



# COIS13013 *Business Intelligence*

## Term 1 - 2019

Profile information current as at 19/05/2022 10:22 pm

All details in this unit profile for COIS13013 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

The application of business intelligence and analytics have transformed the way in which organisations operate. Through the use of business intelligence and analytics tools, organisations are able to better understand how their businesses are performing, make well-informed decisions that improve business performance and create new strategic opportunities for growth. This unit equips you with the knowledge of various business intelligence concepts, tools and analytical techniques that organisations use for improving their decision making and to achieve competitive advantage. You will learn about the role of various information systems (Management Support Systems, Decision Support Systems, Knowledge Based Systems, Group Support Systems) and how they are integrated at the enterprise level to support decision making. In this unit, you will specifically learn about data mining, data virtualisation, text and web analytics and use a data mining tool to classify and analyse data.

#### Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

#### Pre-requisites or Co-requisites

Pre-requisite: COIT11226

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 - 2019

- Brisbane
- Melbourne
- Online
- Rockhampton
- 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. **Written Assessment**

Weighting: 40%

#### 2. **Presentation and Written Assessment**

Weighting: 45%

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

Weighting: 15%

### 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](#).

## Previous Student Feedback

### Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

#### Feedback from Students

##### Feedback

Tutorial videos on how to install and use the software Weka should be provided.

##### Recommendation

Add tutorial videos to guide students on how to install the software Weka and provide some examples of how to use Weka.

## Unit Learning Outcomes

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

1. Apply the principles of decision theory to interpret the needs of decision makers
2. Analyse the needs of computerised support for managerial decision making and business performance reporting
3. Evaluate the roles, trends and impacts of various business intelligence and analytics tools in organisations
4. Analyse the technological architecture required for building business intelligence systems in organisations
5. Evaluate the importance of data analysis, data processing and visualisation
6. Apply business intelligence and analytics software tools to solve real world problems and interpret results.

Australian Computer Society (ACS) recognises the Skills Framework for the Information Age (SFIA). SFIA is in use in over 100 countries and provides a widely used and consistent definition of ICT skills. SFIA is increasingly being used when developing job descriptions and role profiles.

ACS members can use the tool MySFIA to build a skills profile at

<https://www.acs.org.au/professionalrecognition/mysfia-b2c.html>

This unit contributes to the following workplace skills as defined by SFIA. The SFIA code is included:

- Analytics (INAN)
- Business Analysis (BUAN)
- Data Analysis (DTAN)

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
<b>1 - Online Quiz(zes) - 15%</b>	•		•		•	
<b>2 - Written Assessment - 40%</b>	•	•		•		•
<b>3 - Presentation and Written Assessment - 45%</b>		•	•	•	•	•

## Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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						
10 - Aboriginal and Torres Strait Islander Cultures						

## Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Online Quiz(zes) - 15%		•	•							
2 - Written Assessment - 40%	•	•	•	•	•	•		•		
3 - Presentation and Written Assessment - 45%	•	•	•	•	•	•		•		

## Textbooks and Resources

### Textbooks

COIS13013

#### Prescribed

##### **Business Intelligence and Analytics: Systems for Decision Support, Global Edition**

Edition: 10th (2014)

Authors: Ramesh Sharda, Dursun Delen and Efraim Turban

Pearson

Upper Saddle River , New Jers , USA

ISBN: 9781292009209

Binding: Other

#### Additional Textbook Information

Paper copies can be purchased at the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code)

However, ebook copies can be purchased from the supplier here: <http://www.pearson.com.au/9781292009261>

[View textbooks at the CQUniversity Bookshop](#)

### IT Resources

#### You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- WEKA (Version: 3.8.1 – 64 Bit)
- Trueblue Visual DSS (Release 6789 Student Edition – 32 Bit)
- Microsoft Power BI Desktop (Version: 2.53.4954.621 – 64 Bit)
- Microsoft Power BI publisher for Excel (Version: 2.37.3272.33601 – 32 Bit for Microsoft office -32 Bit; 64 Bit for Microsoft office -64 Bit)

## Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Yufeng Lin** Unit Coordinator

[y.lin@cqu.edu.au](mailto:y.lin@cqu.edu.au)

## Schedule

### Week 1 - 11 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
An Overview of Business Intelligence and Analytics	Chapter 1	

### Week 2 - 18 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Foundations and Technologies for Decision Making	Chapter 2	

### Week 3 - 25 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Data Warehousing	Chapter 3	
<b>Week 4 - 01 Apr 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Business Reporting, Visual Analytics, and Business Performance Management	Chapter 4	
<b>Week 5 - 08 Apr 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Data Mining for Business Intelligence	Chapter 5	
<b>Vacation Week - 15 Apr 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
<b>Week 6 - 22 Apr 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Text Analytics, Text Mining, and Sentiment Analysis	Chapter 7	Assignment 1 due Friday (20-Apr-2018) 11:45 pm AEST.  <b>ASSIGNMENT 1 - DECISION MAKING AND VIRTUAL ANALYTICS</b> Due: Week 6 Friday (26 Apr 2019) 11:45 pm AEST
<b>Week 7 - 29 Apr 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Web Analytics, Web Mining, and Social Analytics	Chapter 8	
<b>Week 8 - 06 May 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Modelling and Analysis: Heuristic Search Methods and Simulation	Chapter 10	
<b>Week 9 - 13 May 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Automated Decision Systems and Expert Systems	Chapter 11	
<b>Week 10 - 20 May 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Knowledge Management and Collaborative Systems	Chapter 12	
<b>Week 11 - 27 May 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Big Data and Analytics	Chapter 13	
<b>Week 12 - 03 Jun 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Business Analytics: Emerging Trends and Future Impacts	Chapter 14	Assignment 2 due Friday (01-Jun-2018) 11:45 pm AEST.  <b>ASSIGNMENT 2 - BUSINESS INTELLIGENCE AND ANALYTICS</b> Due: Week 12 Friday (7 June 2019) 11:45 pm AEST
<b>Review/Exam Week - 10 Jun 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>

**Exam Week - 17 Jun 2019**

Module/Topic

Chapter

Events and Submissions/Topic

## Assessment Tasks

### 1 ASSIGNMENT 1 - DECISION MAKING AND VIRTUAL ANALYTICS

#### Assessment Type

Written Assessment

#### Task Description

There are three parts in Assignment 1:

- The first part is related to decision making on business investment. You are required to use a Visual DSS tool to generate models and derive solutions for making decisions on business investment.
- The second part is related to data and information virtualization. You are required to generate data virtualization by using Power BI to conduct business analytics.
- The third part is related to business intelligence projects' development and implementation. You are required to write a report from a given case study.

More details will be provided on the Moodle website.

#### Assessment Due Date

Week 6 Friday (26 Apr 2019) 11:45 pm AEST

#### Return Date to Students

Week 8 Friday (10 May 2019)

Assessments will be returned through Moodle website. Late submissions with or without extension approvals will be returned after the above date.

#### Weighting

40%

#### Assessment Criteria

Your assessment will be marked according to the following criteria.

Appropriate use of Visual DSS for generating models and deriving business solutions	20 marks
Data virtualization and virtual analytics	10 marks
Discussion on business intelligence projects' development and implementation	10 marks

#### Referencing Style

- [Harvard \(author-date\)](#)

#### Submission

Online

#### Submission Instructions

Your assignment must be submitted in doc/docx format. See the assignment specification on the Moodle website for more details. .

#### Learning Outcomes Assessed

- Apply the principles of decision theory to interpret the needs of decision makers
- Analyse the needs of computerised support for managerial decision making and business performance reporting
- Analyse the technological architecture required for building business intelligence systems in organisations
- Apply business intelligence and analytics software tools to solve real world problems and interpret results.

#### Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Ethical practice

## 2 ASSIGNMENT 2 - BUSINESS INTELLIGENCE AND ANALYTICS

### Assessment Type

Presentation and Written Assessment

### Task Description

Assignment 2 contains a written assignment with four questions including an oral presentation.

The theoretical questions cover topics in business intelligence and analytics areas. You are required to use a data mining tool to classify and analyse data. Internal students need to deliver an oral presentation to the class. External/distance students will be allowed to provide a recorded video of the required oral presentation.

### Assessment Due Date

Week 12 Friday (7 June 2019) 11:45 pm AEST

### Return Date to Students

Assessments will be returned on the Certificate date (required for the unit without an exam)

### Weighting

45%

### Assessment Criteria

Your second assignment will be marked according to the following criteria.

Discussion on the importance of business intelligence	10 marks
Appropriate use of WEKA for data analysis	15 marks
A case study on Information Virtualization and Analytics	10 marks
Oral presentation	10 marks

### Referencing Style

- [Harvard \(author-date\)](#)

### Submission

Online

### Submission Instructions

Please check more details on the Moodle website.

### Learning Outcomes Assessed

- Analyse the needs of computerised support for managerial decision making and business performance reporting
- Evaluate the roles, trends and impacts of various business intelligence and analytics tools in organisations
- Analyse the technological architecture required for building business intelligence systems in organisations
- Evaluate the importance of data analysis, data processing and visualisation
- Apply business intelligence and analytics software tools to solve real world problems and interpret results.

### Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Ethical practice

## 3 ASSIGNMENT 3 - ONLINE QUIZ

### Assessment Type

Online Quiz(zes)

### Task Description

The quiz consists of a series of 30 True/False and Multiple Choice questions. Questions will be randomly selected from a pool of questions on topics in weeks 1 to 12. You are unlikely to be asked the same questions as other students, nor the



same questions in subsequent attempts at the quiz. The time limit for each attempt is 45 minutes. The quiz automatically closes. If you have not submitted an attempt at the quiz by the due date, you will get no mark. Quizzes cannot be attempted and submitted after the due date.

You are allowed to attempt the quiz as many times as you want before the due date; however, the result of your last submission will be your final mark of the quiz.

**Number of Quizzes****Frequency of Quizzes****Assessment Due Date**

Review/Exam Week Monday (10 June 2019) 2:00 pm AEST

**Return Date to Students**

Review/Exam Week Monday (10 June 2019)

Immediately after the quiz closes.

**Weighting**

15%

**Assessment Criteria**

The quiz is automatically graded by the system based on the selection of correct or incorrect answers. Each attempt will be marked after you submit your answers. The result of your last submission will be your final mark of the quiz.

Extensions are not possible for quizzes. If you miss the quiz, you cannot do it later.

**Referencing Style**

- [Harvard \(author-date\)](#)

**Submission**

Online

**Learning Outcomes Assessed**

- Apply the principles of decision theory to interpret the needs of decision makers
- Evaluate the roles, trends and impacts of various business intelligence and analytics tools in organisations
- Evaluate the importance of data analysis, data processing and visualisation

**Graduate Attributes**

- Problem Solving
- Critical Thinking

## 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.

### 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.

### 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