



# BUSA8000

## Techniques in Business Analytics

Session 1, Weekday attendance, North Ryde 2020

*Department of Actuarial Studies and Business Analytics*

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Unit Convenor

Poon Leung

[poon.leung@mq.edu.au](mailto:poon.leung@mq.edu.au)

Katie West

[katie.west@mq.edu.au](mailto:katie.west@mq.edu.au)

Credit points

10

Prerequisites

ECON6034 or ECON634 or admission to MBusAnalytics

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.

## Assessment Tasks

### Coronavirus (COVID-19) Update

Assessment details are no longer provided here as a result of changes due to the Coronavirus (COVID-19) pandemic.

Students should consult [iLearn](#) for revised unit information.

[Find out more about the Coronavirus \(COVID-19\) and potential impacts on staff and students](#)

## General Assessment Information

### Report

No extensions will be granted. There will be a deduction of 10% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late (for example, 25 hours late in submission – 20% penalty). This penalty does not apply for cases in which an application for special consideration is made and approved. No submission will be accepted after solutions have been posted.

### Online Quiz 1 and 2

No extensions will be granted. Students who have not submitted the task prior to the deadline will be awarded a mark of 0 for the task, except for cases in which an application for special consideration is made and approved.

### Final Exam

For the final exam, you are permitted ONE A4 page of paper containing reference material printed on both sides. The material may be handwritten or typed. The page will not be returned to you at the end of the final examination. No other reference material is allowed.

### General Information

It is the responsibility of students to view their marks for each within session assessment on iLearn within 20 working days of posting. If there are any discrepancies, students must contact the unit convenor immediately. Failure to do so will mean that queries received after the release of final results regarding assessment marks (not including the final exam mark) will not be addressed.

Where a Special Consideration application is approved, the student may be offered an alternative assessment, extension of time to submit, or may receive a mark based on the percentage mark achieved by the student in one or more other assessment tasks, at the Unit Convenor's discretion.

## Delivery and Resources

### Coronavirus (COVID-19) Update

Any references to on-campus delivery below may no longer be relevant due to COVID-19.

Please check here for updated delivery information: [https://ask.mq.edu.au/account/pub/display/unit\\_status](https://ask.mq.edu.au/account/pub/display/unit_status)

### Learning and Teaching Activities

There are 3 hours of face-to-face teaching per week consisting of 1 x 2 hour lecture and 1 x 1 hour tutorial. The schedule of lecture and tutorial class times is available at:

<http://www.timetables.mq.edu.au>

### Lectures

Lectures will be held weekly. Lecture notes will be available in the week of the lecture, at the *iLearn* weekly tabs.

### Tutorials

Tutorials will be held weekly, commencing in Week 2. Tutorials are considered compulsory but no marks are allocated.

Tutorial enrolment can be made through *eStudent* in the first two weeks of the semester. No tutorial changes are allowed after Week 2. Students should check on *eStudent* for their tutorial room, especially as tutorial room allocations may have been changed since time of enrolment.

Students are expected to complete the '*Tutorial Questions*' as a self-directed study activity before attending a tutorial. Solutions will be posted after the week in which the questions are discussed. Additional learning support will be available in tutor consultation times, and in PAL sessions.

### Recommended Texts

R for Data Science, Wickham and Golemund  
An Introduction to Statistical Learning, James et al.  
Collaborative Statistics, Illowsky and Dean

Note: these are all open-source textbooks and are available freely and legally online.

### Technology Used and Required

#### Calculator

A calculator will be required during the *Final Examination*. Note: students are expected to clearly show all steps (working) in their solutions to 'calculation' questions.

Non-programmable calculators with no text-retrieval functionality are permitted. Calculators that have a full alphabet on the keyboard are not permitted. Graphics calculators are not permitted. Calculators need the following minimum functionality:  $x^y$  or  $^$ ,  $1/x$  and  $\log$  or  $\ln$  functions, and a memory. Non-programmable financial calculators are permitted but it is not a

requirement to use a financial calculator.

Students are assumed to already be familiar with the basic operation of their calculator prior to the start of this unit.

### **Computing**

Prior to the start of this unit, students are expected to be familiar at least with the basic operation of their computing device.

### **Software**

This unit does use R in its first portion. Whilst it is not strictly necessary that students have any background using R, it will certainly be beneficial.

### **Knowledge of Statistics**

A background of basic statistics is assumed. Students entering the course should be familiar with concepts such as expected value, variance, and standard deviation.

## **Policies and Procedures**

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). 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](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

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

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

## **Student Code of Conduct**

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/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](mailto:globalmba.support@mq.edu.au)

## Supplementary exams

Information regarding supplementary exams, including dates, is available at: [http://www.businessandeconomics.mq.edu.au/current\\_students/undergraduate/how\\_do\\_i/disruption\\_to\\_studies](http://www.businessandeconomics.mq.edu.au/current_students/undergraduate/how_do_i/disruption_to_studies)

## Student Support

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

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [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

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](#)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## 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 since First Published

Date	Description
16/02/2020	small spelling error and wrong due date for quiz 1