



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: Management of Technological Risk

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
ENG	8103	90950	2, 2009	EXT	1.00	Toowoomba

<b>Academic group:</b>	FOENS
<b>Academic org:</b>	FOENSV
<b>Student contribution band:</b>	2
<b>ASCED code:</b>	039999

### STAFFING

Examiner: David Ross  
Moderator: David Thorpe

### RATIONALE

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 technological risks.

### SYNOPSIS

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 manage technological projects and processes in such a way that potential adverse outcomes are minimised and opportunities maximised. The techniques have broad application and may be applied in the management of many technical areas, including manufacturing, construction, processing and plant supervision.

### 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 should be able to:

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

## TOPICS

Description	Weighting (%)
1. Overview of risk management	5.00
2. Risk management fundamentals	10.00
3. Identification and analysis of risk	10.00
4. Risk evaluation	15.00
5. Financial aspects of reliability management	10.00
6. Risk management in technology projects	15.00
7. Risk management in technology processes	10.00
8. Risk management in asset management	15.00
9. Risk management in technology development and commercialisation	10.00

## 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).

Chapman, CB & Ward, SC 2003, *Project Risk Management: Processes, Techniques and Insights*, 2nd edn, John Wiley & Sons, Chichester, UK.

Standards Association of Australia, AS/NZS 4360 2004, *Risk Management*, Sydney, NSW.  
(Online access via Standards On-Line Premium from the USQ Library databases.)

Standards Association of Australia, HB436 2004, *Risk Management Guidelines Companion to AS4360:2004*, Sydney, NSW.

(Online access via Standards On-Line Premium from the USQ Library databases.)

## 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.

Cox, S and Tait, N R 1998, *Safety, Reliability and Risk Management: An Integrated Approach*, 2nd edn, Butterworth-Heinemann, Oxford, Boston.

Godfrey, P S 1996, *Control of Risk: a Guide to the Systematic Management of Risk from Construction*, Construction Industry Research & Information Assoc, United Kingdom.

Haimes, Y Y 2004, *Risk Modelling, Assessment and Management*, 2nd edn, John Wiley & Sons Inc, New York.

Ridley, J & Channing, J 1999, *Risk Management*, 1st edn, Butterworth-Heinemann, Oxford.

Ritchie, B & Marshall, D 1993, *Business Risk Management*, Chapman & Hall, London.

Smith, D J 2005, *Reliability, Maintainability and Risk*, 7th edn, Butterworth-Heinemann, Oxford.

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Assessments	50.00
Directed Study	50.00
Private Study	55.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
ASSIGNMENT 1	500.00	50.00	11 Sep 2009
ASSIGNMENT 2	500.00	50.00	23 Oct 2009

## IMPORTANT ASSESSMENT INFORMATION

- 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.
- 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.
- Penalties for late submission of required work:**

If students submit assignments after the due date without extenuating circumstances then a penalty of 5% of the assigned mark may apply for each working day late up to a maximum of ten working days at which time a mark of zero can be recorded for that assignment.
- Requirements for student to be awarded a passing grade in the course:**

To be assured of receiving a passing grade in a course a student must obtain at least 50% of the total weighted marks for the course.
- 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.
- Examination information:**

There is no examination in this course
- 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.
- 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 UConnect for this course.
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