The University of Southern Queensland

Course specification

This version produced 20 Dec 2007.
The current and official versions of the course specifications are available on the web at <http://www.usq.edu.au/coursespecification/current>.
Please consult the web for updates that may occur during the year.

Description: Exploring Science and Technology in Early Childhood

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
ECE	2017	63226	1, 2007	ONC	1.00	Springfield

Academic group: FOEDU
Academic org: FOE004
Student contribution band: National Priority Teaching
ASCED code: 070101

STAFFING

Examiner: Leisa Holzheimer
Moderator: Bruce Waldrip

OTHER REQUISITES

State law in Queensland (Australia) requires that all adults working/undertaking professional experience/researching with children under the age of 18, in the state of Queensland are required to possess a current suitability card (Blue Card). (See "Other Requirements" for further information.) Also see: http://www.childcomm.qld.gov.au/employment/bluecard/informationSheets.html.

RATIONALE

Fleer and Hardy (2007) suggest that children's early experiences with science-related concepts and materials are vital for the development of values and attitudes in science and technology. Early science learning and exploration covers the areas of cognitive, conative and affective development. Therefore, educators and parents play an important part as role models by supporting and guiding the development of positive attitudes in the early years and creating imaginative and challenging environments for learning. With increasing technology and availability of information it is also essential for early childhood educators to have the necessary skills to make appropriate choices and informed decisions to develop children's thinking skills and abilities.

SYNOPSIS

This course will examine the importance of developing children's creativity, curiosity, problem solving skills and sense of wonder and appreciation of the environment, in the exploration of science and technology. The course will focus on different approaches to teaching science and the development of positive attitudes for life long learning while taking into account children's cultural and diverse backgrounds. It aims to develop student's creativity, problem solving and analytical skills and their passion for science and technology.

OBJECTIVES

The course objectives define the student learning outcomes for a course. The assessment item(s) that may be used to assess student achievement of an objective are shown in parenthesis. On completion of this course students will be able to:

1. demonstrate creative and problem-solving skills in their approach to science and technology (Assignment 2)
2. discuss the value of hands-on experiences for children in science activities (Assignment 1)
3. explain a number of approaches to teaching science (Assignment 1)
4. demonstrate how to listen effectively and respond to children's questions (Assignment 2)
5. demonstrate essential questioning techniques to further extend children's knowledge of science and technology (Assignment 2)
6. select, organise and present suitable materials for science experiences for young children (Assignment 2)
7. demonstrate the ability to develop children's appreciation of the natural environment (Assignment 1/2)
8. demonstrate knowledge of selected science content and an ability to effectively access such knowledge through a variety of sources including web-based materials (Assignments 1 and 2)
9. develop an enthusiastic scientific attitude and an understanding of developing positive attitudes in young children (Assignment 1 /2)
10. analyse curriculum documents and appropriate assessment methods (Assignment 1/2)
11. discuss the importance and impact of culture, values and diversity (Assignments 1 and 2)
12. Demonstrate competence in and appropriate use of language and literacy, including spelling, grammar, punctuation and bibliographic referencing (assignments 1 and 2).

TOPICS

	Description	Weighting (%)
1.	Learning and teaching styles	5.00
2.	Creative problem solving	15.00
3.	Listening and responding to young children's questions and effective questioning	10.00
4.	Approaches to teaching in Early Childhood education	15.00
5.	Environmental science in early childhood - teaching appreciation and developing a sense of wonder	10.00
6.	Technology in early childhood	15.00
7.	Cultural and diverse backgrounds	5.00
8.	Using web-based materials	10.00
9.	Curriculum documents and other resources	5.00
10.	Using resources - community and parents	10.00

TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at http://bookshop.usq.edu.au click 'Semester', then enter your 'Course Code' (no spaces).

Fleer, M, & Jane, B 2004, *Technology for children*, 2nd edn, Prentice Hall, Sydney.

Fleer, M, Jane, B & Hardy, T 2007, *Science for children: developing a personal approach to teaching*, 3rd edn, Pearson Education Australia, Frenchs Forest, NSW.

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.

Australian Early Childhood Association 1998, , *Every Child - Special Edition - Environment, Australia*, Watson, ACT, Vol 4, no.4.

(Special Edition - Environment Australia Summer 1998)

De Vries, R et al 2002, *Developing constructivist early childhood curriculum: practical principles and activities*, Teachers College Press, New York.

Fleer, M 2001, *I want to know...?: learning about science*, Australian Early Childhood Association, Watson, ACT.

Fleer, M & Hardy, T 2001, *Science for children: developing a personal approach to teaching*, 2nd edn, Prentice Hall, Sydney.

Harlan, J & Rivkin, M 2000, *Science experiences for the early childhood years: an integrated approach*, 7th edn, Prentice Hall, USA.

Johnstone, J & Gray, A 1999, *Enriching early scientific learning*, Open University Press, Buckingham.

Worth, K & Grollman, S 2003, *Worms, shadows and whirlpools: science in the early childhood classroom*, Heinemann, Portsmouth, NH.

Young, T & Ellitott, S 2003, *Just investigate: science and technology experiences for young children*, Tertiary Press, Croyden, Vic.

ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
ASSIGNMENT 1	50.00	50.00	14 May 2007
ASSIGNMENT 2	50.00	50.00	12 Jun 2007

IMPORTANT ASSESSMENT INFORMATION

1 Attendance requirements:
It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, tutorials, laboratories and practical work) scheduled for them, and to study all material provided to them or required to be accessed by them to maximise their

chance of meeting the objectives of the course and to be informed of course-related activities and administration.

2 Requirements for students to complete each assessment item satisfactorily:
To satisfactorily complete an individual assessment item a student must achieve at least 50% of the marks.

3 Penalties for late submission of required work:
If students submit assignments after the due date without (prior) approval of the examiner then a penalty of 10% of the total marks available for the assignment will apply for each working day late.

4 Requirements for student to be awarded a passing grade in the course:
To be assured of receiving a passing grade a student must complete and submit all of the summative assessment items and achieve at least 50% of the total weighted marks available for the course.

5 Method used to combine assessment results to attain final grade:
The final grades for students will be assigned on the basis of the aggregate of the weighted marks /grades obtained for each of the summative assessment items in the course.

6 Examination information:
There are no examinations for this course.

7 Examination period when Deferred/Supplementary examinations will be held:
There are no Deferred or Supplementary examinations for this course.

8 University Regulations:
Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL http://www.usq.edu.au/corporateservices/calendar/part5.htm or in the current USQ Handbook.

ASSESSMENT NOTES

1 The due date for an assignment is the date by which a student must submit the assignment to the USQ. The onus is on the student to provide proof of the submission, if requested by the Examiner.

2 Students must retain a copy of each item submitted for assessment. This must be produced within twenty-four (24) hours of receipt of request being made by the Examiner. The student must retain this copy until the grade for this course has been finalised.

3 In accordance with the University's assignment extension policy (Regulation 5.6.1), the Examiner may grant an extension of the due date of an assignment in extenuating circumstances.

4 The Faculty will normally only accept assessments that have been written, typed or printed on paper-based media. The Faculty will NOT accept submission of assignments by facsimile. Students who do not have regular access to postal services or who are otherwise disadvantaged by these regulations may be given special consideration. They should contact the Examiner of the course to negotiate such special arrangements.

5 Students who have undertaken all of the required assessments in a course but who have failed to meet some of the specified objectives of a course within the normally prescribed time may be awarded the temporary grade: IM (Incomplete - Make up). An IM grade will only be awarded when, in the opinion of the Examiner, a student will be able to achieve the remaining objectives of the course after a period of non-directed personal study.

6 Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. One of the following temporary grades may be awarded IDS (Incomplete - Deferred Examination); IDM (Incomplete - Deferred Make-up); IDB (Incomplete - Both Deferred Examination and Deferred Make-up).

7 When there is more than one marker for a single item of assessment, the distributed patterns and means for the different markers will be compared and marks adjusted if necessary.

8 Marking criteria are provided in course material as mark sheets/guides or as part of assignment specifications. A copy of the appropriate Marking Criteria must be attached to each submission.

9 All summative assessment items must be submitted.

10 Summative assessment items will receive a numerical score. Any ungraded assessment requirement will receive a Pass, Fail or Incomplete.

11 In the event that a due date for an assignment falls on a local public holiday in their area, the due date for the assignment will be the next working day. Students are to note on the assignment cover the date of the public holiday for the Examiner's convenience.