

# **ECE213e Children's Mathematics, Science and Technology**

**Level:** 2

**Credit Units:** 5 Credit Units

**Language:** ENGLISH

**Presentation Pattern:** EVERY SEMESTER

**E-Learning:** BLENDED - Learning is done MAINLY online using interactive study materials in Canvas. Students receive guidance and support from online instructors via discussion forums and emails. This is supplemented with SOME face-to-face sessions. If the course has an exam component, this will be administered on-campus.

## **Synopsis:**

It is important that educators in early childhood services not only know how to teach mathematics and science but that they also know their mathematics and science. Knowing mathematics and science is more than having some basic knowledge about the fields for in today's world, with the great advances in technology, the challenge for teachers to know science and know mathematics is ever pressing. This course requires the early childhood educator to review what they know about these fields and review also their methods of teaching. Science and mathematics, as well as technology are part of everyday life. A meaningful integration of technology, science and mathematics across all areas of the total curriculum has to be considered for purposeful learning.

## **Topics:**

- The state of mathematics education for young children
- Mathematical concept development in young children
- The mathematics curriculum in Early Childhood Education
- Play and children's mathematical learning
- Standards in the mathematics curriculum
- The state of science education for young children
- Goals in science education and the integrated curriculum
- Link between science and technology
- The approaches to teaching/learning science
- Technology in Early Childhood Education
- Science – technology relationship
- Integrating Mathematics, Science and Technology in the curriculum

## **Textbooks:**

: ECE213 Children's Mathematics, Science and Technology Customized Textbook (with "e" 9789814604598) Pearson  
ISBN-13: 9789814676403

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ISBN-13: 9789814676403-AA

**Learning Outcome:**

- Explain how young children learn Mathematics, Science and Technology
- Examine effective pedagogy in Mathematics, Science and Technology
- Distinguish the similarities and differences in effective pedagogy for curriculum areas
- Express the importance of the environment in engaging children's learning and development in Mathematics, Science and Technology
- Develop engaging activities that are age and stage appropriate to enhance young children's learning
- Indicate the role that educators fulfill in a play-based approach to the teaching of Mathematics, Science and Technology

**Assessment Strategies:**

<b>Continuous Assessment Component</b>	<b>Weightage (%)</b>
DISCUSSION BOARD	10
PRE-CLASS QUIZ	5
PRE-CLASS QUIZ	5
TUTOR-MARKED ASSIGNMENT	30
<b>Sub-Total</b>	<b>50</b>

<b>Examinable Component</b>	<b>Weightage (%)</b>
ECA	50
<b>Sub-Total</b>	<b>50</b>

**Weightage Total** **100**