Description: Research Project Methodology

<table>
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<th>Subject</th>
<th>Cat-nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
<th>Campus</th>
</tr>
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<tr>
<td>MSC</td>
<td>8001</td>
<td>66286</td>
<td>2007</td>
<td>EXT</td>
<td>2.00</td>
<td>Toowoomba</td>
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Academic group: FOSCI
Academic org: FOS003
Student contribution band: 2
ASCED code: 029999

STAFFING
Examiner: Hua Wang
Moderator: Ron Addie

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 or 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.


STUDENT WORKLOAD REQUIREMENTS

<table>
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<th>ACTIVITY</th>
<th>HOURS</th>
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<tbody>
<tr>
<td>Consultation</td>
<td>15.00</td>
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<tr>
<td>Directed Study</td>
<td>12.00</td>
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<td>Private Study</td>
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ASSESSMENT DETAILS

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<th>Description</th>
<th>Marks out of</th>
<th>Wtg(%)</th>
<th>Due date</th>
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<tbody>
<tr>
<td>MSC8002 SEMINAR</td>
<td>20.00</td>
<td>5.00</td>
<td>24 Jul 2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(see note 1)</td>
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<tr>
<td>MSC8002 DISSERTATION</td>
<td>100.00</td>
<td>95.00</td>
<td>24 Jul 2008</td>
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<tr>
<td>PRELIMINARY PROPOSAL</td>
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<td>PROPOSAL AND ETHICS</td>
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<td>0.00</td>
<td>11 Aug 2008</td>
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<td>APPROVAL</td>
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<td>ASSIGNMENT 1</td>
<td>20.00</td>
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NOTES
1. 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 Ethics 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 Manager. 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.