



BUSA2020

Data Modelling and Visualisation

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

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Credit points

10

Prerequisites

(BUSA1000 or COMP1000 or COMP1350) and (STAT150 or STAT1250 or STAT170 or STAT1170 or STAT171 or STAT1371)

Corequisites

Co-badged status

Unit description

Growing quantities of data collected by business, government, the internet and social media provide opportunities for better management and a better society through evidence-based decision-making and the provision of new services. This unit builds on the quantitative techniques and approaches to achieve these goals that were introduced in BUSA1000.

Students will gain hands-on experience with software tools to analyse and present quantitative data using spreadsheets and data visualisation software. The unit thus is an introduction to the technical and philosophical skills required, and the many applications of business analytics.

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: Explore different methods of data analysis and presentation for social networks, complex systems and relational links.

ULO2: Create interactive models using appropriate software to aid decision-makers in understanding interrelationships and trends.

ULO3: Apply intermediate skills in spreadsheets and data visualisation software to demonstrate trends and relationships among factors in industry and society.

ULO4: Analyse government, industry and social media data to identify relationships and trends.

ULO5: Evaluate conclusions drawn from different data and analytic tools.

Assessment Tasks

Name	Weighting	Hurdle	Due
Spreadsheet Functions	25%	No	Week4
Project	40%	No	Week8
Data Visualisation	25%	No	Week12
Participation in the class	10%	No	N/A

Spreadsheet Functions

Assessment Type ¹: Quantitative analysis task

Indicative Time on Task ²: 10 hours

Due: **Week4**

Weighting: **25%**

Students will be asked to demonstrate skills in data manipulation.

On successful completion you will be able to:

- Explore different methods of data analysis and presentation for social networks, complex systems and relational links.
- Apply intermediate skills in spreadsheets and data visualisation software to demonstrate trends and relationships among factors in industry and society.

Project

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 30 hours

Due: **Week8**

Weighting: **40%**

The assessment consists of a project related to the topics of the class.

On successful completion you will be able to:

- Explore different methods of data analysis and presentation for social networks, complex systems and relational links.
- Create interactive models using appropriate software to aid decision-makers in understanding interrelationships and trends.
- Apply intermediate skills in spreadsheets and data visualisation software to demonstrate trends and relationships among factors in industry and society.
- Analyse government, industry and social media data to identify relationships and trends.
- Evaluate conclusions drawn from different data and analytic tools.

Data Visualisation

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 20 hours

Due: **Week12**

Weighting: **25%**

Students will use visualisation software to extract spreadsheet data to demonstrate interrelationships in different ways appropriate to the task.

On successful completion you will be able to:

- Apply intermediate skills in spreadsheets and data visualisation software to demonstrate trends and relationships among factors in industry and society.
- Evaluate conclusions drawn from different data and analytic tools.

Participation in the class

Assessment Type ¹: Participatory task

Indicative Time on Task ²: 0 hours

Due: **N/A**

Weighting: **10%**

Active participation in classes

On successful completion you will be able to:

- Explore different methods of data analysis and presentation for social networks, complex systems and relational links.
 - Create interactive models using appropriate software to aid decision-makers in understanding interrelationships and trends.
 - Apply intermediate skills in spreadsheets and data visualisation software to demonstrate trends and relationships among factors in industry and society.
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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

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 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.

Unit information based on version 2024.03 of the [Handbook](#)