



The University of Southern Queensland

## Course specification

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: Emerging Numeracy

| Subject | Cat-nbr | Class | Term    | Mode | Units | Campus    |
|---------|---------|-------|---------|------|-------|-----------|
| ECE     | 2008    | 74445 | 1, 2008 | EXT  | 1.00  | Toowoomba |

|                                   |                            |
|-----------------------------------|----------------------------|
| <b>Academic group:</b>            | FOEDU                      |
| <b>Academic org:</b>              | FOE004                     |
| <b>Student contribution band:</b> | National Priority Teaching |
| <b>ASCED code:</b>                | 070101                     |

## STAFFING

## 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

From infancy, children are actively engaged in developing concepts which allow the organisation and categorisation of information. Through interaction with the environment during everyday experiences, children construct and test their concepts which include mathematical thinking. It is important that adults (including parents and caregivers) who are influential in the early years of a child's life have an understanding of how young children develop mathematical thinking so that appropriate experiences may be provided. Additionally, an awareness of the development of mathematical language, fundamental mathematical concepts and skills, and the sequence of the discipline knowledge of mathematics is necessary for teachers to plan effective learning opportunities for children.

## SYNOPSIS

This course examines the development of mathematical concepts and skills in young children. Emphasis is given to the types of learning experiences which encourage the young child's exploration and development of the fundamental concepts, attitudes, and skills involved in emerging numeracy. This course emphasises literacy correctness in all its forms.

## 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 successful completion of this course students will be able to:

1. demonstrate an understanding of the teaching and learning theories associated with mathematical development in young children (Mathematics Equipment and Numeracy Program)
2. apply such theories to the development of appropriate learning and assessment activities (Mathematics Equipment and Numeracy Program)
3. explain the role of language in teaching and learning mathematics (Mathematics Equipment and Numeracy Program)
4. utilise appropriate mathematical language for teaching and learning mathematics (Mathematics Equipment and Numeracy Program)
5. describe and plan for a range of learning environments and materials that enhance mathematical learning for young children (Mathematics Equipment and Numeracy Program)
6. explain the importance of play in mathematical learning (Mathematics Equipment and Numeracy Program)
7. describe mathematical learning opportunities which may be provided through structured and unstructured learning experiences (Mathematics Equipment and Numeracy Program)
8. critically evaluate various mathematical materials and resources to assess their usefulness (Mathematics Equipment)
9. identify the mathematical concepts, skills and attitudes which young children usually develop from birth to eight years (Mathematics Equipment and Numeracy Program)
10. describe problem-solving applications for young children which foster their mathematical learning (Numeracy Program)
11. list in which parents may encourage mathematical learning in young children at home (Numeracy Program)
12. use written communication effectively and appropriately (Mathematics Equipment and Numeracy Program)
13. write clearly, grammatically correctly and with accurate spelling and punctuation. (Assignments 1 and 2)

## TOPICS

|    | Description  | Weighting (%) |
|----|--|---------------|
| 1. | The development of math concepts                         | 20.00         |
| 2. | The role of language in teaching and learning methods    | 10.00         |
| 3. | The role of materials in developing mathematics thinking | 10.00         |
| 4. | Fundamental mathematical concepts, attitudes and skills  | 10.00         |
| 5. | Applications of fundamental concepts and skills          | 10.00         |
| 6. | Mathematical learning through play                       | 10.00         |
| 7. | Higher-level activities and concepts                     | 10.00         |
| 8. | Young children and problem solving                       | 15.00         |
| 9. | Parents and maths in the home                            | 5.00          |

## 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).

Charlesworth, R 2005, *Experiences in math for young children*, 5th edn, Thomson Delmar Learning, Clifton Park, NY.

## 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.

Whether you are on, or off campus, the USQ Library is an excellent source of information <http://www.usq.edu.au/library/> . The gateway to education resources is here...  
<http://www.usq.edu.au/library/faculties/education/default.htm>

Baratta-Lorton, M 1979, *Workjobs II: number activities for early childhood*, Addison-Wesley Publishing Co, Menlo Park, CA.

Kemp, J 2004, *Number and logic games for preschoolers*, Hamlyn, London.

Matricardi, J & McLarty, J 2005, *Math activities A to Z*, Thomson, New York.

Moomaw, S & Hieronymus, B 1995, *More than counting: whole math activities*, Redleaf, St Paul.

National Association for the Education of Young Children c2003, *Spotlight on young children and math*, Nat. Assoc'n for the Education of Young Children, Washington, DC.

Pound, L 1999, *Supporting mathematical development in the early years*, Open University Press, Buckingham.

Prairie, AP 2005, *Inquiry into math, science and technology for teaching young children*, Thomson, New York.

Schwartz, SL 2005, *Teaching young children mathematics*, Praeger, Westport, Conn.

## STUDENT WORKLOAD REQUIREMENTS

| ACTIVITY       | HOURS |
|----------------|-------|
| Assessments    | 45.00 |
| Directed Study | 80.00 |
| Private Study  | 40.00 |

## ASSESSMENT DETAILS

| Description                   | Marks out of | Wtg (%) | Due date    |
|-------------------------------|--------------|---------|-------------|
| DESIGN & EVAL MATH EQUIP      | 40.00        | 40.00   | 09 May 2008 |
| PERSPECTIVES OF NUMERACY PROG | 60.00        | 60.00   | 13 Jun 2008 |

## IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:  
There are no attendance requirements for this course. However, it is the students' responsibility 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 complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available for each assessment item and must demonstrate their ability to write clearly, grammatically correctly and with accurate spelling and punctuation.
- 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 5% of the total marks gained by the student for the assignment may apply for each working day late up to ten working days at which time a mark of zero may be recorded. No assignments will be accepted after model answers have been posted.
- 4 Requirements for student to be awarded a passing grade in the course:  
To be assured of receiving a passing grade a student must 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 weighted aggregate of the marks obtained for each of the summative assessment items in the course.
- 6 Examination information:  
There is no examination in this course.
- 7 Examination period when Deferred/Supplementary examinations will be held:  
There will be no Deferred or Supplementary examinations in 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 despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, 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 In the event that a due date for an assignment falls on a local public holiday in their area, such as a Show holiday, 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.
- 6 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.
- 7 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).
- 8 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.
- 9 Marking criteria are provided in course material as mark sheets/guides or as part of assignment specifications.
- 10 Summative assessment items will receive a numerical score. Any ungraded assessment requirement will receive a Pass, Fail or Incomplete.

## **OTHER REQUIREMENTS**

- 1 Students will require access to e-mail and Internet access to USQConnect for this course.
  - 2 Students are to use a recognised referencing system as specified by the examiner.
  - 3 Students might need to visit centres (or other contact with Early Childhood settings) to complete the assignments.
  - 4 **IMPORTANT NOTE: Working with Children: State law in Queensland requires that all adults (including university students, pre-service educators, trainers, vocational teachers, industry educators) working with children under the age of 18, in the State of Queensland\*, obtain approval before commencing such work. Many education courses include a practical component (professional experience, project work, research, assessment etc.) that may require engagement with children under the age of 18. It is your responsibility to ensure that you possess a current suitability card (Blue Card) before commencing any practical components of this course. DO NOT PARTICIPATE IN ANY PRACTICAL EXPERIENCE WITH CHILDREN UNDER 18 UNLESS YOU POSSESS A CURRENT 'BLUE CARD'. For further information:**  
<http://www.childcomm.qld.gov.au/employment/bluecard/informationSheets.html> \*If you are undertaking practical experience outside the State of Queensland, Australia you should check local requirements.
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