for Prospective Elementary School Teachers: SLO #3. Students will use the concepts of measurement to solve geometric application problems, determine the appropriateness of a solution, and if errors are made, explain the misconceptions or errors made and how to solve the problem correctly using written or oral means
Mathematics 116 Geometry and Measurement for Prospective Elementary School Teachers: SLO #4. Students will use words and diagrams to explain the derivation of geometric formulas.