The University of Southern Queensland

Course Specification

Description: Exploring Science & Technology in Early Childhood

<table>
<thead>
<tr>
<th>Subject</th>
<th>Cat-Nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
<th>Campus</th>
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<tbody>
<tr>
<td>ECE</td>
<td>2017</td>
<td>20790</td>
<td>1, 2003</td>
<td>ONC</td>
<td>1.00</td>
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Academic Group: FOEDU
Academic Org: FOE004
HECS Band: 1
ASCED Code: 070101

STAFFING
Examiner: Lyn Bower
Moderator: Noel Geoghegan

RATIONALE
Fleer and Hardy (1996) 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
On successful completion of this course students will be able to:

- demonstrate creative and problem-solving skills in their approach to science and technology;
- discuss the value of hands-on experiences for children in science activities;
- explain a number of approaches to teaching science;
• demonstrate how to listen effectively and respond to children's questions;
• demonstrate essential questioning techniques to further extend children's knowledge of science and technology;
• select, organise and present suitable materials for science activities for young children;
• demonstrate the ability to develop children's appreciation of the natural environment;
• demonstrate some knowledge of science content and an ability to effectively access such knowledge through a variety of sources including web-based materials;
• develop an enthusiastic scientific attitude and an understanding of developing positive attitudes in young children;
• analyse curriculum documents and appropriate assessment methods;
• discuss the importance and impact of culture, values and diversity.

**TOPICS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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<tbody>
<tr>
<td>1. Learning and teaching styles</td>
<td>5.00</td>
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<tr>
<td>2. Creative problem solving</td>
<td>15.00</td>
</tr>
<tr>
<td>3. Listening and responding to young children's questions and effective questioning</td>
<td>10.00</td>
</tr>
<tr>
<td>4. Approaches to teaching science in ECE</td>
<td>15.00</td>
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<tr>
<td>5. Environmental science in early childhood - teaching appreciation and developing a sense of wonder</td>
<td>10.00</td>
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<tr>
<td>6. Technology in early childhood</td>
<td>15.00</td>
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<tr>
<td>7. Cultural and diverse backgrounds</td>
<td>5.00</td>
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<tr>
<td>8. Using web-based materials</td>
<td>10.00</td>
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<tr>
<td>9. Curriculum documents and other resources</td>
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<tr>
<td>10. Using resources - community and parents</td>
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**TEXT and MATERIALS required to be PURCHASED or ACCESSED:**

Books can be ordered by fax or telephone. For costs and further details use the 'Book Search' facility at http://bookshop.usq.edu.au by entering the author or title of the text.

Book of readings

**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.


STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
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<tbody>
<tr>
<td>Assessment</td>
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<tr>
<td>Directed Study</td>
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<tr>
<td>Lectures</td>
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<tr>
<td>Private Study</td>
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<td>Tutorial</td>
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ASSESSMENT DETAILS

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks Out of</th>
<th>Wtg(%)</th>
<th>Required</th>
<th>Due Date</th>
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<tr>
<td>ASSIGNMENT 2</td>
<td>100.00</td>
<td>50.00</td>
<td>Y</td>
<td>04 Mar 2003</td>
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<tr>
<td></td>
<td></td>
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<td>(see note )</td>
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<td>ASSIGNMENT 1</td>
<td>100.00</td>
<td>50.00</td>
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<td>17 Apr 2003</td>
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NOTES:
- Assignment 2 is due in the last tutorial. Date will depend on student’s Semester 1 timetable.
OTHER REQUIREMENTS

1. Summative assessment items will be given a numerical score.
2. Course Grades will be calculated by aggregating the weighted result or numerical score for each summative assessment item.
3. All assessment items must be submitted and passed overall.
4. If assignments are submitted after the due date without an approved extension of time, University penalties may be applied.