

AVIA9201 – Safety Risk Management: Physical Hazards

The University of New South Wales School of Aviation

AVIA9201 – Safety Risk management: Physical Hazards Session 2, 2015

Course Outline

Course Staff

The Lecturer in charge is Dr Carlo Caponecchia. Carlo can be contacted through the Moodle interface regarding specific course issues, or on email carlo@unsw.edu.au, phone +61 2 9385 7184. Consultations with students are by appointment, so please make contact in advance should you wish to come to campus to talk with Carlo.

Course Information

Course Description

This course examines the principles of safety risk management, focusing on physical hazards. Students will learn about methods of risk identification assessment and control applied to physical hazards including: manual handling, noise, electricity, chemical hazards, as well as learning about issues relating to major hazards and disasters. Students will be asked to apply risk management techniques to these hazards, and will have the opportunity to share and discuss their own experiences of managing risks. The course will also explore different theories of accident causation.

Aims

The course aims to provide an introduction to issues associated with risk management of physical safety hazards. While physical hazards are most well known in terms of risk management, several aspects of risk management are taken for granted, or assumed to be correct without further evaluation. This course integrates theoretical issues (such as qualitative and quantitative risk management, and models of accidents causation) with information about the properties of common physical hazards. This course aims to develop students' appreciation of the importance of evaluating risk management and accident models before embarking on a risk management process. In addition this course aims to provide students with the skills to find and evaluate information about particular hazards, and help them apply safety risk management paradigms.

Learning Outcomes

On completion of this course it is anticipated that students will be able to: At the conclusion of this course, students should be able to:

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1. Use and understand terminology in the safety risk management field
2. Understand and apply the risk management process, both qualitatively and quantitatively
3. Evaluate various models of accident causation
4. Discover key aspects of various physical hazards, in terms of their properties, effects, controls and legal perspectives
5. Evaluate different control strategies for various physical hazards covered in the course
6. Share experiences relevant to the material with other students

Location

This course is delivered in distance learning mode through the Moodle interface. Moodle is accessible via the following link:

<http://telt.unsw.edu.au/>

A range of support information is available through the TELT gateway (see url above), regarding logins and passwords etc.

Learning and Teaching Philosophy

The School of Aviation is committed to excellence in learning and teaching. Accordingly, courses are taught in ways that are intended not only to provide information and skills, but also to engage and challenge students, and to use the experience that our students already have, to enrich the learning experience. The opportunity to practice and develop analytical and critical thinking skills is important in our courses, and this and other course learning outcomes are supported through the multiple teaching modes and assessment practices employed within the School.

Several different methods are used in the course to assist in achieving student learning outcomes. These include the use of case studies and examples from various industries, and the discussion of class members' experiences and reflections on course materials and readings. Exercises are included in the units to allow students to develop, and check their understanding, and to discuss issues with others in the course. Research examples

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are used where appropriate to demonstrate content and build an understanding of scientific literature. This should help students to consult and use scientific literature for other purposes (eg., future courses, work situations). Multiple attempts are allowed at short answer questions before the final due date. This allows students to engage with the material and develop an answer based on careful consideration of the issues, and event to discuss the issues with one another. Readings and other material are provided to assist students to evaluate different perspectives, and to provide background theoretical material.

Integration into Overall Program

The course relates to several other courses offered as part of the MScTech in Aviation Management. This course focuses on human performance issues as they affect the individual and organisations. Courses in the program can be taken in any order, though this course is linked to AVIA9101 Safety Risk Management: Human performance.

Academic Honesty and Plagiarism

Plagiarism is the presentation of the thoughts or work of another as one's own¹.
Examples include:

- direct duplication of the thoughts or work of another, including by copying work, or knowingly permitting it to be copied. This includes copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person's assignment without appropriate acknowledgement;
- paraphrasing another person's work with very minor changes keeping the meaning, form and/or progression of ideas of the original;
- piecing together sections of the work of others into a new whole;
- presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and,

¹ Based on that proposed to the University of Newcastle by the St James Ethics Centre. Used with kind permission from the University of Newcastle.

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- claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed².

Submitting an assessment item that has already been submitted for academic credit elsewhere may also be considered plagiarism. The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does not amount to plagiarism.

Students are reminded of their Rights and Responsibilities in respect of plagiarism, as set out in the University Undergraduate and Postgraduate Handbooks, and are encouraged to seek advice from academic staff whenever necessary to ensure they avoid plagiarism in all its forms. The Learning Centre website is the central University online resource for staff and student information on plagiarism and academic honesty. It can be located at: www.lc.unsw.edu.au/plagiarism

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:

1. correct referencing practices;
2. paraphrasing, summarising, essay writing, and time management;
3. appropriate use of, and attribution for, a range of materials including text, images, formulae and concepts. Individual assistance is available on request from The Learning Centre.

Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources when preparing all assessment items.

Course Schedule

This course is recommended to take 10 hours per week for 12 weeks by distance learning. Students are responsible for managing their own work schedules. Note that the order of units may change slightly to accommodate changes in assessments from year to year. Students will be advised of this through Moodle. Please also note that the

² Adapted with kind permission from the University of Melbourne.

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Postgraduate programs start in Week 2 of session (and thus conclude in Week 13).

Draft course schedule

UNIT	TOPIC
1	Accident theory and investigation
2	Intro to Systems safety and managing safety risks
3	Identifying risks
4	Risk analysis and evaluation
5	Systems safety and managing risks in complex systems
6	Business Continuity planning
7	Emergency response planning
8	Natural hazards and disaster implications for aviation
9	Physical hazards: Noise
10	Physical hazards: equipment and confined spaces
11	Physical hazards: Manual handling and musculoskeletal injury
12	Physical hazards: Chemical hazards

Assessment

A range of assessments are used in the course to ensure student learning. It is expected that students will attempt all components of course assessment in order to pass the course.

Specific details of assessment (ie. Questions, due dates, submission and other instructions) will be outlined separately on Moodle at the commencement of the course. A range of assessments in different forms are included (eg., report, literature analysis, short answer questions).

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DRAFT ASSESSMENT OUTLINE (to be confirmed)

Assessment Title and due date	Assessment type	Weight (% of final grade)
Risk assessment assignment September 7, 11.59pm	Report	40
Literature review October 6, 11.59pm	Essay style	30
Short answer Test October 26, 11.59pm	Short answer quiz/test	30

Resources for students

Required Texts

There are no required texts for this course.

Recommended Texts

Information on a range of readings will be supplied with the course units as necessary. It may be necessary for students to locate the materials at the UNSW library, as they cannot be directly supplied to students for copyright reasons. Instructions on how to do so will be made available on Moodle. Being able to access information at the UNSW library is considered necessary for completing course assignments.

A range of resources will be provided as links on Moodle (eg., UNSW library, library tutorials, relevant library databases etc).

Continual Course Improvement

Periodically, student evaluative feedback on the course is gathered, using among other means, UNSW's Course and Teaching Evaluation and Improvement (CATEI) Process. Student feedback is taken seriously, and continual improvements are made to the

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course based in part on such feedback. Significant changes to the course will be communicated to subsequent cohorts of students taking the course

Graduate Attributes

The following graduate attributes are developed in this course through the requirements of assessments and the nature of exercises provided:

- The skills involved in scholarly enquiry
- The capacity for analytical and critical thinking and for creative problem-solving
- The ability to engage in independent and reflective learning
- Information literacy the skills to appropriately locate, evaluate and use relevant information
- An appreciation and respect for diversity
- The skills of effective communication For more information about UNSW Graduate attributes, see <https://my.unsw.edu.au/student/atoz/GraduateAttributes.html>

Teaching Strategies

Notes are provided in a 12-unit distance learning manual with additional resources supplied via Moodle, further readings and weblinks. Several different methods are used in the course to assist in achieving student learning outcomes. These include the use of case studies and examples from various industries, and the discussion of class members' experiences. Research examples are used where appropriate to demonstrate content and build engagement with the scientific literature. Multiple attempts are allowed at short answer questions before the final due date. This allows students to engage with the material and develop an answer based on careful consideration of the issues, and even to discuss the issues with one another, rather than a rushed time-dominated test. Readings and other material are provided to assist students to evaluate different perspectives, and to provide background theoretical material.

Administrative Matters

Students should be familiar with the information at <https://my.unsw.edu.au> (see the student information tab) regarding expectations of students, assignment submission, examination procedures, equity and diversity, occupational health and safety, and other policies that affect you.

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Student responsibilities and conduct

<https://my.unsw.edu.au/student/resources/Policies.html#StudentResponsibilities&Conduct>

Information Technology

<https://my.unsw.edu.au/student/resources/Policies.html#InformationTechnology>

Assignments: Special consideration

<https://my.unsw.edu.au/student/atoz/SpecialConsideration.html>

Note that ALL requests for extensions should meet criteria for special consideration, and be submitted through the special consideration procedures.

Extensions will not be granted for excessive workloads or to accommodate annual leave. Extensions will not be granted within 24 hours of the due date of an assignment.