



ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Humanities, Fine Arts, and Social Sciences

COURSE: ECE 1205 Mathematics for Young Children

Date: Fall 2021

Credit Hours: 3

Prerequisite(s): None

Delivery Method: **Lecture** **3 Contact Hours** (1 contact = 1 credit hour)
 Seminar **0 Contact Hours** (1 contact = 1 credit hour)
 Lab **0 Contact Hours** (2-3 contact = 1 credit hour)
 Clinical **0 Contact Hours** (3 contact = 1 credit hour)
 Online
 Blended
 VCM

Offered: **Fall** **Spring** **Summer**

CATALOG DESCRIPTION and IAI NUMBER (if applicable):

This course concentrates on providing early childhood educators with the knowledge, skills, techniques, and strategies necessary to incorporate mathematical concepts through developmentally appropriate practice into the curriculum of early childhood programs from birth through kindergarten. Students will identify what mathematics looks like during the early years and learn strategies to recognize and promote mathematical understanding in young children.

ACCREDITATION STATEMENTS AND COURSE NOTES:

None

COURSE TOPICS AND CONTENT REQUIREMENTS:

Sets; Number Sense; Counting; Number Operations; Pattern; Measurement; Data Analysis; Spatial Relationships; Shape; Illinois Early Learning and Development Standards related to mathematics; and Vocabulary related to mathematics.

INSTRUCTIONAL METHODS:

Lecture
Discussion on weekly assignments
Student presentations of math activities
Video/videoclip reviews
Guest lecturers/presenters
Child observations

EVALUATION OF STUDENT ACHIEVEMENT:

Weekly assignments/Assessment of Knowledge papers
Discussion Board Postings/Reflections
Observations
Article/Video reviews
Math Activities Resource File
Assessment of Children's Literature
Family Math Newsletter/Communication

INSTRUCTIONAL MATERIALS:

Textbooks

The Early Math Collaborative – Erikson Institute (2014). *Big Ideas of Early Mathematics: What Teachers of Young Children Need to Know*. Pearson. ISBN: 978-0132946971

Resources

NAEYC. 2010. "Early Childhood Mathematics: Promoting Good Beginnings." A joint position statement of NAEYC and the National Council of Teachers of Mathematics (NCTM). www.naeyc.org/files/naeyc/file/positions/psmath.pdf.

LEARNING OUTCOMES AND GOALS:

Institutional Learning Outcomes

- Communication – to communicate effectively;
- Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
- Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;
- Responsibility – to recognize how personal choices affect self and society.

Course Outcomes and Competencies

1. Describe math concept development in relation to child development learning theories.

IPTS	ECE Competencies ILECE Math Standards	NAEYC Standards
2G, 9D, 9G, 9H	FCR4	6a, 6b

2. Compile developmentally appropriate activities to promote basic math concepts and processes.

IPTS	ECE Competencies ILECE Math Standards	NAEYC Standards
2J, 4E, 5P, 6C, 7G, 7I, 8C, 8P, 8Q, 9K, 9L, 9N, 9P, 9Q	CPD1	1a, 1b, 1c, 2a, 2b, 2c, 3b, 3c, 3d, 4a, 4b, 4c, 4d, 5c, 6b, 6c, 6d

3. Evaluate children’s knowledge and skills of deemed math concepts in terms of development.

IPTS	ECE Competencies	NAEYC Standards
6H, 7A, 7C, 7E, 7F, 7H, 7K, 7O, 7Q	OA1	3a, 3b, 3c, 3d

4. Apply math vocabulary to scaffold learning through child-guided activities and math talk and literacy.

IPTS	ECE Competencies	NAEYC Standards
1A, 1B, 1C, 1D, 1E, 2E, 2J, 3A, 3C, 3P, 4A, 4E, 4F, 4G, 4H, 4L, 4M, 4N, 4P, 4Q, 5P, 6C, 7G, 7I, 8C, 8P, 8Q, 9A, 9K, 9L, 9N, 9P, 9Q	IRE3, CPD1	1a, 1b, 1c, 2a, 2b, 2c, 3b, 3c, 3d, 4a, 4b, 4c, 4d, 5b, 5c, 6b, 6c, 6d

5. Utilize math strategies in teacher-guided activities in the classroom.

IPTS	ECE Competencies	NAEYC Standards
1A, 1B, 1C, 1D, 1E, 1L, 2E, 3A, 3C, 3D, 3J, 3O, 3P, 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4I, 4J, 4K, 4L, 4M, 4N, 4O, 4P, 4Q, 8C, 8F, 9A	IRE3, IRE4	1a, 1b, 1c, 2a, 2b, 2c, 4b, 4c, 4d, 5b, 5c, 6b, 6c

6. Demonstrate and apply knowledge of the Illinois Early Learning and Development Standards.

IPTS	ECE Competencies ILECE Math Standards	NAEYC Standards
1A, 1B, 1C, 1D, 1E, 1F, 1L, 2C, 2G, 2M, 2N, 3A, 3E, 3I, 3J, 3L, 3O, 3P, 3Q, 4B, 4C, 4D, 4K, 4L, 5A, 5E, 5F, 5H, 5I, 5K, 5L, 5S, 7B	CPD2	1a, 1b, 4a, 4b, 4c, 4d, 5a, 5b, 5c, 6b

7. Explain the key mathematical concepts and skills that young children (pre-k) must develop and understand including the following concepts: numbers, counting and cardinality, operations and algebraic thinking, standard and non-standard measurement, shapes, patterns, spatial relations, and analysis of data.

IPTS	ECE Competencies ILECE Math Standards	NAEYC Standards
2A, 2B, 2C, 2D, 2I, 2N, 2O, 2P, 2Q, 3A, 5A, 5B, 5C, 5D, 5E, 5F, 5G, 5H, 5I, 5J, 5K, 5L, 5M, 5N, 5O, 5P, 5Q, 5R, 5S, 6A, 6B, 6E, 6I, 6J, 6Q	CPD5, CPD6	4b, 4c, 5a, 5b, 5c