**Description: Safety Science in Practice**

<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>
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<td>8017</td>
<td>20324</td>
<td>1, 2003</td>
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**Academic Group:** FOBUS  
**Academic Org:** FOB002  
**HECS Band:** 2  
**ASCED Code:** 061301

**STAFFING**
- Examiner: Ian Eddington  
- Moderator: John Searle

**RATIONALE**

Effective health and safety management requires understanding and application of scientific principles, methods and knowledge. A wide range of workplaces experience a number of risks of damage to people, plant and property due to the uncontrolled interactions of animate and inanimate components of the workplace environment. Understanding the mechanisms of these interactions and designing predictive, preventative, interventional controls requires scientific analysis and interpretation. All fields of science can assist in the identification, assessment, and choice of control options for all workplace risks. This subject aims to introduce students to the scientific bases of health and safety management. It does not pretend to produce specialist expertise on one or more scientific disciplines rather it is designed to promote an appreciation of the breadth and scope of applications of sciences to risk management in the workplace. A unifying theme will be the desirability, indeed necessity, for practical integration of safety, quality and productivity goals and strategies.

**SYNOPSIS**

This subject covers the practical applications of physical, biological, behavioural and engineering sciences to safety and health control practices in the workplace. The approach is to analyse hazards and tasks and to identify and understand the nature of risks so that sequences of events can be interrupted, and components within these sequences kept separate, isolated and constrained.

**OBJECTIVES**

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

- gain an understanding that job analysis, task analysis and hazard analysis required broad scientific knowledge.
• become knowledgeable about basic scientific standards, methods and procedures.
• develop a sound working knowledge of the scientific bases of specific aspects of safety science such as radiation safety, electrical safety, mechanical safety, construction safety and hazardous substances management.
• use scientific principles to establish preventive safety programmes with in-built performance objectives and benchmarks.

TOPICS
Description Weighting (%)
1. Introduction, perspectives, accidents 6.00
2. Risk Communication 8.00
3. Hazardous Substances Management 8.00
4. Radiation Safety 8.00
5. Electrical Safety 8.00
6. Gas & Pressure Equipment 8.00
7. Welding 8.00
8. Confined Spaces 8.00
9. Safeguarding (incl machine guards) 8.00
10. Lifting gear 8.00
11. Construction Safety 8.00
12. Task & Hazard Analysis 8.00
13. Management, rehabilitation and future directions 6.00

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.

(revised edition)

STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
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<tr>
<td>Directed Study</td>
<td>80</td>
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<td>Private Study</td>
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ASSESSMENT DETAILS

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<tr>
<th>Description</th>
<th>Marks Out of</th>
<th>Wtg(%)</th>
<th>Required</th>
<th>Due Date</th>
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<tr>
<td>ASSIGNMENT 1</td>
<td>20.00</td>
<td>20.00</td>
<td>Y</td>
<td>04 Apr 2003</td>
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<td>ASSIGNMENT 2</td>
<td>40.00</td>
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<td>ASSIGNMENT 3</td>
<td>40.00</td>
<td>40.00</td>
<td>Y</td>
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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 for each assessment item.

3 Penalties for late submission of required work:
   Students must attach an application for late submission to assignments sent to the university after the due date.

4 Requirements for student to be awarded a passing grade in the course:
   To be assured of receiving a passing grade a student must submit all of the summative assessment items and achieve at least 50% of the available weighted marks for those items.

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:
   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/SECARIAT/calendar/Part5/ or in the printed version of the current USQ Handbook. Students should also read The Guide to Policies and Procedures of the Faculty which can be found at the URL: http://www.usq.edu.au/handbook/2003/business/polproc/index.htm or in the printed version of the current USQ Handbook.
ASSESSMENT NOTES

1 Assignments: (i) 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. (ii) Students must retain a copy of each item submitted for assessment. This must be produced within 24 hours if required by the Examiner. (iii) The Examiner may grant an extension of the due date of an assignment in extenuating circumstances. Students may apply for an extension before the due date or include an application with the submitted assignment after the due date. Such applications should be in writing and include supporting documentary evidence. The authority for granting extensions rests with the relevant Examiner. (iv) The Examiner will not accept submission of assignments by facsimile. (v) 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.

2 Make-up Work: 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.

3 Deferred Work: Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. A temporary grade of IDM (Incomplete Deferred Make-up) may be awarded.