



The University of Southern Queensland

## Course Specification

### Description: Exploring Science in Early Childhood

Subject	Cat-Nbr	Class	Term	Mode	Units	Campus
ECE	2012	18175	3, 2002	EXT	1.00	TWMBBA

<b>Academic Group:</b>	FOEDU
<b>Academic Org:</b>	FOE004
<b>HECS Band:</b>	1
<b>ASCED Code:</b>	070101

### STAFFING

Examiner: Lyn Bower  
Moderator: Noel Geoghegan

### RATIONALE

Fleer and Hardy (1996) suggest children's early experiences with science related concepts and materials are vital for their development of values and attitudes about science and technology. They are receptive to learning experiences which help them to develop scientific ideas through 'hands on' learning enabling them to discover science and technology as fun and enjoyment.

### SYNOPSIS

This course will introduce different teaching/learning approaches to science such as discovery learning, cultural transmission learning, interactive learning and socially constructed learning by taking cognizance of the individual child's learning style and matching these with teaching styles.

### OBJECTIVES

On successful completion of this unit students will be able to:

- have knowledge of a number of approaches to teaching science;
- understand the value of hands-on experiences for children in science activities.
- know how to effectively respond to children's questions.
- select, organise and present suitable materials for science activities for young children.
- be adept at essential questioning techniques to further extend children's knowledge of science and technology.
- accept that both the natural as well as the physical environment should be studied.
- demonstrate some knowledge of science content and an ability to effectively access such knowledge.

- develop an enthusiastic scientific attitude.

## TOPICS

Description	Weighting (%)
1. Learning and Teaching Styles (overview)	5.00
2. Responding to young children's questions	10.00
3. Overview of effective questioning techniques	5.00
4. Introduction to approaches to teaching science in ECE	20.00
5. Discovery Learning, Process Skills Approach	20.00
6. Interactive Learning, Transmission Approach	10.00
7. Environmental Education in Early Childhood	15.00
8. Appropriate Resources	5.00
9. Setting up a science museum in the classroom	10.00

## REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

1990, *Simply Science: A Complete Science Program (Level 1-7)*, RIC Publications, Greenwood WA.

*Please note these are only a few suggestions. Please check the library and web-based resources,*

Althouse, R 1988, *Investigating Science with Young Children*, Teachers College Press, New York.

Amerongen, C 1993, *Fun Ideas for Reluctant Science Teachers (series)*, 2nd edition, Learning Solutions, Floreat WA.

Bittinger, G 1993, *1.2.3 Science: Science Activities for Working with Young Children*, Warren Publishing, Washington.

Bond, R 1993, *Kitchen Science*, Ashton Scholastic, Sydney.

Clatt, M. & Shaw, J 1992, *Helping Children Explore Science: A Source Book for Teachers of Young Children*, Maxwell Macmillan, New York.

Economos, C 1992, *Hands on Science Activities*, Troll Associates, USA.

Elliott, S. & Emmett, S 1997, *Snails Live in Houses Too: Environmental Education for the Early Years*, RMIT Publishing, Melbourne.

Feely, J 1994, *Take Home Science: Independent Activities for Science and Technology*, Eleanor Curtain Publishing, Armadale.

- Fleer, M. & Hardy, T 1996, *Science for Children: Developing a Personal Approach to Teaching*, Prentice Hall, Sydney.
- Harlan, J 1996, *Science Experiences for the Early Childhood Years*, 6th edition, Merrill, Englewood Cliffs NJ.
- Holt, B. (1977). 1977, *Science with Young Children*, National Assoc for the Education of Young Children, Washington.
- Jakab, C 1993, *Exploring together: A science course for primary schools (Books 1-3)*, Phoenix Educational,
- Lind, K. K 1996, *Exploring Science in Early Childhood: A Developmental Approach*, Delmar Publishers, New York.
- Mackness, B., Lambert, J. & Phillips, G 1993, *Practical Science (PK - 6)*, Dellasta, Mount Waverley VIC.
- Rockwell, R., Sherwood, E. & Williams, R 1983, *Hug a Tree: And Other Things to do Outdoors with Young Children*, Gryphon House, Mt Rainer MD.
- Rockwell, R., Williams, R. & Sherwood, E 1992, *Everybody has a Body: Science from Head to toe*, Gryphon House, Mt Rainer.
- Taylor, B 1993, *Science Everywhere: Opportunities for Very Young Children*, Harcourt Brace Jovanovich College Publishers, Fort Worth USQ.
- Williams, R., Rockwell, R. & Sherwood, E 1987, *Mudpies to Magnets: A Preschool Science Curriculum*, Gryphon House, Mt Rainer.
- Winnett, D., Williams, R., Sherwood, E. & Rockwell, R 1996, *Discovery Science: Explorations for the Early Years, Grade Pre- Kindergarten*, Innovative Learning Publications, Menlo Park CA.

## ASSESSMENT DETAILS

Description	Marks Out of	Wtg(%)	Required	Due Date
ASSIGNMENT	100.00	50.00	Y	21 Mar 2002
ASSIGNMENT 1	100.00	50.00	Y	06 Dec 2002

## OTHER REQUIREMENTS

- 1 When there is more than one marker for a single item of assessment, the distribution patterns and means for the different markers will be compared and marks adjusted if necessary.
- 2 Marking criteria are provided in unit material as mark sheets/guides or as part of assignment specifications.
- 3 Summative assessment items will be given a numerical score.
- 4 Unit Grades will be calculated by aggregating the weighted result or numerical score for each summative assessment item.
- 5 All assessment items must be submitted. Assessment items must be passed overall.
- 6 If assignments are submitted after the due date without an approved extension of time, University penalties will apply.