



The University of Southern Queensland

## Course specification

This version produced 20 Dec 2007.

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 Dissertation

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
MSC	8002	62291	1, 2007	ONC	2.00	Toowoomba

<b>Academic group:</b>	FOSCI
<b>Academic org:</b>	FOS003
<b>Student contribution band:</b>	2
<b>ASCED code:</b>	029999

### STAFFING

Examiner: Hua Wang

Moderator: Ron Addie

### REQUISITES

Pre-requisite: MSC8001 and 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 MSC8001, 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 final part of the research training component of the Honours and Masters programs in the Department of Mathematics and Computing. From the foundation established in MSC8001, students will complete a selected project in Bioinformatics, Computer 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 applications.

### OBJECTIVES

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

1. keep abreast of developments in Bioinformatics, Computer Science, Mathematics or Statistics (Literature Survey, Dissertation);
2. execute and refine a selected research investigation (Literature Survey, Dissertation);

3. develop higher level Bioinformatics, Computer Science, Mathematics or Statistics skills which include the analysis, synthesis and evaluation of factors involved in the investigation of the research topic (Literature Survey, Dissertation);
4. complete an extensive research based investigation and to evaluate the results (Dissertation);
5. effectively document and communicate the results of the investigation and the methods used in a dissertation (Final Seminar, Dissertation).

## TOPICS

Description	Weighting (%)
1. Finalise and report on a research project: Report literature survey; Dissertation writing and analysis; Seminar presentation.	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/msc8002>

## 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) 1918, *The elements of Style*, W P Humphrey,  
(<http://www.bartleby.com/141/>)

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

Zobel, J 2004, *Writing for computer science*, 2nd edn, Springer, London.

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Consultation	15.00
Private Study	320.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
LITERATURE & RESOURCE SURVEY	1.00	0.00	30 Mar 2007 (see note 1)
FINAL SEMINAR	10.00	10.00	30 Apr 2007
DISSERTATION	90.00	90.00	28 Jun 2007

### NOTES

1. Due dates for assignments will be assigned by the Supervisor once the project is under way.

## 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. 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 assessment item, a student must obtain 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 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:  
To be assured of a passing grade, students must demonstrate, via the summative assessment items, that they have achieved the required minimum standards in relation to the objectives of the course by: (1) submitting all summative assessment items; and (2) gaining at least 50% of the marks available for each summative assessment item (including the five assignments weighted 0% in msc8001/2).
- 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/grades 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:  
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 <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 Method used to assess the dissertation: normally three Markers will be assigned by the Examiner, after advice by each Supervisor, to assess each student's dissertation. The Supervisor is normally one of the Markers. The Markers will independently assess the dissertation in the following five aspects: (a) Incorporation of established knowledge; (b) Assimilation of research literature; (c) Implementation of scientific techniques; (d) Technical writing; (e) Innovation. Each of these aspects will be given a mark in the range 0-20; the final mark will be the sum of these five aspect marks. The Examiner will moderate the marks recommended by the Markers and determine a final grade normally as the equally weighted average of the Markers recommendations. Where the Markers cannot reach a consensus, the Examiner may seek advice of extra Markers.
- 13 Method used to assess the seminar: normally two Markers will be assigned by the Examiner to assess each student's seminar on the following criteria: clarity of verbal communication; clarity of supporting material; organisation of information; answers to questions; impact. The Examiner will moderate the marks recommended by the Markers and determine a final grade normally as the equally weighted average of the Markers recommendations.

## OTHER REQUIREMENTS

- 1 In accordance with University policy, the Examiner may grant an extension of the due date of an assignment in extenuating circumstances.
  - 2 The dissertation will be assessed on the demonstrated quality of: incorporation of established knowledge; assimilation of research literature; scientific techniques; innovation; and technical writing.
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