Description: Problem Solving and Design Portfolio

<table>
<thead>
<tr>
<th>Subject</th>
<th>Cat-nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
<th>Campus</th>
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<tr>
<td>ENG</td>
<td>8302</td>
<td>66929</td>
<td>2, 2007</td>
<td>EXT</td>
<td>1.00</td>
<td>Toowoomba</td>
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Academic group: FOENS
Academic org: FOENSV
Student contribution band: 039999
ASCED code: 039999

STAFFING
Examiner: Jayantha Epaarachchi
Moderator: David Dowling

REQUISITES
Pre-requisite: ENG8300

RATIONALE
The Master of Engineering Practice program is designed to enable Engineering Technologists to draw on their industrial experience to demonstrate their achievement of many of the required graduate attributes and capabilities, both generic and technical. To be eligible for admission to the program students must have at least five years of relevant experience in the engineering industry. This course is designed to enable students to demonstrate the knowledge and skills they have gained that enable them to solve problems and prepare designs in an engineering workplace. To enable students to demonstrate their competence a set of "Defining Activities" has been established for each of the course objectives. Students will demonstrate their competence by writing a number of Career Episode Reports (CER), each highlighting their achievement of one or more of the "Defining Activities". Students will also be expected to complete a summary matrix that lists the CER's against the course's "Defining Activities" and shows that they have achieved each of the objectives.

SYNOPSIS
This course is designed to enable students in the Master of Engineering Practice program to demonstrate their achievement of many of the generic attributes and skills associated with engineering problem solving and design. During this course students will prepare a portfolio consisting of a number of Career Episode Reports, each highlighting their achievement of one or more of those attributes or skills. The information in each Career Episode Report must be verified and endorsed by a professional engineer. When completed, the portfolio should demonstrate that the student has achieved all of the objectives of the course.
OBJECTIVES

The course objectives define the student learning outcomes for a course. The assessment item(s) that may be used to assess student achievement of an objective are shown in parenthesis. On completion of this course students will be able to:

1. interpret and scope design requirements; (Portfolio)
2. apply problem solving techniques; (Portfolio)
3. apply new knowledge and technology; (Portfolio)
4. prepare a concept proposal; (Portfolio)
5. prepare and use plans and models; (Portfolio)
6. implement a planning and design process; (Portfolio)
7. review a design to achieve acceptance; (Portfolio)
8. evaluate the effectiveness of a solution; (Portfolio)
9. employ a high level of written communication skills; (Portfolio)
10. present seminars and reports (Portfolio) and
11. demonstrate achievement of the Technical objectives allocated to this Course in their Pathway to Gradulation Plan. (Portfolio)

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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<tbody>
<tr>
<td>Preparation of the Problem Solving and Design Portfolio</td>
<td>100.00</td>
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TEXT and MATERIALS required to be PURCHASED or ACCESSSED

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).

Engineers Australia 2004, *Chartered Professional Engineers - Applicants Handbook for Chartered Professional Engineer (CEng) Chartered Engineering Technologist (CEngT) and Chartered Engineering Officer (CEngO) National Chartered Professional Engineers Register*, Institution of Engineers, Australia, Canberra.

(This publication may be downloaded from the web as a PDF document. The URL is: http://www.engineersaustralia.org.au/education/chartered-status.cfm and click on the link to the handbook.)
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.

STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
</tr>
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<tbody>
<tr>
<td>Private Study</td>
<td>25.00</td>
</tr>
<tr>
<td>Report Writing</td>
<td>130.00</td>
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<td>Supervisor Consultation</td>
<td>10.00</td>
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ASSESSMENT DETAILS

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks out of</th>
<th>Wtg(%)</th>
<th>Due date</th>
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<tr>
<td>DRAFT CAREER EPISODE REPORTS 1</td>
<td>1.00</td>
<td>0.00</td>
<td>17 Aug 2007 (see note 1)</td>
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<tr>
<td>DRAFT CAREER EPISODE REPORTS 2</td>
<td>1.00</td>
<td>0.00</td>
<td>21 Sep 2007 (see note 2)</td>
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<tr>
<td>PROBLEM SOLVING AND DESIGN POR</td>
<td>100.00</td>
<td>100.00</td>
<td>05 Nov 2007</td>
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NOTES

1. Draft Career Episode Reports 1 refers to at least 50% of the CER’s listed under "ENG8302-The Proposed Content of the Portfolio" in your approved "Pathway to Graduation Plan".
2. Draft Career Episode Reports 2 refers to the remaining CER’s listed under "ENG8302-The Proposed Content of the Portfolio" in your approved "Pathway to Graduation Plan".

IMPORTANT ASSESSMENT INFORMATION

1. Attendance requirements:
   There are no attendance requirements for this course. However, it is the students’ responsibility 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 satisfactorily complete each of the assessment items students must meet the requirements of the item as set-out in the study materials for the course.

3. Penalties for late submission of required work:
   (a) Students who do not submit the draft portfolio by the Due Date will receive limited or zero supervisor feedback. (b) Students who do not submit the completed Problem Solving and Design portfolio by the Due Date will normally be awarded one of the fail grades. (c) Extension of a deadline may be granted by the examiner of the course.
   Application for such an extension must be made in writing to the Examiner, prior to the Due Date.

4. Requirements for student to be awarded a passing grade in the course:
To be assured of receiving a passing grade, students must demonstrate that they have achieved the required minimum standards in relation to the objectives of the course by submitting a satisfactory portfolio as stated in 2 above.

5 Method used to combine assessment results to attain final grade:
The final grade will be based on the grade awarded for the portfolio.

6 Examination information:
There is no examination in this course.

7 Examination period when Deferred/Supplementary examinations will be held:
Not applicable.

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

1 The student shall communicate with the examiner at regular intervals, normally weekly, and keep whatever records of progress the examiner may require (eg a log book).
2 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 dispatch date, if requested by the Examiner.
3 Students must retain a copy of each item submitted for assessment. This must be despatched to USQ within 24 hours if required by the Examiner.
4 In accordance with University's Assignment Extension Policy (Regulation 5.6.1), the examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances.
5 The Faculty will normally only accept assessments that have been written, typed or printed on paper-based media.
6 The Faculty will NOT accept submission of assignments by facsimile.
7 Students who have undertaken all of the required assessments in a course but who have failed to meet some of the specified objectives of a course within the normally prescribed time may be awarded the temporary grade: IM (Incomplete - Make up). An IM grade will only be awarded when, in the opinion of the examiner, a student will be able to achieve the remaining objectives of the course after a period of non-directed personal study.
8 Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. The following temporary grade may be awarded: IDM (Incomplete Deferred Make-up).

OTHER REQUIREMENTS

1 Students will require access to e-mail and internet access to USQConnect for this course.