



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 Project Methodology

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
MSC	8001	86231	1, 2009	ONC	2.00	Toowoomba

Academic group:	FOSCI
Academic org:	FOS003
Student contribution band:	2
ASCED code:	029999

STAFFING

Examiner: Hua Wang
Moderator: Zhongwei Zhang

REQUISITES

Pre-requisite: Students must be enrolled in one of the following Programs: BINH or MCOP or MPIT or BSCH or MSMS.

RATIONALE

An in-depth project and dissertation on a specialised research topic are necessary to prepare graduates for further research, applications and responsible jobs in Bioinformatics, Computer Science, Mathematics or Statistics. This course, in conjunction with MSC8002, enables students to develop and use research capability and an advanced level of Bioinformatics, Computer Science, Mathematics or Statistics skills.

SYNOPSIS

This course forms the first part of the research component of the Honours and Masters programs in the Department of Mathematics and Computing, developed further in MSC8002. It develops the foundation for ultimately completing a selected project in Bioinformatics, Computing Science, Mathematics or Statistics with the supervision of appropriate staff from the Department of Mathematics and Computing. The project will consist of review, research into and reporting of a well defined area and its application. In this course, information and ideas for the project will be gathered, organised and a preliminary analysis made in a critical and evaluative manner. The topic of the project will be selected in consultation with the appropriate staff of the Department.

OBJECTIVES

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

1. conduct a research literature survey in Bioinformatics, Computer Science, Mathematics or Statistics (Assignment 1, MSC8002 Dissertation);

2. plan an investigation of a suitable and approved research topic (Assignment 1, Proposal and Ethics Approval, Preliminary Proposal and Preliminary Seminar);
3. develop advanced Bioinformatics, Computer Science, Mathematics or Statistics skills which include the analysis, synthesis and evaluation of factors involved in the project (MSC8002 Seminar, MSC8002 Dissertation).

TOPICS

Description	Weighting (%)
1. Initiate a research project: Consult with appropriate staff of the Department of Mathematics and Computing; Research methodology in Bioinformatics, Computer Science, Mathematics or Statistics; Research proposal and plan; Preliminary analysis and seminar.	100.00

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).

Course web site: <http://www.sci.usq.edu.au/courses/MSC8001>

The following text will be available from the course web pages : "Research Methodology for Students of Bioinformatics, Computer Science, Mathematics, and Statistics", A.J. Roberts, R.G. Addie, Y. Zhang, A. Plank, Department of Mathematics and Computing.

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.

Appropriate material from: books, monographs, journals and conference proceedings, computer software and material from electronic sources.

Chambers JM, Becker RA, et al 1983, *Graphical methods for data analysis*, Wadsworth, Belmont, Ca.

Highham NJ 1998, *Handbook of writing for the mathematical sciences*, 2nd edn, Siam, Philadelphia.

Jaeger RM 1990, *Statistics: A Spectator Sport*, 2nd edn, Sage, Newbury Park, Ca.

Strunk W (Jr) 'The elements of style' (Available: <http://www.bartleby.com/141/>).

Tufte ER 2001, *The visual display of quantitative information*, 2nd edn, Graphics Press, Cheshire, Connecticut.

Zobel J 2004, *Writing for Computer Science*, 2nd edn, Springer, London.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Consultation	15.00
Private Study	310.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
MSC8002 DISSERTATION	100.00	95.00	02 Mar 2009 (see note 1)
PRELIMINARY PROPOSAL	20.00	1.00	13 Mar 2009 (see note 2)
MSC8002 SEMINAR	20.00	5.00	01 May 2009 (see note 3)
PRELIMINARY SEMINAR	20.00	1.00	15 May 2009
PROPOSAL AND ETHICS APPROVAL	20.00	1.00	22 May 2009

NOTES

1. Examiner will notify students of due date for end of semester.
2. Due dates to be advised by the Examiner.
3. Seminar and Dissertation due dates are those of the students enrolment in MSC8002.

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
It is the student's 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. It is the student's responsibility to maintain regular contact with their supervisor according to a mutually agreed schedule.
- 2 Requirements for students to complete each assessment item satisfactorily:
To satisfactorily complete an individual assessment item, a student must achieve at least 50% of the marks.
- 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 1% of the total marks gained by the student for the assignment will apply for each working day late.
- 4 Requirements for student to be awarded a passing grade in the course:
Students will be awarded the grade of IIP (Incomplete - in progress) at the end of this course provided they have gained at least 50% of the marks available for the Preliminary Proposal, Preliminary Seminar, Assignment 1 and Proposal and Ethichs Approval.
- 5 Method used to combine assessment results to attain final grade:
The final grades for students will be assigned on the basis of the aggregate of the weighted marks obtained for the MSC8002 SEMINAR and MSC8002 DISSERTATION.

- 6 Examination information:
There is no examination in this course.
- 7 Examination period when Deferred/Supplementary examinations will be held:
As there are no examinations in this course, there will be no deferred or supplementary examinations.
- 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

- 9 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.
- 10 Students may be required to provide a copy of assignments submitted for assessment purposes. Such copies should be dispatched to the USQ within 24 hours of receipt of a request to do so.
- 11 In accordance with University policy, the Examiner may grant an extension of the due date of an assessment item in extenuating circumstances.
- 12 A grade of IIP (Incomplete, In Progress) will be temporarily awarded for this course when the student has completed the first four assessment items satisfactorily. A final grade for the course will be assigned upon completion and assessment of MSC8002 Research Project Dissertation.
- 13 In exceptional circumstances and only with the prior approval of the Examiner, a student may be awarded a passing grade in this course upon Satisfactory completion of the first four assessment items and the submission of a project dissertation of a satisfactory standard appropriate for two units.

OTHER REQUIREMENTS

- 1 Students will require access to e-mail and have internet access to USQConnect for this course.
- 2 It is the student's responsibility to firstly approach staff members and discuss possible projects, and secondly to negotiate a mutually agreed project topic with a staff member who will then become the student's Supervisor for the research project in MSC8001 and MSC8002.
- 3 Normally a student's work in a project, their seminar and dissertation is expected to be open to public scrutiny. However, a project may generate intellectual property which a student wishes to remain confidential. If this is the case, the student, Supervisor and Examiner will meet or confer to negotiate appropriate work practices consistent with University policies.
- 4 Normally, a student and the Supervisor will meet or confer for one hour each week. The Supervisor will: guide direction; provide formative feedback; suggest possibilities; teach methods; advise on balance and emphasis; remind the timelines; recommend marks to the Examiner for the Preliminary proposal, Proposal, Preliminary seminar, and Literature survey; suggest dissertation Markers to the Examiner; coordinate with the Examiner, especially for the seminars; and meet as required with other supervisors.

- 5 General Faculty Inductions for All Honours/Masters Students (a) All Honours and Masters students must complete the Faculty of Sciences General Staff/Student Safety Induction before commencing work or within the first week of commencing work in the Faculty. (b) All Faculty of Sciences General Staff/Student Safety Inductions must be completed by the Faculty Safety Co-Ordinator, the Faculty Safety Assistant or their delegate. (c) All Faculty of Sciences General Staff/Student Safety Induction paperwork is to be signed and dated by the inductor and inductee. (d) Completed General Safety Staff/Student Induction paperwork must then be forwarded to the relevant supervisor for signature. The supervisor must keep a copy of this induction form for their own records. (e) Once completed by the supervisor, all Faculty of Sciences General Staff/Student Safety Induction paperwork is to be forwarded to the Faculty Safety Office for filing and the inductions recorded on the appropriate computer database.
 - 6 Inductions for Restricted Access Areas (a) All Honours/Masters students expected to work in restricted access areas must complete the relevant safety induction for that location before commencing duties. (b) The student's supervisor (or nominated delegate) is to complete all inductions for restricted access areas. (c) Induction paperwork is to be kept in the office of the relative Laboratory Manager or Faculty Administration Manger. Academic Supervisors are again encouraged to keep copies of this paperwork for their own records.
 - 7 Commencing Work Before All Inductions are Completed: Any Academic Supervisor who wishes their Honours/Masters student(s) to begin work before all inductions have been completed, may do so only if they provide direct supervision of the student in question until the induction(s) is completed.
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