

ED 114 : MATHEMATICS FOR EARLY LEARNING EDUCATORS

Transcript title

Math for Early Learning

Credits

4

Grading mode

Standard letter grades

Total contact hours

40

Lecture hours

40

Prerequisites

MTH 015 (or higher) or minimum placement Math Level 7.

Course Description

Covers core concepts of mathematics recommended by state and national guidelines for early childhood educators. Facilitates development of the skills and dispositions needed to design, teach, and support classroom curriculum for mathematics to children through six years of age.

Course learning outcomes

1. Recognize, analyze, and discuss representation of numbers and their relationship to mathematical patterns in real-world applications.
2. Utilize a variety of problem-solving techniques, including mental math, to analyze and solve problems, which strengthen mathematical content knowledge.
3. Define and apply a range of mathematical concepts including sets, number sense, and counting.
4. Demonstrate understanding of standard algorithms used to perform real number operations and explain their purpose and function.
5. Demonstrate problem solving ability and competence in mathematics relevant to teaching in early learning environments.

Content outline

1. Course introduction, overview, and analysis of math-mindsets and identity
2. Historical and cultural representations and uses of numbers
3. Set theory: terminology, representations, and explanation of sets of numbers
4. Computational number sense with applications to real-world objects and scenarios
5. Definition and properties of two and three-dimensional shapes
6. Understanding dimension: mathematical foundation for linear, area, and volume computations
7. Using patterns to explore algebraic reasoning and solve problems
8. Understanding and using standard (US and metric) and non-standard units of measure
9. Organizing, displaying, and analyzing data

Required materials

This course requires a textbook.

General education/Related instruction lists

- Computation