



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: Research Practice and Ethics

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
SCI	4405	86186	1, 2009	ONC	1.00	Toowoomba

Academic group:	FOSCI
Academic org:	FOS002
Student contribution band:	6
ASCED code:	019999

STAFFING

Examiner: John Dearnaley
Moderator: Andrew Le Brocque

RATIONALE

In the contemporary world, science and technology are increasingly seen as fundamental for human progress and survival. As the power of technology has increased, ethical considerations in the practice of science have become a critical component in the interaction between science and society. Additionally, the limited ability of society to support scientific research has led to ever increasing competition for these resources and emphasised the need for skills in both scientific communication and information technology. This course is designed to allow students to appreciate the role of philosophy and ethics in the practice of science and to be aware of, and develop, a range of communication skills required to successfully pursue a career in scientific research.

SYNOPSIS

This course is designed to allow students to appreciate the role of communication skills required in the successful pursuit of a career in scientific research and to appreciate the role of philosophy in science. The modular structure of the course is designed to allow the student to develop skills in particular aspects of scientific communication. Topics include: computer based information retrieval, experimental design and analysis, verbal and written scientific communication skills (debates, seminars, posters and papers) and, the interaction between science and society with an emphasis on the philosophy of science.

OBJECTIVES

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

1. demonstrate skills in verbal presentation of scientific data (Module 8 - Seminar);
2. demonstrate skills in the written presentation of scientific data (Module 2 - Assignment);
3. demonstrate skills in the preparation and presentation of research grant applications (Module 3 - Assignment);
4. use computerised data base searching facilities (Module 8 - Seminar);

5. demonstrate an understanding of the varieties of scientific method and their historical evolution (Module 3 - Assignment).

TOPICS

Description	Weighting (%)
1. Database Searching and Referencing	5.00
2. Scientific Writing	15.00
3. Criticism in Science/Peer Review Exercises	15.00
4. Ethical Issues in Science I	10.00
5. Ethical Issues in Science II	10.00
6. Funding for Research	10.00
7. Experimental Design and Analysis	10.00
8. Conference Presentation	15.00
9. Philosophy of Science	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).

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.

, , *American journal of bioethics*,

'Animal Care and Protection Act 2001' (Available: www.legislation.qld.gov.au/LEGISLTN/CURRENT/A/AnimalCaPrA01.pdf).

Australian and New Zealand Council for the Care of Animals in Research and Teaching, Adelaide 2008, ' ' (Available: <http://www.adelaide.edu.au/ANZCCART/>).

Booth, V 1995, *Communicating in science, writing a scientific paper and speaking at scientific meetings*, 2nd edn, Cambridge University Press, New York.
(ISBN 0 521 42915 3)

Briscoe, MH 1996, *Preparing scientific illustrations - a guide to better posters*, 2nd edn, Springer-Verlag, New York.
(ISBN 0-387-94581-4)

Daly, J 1996, *Ethical intersections, health research methods and researcher responsibility*, Allen & Unwin Publishers, Sydney.

Day, RA 2006, *How to write and publish a scientific paper*, 6th edn, Oryx Press, Phoenix, Ariz.

(ISBN 0 521 36760 3)

Englehardt, HT 1996, *The foundations of bioethics*, Oxford University Press, New York.

Eunson, B 1995, *Writing technical documents*, John Wiley & Sons, Milton, Qld.

(ISBN 0 471 33566 5)

Lobban, CS & Schefter, M 1992, *Successful lab reports*, Cambridge University Press, New York.

(ISBN 0 521 40741 9)

Moreno, JD (ed.) 2003, *In the wake of terror: Medicine and morality in a time of crisis*, Cambridge, MIT, London, Massachusetts.

National Health and Medical Research Council 2004, 'Australian code of practice for the care and use of animals for scientific purposes 7th edition' (Available: www.nhmrc.gov.au/publications/synopses/ea16syn.htm).

Oldroyd, D 1986, *The arch of knowledge*, University of NSW Press, Kensington.

Riggs, PJ 1992, *Whys and ways of science: Introducing philosophical and sociological theories of science*, Melbourne University Press, Carlton.

(ISBN 0 522 84471 5)

Sides, CH 1999, *How to write and present technical information*, 3rd edn, Cambridge University Press, Oakleigh, Vic.

(ISBN 0 521 43861 6)

Williams, B 2007, '' (Available: http://www.dpi.qld.gov.au/cps/rde/dpi/hs.xml/27_125_ENA_HTML.htm).

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Private Study	140.00
Tutorials	20.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
MODULE 2: ASSIGNMENT	1.00	33.00	02 Mar 2009 (see note 1)
MODULE 3: ASSIGNMENT	1.00	33.00	02 Mar 2009
MODULE 8: SEMINAR	1.00	34.00	02 Mar 2009

NOTES

1. Further details about the due dates and assessments for Modules 2, 3 and 8 will be provided by the Examiner.

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 the one mark available for that 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.
 - 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:
All students who satisfy the requirements of the course will be given a grade of P. Other students will be given either a Fail grade or an incomplete grade.
 - 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.