



# COMP2200

## Data Science

Session 1, In person-scheduled-weekday, North Ryde 2025

*School of Computing*

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## General Information

### Unit convenor and teaching staff

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Lecturer

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Convener, Lecturer

Benjamin Pope

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### Credit points

10

### Prerequisites

(COMP1000 or COMP1010 or FOSE1030) and (STAT1170 or STAT1371 or STAT1250)

### Corequisites

### Co-badged status

### Unit description

This unit introduces students to the fundamental techniques and tools of data science, such as the graphical display of data, predictive models, evaluation methodologies, regression, classification and clustering. The unit provides practical experience applying these methods using industry-standard software tools to real-world data sets. Students who have completed this unit will be able to identify which data science methods are most appropriate for a real-world data set, apply these methods to the data set, and interpret the results of the analysis they have performed.

Learning in this unit enhances student understanding of global challenges identified by the United Nations Sustainable Development Goals ([UNSDGs](#)) Industry, Innovation and Infrastructure

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

**ULO1:** Identify the appropriate Data Science analysis for a problem and apply that method to the problem.

**ULO2:** Interpret Data Science analyses and summarise and identify the most important aspects of a Data Science analysis.

**ULO3:** Present the results of their Data Science analyses both verbally and in written form.

**ULO4:** Discuss the broader implications of Data Science analyses.

## General Assessment Information

### Release Dates

- Assignment 1: To be released no later than 25<sup>th</sup> March.
- Assignment 2: To be released no later than 15<sup>th</sup> May.
- Critical Analysis Task: To be released no later than 22<sup>th</sup> May.

### Requirements to Pass this Unit

To pass this unit you must:

1. Achieve a total mark equal to or greater than 50%, and,
2. Complete at least any 8 out of 12 practical workshops.

### Late Assessment Submission Penalty

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark of the task) will be applied for each day a written report or presentation assessment is not submitted, up until the 7<sup>th</sup> day (including weekends). After the 7<sup>th</sup> day, a grade of '0' will be awarded even if the assessment is submitted. The submission time for all uploaded assessments is **11:55 pm**. A 1-hour grace period will be provided to students who experience a technical concern. For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for [Special Consideration](#). For example, if the assignment is worth 8 marks (of the entire unit) and your submission is late by 19 hours (or 23 hours 59 minutes 59 seconds), 0.4 marks (5% of 8 marks) will be deducted. If your submission is late by 24 hours (or 47 hours 59 minutes 59 seconds), 0.8 marks (10% of 8 marks) will be deducted, and so on.

### Assessments where Late Submissions will be accepted

- Weekly workshop - YES, Standard Late Penalty applies
- Assignment 1 - YES, Standard Late Penalty applies

- Assignment 2 - YES, Standard Late Penalty applies
- Critical Analysis- YES, Standard Late Penalty applies

## Hurdle Assessments

### Weekly Practice-based task (10%)

Development of knowledge and skills requires continual practice at authentic problems in a laboratory-based setting. This unit has weekly laboratory classes and you must demonstrate your progress in developing and communicating knowledge and skills in a minimum of 8 of the 12 classes. This is a hurdle assessment meaning that failure to meet this requirement may result in a **fail** grade for the unit. Students are permitted up to four absences: **additional absences will require approval of Special Consideration** (see below)

## Special Consideration

The [Special Consideration Policy](#) aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive, and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please inform the convenor and submit a Special Consideration request through <http://connect.mq.edu.au/>.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Weekly tasks</a>	10%	Yes	11:55 pm on Sunday of each week
<a href="#">Assignment 2</a>	15%	No	11:55 pm on Sunday ending week 12
<a href="#">Critical Analysis Task</a>	20%	No	11:55 pm on Sunday ending week 13
<a href="#">Examinations</a>	40%	No	Exam Period
<a href="#">Assignment 1</a>	15%	No	11:55 pm on Sunday ending week 6

## Weekly tasks

Assessment Type <sup>1</sup>: Practice-based task

Indicative Time on Task <sup>2</sup>: 0 hours

Due: **11:55 pm on Sunday of each week**

Weighting: **10%**

**This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)**

Development of knowledge and skills requires continual practice at authentic problems. During weekly workshops you will practice a range of tasks recording your progress on worksheets. To

pass this hurdle assessment, you must be able to demonstrate your progress in developing and communicating knowledge and skills in a minimum of 8 of the 12 weekly workshops.

On successful completion you will be able to:

- Present the results of their Data Science analyses both verbally and in written form.

## Assignment 2

Assessment Type <sup>1</sup>: Project

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **11:55 pm on Sunday ending week 12**

Weighting: **15%**

This assessment will consist of a number of data analysis problems that will involve writing code to analyse one or more data sets.

On successful completion you will be able to:

- Identify the appropriate Data Science analysis for a problem and apply that method to the problem.
- Interpret Data Science analyses and summarise and identify the most important aspects of a Data Science analysis.
- Present the results of their Data Science analyses both verbally and in written form.

## Critical Analysis Task

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **11:55 pm on Sunday ending week 13**

Weighting: **20%**

You will be given a sample notebook describing the analysis of a dataset. You will provide a critical analysis of this notebook and suggest improvements in the way that data is analysed and results are presented.

On successful completion you will be able to:

- Identify the appropriate Data Science analysis for a problem and apply that method to the problem.

- Interpret Data Science analyses and summarise and identify the most important aspects of a Data Science analysis.
- Present the results of their Data Science analyses both verbally and in written form.
- Discuss the broader implications of Data Science analyses.

## Examinations

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 10 hours

Due: **Exam Period**

Weighting: **40%**

Examinations will assess your knowledge and understanding of the data analysis and machine learning methods covered in the semester.

On successful completion you will be able to:

- Interpret Data Science analyses and summarise and identify the most important aspects of a Data Science analysis.
- Discuss the broader implications of Data Science analyses.

## Assignment 1

Assessment Type <sup>1</sup>: Programming Task

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **11:55 pm on Sunday ending week 6**

Weighting: **15%**

This assessment focuses on fundamental statistical analysis, which will apply linear and logistic regression techniques on one or more data sets.

On successful completion you will be able to:

- Identify the appropriate Data Science analysis for a problem and apply that method to the problem.
- Interpret Data Science analyses and summarise and identify the most important aspects of a Data Science analysis.
- Present the results of their Data Science analyses both verbally and in written form.

<sup>1</sup> If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

<sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

## Delivery and Resources

Lecture and practical workshop will commence since Week 1

## Methods of Communication

We will communicate with you via your university email and through announcements on iLearn. Queries to convenors can either be placed on the iLearn discussion board or sent to the unit convenor via the contact email on iLearn.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies \(https://students.mq.edu.au/support/study/policies\)](https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au) and use the [search tool](#).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/student-conduct>

## Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released

directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [connect.mq.edu.au](http://connect.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Academic Success

[Academic Success](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Workshops](#)
- [Chat with a WriteWISE peer writing leader](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## Student Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)
- [Student Advocacy](#) provides independent advice on MQ policies, procedures, and



processes

## Student Enquiries

Got a question? Ask us via the [Service Connect Portal](#), or contact [Service Connect](#).

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

## Changes from Previous Offering

We value student feedback to be able to continually improve the way we offer our units. Compared with the last offering, the assessment structure has been significantly revised. The number of programming based projects is reduced from 4 to 2. The reflective report and presentation task has been removed. The mid exam has been merged with the final exam. The lecture content has been revised to include statistical knowledge and the latest machine learning techniques.

## Changes since First Published

Date	Description
12/02/2025	The teaching staff team is updated

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Unit information based on version 2025.04 of the [Handbook](#)