



# MGMT11169 *Business Analytics*

## Term 1 - 2021

Profile information current as at 20/06/2021 10:17 pm

All details in this unit profile for MGMT11169 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

## General Information

### Overview

With today's digitisation and technology development, many organisations can collect and consolidate tremendous amounts of data and store them in databases and data warehouses with ease. In business analytics, you will use a variety of computational techniques and/or methods to evaluate and analyse huge sources of data in real time for trends, patterns, classification, relationship, and other useful information. You will learn and examine data sets for statistical inference, and conduct quantitative analysis, predictive modelling, regression, data mining, and optimisation. This is a practical based core unit and will provide you with foundation knowledge to contribute to the use of various data analytics for problem solving.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 1*

Credit Points: 6

Student Contribution Band: 10

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

There are no requisites for this unit.

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

### Offerings For Term 1 - 2021

- Brisbane
- Melbourne
- Online
- Sydney

### Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

### Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

## Class and Assessment Overview

### Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

### Class Timetable

#### [Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

#### [Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

### Assessment Overview

#### 1. **Online Quiz(zes)**

Weighting: 30%

#### 2. **Case Study**

Weighting: 30%

#### 3. **Project (applied)**

Weighting: 40%

### Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

## CQUniversity Policies

**All University policies are available on the [CQUniversity Policy site](#).**

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

## Unit Learning Outcomes

**On successful completion of this unit, you will be able to:**

1. Analyse and reflect on key concepts of business analytics
2. Apply quantitative tools and techniques to analytically identify, examine, investigate and propose solutions to business problems
3. Synthesise data from a variety of sources and develop models to address practical problems in industry.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes		
	1	2	3
1 - Online Quiz(zes) - 30%	•	•	
2 - Case Study - 30%	•	•	
3 - Project (applied) - 40%			•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes		
	1	2	3
1 - Communication	•	•	•
2 - Problem Solving		•	•
3 - Critical Thinking	•	•	•
4 - Information Literacy	•		
5 - Team Work			
6 - Information Technology Competence	•	•	•
7 - Cross Cultural Competence			
8 - Ethical practice			•
9 - Social Innovation			

### Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes								
	1	2	3	4	5	6	7	8	9
1 - Online Quiz(zes) - 30%	•	•	•	•		•			
2 - Case Study - 30%	•	•	•	•		•			
3 - Project (applied) - 40%	•	•	•			•		•	

## Textbooks and Resources

### Textbooks

There are no required textbooks.

### IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Excel spreadsheet software

## Referencing Style

All submissions for this unit must use the referencing style: [American Psychological Association 7th Edition \(APA 7th edition\)](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Swee Kuik** Unit Coordinator

[s.kuik@cqu.edu.au](mailto:s.kuik@cqu.edu.au)

## Schedule

### Week 1 - 08 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Business Analytics	Lecture notes and materials are available in Moodle.	

### Week 2 - 15 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Descriptive Statistics	Lecture notes and materials are available in Moodle.	

### Week 3 - 22 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Data Visualisation	Lecture notes and materials are available in Moodle.	

### Week 4 - 29 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Probability and Modeling Uncertainty	Lecture notes and materials are available in Moodle.	

### Week 5 - 05 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Regression Analysis	Lecture notes and materials are available in Moodle.	<b>Online Quiz: Task A</b> Due: Week 5, Friday (9 Apr 2021) 5:00PM AEST

### Vacation Week - 12 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 19 Apr 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Statistical Inference	Lecture notes and materials are available in Moodle.	<b>Case Study: Data Analytics</b> Due: Week 6 Friday (23 Apr 2021) 5:00 pm AEST
Week 7 - 26 Apr 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Decision Analytics	Lecture notes and materials are available in Moodle.	
Week 8 - 03 May 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Optimisation Concept	Lecture notes and materials are available in Moodle.	
Week 9 - 10 May 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Spreadsheet Models	Lecture notes and materials are available in Moodle.	
Week 10 - 17 May 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Optimisation and Sensitivity Analysis	Lecture notes and materials are available in Moodle.	
Week 11 - 24 May 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Forecasting and Time Series	Lecture notes and materials are available in Moodle.	<b>Online Quiz: Task B</b> Due: Week 11, Friday (28 May 2021) 5:00PM AEST
Week 12 - 31 May 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Data Mining	Lecture notes and materials are available in Moodle.	<b>Business Report: Analytical Modelling and Decision Making</b> Due: Week 12 Friday (4 Jun 2021) 5:00 pm AEST
Review/Exam Week - 07 Jun 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Exam Week - 14 Jun 2021		
Module/Topic	Chapter	Events and Submissions/Topic

## Assessment Tasks

### 1 Online Quiz

#### Assessment Type

Online Quiz(zes)

#### Task Description

Assessment 1 comprises two main tasks:

Task A: Online Quiz (Weighted score: 10%) - The quiz includes 20 questions and has a time limit of 30 minutes. It is designed for students to understand key concepts and apply techniques and/or tools to analytically examine and/or propose solutions to business problems from the selected topics in this unit.

Task B: Online Quiz (Weighted score: 20%) - The quiz includes 40 questions and has a time limit of 60 minutes. It is designed for students to understand key concepts and apply techniques and/or tools to analytically examine and/or propose solutions to business problems from the selected topics in this unit.

**Number of Quizzes**

2

**Frequency of Quizzes**

Other

**Assessment Due Date**

The assessments will be due in Weeks 5 and 11. The exact due dates will be made available on the unit website.

**Return Date to Students**

Results will be made available on the unit website.

**Weighting**

30%

**Assessment Criteria**

No Assessment Criteria

**Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

**Submission**

Online

**Learning Outcomes Assessed**

- Analyse and reflect on key concepts of business analytics
- Apply quantitative tools and techniques to analytically identify, examine, investigate and propose solutions to business problems

**Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 2 Case Study: Data Analytics

**Assessment Type**

Case Study

**Task Description**

The assessment is designed for students to apply fundamental data analytics tools and/or techniques. The assessment involves writing a 1300-words business report responding to assessment questions related to specific cases and the numerical data files that store information specific to the cases will be provided on the unit website. Submit your short business report including excel spreadsheet and/or any relevant calculations, with a cover sheet showing the unit name and number, assessment number, your name and student number. You can discuss your assessment ideas in the unit Discussion Forum (Case Study), before you complete and submit the assessment.

**Assessment Due Date**

Week 6 Friday (23 Apr 2021) 5:00 pm AEST

**Return Date to Students**

Week 8 Friday (7 May 2021)

Grades and feedback comments are released in Moodle. Feedback Studio and the Grade book are the designated platforms for reviewing outcomes from the assessment process

**Weighting**

30%

**Assessment Criteria**

Your report analysis, recommendations and presentation will be assessed according to the following criteria.

- Demonstrated understanding of data analytics with techniques and/or tools that are related to the questions posed: 25%
- Accurately suggest and develop the model for detailed analysis in relation to the case studies: 25%
- Able to articulate and evaluate case studies to provide managerial insights and practical limitations based on quantitative outcomes: 20%

- Provide appropriate and well-structured, concise and clear expression of decision making arguments: 10%
- Provide a clear flow of thought throughout the business report, evidenced by succinct Executive Summary, Introduction, and Conclusion: 10%
- Adherence to APA Reference format: 5%
- Clarity of written expression, grammar, spelling: 5%

Report length 1300-words. (penalty of 1% per 100-words that exceed the maximum 1430-words). However, the summary, table of contents, reference list and appendices are excluded from a report's word count. Submissions must be in Business Report format using Word with 1.5 line spacing and Times Roman 12-point font. Late submissions will also be penalised at the rate of "five percent of the total marks available for the assessment each calendar day (full or part) it is overdue" (Policy: Assessment of Coursework section 3.2.4)

### Referencing Style

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

### Submission

Online

### Submission Instructions

Submissions must be uploaded into Moodle (the unit website) per policy on or before the due date. Penalties apply for late submissions.

### Learning Outcomes Assessed

- Analyse and reflect on key concepts of business analytics
- Apply quantitative tools and techniques to analytically identify, examine, investigate and propose solutions to business problems

### Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 3 Business Report: Analytical Modelling and Decision Making

### Assessment Type

Project (applied)

### Task Description

The assessment is designed for students to apply analytical techniques and/or methods for solving a real world application in your chosen area. The assessment involves writing a 1800-word business report responding to assessment questions related to specific topics and/or decision making analysis. Submit your 1800-word business report including excel spreadsheet and/or any relevant calculations through Turnitin, Moodle, with a cover sheet showing unit name and number, assessment number, your name and student number. Assessment details and guideline will be provided on the unit website. You can discuss your assessment ideas in the unit Discussion Forum (Applied Project), before you complete and submit the assessment.

### Assessment Due Date

Week 12 Friday (4 Jun 2021) 5:00 pm AEST

### Return Date to Students

Return Date to Students Results and feedback will be made available on the unit website after Grade Certification on 9 July

### Weighting

40%

### Assessment Criteria

Your report analysis, recommendations and presentation will be assessed according to the following criteria.

- Demonstrated understanding of analytical models that are related to the questions posed: 15%
- Critical evaluation and integration of relevant academic and literature to provide theoretical and practical aspects. Insights from a minimum of 10 academic journal articles must be incorporated in your critical analysis: 15%
- Accurately suggest and develop the model for detailed analysis in relation to the applications: 20%

- Able to articulate and evaluate scenario modelling to provide managerial insights and practical limitations based on quantitative outcomes: 15%
- Provide appropriate and well-structured, concise and clear expression of decision making arguments in terms of theoretical and practical elements 15%
- Provide a clear flow of thought throughout the business report, evidenced by succinct Executive Summary, Introduction, and Conclusion: 10%
- Adherence to APA Reference format: 5%
- Clarity of written expression, grammar, spelling: 5%

Report length 1800-words. (penalty of 1% per 100-words that exceed the maximum 1980-words). However, the summary, table of contents, reference list and appendices **are excluded** from a report's word count.

Submissions must be in Business Report format using Word with 1.5 line spacing and Times Roman 12-point font.

Late submissions will also be penalised at the rate of "five percent of the total marks available for the assessment each calendar day (full or part) it is overdue" (Policy: Assessment of Coursework section 3.2.4)

### **Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

### **Submission**

Online

### **Submission Instructions**

Submissions must be uploaded into Moodle (the unit website) per policy on or before the due date. Penalties apply for late submissions.

### **Learning Outcomes Assessed**

- Synthesise data from a variety of sources and develop models to address practical problems in industry.

### **Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Technology Competence
- Ethical practice



## Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

### What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

### Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

### What can you do to act with integrity?



#### Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



#### Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



#### Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem

### Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.