Prepared by the Department of Social Science, Behavioral Science, and Human Services
Date Approved by Department: August 22, 2016
Date Approved by Curriculum and Programs: October 19, 2016 Effective: Fall 2017

1. **Course Number: ECE211**
   Course Title: Curriculum Strategies for Teaching Math and Science to Young Children

2. **Description:** Explore strategies, activities, and materials for teaching math and science to children in inclusive preschool and kindergarten settings. The course focuses on state and national standards and guidelines, as well as the constructivist project approach to teaching science and math (6 hours observation/field work)

3. **Student Learning Outcomes:** Upon successful completion of this course, students are able to do the following:

1 Standard: Promoting Child Development & Learning

- 1a. Knowing and understanding young's children's characteristics and needs.
- 1b. Knowing and understanding the multiple influences on development and learning.
- 1c. Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments for young children.

2 Standard: Building Family & Community Relationships

- 2a. Knowing about and understanding diverse family and community characteristics.
- 2b. Supporting and engaging families and communities through respectful, reciprocal relationships.
- 2c. Involving families and communities in young children's development and learning.

3 Standard: Observing, Documenting, and Assessing to Support Young Children and Families

- 3a. Understanding the goals, benefits, and uses of assessment-including its use in development of appropriate goals, curriculum, and teaching strategies for young children.
- 3b. Knowing about and using observation, documentation, and other appropriate assessment tools and approaches, including the use of technology in documentation, assessment, and data collection.
- 3c. Understanding and practicing responsible assessment to promote positive outcomes for each child, including the use of assistive technology for children with disabilities.
- 3d. Knowing about assessment partnerships with families and with professional colleagues to build effective learning environments.

4 Standard: Using Developmentally Effective Approaches

- 4a. Understanding positive relationships and supportive interactions as the foundation of their work with young children.
- 4b. Knowing and understanding effective strategies and tools for early education, including appropriate uses of technology.
- 4c. Using a broad repertoire of developmentally appropriate teaching/learning approaches.
- 4d. Reflecting on own practice to promote positive outcomes for each child.

5 Standard: Using Content Knowledge to Build Meaningful Curriculum

- 5a. Understanding content knowledge and resources in academic disciplines: language and literacy; the arts-music, creative movements, dance, drama, visual arts; mathematics; science, physical activity, physical education, health and safety; and social studies.
- 5b. Knowing and using the central concepts, inquiry tools, and structures of content areas or academic disciplines.

- 5c. Using own knowledge, appropriate learning standards, and other resources to design, implement, and evaluate developmentally meaningful, and challenging curriculum for each child.

6 Standard: Becoming a Professional

- 6a. Identifying and involving oneself with the early childhood field.
- 6b. Knowing about and upholding ethical standards and other early childhood professional guidelines.
- 6c. Engaging in continuous, collaborative learning to inform practice; using technology effectively with young children, with peers, and as a professional resource.
- 6d. Integrating knowledgeable, reflective, and critical perspectives on early education.
- 6e. Engaging in informed advocacy for young children and the early childhood profession.

7 Supportive Skills

- SS1. Self-assessment and self- advocacy.
- SS2. Mastering and applying foundational concepts from general education.
- SS3. Written and verbal skills.
- SS4. Making connections between prior knowledge/experience and new learning.
- SS5. Identifying and using professional resources.

4. **Credits:** 3 credits

5. **Satisfies General Education Requirement:** No

6. **Prerequisite:** PSY201 (Child Psychology)

7. **Semesters Offered:** Varies

8. **Suggested General Guidelines for Evaluation:** Attendance and participation; science activity presentation; science site report; resource bibliography; midterm report and presentation; final report and presentation.

9. **General Topical Outline:**

State Framework and Standards for Math and Science
National Council for Teachers of Mathematics Standards
Number Sense
Operations
Estimation
Geometry and Spatial Sense
Patterns
Measurement
Natural Science Activities
Physical Science Activities
Earth Science Activities