



UNSW Course Outline

RISK5003 Risk Decision Analytics - 2024

Published on the 13 May 2024

General Course Information

Course Code : RISK5003

Year : 2024

Term : Term 2

Teaching Period : T2

Is a multi-term course? : No

Faculty : UNSW Business School

Academic Unit : School of Risk and Actuarial Studies

Delivery Mode : In Person

Delivery Format : Standard

Delivery Location : Kensington

Campus : Sydney

Study Level : Postgraduate

Units of Credit : 6

Useful Links

[Handbook Class Timetable](#)

Course Details & Outcomes

Course Description

Risk Decisions provides a systematic, quantitative, and visual approach to addressing and evaluating important choices confronted by decision makers. They enable individuals and organisations to make better decisions by using a variety of Decision Analysis tools.

This course introduces Decision Analysis procedures, techniques, and tools which enable individuals and organisations to make better decisions by assessing all relevant information and evaluating decision outcomes to aid in the decision-making process. It focuses on the application of these structured approaches to develop solutions to decision problems involving uncertainty and multiple objectives. The course covers Decision Analysis tools used to model decisions, uncertainty, and preferences, including Decision Trees, Influence Diagrams, Sensitivity Analysis, Bayesian Networks, and Monte Carlo Simulation. It also covers the Decision Analysis approaches to incorporating risk attitudes in decision making and using Multi-criteria Decision Analysis.

Course Aims

RISK5003 is one of the eight mandatory courses in the Risk Management specialisation offered in the Master of Commerce and Master of Commerce (Extension) programs. It is also a recommended elective in the Master of Actuarial Studies program.

Relationship to Other Courses

RISK5003 is one of the eight specialisation courses in the Risk Management specialisation in the Master of Commerce and Master of Commerce (Extension) programs. It is also a recommended elective in the Master of Actuarial Studies.

The prerequisite for RISK5003 is enrollment in Program 8404 or 8417 or 8411 or 8416.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Identify and apply current knowledge of disciplinary or interdisciplinary theory and profession practice to business in local and global environments.
CLO2 : Identify, research and analyse complex issues and problems in business and/or management, and propose appropriate and well-justified solutions.
CLO3 : Produce written documents that communicate complex ideas and information effectively for the intended audience and purpose.
CLO4 : Produce oral presentations that communicate complex ideas and information in a succinct and clear manner

Course Learning Outcomes	Assessment Item
CLO1 : Identify and apply current knowledge of disciplinary or interdisciplinary theory and profession practice to business in local and global environments.	<ul style="list-style-type: none">• Student presentation• Discussion Forum• Final Exam
CLO2 : Identify, research and analyse complex issues and problems in business and/or management, and propose appropriate and well-justified solutions.	<ul style="list-style-type: none">• Student presentation• Discussion Forum• Final Exam
CLO3 : Produce written documents that communicate complex ideas and information effectively for the intended audience and purpose.	<ul style="list-style-type: none">• Discussion Forum• Final Exam
CLO4 : Produce oral presentations that communicate complex ideas and information in a succinct and clear manner	<ul style="list-style-type: none">• Tutorial Participation and Discussion• Student presentation

Learning and Teaching Technologies

Moodle - Learning Management System | Zoom | Echo 360 | EdStem

Learning and Teaching in this course

The philosophy underpinning this course and its Teaching and Learning Strategies are based on 'Guidelines on Learning that Inform Teaching at UNSW'. Specifically, the lectures, tutorials, and assessments have been designed to appropriately challenge students and support the achievement of the desired learning outcomes.

The broad approach to learning and teaching in the course is to combine institutional knowledge,

theoretical analysis, and practical examples and case studies. With appropriate guidance, students are encouraged to take responsibility for their own learning through a combination of:

- Review of course material, lecture slides, and the lectures/lecture recordings;
- Interactive discussion of issues with the course coordinator;
- Class discussions (face-to-face or via online discussion forums);
- Student presentations;
- Feedback through exercises, class participation, and comments on class discussions.

This approach equips students to be able to develop the necessary analytical and communication skills to assess new problems encountered, rather than rote learning of particular problems, which are unlikely to be met in precisely the same format in practice. The course text plays an important role in this approach. Students will be expected to have reviewed the relevant chapters in advance of the class and be prepared to discuss exercises from the text in class.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates	Program learning outcomes
Tutorial Participation and Discussion Assessment Format: Individual	10%	Start Date: Not Applicable Due Date: Ongoing	• PLO1 : Business Knowledge • PLO3 : Business Communication
Student presentation Assessment Format: Individual	20%	Start Date: Not Applicable Due Date: Various, details will be provided on Moodle	• PLO1 : Business Knowledge • PLO3 : Business Communication
Discussion Forum Assessment Format: Individual	20%	Start Date: Not Applicable Due Date: Ongoing	• PLO1 : Business Knowledge • PLO3 : Business Communication
Final Exam Assessment Format: Individual	50%	Start Date: Not Applicable Due Date: University Exam Period	• PLO1 : Business Knowledge • PLO2 : Problem Solving

Assessment Details

Tutorial Participation and Discussion

Assessment Overview

Various tasks spread across tutorials to encourage discussion.

Course Learning Outcomes

- CLO4 : Produce oral presentations that communicate complex ideas and information in a succinct and clear manner

Detailed Assessment Description

The purpose of the tutorial class is to reinforce and clarify the concepts and issues covered in the lectures, and to provide a forum for further analysis and discussion of these issues. 10% of the course marks are reserved for tutorial participation and discussion. In order to obtain the marks, you must participate in a relevant and constructive way in tutorial activities and discussions. Your tutor is the final judge of the quality of your participation. A record of attendance at tutorials will be kept.

Submission notes

N/A

Assignment submission Turnitin type

Not Applicable

Student presentation

Assessment Overview

Develop students' ability to engage with an audience and discuss a topic in risk decisions.

Course Learning Outcomes

- CLO1 : Identify and apply current knowledge of disciplinary or interdisciplinary theory and profession practice to business in local and global environments.
- CLO2 : Identify, research and analyse complex issues and problems in business and/or management, and propose appropriate and well-justified solutions.
- CLO4 : Produce oral presentations that communicate complex ideas and information in a succinct and clear manner

Detailed Assessment Description

Presentations are intended primarily to develop your ability to engage with an audience and discuss a topic in risk decisions. They will develop your skills in research and your ability to concisely and coherently communicate your ideas. The information about the student presentation will be circulated as a separate document on the course website.

Submission notes

This assessment will be in the form of a presentation.

Assignment submission Turnitin type

Not Applicable

Discussion Forum

Assessment Overview

Reinforce Student learning and help identify the areas for revision focus.

Course Learning Outcomes

- CLO1 : Identify and apply current knowledge of disciplinary or interdisciplinary theory and profession practice to business in local and global environments.
- CLO2 : Identify, research and analyse complex issues and problems in business and/or management, and propose appropriate and well-justified solutions.
- CLO3 : Produce written documents that communicate complex ideas and information effectively for the intended audience and purpose.

Detailed Assessment Description

The course offers discussions to practice the concepts you have learned each week. The discussions will reinforce your learning and help you identify the areas you need to focus on. Please see more information about the discussion questions on the course website.

Submission notes

Details will be provided on Moodle

Assignment submission Turnitin type

Not Applicable

Final Exam

Assessment Overview

Assess understanding of material presented in the course.

Course Learning Outcomes

- CLO1 : Identify and apply current knowledge of disciplinary or interdisciplinary theory and profession practice to business in local and global environments.
- CLO2 : Identify, research and analyse complex issues and problems in business and/or management, and propose appropriate and well-justified solutions.
- CLO3 : Produce written documents that communicate complex ideas and information effectively for the intended audience and purpose.

Detailed Assessment Description

The purpose of the Final Exam is to assess your understanding of all material presented in the course, including lectures and the exercises and questions covered in tutorials. The Final Exam will be held in the University examination period and will be 2 hours in length. The Final Exam will cover the entire course.

Submission notes

Details will be provided later in the term

Assignment submission Turnitin type

Not Applicable

General Assessment Information

As a student at UNSW you are expected to display [academic integrity](#) in your work and interactions. Where a student breaches the [UNSW Student Code](#) with respect to academic integrity, the University may take disciplinary action under the Student Misconduct Procedure. To assure academic integrity, you may be required to demonstrate reasoning, research and the process of constructing work submitted for assessment.

To assist you in understanding what academic integrity means, and how to ensure that you do comply with the UNSW Student Code, it is strongly recommended that you complete the [Working with Academic Integrity](#) module before submitting your first assessment task. It is a free, online self-paced Moodle module that should take about one hour to complete.

Grading Basis

Standard

Requirements to pass course

In order to pass this course students must:

- Achieve a composite mark of at least 50 out of 100
- Engage actively in course learning activities and attempt all assessment requirements
- Meet any additional requirements specified in the assessment details
- Meet the specified attendance requirements of the course

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 27 May - 2 June	Topic	Introduction to Decision Analysis
Week 2 : 3 June - 9 June	Topic	Structuring Decisions
Week 3 : 10 June - 16 June	Topic	Making Choices
Week 4 : 17 June - 23 June	Topic	Sensitivity Analysis
Week 5 : 24 June - 30 June	Topic	Probability Basics
Week 6 : 1 July - 7 July	Topic	No Lecture, No Tutorial
Week 7 : 8 July - 14 July	Topic	Subjective Probability
Week 8 : 15 July - 21 July	Topic	Monte Carlo Simulation
Week 9 : 22 July - 28 July	Topic	Risk Attitudes
Week 10 : 29 July - 4 August	Topic	Conflicting Objectives, Review

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

Course Resources

Prescribed Resources

The course website may be found among your other courses from the UNSW TELT platform. The website includes: all course handouts; lecture slides; designated readings; and the tutorial program. To access the course website online support site for students, follow the links from that website to UNSW Moodle Support/Support for Students. Additional technical support can be obtained from itservicecentre@unsw.edu.au (02 9385 1333).

It is important that you visit the course website regularly to see any notices and documents posted there, as it will be assumed that they are known to you within a reasonable time.

Required textbook:

- Making Hard Decisions with Decision Tools Authors: Clemen Robert T. & Reilly Terence Publisher: Cengage Learning Australia Edition: 2013 (3rd edition)

Course Evaluation and Development

Feedback is regularly sought from students and continual improvements are made based on this feedback. At the end of this course, you will be asked to complete the [myExperience survey](#), which provides a key source of student evaluative feedback. Your input into this quality enhancement process is extremely valuable in assisting us to meet the needs of our students and provide an effective and enriching learning experience. The results of all surveys are carefully considered and do lead to action towards enhancing educational quality.

Each year feedback is sought from students and other stakeholders about the courses offered in the School and continual improvements are made based on this feedback. UNSW's [myExperience survey](#) is one of the ways in which student evaluative feedback is gathered. In this course, we will seek your feedback through end-of-term myExperience responses, as well as voluntary weekly student feedback surveys. You are strongly encouraged to take part in the feedback process.

We take student feedback and evaluations very seriously and respond to comments and suggestions made by students in the current and future course design and assessments.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Patrick Wong				TBC	Yes	Yes
Lecturer	James Basm an				TBC	No	No

Other Useful Information

Academic Information

COURSE POLICIES AND SUPPORT

The Business School expects that you are familiar with the contents of this course outline and the UNSW and Business School learning expectations, rules, policies and support services as listed below:

- Program Learning Outcomes
- Academic Integrity and Plagiarism
- Student Responsibilities and Conduct
- Special Consideration
- Protocol for Viewing Final Exam Scripts
- Student Learning Support Services

Further information is provided on the [key policies and support page](#).

Students may not circulate or post online any course materials such as handouts, exams, syllabi or similar resources from their courses without the written permission of their instructor.

STUDENT LEARNING OUTCOMES

The Course Learning Outcomes (CLOs) – under the Outcomes tab – are what you should be able to demonstrate by the end of this course, if you participate fully in learning activities and successfully complete the assessment items.

CLOs also contribute to your achievement of the Program Learning Outcomes (PLOs), which are developed across the duration of a program. PLOs are, in turn, directly linked to [UNSW graduate capabilities](#). More information on Coursework PLOs is available on the [key policies and support page](#). For PG Research PLOs, including MPDBS, please refer to the [UNSW HDR Learning Outcomes](#).

Academic Honesty and Plagiarism

As a student at UNSW you are expected to display [academic integrity](#) in your work and interactions. Where a student breaches the [UNSW Student Code](#) with respect to academic integrity, the University may take disciplinary action under the Student Misconduct Procedure. To assure academic integrity, you may be required to demonstrate reasoning, research and the

process of constructing work submitted for assessment.

To assist you in understanding what academic integrity means, and how to ensure that you do comply with the UNSW Student Code, it is strongly recommended that you complete the [Working with Academic Integrity](#) module before submitting your first assessment task. It is a free, online self-paced Moodle module that should take about one hour to complete.

Submission of Assessment Tasks

SPECIAL CONSIDERATION

You can apply for special consideration when illness or other circumstances beyond your control interfere with your performance in a specific assessment task or tasks, including online exams. Students studying remotely who have exams scheduled between 10pm and 7am local time, are also able to apply for special consideration to sit a supplementary exam at a time outside of these hours.

Special consideration is primarily intended to provide you with an extra opportunity to demonstrate the level of performance of which you are capable. To apply, and for further information, see Special Consideration on the UNSW [Current Students](#) page.

Special consideration applications will be assessed centrally by the Case Review Team, who will update the online application with the outcome and add any relevant comments. The change to the status of the application immediately sends an email to the student and to the assessor with the outcome of the application.

Please note the following:

1. Applications can only be made through Online Services in myUNSW (see the UNSW [Current Students](#) page). Applications will not be accepted by teaching staff. The lecturer-in-charge/ course coordinator will be automatically notified when your application is processed.
2. Applying for special consideration does not automatically mean that you will be granted a supplementary exam or other concession.
3. If you experience illness or misadventure in the lead up to an exam or assessment, you must submit an application for special consideration, either prior to the examination taking place, or prior to the assessment submission deadline, except where illness or misadventure prevent you from doing so.
4. If your circumstances stop you from applying before your exam or assessment due date, you must apply within 3 working days of the assessment or the period covered by your supporting documentation.

5. Under the UNSW Fit To Sit/Submit rule, if you sit the exam/submit an assignment, you are declaring yourself well enough to do so and are cannot subsequently apply for special consideration.
6. If you become unwell on the day of – or during – an exam, you must stop working on your exam, advise your course coordinator or tutor and provide a medical certificate dated within 24 hours of the exam, with your special consideration application. For online exams, you must contact your course coordinator or tutor immediately via email, Moodle or chat and advise them you are unwell and submit screenshots of your conversation along with your medical certificate and application.
7. Special consideration requests do not allow the awarding of additional marks to students.

Further information on Business School policy and procedure can be found under “Special Consideration” on the [key policies and support](#) page.

LATE SUBMISSION PENALTIES

For assessments other than examinations, late submission will incur a penalty of 5% per day or part thereof (including weekends) from the due date and time. An assessment will not be accepted after 5 days (120 hours) of the original deadline unless special consideration has been approved. An assignment is considered late if the requested format, such as hard copy or electronic copy, has not been submitted on time or where the ‘wrong’ assignment has been submitted.

For assessments which account for 10% or less of the overall course grade, and where answers are immediately discussed or debriefed, the LIC may stipulate a different penalty. Details of such late penalties will be available on the course Moodle page.

FEEDBACK ON YOUR ASSESSMENT TASK PERFORMANCE

Feedback on student performance from formative and summative assessment tasks will be provided to students in a timely manner. Assessment tasks completed within the teaching period of a course, other than a final assessment, will be assessed and students provided with feedback, with or without a provisional result, within 10 working days of submission, under normal circumstances. Feedback on continuous assessment tasks (e.g. laboratory and studio-based, workplace-based, weekly quizzes) will be provided prior to the midpoint of the course.

Faculty-specific Information

PROTOCOL FOR VIEWING FINAL EXAM SCRIPTS

UNSW students have the right to view their final exam scripts, subject to a small number of very specific exemptions. The UNSW Business School has set a [protocol](#) under which students may view their final exam script. Individual schools within the Faculty may also set up additional local processes for viewing final exam scripts, so it is important that you check with your School.

If you are completing courses from the following schools, please note the additional school-specific information:

- Students in the **School of Accounting, Auditing & Taxation** who wish to view their final examination script should also refer to [this page](#).
- Students in the **School of Banking & Finance** should also refer to [this page](#).
- Students in the **School of Information Systems & Technology Management** should also refer to [this page](#).

COURSE EVALUATION AND DEVELOPMENT

Feedback is regularly sought from students and continual improvements are made based on this feedback. At the end of this course, you will be asked to complete the [myExperience survey](#), which provides a key source of student evaluative feedback. Your input into this quality enhancement process is extremely valuable in assisting us to meet the needs of our students and provide an effective and enriching learning experience. The results of all surveys are carefully considered and do lead to action towards enhancing educational quality.

QUALITY ASSURANCE

The Business School is actively monitoring student learning and quality of the student experience in all its programs. A random selection of completed assessment tasks may be used for quality assurance, such as to determine the extent to which program learning goals are being achieved. The information is required for accreditation purposes, and aggregated findings will be used to inform changes aimed at improving the quality of Business School programs. All material used for such processes will be treated as confidential.

TEACHING TIMES AND LOCATIONS

Please note that teaching times and locations are subject to change. Students are strongly advised to refer to the [Class Timetable website](#) for the most up-to-date teaching times and locations.