

COIT13235 *Enterprise Software Development*

Term 2 - 2025

Profile information current as at 12/03/2026 11:02 am

All details in this unit profile for COIT13235 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

This unit introduces you to the practical issues involved in the design and implementation of robust enterprise software applications enabling business-to-business and business-to-customer operations. You will learn data persistence and management of persistent objects extending your knowledge of object-oriented programming. You will learn to use well-known design patterns to build portable, highly available and maintainable software applications that require integrated use of several open-source tools. You will work in a small team to design and develop a 3-tier enterprise system with a data persistence tier, business logic layer, and a web-based presentation tier. Issues and consequences of complex computing will be discussed in the context of enterprise computing architecture and technology.

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

Prerequisite: (COIT11237 - Database Design & Implementation and COIT12200 - Software Design & Development) OR (COIT12167 - Database Use and Design and COIT12200 - Software Design & Development)

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 - 2025

- Brisbane
- Cairns
- 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. Practical and Written Assessment

Weighting: 30%

2. Reflective Practice Assignment

Weighting: 20%

3. Practical and Written Assessment

Weighting: 50%

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 Evaluations, Tutor Feedback and Unit Coordinator Reflections

Feedback

The volume of content was excessive and additional review content is required.

Recommendation

Replace some advanced topics with more review materials.

Feedback from Student Evaluations

Feedback

Students valued the unit's industry relevance.

Recommendation

Maintain industry relevance of the unit.

Feedback from Student Evaluations

Feedback

Quiz instructions need to be clearer.

Recommendation

Improve the clarity of quiz question instructions.

Unit Learning Outcomes

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

1. Investigate and compare major enterprise software architectures and analyse the effectiveness of enterprise software systems for business operations involving diverse groups of stakeholders with varying needs
2. Use contemporary enterprise software development tools and techniques to design and develop appropriate solutions for business operations
3. Implement and build multi-tiered enterprise software systems in a distributed service-oriented architecture
4. Work collaboratively in a team contributing to productive complex software development.

The Australian Computer Society (ACS) recognises the Skills Framework for the Information Age (SFIA). SFIA provides a consistent definition of ICT skills. SFIA is adopted by organisations, governments and individuals in many countries and is increasingly 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 8. The SFIA code is included:

- Programming/Software Development (PROG)
- Data modelling and design (DTAN)
- Database design (DBDS)
- Software design (SWDN)
- Systems design (DESN)
- Testing (TEST)
- Systems integration and build (SINT)
- Release and deployment (RELM)
- Application support (ASUP)

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 - Reflective Practice Assignment - 20%	•	•		
2 - Practical and Written Assessment - 30%		•	•	
3 - Practical and Written Assessment - 50%		•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
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 - First Nations Knowledges				
11 - 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 (both microphone and webcam capability)
- SpringBoot IDE, e.g. Visual Studio Code or Apache NetBeans
- OpenJDK 21

Referencing Style

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

For further information, see the Assessment Tasks.

Teaching Contacts

Jamie Shield Unit Coordinator

j.shield@cqu.edu.au

Schedule

Week 1 - 14 Jul 2025

Module/Topic	Chapter	Events and Submissions/Topic
1 Introduction	Refer to the unit website for readings. Chapter 1 of Fernando, C 2022, Solution Architecture Patterns for Enterprise, Apress.	

Week 2 - 21 Jul 2025

Module/Topic	Chapter	Events and Submissions/Topic
2 Fundamentals	Chapter 12 of Carducci, M 2025, Mastering Software Architecture. 1st ed, Apress.	

Week 3 - 28 Jul 2025

Module/Topic	Chapter	Events and Submissions/Topic
3 SpringBoot	Chapter 1 of Deinum, M 2024, Spring Boot 3 Recipes, Apress.	

Week 4 - 04 Aug 2025

Module/Topic	Chapter	Events and Submissions/Topic
W4 Persistence (ORM)	Chapter 14 of Spilcă, L 2021, Spring start here, Manning.	Ass 1 Week 4 Apps due

Week 5 - 11 Aug 2025

Module/Topic	Chapter	Events and Submissions/Topic
5 Interoperability (RESTful Services)	Chapter 10 of Reddy, K & Upadhyayula, S 2023, Beginning Spring Boot 3, Apress.	Ass 1 Week 5 Apps due

Vacation Week - 18 Aug 2025		
Module/Topic	Chapter	Events and Submissions/Topic
No classes		
Week 6 - 25 Aug 2025		
Module/Topic	Chapter	Events and Submissions/Topic
6 Restful Clients		Ass 1 Week 6 Apps due
Week 7 - 01 Sep 2025		
Module/Topic	Chapter	Events and Submissions/Topic
7 Presentation (MVC)	Chapter 4 of Reddy, K & Upadhyayula, S 2023, Beginning Spring Boot 3, Apress.	Ass 1 Week 7 Apps due
Week 8 - 08 Sep 2025		
Module/Topic	Chapter	Events and Submissions/Topic
8 Security	Chapter 12 of Reddy, K & Upadhyayula, S 2023, Beginning Spring Boot 3, Apress.	Ass 2 due
Week 9 - 15 Sep 2025		
Module/Topic	Chapter	Events and Submissions/Topic
9 Microservices	Chapter 6 of Macero García, M & Telang, T 2023, Learn Microservices with Spring Boot 3, Apress.	Ass 3 Git due
Week 10 - 22 Sep 2025		
Module/Topic	Chapter	Events and Submissions/Topic
10 Project		Ass 3 Git due
Week 11 - 29 Sep 2025		
Module/Topic	Chapter	Events and Submissions/Topic
11 Project		Ass 3 Project due

Term Specific Information

Unit Coordinator: Jamie Shield, Cairns,
j.shield@cqu.edu.au,
Office: 07 4037 4750

Assessment Tasks

1 W4,5,6,7 Apps (30%)

Assessment Type

Practical and Written Assessment

Task Description

There are four sets of weekly apps designed to prepare you for the project. Each week you will implement small enterprise apps to demonstrate features of libraries such as persistence, REST, MVC and security. For most apps, you will be provided with skeleton code and/or tests.

FULL AI

You may use AI extensively throughout your work either as you wish, or as specifically directed in your assessment. Focus on directing AI to achieve your goals while demonstrating your critical thinking.

Assessment Due Date

Due weeks 4,5,6 and 7

Return Date to Students

For most exercises, feedback will be returned immediately. Otherwise, feedback will be returned by Week 9.

Weighting

30%

Assessment Criteria

The assessment consists of enterprise exercises that you will implement apps for. Each exercise will be marked according to the correctness of the answer, for example, the quality of the database artefacts produced for a persistence exercise. There are four sets of weekly exercises; each worth 7.5%.

Referencing Style

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

Submission

Online

Submission Instructions

You must submit weekly via the Moodle unit site.

Learning Outcomes Assessed

- Use contemporary enterprise software development tools and techniques to design and develop appropriate solutions for business operations
- Implement and build multi-tiered enterprise software systems in a distributed service-oriented architecture

2 W8 A2 Review, Research and Reflect (20%)

Assessment Type

Reflective Practice Assignment

Task Description

Your task in this assignment is to review, research, and reflect on major enterprise software architectures and analyse the effectiveness of enterprise software systems for business operations involving diverse groups of stakeholders with varying needs. This assessment task is to demonstrate your understanding of existing techniques and your ability to research future developments. The activities include:

- Review exercises: Apply existing techniques and methodologies
- Research papers: Find, read, and summarise relevant book chapters and research papers
- Reflections: Write reflections on your findings and insights and
- Job application: Create a CV and record a mock job interview.

FULL AI

You may use AI extensively throughout your work either as you wish, or as specifically directed in your assessment. Focus on directing AI to achieve your goals while demonstrating your critical thinking.

Assessment Due Date

Due in Week 8

Return Date to Students

For most exercises, feedback will be returned immediately. Otherwise, feedback will be returned by Week 10.

Weighting

20%

Assessment Criteria

This assessment consists of small activities such as writing paragraphs, technical (developing design diagrams and small programs) and short answer questions. The activities will be marked on aspects such as the quality of writing including strength of arguments, clarity of expression, relevant and correct referencing, diagram quality and correctness.

Referencing Style

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

Submission

Online

Submission Instructions

Submit via the unit website.

Learning Outcomes Assessed

- Investigate and compare major enterprise software architectures and analyse the effectiveness of enterprise software systems for business operations involving diverse groups of stakeholders with varying needs
- Use contemporary enterprise software development tools and techniques to design and develop appropriate solutions for business operations

3 W11 A3 Group Project (50%)

Assessment Type

Practical and Written Assessment

Task Description

You will work as part of a small team to analyse requirements, design, implement, build, test, and document a complete enterprise application.

Groupwork

You must work in groups of 4 to 6 people for this assignment. It is likely that your group will include people from other campuses. All group members must be identified in the groupwork artefacts. Your team must choose a technical leader and a, different, group leader who will act as the project manager. Evidence must be provided that all group members contributed adequately to the final submissions. All group members must submit via the unit website. The moderation process might allocate group members different marks. Sharing of artefacts, for example, code, between groups is not permitted.

Repository

Create a private code repository and invite your tutor and the unit coordinator. One code repository is to be used by all group members. Each member of the group must make at least four weekly contributions to a private Git repository prior to the due date.

FULL AI

You may use AI extensively throughout your work either as you wish, or as specifically directed in your assessment. Focus on directing AI to achieve your goals while demonstrating your critical thinking.

Assessment Due Date

The project is due in Week 11.

Return Date to Students

The marks and feedback will be returned on the day of certification of grades.

Weighting

50%

Assessment Criteria

The assignment criteria includes documentation quality (design, code and test), software implementation correctness and process and groupwork artefacts. Process, groupwork and code compilation and execution are aspects of each criteria. For example, to be eligible for full marks for each criteria, you must have committed quality contributions to your team's private Git over 4 weeks, you must have evidence of your contribution to the team and your code must run and execute.

Referencing Style

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

Submission

Online

Submission Instructions

Submit artefacts to your private Git repository weekly from at least Week 8. Every member of the group should also submit to Moodle by the due date.

Learning Outcomes Assessed

- Use contemporary enterprise software development tools and techniques to design and develop appropriate solutions for business operations
- Implement and build multi-tiered enterprise software systems in a distributed service-oriented architecture
- Work collaboratively in a team contributing to productive complex software development.

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