

Course Code: ECE 224

Course Title: Creativity, Math, and Science for the Young Child

Department: Arts, Media, and Social Sciences

Effective Date: Summer 2026

PCS Code: 1.1 - Baccalaureate/Transfer

CIP Code: 19.0708

Repeatability: 0

Credit Hours

Catalog Notation: 4-0-4

Credit Hour Distribution:

Lecture: 4

Lab: 0

Clinical: 0

Total: 4

General Course Information

Catalog Description

Methods and planning of developmentally appropriate activities for young children with a focus on creativity in arts and basic math and science concepts.

General Course Objectives

Students will:

- Articulate the importance of creativity in young children's development, and recognize the development of scientific and mathematical thinking in young children.
- Demonstrate the teacher's role in enhancing the development of creative expression, and math and science skills in early childhood.
- Prepare and evaluate developmentally appropriate and engaging art and music and math and science activities, experiences and environments in early childhood education settings.
- Appreciate the effect of experiencing many global music styles in young children's cognitive, social-emotional, and language development.
- Achieve Illinois Gateways Early Childhood Education Competencies in the Curriculum or Program Design content area.

Minimum Placement Levels

English

None

Reading

Placement out of CCS 098

Math

None

Prerequisites

Credit in ECE 124

Methods of Evaluation

8 one-page activity plans; two 2-3 page reports on topics in creativity/art/music and math/science for the young child; 3 projects on creativity/art, music/movement, math/literacy, and science concepts; weekly discussion forums and class participation.

Instructional Materials and Additional Supplies

ECE 224 Course Packets . Course packets include a wide variety of journal articles and other material.

Course Content

General Learning Outcomes (GLOs)

- Creativity and Innovative Thinking: Students will design, present, and interpret materials, information, and ideas in innovative ways.
- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.
- Global Awareness and Cultural Reasoning: Students will demonstrate their understanding of global issues, gender and sexual orientation, and multicultural perspectives.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Cognitive Development in Young Children	<ol style="list-style-type: none">1. Articulate the development of creative, scientific, and logic/mathematical thinking in young children.2. Demonstrate the teacher's role in enhancing the development of creativity and math and science skills.	12	0	0
Science Concepts Appropriate for Early Childhood Education	<ol style="list-style-type: none">1. Articulate basic science concepts of life science.2. Articulate basic science concepts of physical science.3. Plan developmentally appropriate science activities for young children using knowledge of individual children's healthy development, abilities, interests, and needs. (Gateways ECE Competency CPD3)4. Implement developmentally appropriate science activities for young children using knowledge of individual children's healthy development, abilities, interests, and needs. (Gateways ECE Competency CPD3)5. Evaluate developmentally appropriate science activities for young children using knowledge of individual children's healthy development, abilities, interests, and needs. (Gateways ECE Competency CPD3)	16	0	0
Math Skills and Concepts Appropriate for Early Childhood Education	<ol style="list-style-type: none">1. Articulate math skills developed in Early Childhood: sets, number sense, counting, number operations, pattern, measurement, and spatial relationships.2. Plan developmentally appropriate math activities for young children using knowledge of individual children's healthy development, abilities, interests, and needs. (Gateways ECE Competency CPD3)3. Implement developmentally appropriate math activities for young children using knowledge of individual children's healthy development, abilities, interests, and needs. (Gateways ECE Competency CPD3)4. Evaluate developmentally appropriate math activities for young children using knowledge of individual children's healthy development, abilities, interests, and needs. (Gateways ECE Competency CPD3)	16	0	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Creative Concepts Appropriate for ECE	<ol style="list-style-type: none"> 1. Articulate the importance of creativity in a young child's development and identify concepts and activities that encourage creativity - for example, singing, dancing and playing instruments, painting, and sculpture. 2. Defend the effect of experiencing music in young children's cognitive, social-emotional, and language development. 3. Develop an appreciation of many global music styles and their uses with young children. 4. Plan appropriate music, movement, and creative dramatic experiences and environments in an early childhood classroom using knowledge of individual children's healthy development, abilities, interests, and needs. (Gateways ECE Competency CPD3) 5. Implement appropriate music, movement, and creative dramatic experiences and environments in an early childhood classroom using knowledge of individual children's healthy development, abilities, interests, and needs. (Gateways ECE Competency CPD3) 6. Evaluate appropriate music, movement, and creative dramatic experiences and environments in an early childhood classroom using knowledge of individual children's healthy development, abilities, interests, and needs. (Gateways ECE Competency CPD3) 	16	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
60	0	0