University of Arkansas - Fort Smith
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General Syllabus
ECTC 24003 Math and Science for Early Childhood

Credit Hours: 3 Lecture Hours: 3 Laboratory Hours: 0

Prerequisites: ECTC 29003 Future Perspectives in Early Childhood (for Early Childhood majors) or admission into the Educator Preparation Program (for Elementary Ed majors).

Effective Catalog: 2022-2023

I. Course Information

A. Catalog Description

Students will become familiar with a variety of ways to introduce children birth through pre-kindergarten, including children with special needs to ideas and concepts related to math and science. Students will create activities; plan and practice developmentally appropriate experiences that would meet recognized standards (NAEYC, NCTM, etc.). Addresses requirements as mandated by state Early Childhood regulations and the Competencies for the Ages 3-4 Endorsement

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Demonstrate use of inquiry method for children, birth through pre-kindergarten, including children with special needs.
2. Demonstrate the ability to connect with families about math & science concepts for children, birth through pre-kindergarten, including children with special needs.
3. Apply knowledge of children's growth to appropriate teaching strategies for children, birth through pre-kindergarten, including children with special needs.
4. Develop quality math & science learning environments for children, birth through pre-kindergarten, including children with special needs.
5. Observe and document children's learning, birth through pre-kindergarten, including children with special needs.
6. Connect research and knowledge with professional practice for children through pre-kindergarten, including children with special needs.
7. Differentiate the process skills needed for math & science experiences for children, birth through pre-kindergarten, including children with special needs.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Ethical Decision Making

Students will recognize and analyze ethical dilemmas, based on the Code of Ethics set forth by the National Association for the Education of Young Children.

Global and Cultural Perspectives

Students will reflect upon diversity in the classroom and their implications for interacting with all cultures and abilities. Students will demonstrate the application of early childhood education in a global environment and show how it impacts the diverse society and/or classroom in which they are working.

Communication (written and oral)

Students will communicate proficiently in written and verbal presentations.

Analytical Skills

Critical Thinking Skills

Students will draw conclusions and/or solve problems to promote the ideas and concepts of math and science in early childhood education.

III. Major Course Topics

A. Concept development in Math and Science
B. Fundamental concepts and skills
C. Applying fundamental concepts, attitudes, and skills
D. Symbols and higher-level activities
E. Math concepts and operations
F. Using skills, concepts, and attitudes for Scientific investigations
G. The Math and Science environment