



The University of Southern Queensland

Course specification

Description: Research Practice and Ethics A

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
SCI	4405	30318	1, 2004	ONC	1.00	TWMBBA

Academic group:	FOSCI
Academic org:	FOS002
Student contribution band:	2
ASCED code:	019999

STAFFING

Examiner: Mark Sutherland

Moderator: Michael Kotiw

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:

- demonstrate skills in verbal presentation of scientific data;
- demonstrate skills in the written presentation of scientific data;
- demonstrate skills in the preparation and presentation of research grant applications;

- use computerised data base searching facilities;
- demonstrate an understanding of the varieties of scientific method and their historical evolution.

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. Each module will normally consist of two 2 hour sessions led by a module coordinator. 1. Database searching and referencing	10.00
2. Powerpoint presentations	10.00
3. Experimental Design and Analysis	20.00
4. Scientific Writing	20.00
5. Conference Presentation	20.00
6. Philosophy of Science	20.00

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.

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, M H 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.

(ISBN: 1 86448 050 5)

Day, R A 1998, *How to Write and Publish a Scientific Paper*, 5th edn, Cambridge University Press, Cambridge.

(ISBN 0 521 36760 3)

Englehardt, H T 1996, *The Foundations of Bioethics*, 2nd edn, Oxford University Press, New York.

(ISBN 0 195 05736 8)

Eunson, B 1995, *Writing Technical Documents*, John Wiley and Sons, Milton, Qld.

(ISBN 0 471 33566 5)

Kimmel, A J 1996, *Ethical Issues in Behavioral Research*, Blackwell Publishers, Cambridge, Mass.

(ISBN 1 55786 395 4)

Lobban, C S and Schefter, M 1992, *Successful Lab Reports*, Cambridge University Press, New York.

(ISBN 0 521 40741 9)

Oldroyd, D 1986, *The Arch of Knowledge*, University of NSW Press, Kensington.

Oldroyd, D 1982, *Science and Ethics*, University of NSW Press, Kensington.

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

(ISBN 0 522 84471 5)

Sides, C H 1999, *How to Write and Present Technical Information*, 3rd edn, Cambridge University Press, Oakleigh, Vic.

(ISBN 0 521 43861 6)

Snow, C P 1964, *The Two Cultures: and A Second Look*, Cambridge University Press, Cambridge.

(An expanded version of *The two cultures and the scientific revolution.*)

STUDENT WORKLOAD REQUIREMENTS:

ACTIVITY	HOURS
Private Study	140.00
Tutorial	20.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
MODULE 1: POWERPOINT INTRO	1.00	0.00	02 Mar 2004
MODULE 2: LIBRARY ORIENTATION	1.00	0.00	02 Mar 2004
MODULE 3: ASSIGNMENT	1.00	25.00	02 Mar 2004
MODULE 4: ASSIGNMENT	1.00	25.00	02 Mar 2004
MODULE 5: SEMINAR	1.00	25.00	02 Mar 2004
MODULE 6: DISCUSSION	1.00	25.00	02 Mar 2004 (see note 1)

NOTES:

1. Further details about the due dates and assessments for Modules 3 - 6 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 they can expect to be given a Fail grade for the course.
- 4 Requirements for student to be awarded a passing grade in the course:
To be assured of a passing grade, students must complete all summative assessment items satisfactorily.
- 5 Method used to combine assessment results to attain final grade:
As P is the only passing grade available for this course, all students who are qualified for a passing grade as in Assessment 4 will be given a grade of P. Other students will be given either a Failing 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.