



The University of Southern Queensland

## Course Specification

### Description: Research Practice and Ethics B

Subject	Cat-Nbr	Class	Term	Mode	Units	Campus
SCI	4406	14368	2, 2002	ONC	1.00	TWMBBA

<b>Academic Group:</b>	FOSCI
<b>Academic Org:</b>	FOS003
<b>HECS Band:</b>	2
<b>ASCED Code:</b>	019999

### STAFFING

Examiner: Michael Kotiw

Moderator: Grant Daggard

### 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 build on scientific communication skills previously developed in Research Practice and Ethics A. The modular structure of the course is designed to allow the student to investigate a number of major contemporary issues in science including: the role of criticism and debate, ethics in science, scientific fraud, patenting and other legal issues. In addition, students are given an understanding of the principles involved in obtaining funding for scientific research.

### OBJECTIVES

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

- demonstrate skills in verbal and written presentation and critique of scientific data;
- demonstrate an awareness of contemporary ethical issues in science;
- demonstrate skills in the preparation and presentation of research grant applications;
- use computerised data base searching facilities.

## TOPICS

Description	Weighting (%)
1. The course will consist of up to six modules of which four will be assessed. Modules to be undertaken, from the following list, will be designated by the course examiner at the commencement of the semester.	0.00
2. Database searching and referencing	10.00
3. Powerpoint presentations	10.00
4. Experimental Design and Analysis	10.00
5. Scientific Writing	10.00
6. Conference Presentation	10.00
7. Philosophy of Science	10.00
8. Criticism in Science	10.00
9. Ethical Issues in Science (I): Animal Ethics and Medical Research	10.00
10. Ethical Issues in Science (II): Legal Issues	10.00
11. Funding Science Each module will normally consist of two 2 hour sessions led by a module coordinator.	10.00

## 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.

Booth, V. 1992, *Communicating in Science, Writing a Scientific Paper and Speaking at Scientific Meetings*, 2nd edition, Cambridge University Press, Cambridge.

Briscoe, M.H. 1996, *Preparing Scientific Illustrations - A Guide to Better Posters, presentations and publications*, 2nd edition, Springer- Verlag, New York.

Daly, J. 1996, *Ethical Intersections, Health Research methods and Researcher Responsibility*, Allen & Unwin Publishers, Sydney.

Day, R.A. 1995, *How to Write and Publish a Scientific Paper*, Cambridge University Press, Cambridge.

Englehardt, H.T. 1996, *The Foundations of Bioethics*, Oxford University Press, New York.

Eunson, B. 1995, *Writing Technical Documents*, John Wiley, Brisbane.

Kimmel, A.J. 1996, *Ethical Issues in Behavioural Research*, Blackwell, Cambridge.

Lobban, C.S. and Schefter, M. 1992, *Successful Laboratory Reports; A manual for science students*, Cambridge University Press, Cambridge.

Oldroyd, D. 1986, *The Arch of Knowledge*, NSWUP, Kensington.

Oldroyd, D. 1982, *Science and Ethics*, NSWUP, Kensington.

Riggs, R.J. 1992, *Whys and Ways of Science: Introducing Philosophical and Sociological Theories of Science*, Melbourne University Press, Carlton.

Sides, C.H. 1992, *How to Write and Present Technical Information*, Cambridge University Press, Oakleigh.

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Private Study	140
Tutorial	20

## ASSESSMENT DETAILS

Description	Marks Out of	Wtg(%)	Required	Due Date
MODULE 1: SCIENT. MISCONDUCT	999.00	25.00	Y	31 Jul 2002
MODULE 2: SCIENTIFIC CRITIQUE	999.00	25.00	Y	14 Aug 2002
MODULE 3: ANIMAL ETHICS	999.00	25.00	Y	28 Aug 2002
MODULE 4: GRANT WRITING	999.00	25.00	Y	11 Sep 2002

## OTHER REQUIREMENTS

- 1 Attendance Requirements It is the students' responsibility to participate actively in all classes 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 to Satisfactorily Each Assessment Item To complete satisfactorily each of the components of the course, students must achieve at least half of the available marks for the assessment items in each of the modules they are required to undertake by the course examiner.
- 3 Minimum Requirements to Pass the Course To be assured of a pass in this course, students must obtain an overall mark of at least 50%.
- 4 Grading Final grades for students will be determined by addition of the marks obtained in each assessment item, weighted as in the Assessment Details.
- 5 Assignments The due date for an assignment is the date by which the student must despatch it to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the examiner. Students must retain a copy of each item submitted for assessment. This must be produced within five days if required by the examiner. In accordance with the University's Policy on Assignments (Regulation 5.6.1), the Examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances. This policy may be found in the USQ Handbook, the Distance Education Student Guide and the Faculty of Sciences' Orientation Handbook for new on-campus students. All students are

advised to study and follow the guidelines associated with this policy. An assignment, submitted after the due date without an extension approved by the examiner, may attract a penalty of up to 5% of the assignment mark for each day (or part thereof) that the assignment is late (i.e. if an assignment is two days overdue, the final mark may be calculated by multiplication of the initial mark by 0.9).

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