



BUSA6004

Introduction to Inference, Modelling and Forecasting

Session 1, In person-scheduled-weekday, North Ryde 2024

Department of Actuarial Studies and Business Analytics

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General Information

Unit convenor and teaching staff

Lecturer - academic questions

Hanlin Shang

hanlin.shang@mq.edu.au

Contact via Email

4ER 737

Please see iLearn

Unit Convenor - administrative questions

Prashan Karunaratne

prashan.karunaratne@mq.edu.au

Contact via Email

4ER 736

By appointment

Tutor - first point of contact

Your Tutor

[Please see iLearn](#)

Contact via During tutorials and Email

Please see iLearn

Credit points

10

Prerequisites

Admission to MMgmt or MBusAnalytics or MCom or MIT

Corequisites

Co-badged status

Unit description

This unit provides the quantitative/statistical research tools, data analysis and computer modelling necessary to assist managers with strategic planning, tactical decision-making, and resolving business problems. Students will develop research skills to solve problems.

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 and describe models of managing data.

ULO2: Use quantitative research tools to assess the implications of strategic decisions from a whole of entity perspective and across a range of stakeholders.

ULO3: Apply a range of research tools and models of business performance and productivity to measure and track sustainable value creation across organisational processes and projects.

General Assessment Information

Late Assessment Submission Penalty (written assessments):

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11:55 pm. A 1-hour grace period is 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, students need to submit an application for [Special Consideration](#).

Assessment Tasks

Name	Weighting	Hurdle	Due
Online Quizzes	20%	No	Week 4 & Week 7
Assignment 1	20%	No	Week 8
Assignment 2	20%	No	Week 11
Final Exam	40%	No	University Exam Timetable

Online Quizzes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Week 4 & Week 7**

Weighting: **20%**

Students will be tested on their understanding of data analytics tools and models. Students will

be tested on the inferences derived from the results of these tools and models. Online quizzes will be held throughout the session.

On successful completion you will be able to:

- Identify and describe models of managing data.
- Use quantitative research tools to assess the implications of strategic decisions from a whole of entity perspective and across a range of stakeholders.
- Apply a range of research tools and models of business performance and productivity to measure and track sustainable value creation across organisational processes and projects.

Assignment 1

Assessment Type ¹: Report

Indicative Time on Task ²: 10 hours

Due: **Week 8**

Weighting: **20%**

Students are required to conduct data analysis and/or the modelling necessary to resolve business problems, make inferences, and assist in decision-making and forecasting. Students will submit a written report.

On successful completion you will be able to:

- Identify and describe models of managing data.
- Use quantitative research tools to assess the implications of strategic decisions from a whole of entity perspective and across a range of stakeholders.
- Apply a range of research tools and models of business performance and productivity to measure and track sustainable value creation across organisational processes and projects.

Assignment 2

Assessment Type ¹: Report

Indicative Time on Task ²: 10 hours

Due: **Week 11**

Weighting: **20%**

Students are required to conduct data analysis and/or the modelling necessary to resolve business problems, make inferences, and assist in decision-making and forecasting. Students will submit a written report.

On successful completion you will be able to:

- Identify and describe models of managing data.
- Use quantitative research tools to assess the implications of strategic decisions from a whole of entity perspective and across a range of stakeholders.
- Apply a range of research tools and models of business performance and productivity to measure and track sustainable value creation across organisational processes and projects.

Final Exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 30 hours

Due: **University Exam Timetable**

Weighting: **40%**

The Final Exam will test students' understanding of the quantitative/statistical research tools and their development of research skills. Students will be required to conduct data analysis and draw inferences from modelling necessary to assist managers with solving business problems, decision-making, forecasting, and planning. The final examination is approximately 2 hours and to be held during the University exam time.

On successful completion you will be able to:

- Identify and describe models of managing data.
- Use quantitative research tools to assess the implications of strategic decisions from a whole of entity perspective and across a range of stakeholders.
- Apply a range of research tools and models of business performance and productivity to measure and track sustainable value creation across organisational processes and projects.

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

- the [Writing Centre](#) 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

Delivery and Resources

Lecture and Tutorial according to your e-student class registration.

Unit Schedule

Please see 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 [ask.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/>

The Writing Centre

[The Writing Centre](#) 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 [AskMQ](#), 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/.

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

Macquarie Business School Masters degrees have undergone an extensive internal and external review during 2022 and 2023, including Australian Computer Society accreditation for our Master of Business Analytics program. We have refreshed this unit, for a 2024 launch, in line with the recommendations of these review panels which included senior academics from other universities, Macquarie University alumni, and industry experts.

Unit information based on version 2024.04 of the [Handbook](#)