



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: Science for Schools 2

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
EDU	2431	87498	1, 2009	ONC	1.00	Toowoomba

Academic group:	FOEDU
Academic org:	FOE002
Student contribution band:	National Priority Teaching
ASCED code:	070301

STAFFING

Examiner: Karen Spence
Moderator: Jerry Maroulis

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

This course represents a new, authentic, curriculum in science education for undergraduate educators. The open-inquiry based learning approach, advocated for this course, provides authenticity where students identify problems, ask further questions based on their prior and current knowledge and share findings and solutions. In this way scientific knowledge is transformed into meaning by an individual within the social and cultural context of education. Further, the course will extend students beyond information and inquiry skills in the direction of clarifying personal values about societal issues from a moral and an ethical standpoint. The authentic approach will demonstrate how society uses scientific knowledge and how different people and groups of people may view things differently. This course will cater for all students, not just those with a significant scientific background.

SYNOPSIS

Authentic science and society education, as presented in this course, will include the construction of knowledge and its transformation into meaning open inquiry and an appreciation of values within the broader scientific and educational community. Problem-solving skills will be advocated in the course and an attitude to science that incorporates honesty, open-mindedness and information sharing will be promoted. Students will experience scientific inquiry which includes learning in contexts characterized by ill-defined problems. They will experience uncertainties, ambiguities, and the social nature of scientific work and knowledge. Students will experience processes of inquiry in which knowledge and practices are shared.

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. portray how science impacts on the lives of the students, the children they will teach and on the world around them (Assignment 1 and 3)
2. demonstrate a knowledge and understanding of Queensland 1-10 science syllabus and its related science concepts. It will focus particularly on the science of water systems (Assignment 1 and 3)
3. demonstrate an appreciation of the interrelationships between science and society through the language of science (Assignment 1 and 2)
4. demonstrate the application of pedagogical content knowledge to relevant science concepts (Assignment 2)
5. articulate the ways used by science to build knowledge and the ways used to apply the knowledge (Assignment 2)
6. clarify personal values about societal issues from a moral and an ethical standpoint (Assignment 2 and 3)
7. promote an authentic pedagogical approach to school science (Assignment 3)
8. demonstrate how society uses scientific knowledge and how different people and groups of people may view things differently. (Assignment 3)

TOPICS

	Description	Weighting (%)
1.	Introduction to science education	15.00
2.	Science and society	10.00
3.	Science and technology	10.00
4.	Science resources	10.00
5.	Innovative pedagogy and problem-solving in science	20.00
6.	Science concepts relevant to water systems	35.00

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).

Additional course information will be provided via the course website (details will be available in lectures).

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>

Barba, RH 1998, *Science in the multicultural classroom: a guide to teaching and learning*, 2nd edn, Allyn & Bacon, Boston.

Benson, C 2003, *Teaching science and design and technology in the early years*, David Fulton, London.

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

Carin, A & Bass, JE 2005, *Methods for teaching science as inquiry*, 9th edn, Pearson/Merrill/Prentice Hall, Upper Saddle River, NJ.

Frost, J 1997, *Creativity in primary science*, Open University Press, Buckingham.

Koch, J 1999, *Science stories: teachers and children as science learners*, Houghton Mifflin Company, Boston.

Peters, JM & Gega, PC 2005, *Science in elementary education*, 10th edn, Merrill, Upper Saddle River, NJ.

Siraj-Blatchford, J 1999, *Supporting science, design and technology in the early years*, Open University Press, Buckingham.

Tolman, MN 2002, *Discovering elementary science: method, content, and problem-solving activities*, 3rd edn, Allyn & Bacon, Boston.

Van Tassel-Baska, J 1997, *Guide to teaching a problem-based science curriculum*, Kendall/Hunt, Dubuque, Iowa.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Directed Study	113.00
Lectures	26.00
Workshops	26.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
ASSIGNMENT 1	30.00	30.00	03 Apr 2009 (see note 1)
ASSIGNMENT 2	35.00	35.00	15 May 2009
ASSIGNMENT 3	35.00	35.00	12 Jun 2009

NOTES

1. APA style is the referencing system required in this course. Students should use APA style in their assignments to format details of the information sources they have cited in their work. The USQ library provides advice on how to format information sources using this system. http://www.usq.edu.au/library/help/ehelp/ref_guides/apastyle/default.htm A continuous form of assessment for assignment 1 will commence in week 1. The course examiner will advise the due date for these assessment items.

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 complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available for each assessment item.
- 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 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.
- 9 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 will be expected to develop their own resources and therefore may incur some additional costs.
- 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.
