



BUSA8090

Data and Visualisation for Business

Session 2, In person-scheduled-weekday, North Ryde 2026

Department of Actuarial Studies and Business Analytics

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General Information

Unit convenor and teaching staff

Lin Yue

lin.yue@mq.edu.au

Credit points

10

Prerequisites

BUSA8000 or BUSA8001 or (Admission to MActPrac or MAppStat or MBusAnalytics or GradCertResMQBS or GradDipResMQBS)

Corequisites

Co-badged status

BUSA7090

Unit description

This unit focuses on the business perspective of data and visualisation, which is complementary but different from the data science and IT perspectives. In contemporary business environments, data visualisation (DV) has evolved beyond static graphs and charts (visual outputs) and is now used for visual data exploration by business decision makers. These non-technical business professionals are using visualisation software tools as 'thinking tools' to explore their problem space, find solutions, explore new opportunities, ask new questions, and innovate business processes and services. In this unit, students will learn about a more effective use of data for business decision making through better data management, improved data quality and data visualisation, including visual data exploration. Students will develop skills necessary to model data, design and implement relational databases, collect, store, and analyse data using SQL, all while using commercial relational database management software. Students will also learn to design and implement data visualisations and visual data exploration environments for business decision makers, using state-of-the art DV tools. Along the way, students will practice ethical and responsible data management and will acquire skills in visual ethics and visual storytelling.

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: Devise programming language code for data analytics and visualisation using a variety of computer tools.

ULO2: Formulate SQL language approaches to relational database problems.

ULO3: Assemble statistical learning techniques to tackle data science problems.

ULO4: Examine and employ a variety of data visualisation techniques.

ULO5: Evaluate various popular data visualisation solutions.

General Assessment Information

Late Submission Penalties:

- If you submit your assessment late, 5% of the total possible marks will be deducted for each day (including weekends), up to 7 days.
- Submissions more than 7 days late will receive a mark of 0.

Example 1 (out of 100): If you score 85/100 but submit 20 hours late, you will lose 5 marks and receive 80/100.

Example 2 (out of 30): If you score 27/30 but submit 20 hours late, you will lose 1.5 marks and receive 25.5/30.

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Professional practice: Modelling task	30%	No	02/10/2026	Individual	Yes	Open AI
Professional practice: Data analysis and visualisation	30%	No	06/11/2026	Individual	Yes	Open AI
Formal examination	40%	No	Exam Period	Individual	No	Observed

Professional practice: Modelling task

Assessment Type ¹: Professional task

Indicative Time on Task ²: 20 hours

Due: **02/10/2026**

Weighting: **30%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open AI

The purpose of this assessment is for you to demonstrate your ability to design and implement a

relational database and apply SQL skills to solve real-world business problems.

You will create a database for a fitness centre and develop a business analytics report using SQL queries to address both operational and strategic challenges.

Skills in focus:

- Digital skills
- Critical thinking and problem solving
- Work readiness
- Discipline knowledge

Deliverable(s): Practical coding assignment

Individual assessment

On successful completion you will be able to:

- Devise programming language code for data analytics and visualisation using a variety of computer tools.
- Assemble statistical learning techniques to tackle data science problems.
- Examine and employ a variety of data visualisation techniques.
- Evaluate various popular data visualisation solutions.

Professional practice: Data analysis and visualisation

Assessment Type ¹: Professional task

Indicative Time on Task ²: 20 hours

Due: **06/11/2026**

Weighting: **30%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open AI

The purpose of this assessment is for you to demonstrate your ability to analyse data and develop predictive visualisations to support business decision making.

You will work with a dataset and create five predictive visualisations using either R or Tableau, aimed at addressing key strategic insights.

Skills in focus:

- Digital skills
- Critical thinking and problem solving

- Work readiness
- Discipline knowledge

Deliverable(s): Data visualisation report

Individual assessment

On successful completion you will be able to:

- Devise programming language code for data analytics and visualisation using a variety of computer tools.
- Formulate SQL language approaches to relational database problems.

Formal examination

Assessment Type ¹: Examination

Indicative Time on Task ²: 20 hours

Due: **Exam Period**

Weighting: **40%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

The purpose of this assessment is for you to formally demonstrate the expertise you have gained in this unit.

You will participate in a 2-hour exam held during the University Examination period. Important information about the exam will be made available on the unit iLearn page. You should also review the [MQ Exams website](#) for general tips.

Deliverable(s): Formal exam

Individual assessment

On successful completion you will be able to:

- Devise programming language code for data analytics and visualisation using a variety of computer tools.
- Assemble statistical learning techniques to tackle data science problems.
- Examine and employ a variety of data visualisation techniques.
- Evaluate various popular data visualisation solutions.

¹ 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

- [Academic Success](#) for academic skills support.

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

³ An automatic short extension is available for some assessments. Apply through the [Service Connect Portal](#).

Delivery and Resources

The information will be provided on iLearn

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#) (<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>). 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>) 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](#) or if you are a Global MBA student contact 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.

- [Ask a Study Coach](#)
- [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 <https://students.mq.edu.au/support/technology/service-desk>.

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.

Unit information based on version 2026.04 of the [Handbook](#)