



COIT20250 Technologies in Information Systems Practice

Term 2 - 2024

Profile information current as at 07/07/2025 07:59 am

All details in this unit profile for COIT20250 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

ICT business and system analysts use many techniques to model and analyse business problems, such as data analytics, workflow modelling, dashboards and low code prototyping. In this unit, you will learn a selection of tools, as well as new and disruptive technologies, such as artificial intelligence, blockchain, Internet of Things and cloud services. You will gain practical, hands-on experience with data analysis and visualisation tools, such as the Microsoft Power platform, and cloud services for analysts, such as Azure or AWS. While evaluating the technical tradeoffs of technologies to deliver business value, you will also consider the ethical, legal and cyber security issues that arise when enterprises use those technologies.

Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisite: COIT20248 Information Systems Analysis and Design

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 - 2024

- 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 Postgraduate 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. **Report**

Weighting: 30%

2. **Report**

Weighting: 50%

3. **Report**

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 Unit Coordinator Reflection

Feedback

Introduce practicals on GenAI, cloud fundamental and low-code app development to incorporate emerging trends in information systems practices.

Recommendation

Include lecture and tutorial materials to address these topics in the next offering.

Unit Learning Outcomes

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

1. Apply data analysis tools to identify and explore insights into business problems
2. Use business and system analysis tools to model and prototype requirements, processes and designs
3. Justify the selection of current and emerging technologies to solve business problems
4. Critically analyse the ethical and professional issues that analysts encounter, especially regarding data privacy, cyber security and artificial intelligence.

The Australian Computer Society (ACS), the professional association for Australia's ICT sector, 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](#) to build a skills profile.

This unit contributes to the following workplace skills as defined by [SFIA 8](#) (the SFIA code is included):

- Business Modelling (BSMO)
- Business Intelligence (BINT)
- Data Modelling and Design (DTAN)
- Data Visualisation (VISL)
- Emerging Technology Monitoring (EMRG)
- Requirements Definition and Management (REQM)

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 |
| 1 - Report - 30% | • | • | • | |
| 2 - Report - 50% | • | • | • | |
| 3 - Report - 20% | | | • | • |

Alignment of Graduate Attributes to Learning Outcomes

| Graduate Attributes | Learning Outcomes | | | |
|--|-------------------|---|---|---|
| | 1 | 2 | 3 | 4 |
| 1 - Knowledge | ◦ | ◦ | ◦ | ◦ |
| 2 - Communication | ◦ | ◦ | ◦ | ◦ |
| 3 - Cognitive, technical and creative skills | ◦ | ◦ | ◦ | ◦ |
| 4 - Research | | | ◦ | ◦ |
| 5 - Self-management | | | ◦ | ◦ |
| 6 - Ethical and Professional Responsibility | | | ◦ | ◦ |
| 7 - Leadership | | | | |
| 8 - Aboriginal and Torres Strait Islander Cultures | | | | |

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)
- Zoom
- Microsoft Power BI
- Knime
- Microsoft Teams

Referencing Style

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

For further information, see the Assessment Tasks.

Teaching Contacts

Mohammad Saiedur Rahaman Unit Coordinator

m.saiedurrahaman@cqu.edu.au

Schedule

Week 1 - 08 Jul 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--|-------------------------|------------------------------|
| Introduction to Technologies in Information Systems Practice | Supplementary materials | |

Week 2 - 15 Jul 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|----------------------------|-------------------------|------------------------------|
| Supporting decision making | Supplementary materials | |

Week 3 - 22 Jul 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------------------|-------------------------|------------------------------|
| The role of Industry 4.0 | Supplementary materials | |

Week 4 - 29 Jul 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|-----------------------------------|-------------------------|---|
| Designing solutions for end-users | Supplementary materials | Assignment 1 (30% weighting) - report due by week 4, Friday, 11:45 pm Assignment 1 Due: Week 4 Friday (2 Aug 2024) 11:45 pm AEST |

Week 5 - 05 Aug 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--|-------------------------|------------------------------|
| Introduction to AI for Information Systems | Supplementary materials | |

Vacation Week - 12 Aug 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------------------|---------|------------------------------|
| Review previous lectures | | |

Week 6 - 19 Aug 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|-------------------------|------------------------------|
| Applications of AI in Information Systems | Supplementary materials | |

Week 7 - 26 Aug 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|----------------------------|-------------------------|------------------------------|
| Applications of Blockchain | Supplementary materials | |

Week 8 - 02 Sep 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--|-------------------------|------------------------------|
| Natural Language Processing and Conversational Information Systems | Supplementary materials | |

Week 9 - 09 Sep 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------------------------------|-------------------------|------------------------------|
| Human factors in Information Systems | Supplementary materials | |

Week 10 - 16 Sep 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|---------------------------------------|-------------------------|--|
| Ethical Information systems practices | Supplementary materials | Assignment 2 - (50% weighting) - report, slides, recorded presentation and statement of contributions due by week 10, Friday, 11:45 pm Note: face-to-face Q&A in week 11. Assignment 2 Due: Week 10 Friday (20 Sept 2024) 11:45 pm AEST |

Week 11 - 23 Sep 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|----------------------------------|-------------------------|--|
| Overview of Security and privacy | Supplementary materials | Assignment 2 - playback of recorded presentation and face-to-face Q&A, during week 11 tutorial session. ** attendance at the face-to-face Q&A session is mandatory to receive marks for the presentation component of Assignment 2. |

Week 12 - 30 Sep 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--|-------------------------|---|
| Technologies in Information Systems practice - Reviews and Reflections | Supplementary materials | Assignment 3 - (20% weighting) - Report due by week 12, Friday, 11:45 pm Assignment 3 Due: Week 12 Friday (4 Oct 2024) 11:45 pm AEST |

Review/Exam Week - 07 Oct 2024

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

Exam Week - 14 Oct 2024

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

Term Specific Information

Mohammad Saiedur Rahaman

Unit Coordinator

Melbourne - 6.13

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You are encouraged to use Moodle Q&A for any questions to benefit everyone. However, for specific inquiries requiring private discussion, please email me. I typically respond within 48 hours, excluding weekends and public holidays.

Assessment Tasks

1 Assignment 1

Assessment Type

Report

Task Description

This assessment relates to Learning Outcomes 1, 2 and 3. This is an individual assessment. You will identify the necessary tools and technology skills required for information systems practice. Furthermore, you will provide reasoning for their significance and relevance in executing tasks proficiently. You'll elaborate on strategies for managing data, perform thorough data analysis, articulate findings through visual representations, and develop and validate hypotheses. This assessment contributes to 30% of the total marks.

Assessment Due Date

Week 4 Friday (2 Aug 2024) 11:45 pm AEST

Online via Moodle

Return Date to Students

Vacation Week Friday (16 Aug 2024)

Within two weeks of submission.

Weighting

30%

Assessment Criteria

The assessment criteria are based on:

- Identification of tools and technology skills, and relevant data source.
- Analysis skills and technical literacy as demonstrated by the appropriate analysis techniques.
- Justify the selection of processes.
- Reporting including self-explanatory illustrations, references/citations.

The marking will be distributed as follows :

- Identification of tools and technology skills: 7 marks
- Identification and justification of relevant datasource: 7 marks
- Data analysis: 10 marks
- Well-written report: 6 marks

Total: 30 marks

See Moodle for detailed description of the assignment and marking rubric.

Referencing Style

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

Submission

Online

Submission Instructions

All files must be submitted via the Moodle unit website for marking by the due date.

Learning Outcomes Assessed

- Apply data analysis tools to identify and explore insights into business problems
- Use business and system analysis tools to model and prototype requirements, processes and designs
- Justify the selection of current and emerging technologies to solve business problems

2 Assignment 2

Assessment Type

Report

Task Description

This assessment relates to Learning Outcomes 1, 2 and 3. This group assessment task has two parts: a report and a presentation. To accomplish the report, you are required to select one dataset from a given list. Then define a problem statement and demonstrate how did you solve this problem by leveraging data analytics machine learning algorithms. Additionally, you are required to submit a short recorded presentation along with the slide deck to communicate the solution of the addressed problem. Ensure that the presentation is easily comprehensible for a general audience. The recorded presentation will be played back during the week 11 tutorial, followed by a face-to-face Q&A session. This assessment contributes to 50% of the total marks.

Assessment Due Date

Week 10 Friday (20 Sept 2024) 11:45 pm AEST

Online via Moodle

Return Date to Students

Feedback and marks for this assessment will be released on the grade certification date

Weighting

50%

Assessment Criteria

The assessment criteria are based on:

- Identification of problem, application of design thinking process.
- Analysis skills and technical literacy as demonstrated by the selection of analytics and machine learning techniques.
- Justify the selection of processes.
- Reporting including self-explanatory illustrations, references/citations.
- A well-structured presentation for a general audience and performance in the Q&A session.

The marking will be distributed as follows :

- Report - 30 marks
- Presentation - 20 marks (Recorded presentation: 10 marks + Slides: 5 marks + Q&A: 5 marks)

Total: 50 marks

Important note: The presentation component of this assignment accounts for 20% of the total marks. Please note that the recorded presentation you submit by the due date will be played back during the Week 11 tutorial, followed by a mandatory Q&A session. If you cannot attend the Q&A session, you will not receive any marks for the presentation component of this assessment.

See Moodle for detailed description of the assignment and marking rubric.

Referencing Style

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

Submission

Online Group

Submission Instructions

All files must be submitted via the Moodle unit website by the due date.

Learning Outcomes Assessed

- Apply data analysis tools to identify and explore insights into business problems
- Use business and system analysis tools to model and prototype requirements, processes and designs
- Justify the selection of current and emerging technologies to solve business problems

3 Assignment 3

Assessment Type

Report

Task Description

This assessment relates to Learning Outcomes 3 and 4. This is an individual assessment. This assessment task requires you to prepare and submit a report. You will identify the human factors and ethical considerations linked to the solution your group proposed in Assessment 2. Additionally, you must suggest resolutions to these identified human factors and ethical issues, supported by appropriate justification. This assessment contributes to 20% of the total marks.

Assessment Due Date

Week 12 Friday (4 Oct 2024) 11:45 pm AEST

All files must be submitted via the Moodle unit website by the due date.

Return Date to Students

Feedback and marks for this assessment will be released on the grade certification date

Weighting

20%

Assessment Criteria

The assessment criteria are based on:

- Identification of human and ethical factors of information systems.
- Justify the selection of processes.
- Reporting including references/citations.

The marking will be distributed as follows :

Human and ethical factors Identification with justification: 8 marks

Solution to identified human and ethical factors with justification: 8 marks

A well-written report: 4 marks

Total: 20 marks

See Moodle for detailed description of the assignment and marking rubric.

Referencing Style

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

Submission

Online

Submission Instructions

All files must be submitted via the Moodle unit website for marking by the due date.

Learning Outcomes Assessed

- Justify the selection of current and emerging technologies to solve business problems
- Critically analyse the ethical and professional issues that analysts encounter, especially regarding data privacy, cyber security and artificial intelligence.

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