## BUSA8000

**Techniques in Business Analytics**

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

*Department of Actuarial Studies and Business Analytics*

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### Disclaimer

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General Information

Unit convenor and teaching staff
Elias Maroun
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Credit points
10

Prerequisites
BUSA6004 or ECON6034 or (Admission to MBusAnalytics or MActPrac)

Corequisites

Co-badged status

Unit description
This unit develops some of the core skills needed for the practice of modern business analytics. Statistical inference and associated statistical computing will be covered along with an introduction to analytical techniques needed for working with both structured and unstructured data. The reporting of the results from quantitative style research will also be studied.

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: Articulate the importance and application of data in a variety of contexts.
ULO2: Apply methods for handling data in R.
ULO3: Implement statistical learning algorithms in R.
ULO4: Apply appropriate statistical methods/models, and perform analysis on various types of data and interpret the result.
ULO5: Understand and apply the principles of statistical inference.
ULO6: Successfully work in teams to achieve group and organizational objectives

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 11.55pm. A 1-hour grace period is provided to students who experience a technical concern. For any late submissions 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**

<table>
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<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
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<tr>
<td>Online Quiz 2</td>
<td>15%</td>
<td>No</td>
<td>Week 11</td>
</tr>
<tr>
<td>Group Project</td>
<td>40%</td>
<td>No</td>
<td>Week 13</td>
</tr>
<tr>
<td>Report</td>
<td>30%</td>
<td>No</td>
<td>Week 7</td>
</tr>
<tr>
<td>Online Quiz 1</td>
<td>15%</td>
<td>No</td>
<td>Week 4</td>
</tr>
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**Online Quiz 2**

Assessment Type: Quiz/Test  
Indicative Time on Task: 5 hours  
Due: **Week 11**  
Weighting: **15%**

Students will complete some multiple choice and/or short answer questions.

On successful completion you will be able to:

- Apply appropriate statistical methods/models, and perform analysis on various types of data and interpret the result.
- Understand and apply the principles of statistical inference.

**Group Project**

Assessment Type: Project  
Indicative Time on Task: 20 hours  
Due: **Week 13**  
Weighting: **40%**
Students will work on a group project.

On successful completion you will be able to:

- Apply appropriate statistical methods/models, and perform analysis on various types of data and interpret the result.
- Understand and apply the principles of statistical inference.
- Successfully work in teams to achieve group and organizational objectives

**Report**

Assessment Type 1: Case study/analysis
Indicative Time on Task 2: 15 hours
Due: Week 7
Weighting: 30%

Students will be presented with a selection of case studies and given a report scope. Details will be provided on iLearn.

On successful completion you will be able to:

- Articulate the importance and application of data in a variety of contexts.
- Apply methods for handling data in R.
- Implement statistical learning algorithms in R.

**Online Quiz 1**

Assessment Type 1: Quiz/Test
Indicative Time on Task 2: 5 hours
Due: Week 4
Weighting: 15%

Students will be given a dataset and required to perform various calculations based on the techniques taught in classes.

On successful completion you will be able to:

- Apply methods for handling data in R.
- Implement statistical learning algorithms in R.
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.

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

Workshop to be held weekly on campus.

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
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.

Unit information based on version 2024.04 of the Handbook