



## UNSW Course Outline

# ZZCA6510 Decision Making in Analytics - 2024

Published on the 18 Jun 2024

## General Course Information

Course Code : ZZCA6510

Year : 2024

Term : Hexamester 4

Teaching Period : KN

Is a multi-term course? : No

Faculty : UNSW Canberra

Academic Unit : Canberra School of Professional Studies

Delivery Mode : Online

Delivery Format : Standard

Delivery Location : UNSW Canberra City

Campus : Canberra City

Study Level : Postgraduate

Units of Credit : 6

### Useful Links

[Handbook Class Timetable](#)

## Course Details & Outcomes

### Course Description

Businesses deal with an ever-increasing array of data, in terms of volume and sources. This presents businesses with opportunities to harness insights from this data to support decision making. This course will introduce students to a range of decision-making techniques in data

analytics.

Students will be shown how to design and implement application systems to support decision making in organisational contexts. The course will also cover a number of modelling approaches (optimisation, predictive, descriptive) and their integration in the context of enabling improved data-driven decision making. Students will be expected to be able to calculate and manipulate data as well as interpret the results in order to derive and evaluate alternative solutions to typical organisational problems.

## **Course Aims**

This course provides students with a strong understanding of decision making in data analytics. Students will be shown how to design and implement application systems to support decision making in organisational contexts. The course will also cover a number of modelling approaches (optimisation, predictive, descriptive) and their integration in the context of enabling improved data-driven decision making. Students will be expected to be able to calculate and manipulate data as well as interpret the results in order to derive and evaluate alternative solutions to typical organisational problems.

# Course Learning Outcomes

Course Learning Outcomes
CL01 : Identify and describe complex analytical problems in a variety of contexts.
CL02 : Apply analytical tools and established theories in the decision-making process.
CL03 : Analyse critically, reflect on and synthesise complex information, problems, concepts and theories of analytical tools.
CL04 : Use spreadsheet modelling to support advanced decision making in real-life contexts.

Course Learning Outcomes	Assessment Item
CL01 : Identify and describe complex analytical problems in a variety of contexts.	<ul style="list-style-type: none"><li>• Weekly Problems</li><li>• Decision Analysis</li><li>• Prescriptive Decision Analytics</li></ul>
CL02 : Apply analytical tools and established theories in the decision-making process.	<ul style="list-style-type: none"><li>• Weekly Problems</li><li>• Decision Analysis</li><li>• Prescriptive Decision Analytics</li></ul>
CL03 : Analyse critically, reflect on and synthesise complex information, problems, concepts and theories of analytical tools.	<ul style="list-style-type: none"><li>• Weekly Problems</li><li>• Decision Analysis</li><li>• Prescriptive Decision Analytics</li></ul>
CL04 : Use spreadsheet modelling to support advanced decision making in real-life contexts.	<ul style="list-style-type: none"><li>• Weekly Problems</li><li>• Decision Analysis</li><li>• Prescriptive Decision Analytics</li></ul>

## Learning and Teaching Technologies

Moodle - Learning Management System | Blackboard Collaborate

## Learning and Teaching in this course

The course contains a variety of resources and activities that are carefully designed to enhance your learning.

Some activities require you to work and think alone, by reading some text, listening to a recording or watching a video. You might be asked to engage with the material and explore interactive elements by clicking to reveal content, to help you better absorb and process the concepts. Some activities require you to produce work of your own. You might be answering a question, writing code to solve a problem, or posting to a forum, for example. Some activities are assessment tasks, which have been carefully designed to measure how well you have achieved the learning outcomes of the course. Typically, you will get feedback on your work, either from

yourself (by checking your work with models that are provided), from an automatic marking process, from your peers, or your teacher.

You also have access to a variety of ways to communicate with your peers and with the teaching staff. The general discussion forums are a place for you to ask and answer questions, interact with your peers, and be challenged by your teachers. Getting involved in these forums will enhance your learning experience and make it more enjoyable. Your course may include Webinars, which provide an opportunity to hear directly from your Online Lecturers and ask questions in real-time. All webinars are recorded so you can access them at any time. Online Lecturers are available for consultations and will post information about how to access consultations on the course website. You can also contact your Online Lecturer by email using the email address in the teaching staff section of this outline.

It is up to you how much work you do. The more time and effort that you can dedicate to the course, the better your learning and your results.

## Assessments

### Assessment Structure

Assessment Item	Weight	Relevant Dates
Weekly Problems Assessment Format: Individual	30%	Start Date: Not Applicable Due Date: Monday of Weeks 2, 3, 4 and 6 by 5pm Sydney time
Decision Analysis Assessment Format: Individual	30%	Start Date: Not Applicable Due Date: Sunday of Week 4 by 5pm Sydney time
Prescriptive Decision Analytics Assessment Format: Individual	40%	Start Date: Not Applicable Due Date: Tuesday of Week 7 by 5pm Sydney time

## Assessment Details

### Weekly Problems

#### Assessment Overview

Students will solve weekly problems by calculating and showing worked solutions.

#### Course Learning Outcomes

- CL01 : Identify and describe complex analytical problems in a variety of contexts.
- CL02 : Apply analytical tools and established theories in the decision-making process.
- CL03 : Analyse critically, reflect on and synthesise complex information, problems, concepts

and theories of analytical tools.

- CL04 : Use spreadsheet modelling to support advanced decision making in real-life contexts.

#### Assessment Length

15 hours total

## Decision Analysis

#### Assessment Overview

This assignment has two components relating to weeks 1-3. The first component is designed to demonstrate your knowledge of the basic **quantitative decision-making tools and techniques**. The second component is designed to demonstrate your critical thinking and advanced learning to tackle real-world scenarios.

#### Course Learning Outcomes

- CL01 : Identify and describe complex analytical problems in a variety of contexts.
- CL02 : Apply analytical tools and established theories in the decision-making process.
- CL03 : Analyse critically, reflect on and synthesise complex information, problems, concepts and theories of analytical tools.
- CL04 : Use spreadsheet modelling to support advanced decision making in real-life contexts.

#### Assessment Length

3000 words

## Prescriptive Decision Analytics

#### Assessment Overview

This assignment has two components relating to weeks 4-6. The first component is designed to demonstrate your knowledge of the basic **prescriptive decision-making tools and techniques**. The second component is designed to demonstrate your critical thinking and advanced learning to tackle real-world scenarios.

#### Course Learning Outcomes

- CL01 : Identify and describe complex analytical problems in a variety of contexts.
- CL02 : Apply analytical tools and established theories in the decision-making process.
- CL03 : Analyse critically, reflect on and synthesise complex information, problems, concepts and theories of analytical tools.
- CL04 : Use spreadsheet modelling to support advanced decision making in real-life contexts.

#### Assessment Length

4000 words

# General Assessment Information

## Generative AI Statement:

UNSW accepts the potential of these tools and is excited to explore ways to use Generative AI (GenAI) to enrich your learning experience while maintaining the integrity of our programs and, therefore, of your degrees. We expect that, as we learn about how best to do this, our policies will adapt. For advice and guidance on how to use GenAI please see the Generative AI Statement in Moodle, or refer to the Universities resources: [Chat GPT & Generative AI at UNSW | UNSW Current Students](#).

There are three key principles across the university:

1. Always do what you are asked to do in the assessment; if you don't follow the instructions, you can't get marks.
2. If you are asked to do your own work, then that is what you should do, as we want to see that *you* have undertaken that learning rather than someone or something else.
3. When you incorporate ideas that are not your own, you should always acknowledge them. That applies in the world of AI, just as it did before.

In this course, the permitted level of GenAI use is '*Drafting Assistance*'.

## What is Drafting Assistance?

As this course's assessment tasks involve some planning or creative processes, you are permitted to use software to generate initial drafts, ideas, structures, etc. However, you must develop or edit those ideas to such a significant extent that what is submitted is your own work, i.e., what is generated by the software should not be a part of your final submission. It is a good idea to keep copies of your initial drafts to show your lecturer if there is any uncertainty about the originality of your work.

Please note that your submission will be passed through an AI-text detection tool. If your marker has concerns that your answer contains passages of AI-generated text that have not been sufficiently modified, you may be asked to explain your work, but we recognise that you are permitted to use AI-generated text as a starting point, and some traces may remain. If you are unable to satisfactorily demonstrate your understanding of your submission, you may be referred to the UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties.

## Assessment Tolerances:

Assessment submissions have a tolerance of +/- 10% for length, meaning your submission length can go over or under the word or time limit by 10%. For example:

- A written assessment that has a 1,000-word limit can be between 900 and 1,100 words without penalty.
- An audio or video assessment that has a 10-minute time limit can be between 9 and 11 minutes without penalty.

## Grading Basis

Standard

## Requirements to pass course

In order to pass the course you must achieve an overall mark of at least 50%.

# Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 1 July - 7 July	Online Activity	Introduction to decision making in analytics
Week 2 : 8 July - 14 July	Online Activity	Decision analytics
Week 3 : 15 July - 21 July	Online Activity	Quantitative decision analytics
Week 4 : 22 July - 28 July	Online Activity	Prescriptive analytics Part 1
Week 5 : 29 July - 4 August	Online Activity	Prescriptive analytics Part 2
Week 6 : 5 August - 11 August	Online Activity	Simulation analytics

## Attendance Requirements

Not Applicable - as no class attendance is required

# Course Resources

## Course Evaluation and Development

Toward the end of the hexamester you will be asked to give feedback about the course, via UNSW's MyExperience survey. Your feedback will be used, along with feedback from other stakeholders, to help improve the course. You can also contact your Course Convenor any time you have suggestions or other feedback.

# Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Jesse Laeuchli					Yes	Yes
Facilitator	Jackson Yuen					No	No