The complexity of modern engineering products and systems is such that some risk of failure is inevitable. There is a financial incentive to reduce this risk and to improve reliability, and increasingly, there are statutory requirements to address reliability and safety issues explicitly. Consequently, people in technology management need to be aware of the tools and techniques used for the prediction, evaluation and management of technical risks.

This course is concerned with the prediction and assessment of technical risks. It introduces a range of qualitative and quantitative techniques used for the analysis of risk and to manage reliability and maintenance. The techniques have broad application and may be applied in the management of many technical areas, including manufacturing, construction, processing and plant supervision.

On completion of this course, students should be able to:

1. assess the risks inherent in any process;
2. evaluate the likelihood and consequences of technical risks;
3. select, justify and apply appropriate strategies for the treatment of technological risk;
4. appraise and utilise tools and techniques to reduce and manage risks arising from technological equipment and processes.
TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overview of risk management</td>
<td>5.00</td>
</tr>
<tr>
<td>2. Risk management fundamentals</td>
<td>10.00</td>
</tr>
<tr>
<td>3. Identification and analysis of risk</td>
<td>10.00</td>
</tr>
<tr>
<td>4. Risk evaluation</td>
<td>15.00</td>
</tr>
<tr>
<td>5. Financial aspects of reliability management</td>
<td>10.00</td>
</tr>
<tr>
<td>6. Risk management in technology projects</td>
<td>15.00</td>
</tr>
<tr>
<td>7. Risk management in Technology Procurement processes</td>
<td>10.00</td>
</tr>
<tr>
<td>8. Risk management in asset management</td>
<td>15.00</td>
</tr>
<tr>
<td>9. Risk management in technology development and commercialisation</td>
<td>10.00</td>
</tr>
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</table>

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).


Standards Association of Australia, AS/NZS 4360 1999, Risk Management, Strathfield, NSW.

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>
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<tbody>
<tr>
<td>Assessment</td>
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<tr>
<td>Directed Study</td>
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<tr>
<td>Examinations</td>
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<tr>
<td>Private Study</td>
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</table>

ASSESSMENT DETAILS

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks out of</th>
<th>Wtg(%)</th>
<th>Due date</th>
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<tbody>
<tr>
<td>ASSIGNMENT 1</td>
<td>500.00</td>
<td>50.00</td>
<td>10 Sep 2004</td>
</tr>
<tr>
<td>3 HOUR CLOSED EXAMINATION</td>
<td>500.00</td>
<td>50.00</td>
<td>END S2</td>
</tr>
</tbody>
</table>

NOTES:

1. Student Administration will advise students of the dates of their examinations during the semester.

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 complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available (or at least a grade of C-) for each assessment item. Furthermore, at least 20% of the total marks for the course is allocated to explicit assessment of good communication skills.

3 Penalties for late submission of required work:
   If students submit assignments after the due date without prior approval then a penalty of 20% of the total marks available 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 satisfactorily completing all summative assessment items (the examination and assignments), as stated in 2 above.

5 Method used to combine assessment results to attain final grade:
The final grades for students will be assigned on the basis of the weighted aggregate of the marks (or grades) obtained for each of the summative assessment items in the course.

6 Examination information:
   In a Closed Examination, candidates are allowed to bring only writing and drawing instruments into the examination.

7 Examination period when Deferred/Supplementary examinations will be held:
   Any Deferred or Supplementary examinations for this course will be held during the examination period at the end of the semester of the next offering of 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.

ASSESSMENT NOTES

1 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.

2 Students must retain a copy of each item submitted for assessment. This must be produced within five days if required by the Examiner.

3 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.

4 The Faculty will normally only accept assessments that have been written, typed or printed on paper-based media.

5 The Faculty will NOT accept submission of assignments by facsimile.

6 Students who do not have regular access to postal services or who are otherwise disadvantaged by these regulations may be given special consideration. They should contact the examiner of the course to negotiate such special arrangements.

7 In the event that a due date for an assignment falls on a local public holiday in their area, such as a Show holiday, the due date for the assignment will be the next day. Students are to note on the assignment cover the date of the public holiday for the Examiner's convenience.

OTHER REQUIREMENTS

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