

Early Childhood Studies Academy



Our Early Childhood Studies Courses

While Early Childhood Studies in Mathematics (ECM) courses focus on mathematical thinking, Early Childhood Studies in Education (ECE) courses are strategies-driven and are not specific to any particular content area. Many examples used show the integration of different content area and thinking competencies. Early Childhood Studies in Science (ECS) courses focuses on scientific thinking.

Early Childhood Studies in Mathematics Courses

ECM101 Development of Numeracy in Early Childhood Education (12 hours)

This workshop highlights the important role of core ideas such as visualisation, patterning and number concepts in teaching early childhood numeracy. Participants will be able to develop a spiral learning progression for young learners (from Kindergarten 1 to Primary 1) based on key learning theories. The workshop also includes numerous effective and engaging hands-on activities to help build a strong foundation in these core ideas.

ECM102 Problem Solving in Early Childhood Mathematics (6 hours)

This course helps participants recognise mathematical tasks which are considered mathematical problems. Participants learn different problem-solving heuristics and how to help young learners develop a problem-solving way of thinking. This course explores the use of manipulatives, everyday objects and children's stories in teaching problem solving.

ECM104 Assessment in Early Childhood Mathematics (6 hours)

Participants learn assessment tools that are suitable for use with young learners. This course focuses on the design of assessment tasks and the corresponding rubric. Participants learn possible ways to report assessment results.

ECM109 Teaching Kindergarten Mathematics (14 hours)

In this course, participants examine the scope and sequence of a kindergarten Mathematics curriculum. Participants will also learn strategies to help children develop early Mathematics ideas and learn to assess children by observing and listening. In particular, case studies include content topics such as numbers to ten, number bonds, addition and subtraction, as well as shapes. Learning centres and the use of children literature will be briefly discussed.

Participants are expected to complete a fieldwork task where they are to observe a pre-school child engaged in an appropriate mathematical task and to interpret the observation. The write-up should include a description of the task, observations made, photographs / student's work and an assessment report.

Alternatively, participants may plan a 30-minute lesson with significant Mathematics content and carry it out with their students. A brief lesson plan and photographs / short video of selected lesson segment / a sample of students' work is required.

After the completion of the course, the participants will be invited to share their reflections/ videos / queries on a Facebook page (facilitated by trainers) to get on-going feedback on the application of their professional learning in the workplace. Such a platform also allows participants to form a virtual professional community in which they continue to share good practices and resources in the teaching and learning of kindergarten Mathematics.

ECM117 Games in Early Childhood Mathematics (3 hours)

This course provides participants with examples of games related to Mathematics learning, for younger learners, including games for concept development, consolidation and problem solving.

ECM118 Student-Centred Mathematics Lesson (6 hours)

Students are actively doing Mathematics in child-centred classrooms. The role of the teacher is to choose appropriate tasks and materials, to ask key questions and to assess student learning so as to provide the relevant scaffolding or challenge. This course focuses on principles in choosing tasks and materials, asking the right questions, and differentiated the main tasks for different students.

ECM119 Using Children's Literature in Early Childhood Mathematics (3 hours)

In this course, participants evaluate children's literature for use in teaching Mathematics. Participants will be able to try some activities based on popular children's literature and design lessons around a selected book.

ECM129 Transition from Kindergarten Mathematics to Primary Mathematics (3 hours)

This workshop helps participants understand the core ideas and learning theories of early childhood numeracy. It covers varied, engaging hands-on activities to reinforce the core ideas. It also highlights the progression from kindergarten to primary mathematics so that young learners can make a better transition to learn Mathematics in Primary 1. Participants will better understand the expectations and demands of teaching and learning Mathematics in lower primary levels, thus enabling them to prepare young learners more adequately for the transition.

Early Childhood Studies in Education Courses

ECE111 Differentiated Instruction in Early Childhood Programmes (3 hours)

This course helps participants review basic concepts in differentiated instruction and extend their understanding through a workshop activity on anticipating students' responses and providing differentiated instruction based on the responses. In this course, participants will learn how to provide help to struggling learners while challenging advanced learners using the same anchor tasks.

ECE112 Thinking Routines in Early Childhood Programmes (3 hours)

This course helps participants understand the importance of making thinking visible. One effective way to make thinking visible is the use of thinking routines. Participants will experience the use of different thinking routines that foster different types of thinking in learning activities that are suitable for early childhood programmes. This is aligned with Ministry of Education Singapore's 21st Century Competencies Framework.

ECE125 Use of Real-Life Situations in Early Childhood Learning (3 hours)

Participants will be engaged in multi-disciplinary tasks that are designed around real-life situations. The use of real-life situations to introduce concepts and skills, for consolidation of learning, as well as for problem solving will be shown. Examples on how language arts, numeracy and other content areas as well as thinking skills and dispositions are included will be used.

Early Childhood Studies in Science Courses

ECS101 Inquiry Approach to Pre-school Learning on Environmental Awareness (3 hours)

This course focuses on introducing Science concepts to young children. Participants will learn about the inquiry approach and in particular, the 5-E model. In addition, this course also helps participants recognise and apply features of inquiry in the teaching and learning of Environmental Awareness. Participants will be given ample opportunities to design activities which integrate the use of stories into inquiry-based activities to teach process skills and some basic concepts in Science.

ECS102 Inquiry Approach in Early Childhood Science (6 hours)

This course focuses on introducing Science concepts to young children. Participants will learn about the inquiry approach. In particular, participants will learn the 5-E model for inquiry-based learning. This course focuses on both pedagogy and content knowledge. Participants will explore opportunities for Science inquiry in children's literature, field trips, video clips and children-directed questions. There will be opportunities to design activities using the inquiry approach.

ECS103 Lesson Planning in Early Childhood Science (6 hours)

In this course, participants are engaged in in-depth study of content for selected topics. Common misconceptions and keys to understanding the concepts are discussed. In the planning process, participants will consider teaching approaches, differentiated learning and assessment. Participants will learn to plan integrated lessons that focus on environmental awareness and basic Science concepts.

ECS108 Process Skills in Early Childhood Science (6 hours)

This course is an introduction to process skills that are essential for a strong foundation in Science learning. Participants will be engaged in Science activities to learn to teach these process skills, from basic ones to higher-order integrated ones, which children can use for inquiry, investigations and problem solving.

ECS117 Learning on Field Trips in Early Childhood Science (3 hours)

In this course, participants learn to plan an outdoor science lesson and integrate Science process skills by applying these skills to real-life contexts during learning journeys or field trips.

ECS119 Using Stories and Puppets in Early Childhood Science (3 hours)

Participants will make use of the story-telling approach, complemented with puppets to enhance the teaching of Science. This approach encourages children to articulate and explain Science concepts behind observable scenarios.