



BUSA3022

Managing Analytics and Algorithmic Systems

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

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Credit points

10

Prerequisites

130 credit points at 1000 level or above

Corequisites

Co-badged status

Unit description

This unit focuses on the responsible strategic and operational management of analytics, algorithmic, and artificial intelligence systems within organizations and their broader impact on society. It aims to equip students with the skills to oversee analytics and AI projects, examine their productive and counterproductive effects, implement data-driven decision-making processes, and understand the ethical implications of data use. Students will explore the integration of analytics into business strategies, the responsible management of data projects, the assessment of organizational and societal tensions, and the societal impact of analytics and algorithmic systems. It helps students to examine and understand the role of these systems through case studies, practical projects, and discussions. Students will develop a holistic understanding of the role of analytics and algorithmic systems in creating value and driving positive outcomes for organizations and broader societal contexts.

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: Analyze and articulate how analytics and algorithmic systems can be integrated into organizational strategies to drive business value.

ULO2: Demonstrate proficiency in managing analytics and algorithmic systems projects in groups, including planning, execution, and evaluation.

ULO3: Effectively communicate insights and strategies to various stakeholders, including

non-technical audiences.

ULO4: Evaluate and implement data governance frameworks to ensure data quality, privacy, and security.

ULO5: Critically assess the ethical implications of data collection, analysis, and usage in business and societal contexts.

ULO6: Examine the broader societal impacts of analytics, including issues related to bias, transparency, and accountability

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Professional practice: Analytics case study and evaluation	40%	No	06/ 09/ 2026	Individual	Yes	Open AI
Professional practice: Analytics implementation plan and portfolio	40%	No	25/ 10/ 2026	Individual and Group	No	Open AI
Skills development: Ethical reflection on analytics and algorithmic systems	20%	No	01/ 11/ 2026	Individual	Yes	Open AI

Professional practice: Analytics case study and evaluation

Assessment Type ¹: Professional task

Indicative Time on Task ²: 35 hours

Due: **06/09/2026**

Weighting: **40%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open AI

The purpose of this assessment is for you to demonstrate your ability to critically evaluate how analytics and algorithmic systems are used to solve real-world business problems.

You will analyse a real-world case study where analytics and algorithmic decision-making were implemented. You will assess the effectiveness of the solution, identify any ethical and governance considerations (such as privacy, fairness, and accountability), and propose evidence-based alternative strategies or improvements

Skills in focus:

- Critical thinking and problem solving
- Communication skills
- Discipline knowledge
- Global, ethical and environmental citizenship

Deliverable(s): Individual written case study analysis [2500 words (+/- 10%)]

Individual assessment

On successful completion you will be able to:

- Analyze and articulate how analytics and algorithmic systems can be integrated into organizational strategies to drive business value.
- Demonstrate proficiency in managing analytics and algorithmic systems projects in groups, including planning, execution, and evaluation.
- Effectively communicate insights and strategies to various stakeholders, including non-technical audiences.
- Critically assess the ethical implications of data collection, analysis, and usage in business and societal contexts.

Professional practice: Analytics implementation plan and portfolio

Assessment Type ¹: Professional task

Indicative Time on Task ²: 35 hours

Due: **25/10/2026**

Weighting: **40%**

Groupwork/Individual: Individual and Group

Short extension ³: No

AI Approach: Open AI

The purpose of this assessment is for you to demonstrate your ability to design a professional analytics and algorithmic systems implementation plan for an organisation.

You will develop a comprehensive implementation plan for a real or hypothetical organisation. This will include defining the project scope, specifying a data management strategy, outlining a governance framework, addressing ethical and regulatory considerations, and designing a stakeholder communication plan. You will compile these components into a cohesive portfolio that showcases your team's approach.

Skills in focus:

- Collaboration and communication
- Digital skills
- Work readiness
- Discipline knowledge

Deliverable(s): Group analytics implementation plan and portfolio [4000 words (+/- 10%)]

Individual and group assessment

On successful completion you will be able to:

- Analyze and articulate how analytics and algorithmic systems can be integrated into organizational strategies to drive business value.
- Demonstrate proficiency in managing analytics and algorithmic systems projects in groups, including planning, execution, and evaluation.
- Effectively communicate insights and strategies to various stakeholders, including non-technical audiences.
- Evaluate and implement data governance frameworks to ensure data quality, privacy, and security.
- Critically assess the ethical implications of data collection, analysis, and usage in business and societal contexts.

Skills development: Ethical reflection on analytics and algorithmic systems

Assessment Type ¹: Reflection task

Indicative Time on Task ²: 15 hours

Due: **01/11/2026**

Weighting: **20%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open AI

The purpose of this assessment is for you to deepen your understanding of the ethical implications of analytics and algorithmic technologies for individuals, organisations, and society.

You will write a reflective essay on a specific analytics or algorithmic technology or application, exploring how it impacts people and communities. You will consider issues such as privacy, fairness, accountability, and transparency, and reflect on your own responsibilities as a future professional working with data and algorithmic systems.

Skills in focus:

- Global, ethical and environmental citizenship
- Critical thinking and problem solving
- Communication skills
- Discipline knowledge

Deliverable(s): Individual reflective essay [1500 words (+/- 10%)]

Individual assessment

On successful completion you will be able to:

- Analyze and articulate how analytics and algorithmic systems can be integrated into organizational strategies to drive business value.
- Demonstrate proficiency in managing analytics and algorithmic systems projects in groups, including planning, execution, and evaluation.
- Critically assess the ethical implications of data collection, analysis, and usage in business and societal contexts.
- Examine the broader societal impacts of analytics, including issues related to bias, transparency, and accountability

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

Please refer to 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 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 2026.03 of the [Handbook](#)