



MMBA8113

Big Data and Decision Making

Term 3, In person-scheduled-weekday, North Ryde 2022

Department of Actuarial Studies and Business Analytics

Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	2
<u>Assessment Tasks</u>	3
<u>Delivery and Resources</u>	5
<u>Policies and Procedures</u>	6

Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff

Nejhdeh Ghevondian

nejhdeh.ghevondian@mq.edu.au

Prani Manandhar

prani.manandhar@mq.edu.au

Credit points

10

Prerequisites

MGSM960 or MMBA8160

Corequisites

Co-badged status

Unit description

This unit is a bridge between business and information technology and will equip students with knowledge and skills required to lead and manage big data and data science projects for organisations. Specifically, the unit focuses on data science development practices and the underlying big data applications, on both strategic and operational levels.

More importantly, this unit focuses on transforming business processes through big data and data science, the impact on companies' IT infrastructure, the use of resources to conduct data science workstreams, and identifying the necessary technological underpinnings of big data ecosystem.

The unit is especially tailored for MBA students and business managers with a primary focus on managerial discussions surrounding big data employment and decision making, using big data and analytics insights within large companies. The technical aspect of the unit is on a level comprehensible and applicable to MBA students who do not necessarily possess technical training in big data software applications.

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: Develop a broad understanding and knowledge of the Big Data ecosystem and

its applications within the context of managerial decision-making processes.

ULO2: Explore Data Science theories, methodologies and tools and their practical applications to solve real life business problems.

ULO3: Use tangible and intangible resources to gain insights from large and versatile sets of data and understand the additional requirements needed.

ULO4: Apply and/or customise big data and data science solutions to various business contexts.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Group Assignment</u>	30%	No	02/09/22
<u>Individual Assignment</u>	30%	No	29/07/22
<u>Final Examination</u>	30%	No	University Exam Period
<u>Class contribution</u>	10%	No	30/09/22

Group Assignment

Assessment Type ¹: Project

Indicative Time on Task ²: 20 hours

Due: **02/09/22**

Weighting: **30%**

The group will be required to produce a report of no more than 6000 words and present the findings to the class.

On successful completion you will be able to:

- Develop a broad understanding and knowledge of the Big Data ecosystem and its applications within the context of managerial decision-making processes.
- Explore Data Science theories, methodologies and tools and their practical applications to solve real life business problems.
- Use tangible and intangible resources to gain insights from large and versatile sets of data and understand the additional requirements needed.
- Apply and/or customise big data and data science solutions to various business contexts.

Individual Assignment

Assessment Type ¹: Modelling task

Indicative Time on Task ²: 20 hours

Due: **29/07/22**

Weighting: **30%**

Individual assignments are based on a number of analytics case studies given in class with their relevant datasets. Students will be given a choice to select one of these case studies and perform suitable predictive modelling techniques, including exploratory analysis, modelling and visualisation. Students will be required to submit a report (approx. 5 – 6 pages in length) highlighting the application of insights, concepts, and relevant techniques used to perform the case study outcomes.

On successful completion you will be able to:

- Develop a broad understanding and knowledge of the Big Data ecosystem and its applications within the context of managerial decision-making processes.
- Explore Data Science theories, methodologies and tools and their practical applications to solve real life business problems.
- Use tangible and intangible resources to gain insights from large and versatile sets of data and understand the additional requirements needed.
- Apply and/or customise big data and data science solutions to various business contexts.

Final Examination

Assessment Type ¹: Examination

Indicative Time on Task ²: 10 hours

Due: **University Exam Period**

Weighting: **30%**

A closed book three hour examination will be held during the University Examination Period.

On successful completion you will be able to:

- Develop a broad understanding and knowledge of the Big Data ecosystem and its applications within the context of managerial decision-making processes.
- Explore Data Science theories, methodologies and tools and their practical applications

to solve real life business problems.

- Use tangible and intangible resources to gain insights from large and versatile sets of data and understand the additional requirements needed.
- Apply and/or customise big data and data science solutions to various business contexts.

Class contribution

Assessment Type ¹: Participatory task

Indicative Time on Task ²: 5 hours

Due: **30/09/22**

Weighting: **10%**

Students will be required to participate in in-class discussions.

On successful completion you will be able to:

- Develop a broad understanding and knowledge of the Big Data ecosystem and its applications within the context of managerial decision-making processes.
- Explore Data Science theories, methodologies and tools and their practical applications to solve real life business problems.
- Use tangible and intangible resources to gain insights from large and versatile sets of data and understand the additional requirements needed.
- Apply and/or customise big data and data science solutions to various business contexts.

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

- In MMBA8113 - Big Data and Managerial Decisions, for individual assignments, technology such as Azure Machine Learning Studio and Microsoft Power BI will be used
- Recommended text book is **Big Data MBA** (2016), Bill Schmarzo. Wiley Publishing,

ISBN (Hardcover): 978-1119181118

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://student.mq.edu.au>

dents.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 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.