# COIT11240 *Dashboard Design and Visualisation*
## Term 2 - 2020

Profile information current as at 02/05/2024 10:27 pm

All details in this unit profile for COIT11240 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

While organisations can collect a large amount of data about their operations, a continual challenge they face is extracting useful information from that data. Dashboards summarise key information using visualisations and interactive reports. Dashboards are therefore an important tool in supporting decision making in an organisation. In this unit, you will learn how to design dashboards. You will develop skills to condense and encapsulate the characteristics of data, making it easier to analyse trends to drive effective decision-making. You will also learn creative ways to present the insights and findings of data using data visualisation tools and techniques.

## Details

Career Level: *Undergraduate*
Unit Level: *Level 1*
Credit Points: *6*
Student Contribution Band: *8*
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 2 - 2020

- Brisbane
- Cairns
- Melbourne
- Online
- Rockhampton
- Sydney
- Townsville

## 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: 20%
2. **Practical Assessment**
Weighting: 30%
3. **Project (applied)**
Weighting: 30%
4. **Presentation**
Weighting: 20%

## 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 Student Evaluation

**Feedback**

Assessment requirements were not clear

**Recommendation**

Review the assessment tasks and clarify the requirements.

### Feedback from Student Evaluation

**Feedback**

Assessment feedback was insufficient

**Recommendation**

Provide detailed feedback and discuss the assessment solution once grades are released.

### Feedback from Student Evaluation

**Feedback**

Learning resources were insufficient

**Recommendation**

Provide a study guide and additional resources to support student learning.

# Unit Learning Outcomes

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

1. Explain the fundamentals of dashboard design and data visualisation
2. Compare different dashboard design and data visualisation tools
3. Explain the application of dashboard design and visualisation in summarising key information
4. Identify the best practices in implementing dashboard design
5. Design and implement a dashboard for a business case.

The Australian Computer Society (ACS) recognises the Skills Framework for the Information Age (SFIA). SFIA is adopted by organisations, governments and individuals in many 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 (https://www.acs.org.au/professionalrecognition/mysfia-b2c.html) to build a skills profile.
This unit contributes to the following workplace skills as defined by SFIA 7 (https://www.sfia-online.org/en). The SFIA code is included:
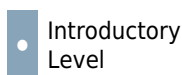Data Visualisation VISL
Analytics INAN
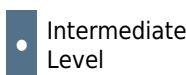Business Analysis BUAN

# Alignment of Learning Outcomes, Assessment and Graduate Attributes
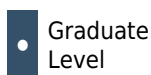
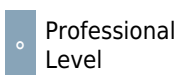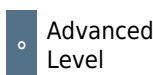— N/A Level     ○ Introductory Level     ○ Intermediate Level     ● Graduate Level     ○ Professional Level     ○ Advanced Level

## Alignment of Assessment Tasks to Learning Outcomes

| Assessment Tasks | Learning Outcomes | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1 - Online Quiz(zes) - 20% | | ● | | ● | |
| 2 - Practical Assessment - 30% | ● | ● | ● | | |
| 3 - Project (applied) - 30% | ● | | ● | ● | ● |
| 4 - Presentation - 20% | | | | | ● |

## Alignment of Graduate Attributes to Learning Outcomes

| Graduate Attributes | Learning Outcomes | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 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) - 20% | ● | ● | ● | | | ● | | | | |
| 2 - Practical Assessment - 30% | ● | ● | ● | ● | | ● | | | ● | |
| 3 - Project (applied) - 30% | ● | ● | ● | ● | | ● | | | ● | |
| 4 - Presentation - 20% | ● | ● | | ● | | ● | | | | |

## Textbooks and Resources

## Textbooks
COIT11240

**Prescribed**

**Microsoft Power BI Dashboards Step by Step**
Edition: 1 (2018)
Authors: Errin O'Connor
Microsoft Pres
ISBN: 9781509308033
Binding: eBook
COIT11240

**Prescribed**

**The Big Book of Dashboards: Visualizing Your Data Using Real-World Business Scenarios**
Edition: 1 (2017)
Authors: Steve Wexler; Jeffery Shaffer; Andy Cotgreav
Wiley
ISBN: 1119282713
Binding: Hardcover

**Additional Textbook Information**
If you prefer to study with a paper copy, they are available at the CQUni Bookshop here: http://bookshop.cqu.edu.au (search on the Unit code). eBooks are available at the publisher's website.

**View textbooks at the CQUniversity Bookshop**

## IT Resources

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

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microsoft Power BI Desktop (Version: 2.53.4954.621 – 64 Bit)
- Zoom capacity (webcam and microphone) will be required for online students
- Tableau-Desktop-64bit-2019-4-1

## Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

## Teaching Contacts

**Ahsan Morshed** Unit Coordinator
a.morshed@cqu.edu.au

## Schedule

**Week 1 - 13 Jul 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Data Visualisation: Introduction to Power BI, architecture and administration | Book 1: Microsoft Power BI Dashboards Errin O'Connor Chapter 1 and 2 Book 1 | |

**Week 2 - 20 Jul 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Dashboard use: Visuals in Power BI and report development | Book 1: Microsoft Power BI Dashboards Errin O'Connor Chapter 3 and 4 Book 1 | |

**Week 3 - 27 Jul 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Designs of Executives Sales Dashboards and Report generation using Power BI | Book 1: Microsoft Power BI Dashboards Errin O'Connor Book 2: The Big Book of Dashboards: Visualizing Your Data Using Real-World Business Scenarios Steve Wexler; Jeffery Shaffer; Andy Cotgreave Chapter 5 Book1 Chapter 5 Book 2 | |

**Week 4 - 03 Aug 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Reports using MS EXCEL (Part I) | Books 1: Microsoft Power BI Dashboards Errin O'Connor Chapter 6 Book 1 | |

**Week 5 - 10 Aug 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Reports using MS EXCEL (Part II) | Book 1: Microsoft Power BI Dashboards Errin O'Connor Chapter 6 Book 1 | |

**Vacation Week - 17 Aug 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Revise all previous lecture slides and tutorial works | Revise all previous lecture slides and tutorial works | |

**Week 6 - 24 Aug 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Power BI reports from SharePoint on-Premises | Book 1: Microsoft Power BI Dashboards Errin O'Connor Chapter 8 Book 1 | Practical Assessment due **Practical Assessment** Due: Week 6 Monday (24 Aug 2020) 11:45 pm AEST |

**Week 7 - 31 Aug 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Power BI reports from SQL | Books 1: Microsoft Power BI Dashboards Errin O'Connor Chapter 9 Book 1 | |

**Week 8 - 07 Sep 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Power BI reports from SSAS Cube | Books 1: Microsoft Power BI Dashboards Errin O'Connor Chapter 10 Book 1 | |

**Week 9 - 14 Sep 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Power BI Reports from Azure SQL | Books 1: Microsoft Power BI Dashboards Errin O'Connor Chapter 11 Book 1 | |

**Week 10 - 21 Sep 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Power BI Reports from Oracle | Books 1: Microsoft Power BI Dashboards Errin O'Connor Chapter 12 Book 1 | |

**Week 11 - 28 Sep 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Web Analytics Dashboard | Book 2: The Big Book of Dashboards: Visualizing Your Data Using Real-World Business Scenarios Steve Wexler; Jeffery Shaffer; Andy Cotgreave Chapter 13 Book 2 | Business Report due<br><br>**Business Report** Due: Week 11 Monday (28 Sept 2020) 11:45 pm AEST |

**Week 12 - 05 Oct 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Case Study: Hospitality Dashboard for Hotel Management | Book 2: The Big Book of Dashboards: Visualizing Your Data Using Real-World Business Scenarios Steve Wexler; Jeffery Shaffer; Andy Cotgreave Chapter 15 Book 2 | Presentation Due<br><br>**Presentation** Due: Week 12 Monday (5 Oct 2020) 11:45 pm AEST |

**Review/Exam Week - 12 Oct 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| No Final Exam for this Unit | | |

**Exam Week - 19 Oct 2020**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|

## Term Specific Information

Contact information for Dr. Ahsan Morshed: Email: a.morshed@cqu.edu.au Office: 120 Spencer Street, Melbourne VIC 3000, Melbourne Campus; P +61 3 96160418 | X 50418. Please submit questions about the unit through the 'Q&A' discussion forum in Moodle - that way, everyone can benefit from the questions and answers. If you have any individual queries, please email me and I'll try to get back to you within a day.

## Assessment Tasks

## 1 Online Quizzes

**Assessment Type**
Online Quiz(zes)

**Task Description**
This assessment is designed to reinforce the contents taught weekly. This assessment relates to Learning Outcomes 2 and 4. This is an individual assessment and should be submitted during the tutorial time. You will complete 4 quizzes in Week 3, Week 6, Week 9 and Week 12 based on your lecture slides and respective book chapters. You will get 5 questions in each quiz, each quiz duration is 30 mins and 1 attempt is allowed. This assessment contributes to 20% of the total marks.

**Number of Quizzes**
4

**Frequency of Quizzes**
Other

**Assessment Due Date**

In Week 3, Week 6, Week 9 and Week 12 tutorial sessions.

**Return Date to Students**

**Weighting**
20%

**Assessment Criteria**
Assessment 1 will be marked based on the following criteria.
Each quiz 5 marks
Total four  quizzes 20 marks

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Submission Instructions**
Each quiz must be submitted during the tutorial time.

**Learning Outcomes Assessed**

- Compare different dashboard design and data visualisation tools
- Identify the best practices in implementing dashboard design

**Graduate Attributes**

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

## 2 Practical Assessment

**Assessment Type**
Practical Assessment

**Task Description**
This assessment relates to Learning Outcomes 1, 2 and 3. This is an individual assessment. This assessment should be submitted in week 6. You will submit a work on Power BI on data manipulation exercises. This will provide you with an opportunity to learn data manipulation and processing using the Power BI tool. Each week you will be presented with a data-related challenge, and you will use computer tools to manipulate data to solve that challenge. This task will help build your knowledge of data formats, retrieval and analysis techniques. Power BI question details will be provided to you through Moodle in Week 2. This assessment contributes to 30% of the total marks.

**Assessment Due Date**
Week 6 Monday (24 Aug 2020) 11:45 pm AEST

**Return Date to Students**
Week 8 Monday (7 Sept 2020)
Within two weeks of submission

**Weighting**
30%

**Assessment Criteria**
Assessment 2 will be marked based on the following criteria.
Submitted screen shot of all questions 10 marks
Analysis presented on the generated output 15 marks
Report nicely written 5 marks
Total 30 marks

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Submission Instructions**
All files must be submitted to Moodle for marking by the due date.

**Learning Outcomes Assessed**

- Explain the fundamentals of dashboard design and data visualisation
- Compare different dashboard design and data visualisation tools
- Explain the application of dashboard design and visualisation in summarising key information

**Graduate Attributes**

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

# 3 Business Report

**Assessment Type**
Project (applied)

**Task Description**
In this assessment, you are required to write a report based on a case study. The case study will be provided to you in teaching Week 5. This is an individual assessment and contributes to Learning Outcomes 1, 3, 4 and 5. This report will follow a standard business report format. You will be investigating how you might advise an organisation, whose details are given in the case study on data processing, data analysis and visualisation mechanisms. You will also be developing an analytic dashboard using Power BI for the organisation and show the various analysis on the developed dashboard. The assignment will be marked out of a total of 100 marks and forms 30 % of the total marks for the unit.

**Assessment Due Date**
Week 11 Monday (28 Sept 2020) 11:45 pm AEST

**Return Date to Students**

Feedback and marks for this assessment will be released after the certification date as this unit does not have an exam.

**Weighting**
30%

**Assessment Criteria**
Assessment 3 will be marked based on the following criteria:
Report formatting (font, header and footer, table of contents, correct spelling, formal business language, numbering, referencing) 5 marks
Executive summary and introduction 5 marks
Dashboard design and analysis 85 marks
Conclusion and recommendations 5 marks
Total 100 marks

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Submission Instructions**
The assignment must be submitted to Moodle for marking by the due date.

**Learning Outcomes Assessed**

- Explain the fundamentals of dashboard design and data visualisation
- Explain the application of dashboard design and visualisation in summarising key information
- Identify the best practices in implementing dashboard design

- Design and implement a dashboard for a business case.

**Graduate Attributes**

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

# 4 Presentation

**Assessment Type**
Presentation

**Task Description**
This assessment contributes to the Learning Outcomes 5.This is an individual presentation based on Assessment 3. All students are required to deliver the presentation. You are required to present the dashboard developed in Assessment 3 based on the given case study. The presentation will be held in Week 12 during the tutorial time.

**Assessment Due Date**
Week 12 Monday (5 Oct 2020) 11:45 pm AEST

**Return Date to Students**

Feedback and marks for this assessment will be released after the certification date as this unit does not have an exam.

**Weighting**
20%

**Assessment Criteria**
Assessment 4 will be marked based on the following criteria:
Stay on topic 3 marks
Justify requirements of the topic 3 marks
Slide style 2 marks
Presentation style 6 marks
Valid information presented 6 marks
Total 20 marks

**Referencing Style**

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

**Submission**
Online

**Submission Instructions**
The presentation file must be submitted to Moodle by the due date.

**Learning Outcomes Assessed**

- Design and implement a dashboard for a business case.

**Graduate Attributes**

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

# 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