



# COIT20273 Software Design and Development Project

## Term 2 - 2019

Profile information current as at 11/04/2024 12:17 am

All details in this unit profile for COIT20273 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

In this capstone project, you are required to synthesise and demonstrate your technical and generic skills developed across the units studied previously. To achieve this, you will work in small teams with a designated customer to identify a small software application, its requirements (both functional and non-functional) and a software development methodology for its realisation. Your team will then develop a well designed and documented application that meets the identified requirements. In addition to the documented application, your team will also identify and produce the project management and quality assurance components required to ensure that the project is delivered within specified project outcome parameters. Emerging technologies and current research issues will support your design choices.

### Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 12

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.25

### Pre-requisites or Co-requisites

Pre-requisites: PPMP20007 Project Management Concepts COIT20258 Software Engineering Co-requisites: COIT20259 Enterprise Computing Architecture COIT20257 Distributed Systems: Principles and 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 - 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 12-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 25 hours of study per week, making a total of 300 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. **Project (applied)**

Weighting: 100%

### 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 evaluation

**Feedback**

More learning resources on Agile approach is expected.

**Recommendation**

Provide Agile development examples and resources in the future.

#### Feedback from ACS accreditation feedback

**Feedback**

Teamwork should be improved.

**Recommendation**

Update assessment tasks to ensure there are at least three members in the team.

## Unit Learning Outcomes

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

1. Apply a systems engineering process, including requirement analysis, application software design, algorithm design, coding and debugging, software testing, and software project management, informed by research into best practice
2. Demonstrate professional standards of software development including technical skills, documentation, software quality assurance, risk mitigation strategies, ethics and professional responsibility
3. Plan and manage the software development project, particularly the scheduling of time and resources and the generation of supporting documentation
4. Work collaboratively as part of a productive team
5. Communicate effectively by using written and oral presentation, understanding the needs of various stakeholders
6. Review and critically evaluate team and individual performance, reflecting on the processes followed and identifying areas for improvement.

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:

- Programming/software development (PROG)
- Project Management (PRMG)
- System Design (DESN)
- Database design (DBDS)
- Enterprise and business architecture (STPL)
- Application support (ASUP)
- Testing (TEST)
- Research (RSCH)
- User experience analysis (UNAN)
- User experience design (HCEV)
- User experience evaluation (USEV)
- Configuration management (SYSP)
- Quality assurance (QUAS)
- Quality standards (QUST)






















## Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Project (applied) - 100%	•	•	•	•	•	•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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						

### Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Project (applied) - 100%								

## 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)

## Referencing Style

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

## Teaching Contacts

**Lily Li** Unit Coordinator  
[l.li@cqu.edu.au](mailto:l.li@cqu.edu.au)

## Schedule

### Week 1 - 15 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Workshop: <ul style="list-style-type: none"><li>• Unit outcomes</li><li>• Review software engineering topics</li><li>• Review project plan topics</li><li>• Scrum - Agile software project management method (optional)</li></ul>		<ul style="list-style-type: none"><li>• Form groups</li><li>• Identify project</li><li>• Identify roles in the team</li><li>• Choose project management method</li></ul>

### Week 2 - 22 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Workshop: <ul style="list-style-type: none"><li>• Project planning</li></ul>		

### Week 3 - 29 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		

### Week 4 - 05 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		Submit Artefact one

### Week 5 - 12 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		

### Vacation Week - 19 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
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<b>Week 6 - 26 Aug 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Workshop		Submit Artefact two
<b>Week 7 - 02 Sep 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Workshop		
<b>Week 8 - 09 Sep 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Workshop		Submit Artefact three - progress report A
<b>Week 9 - 16 Sep 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Workshop		
<b>Week 10 - 23 Sep 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Workshop		Submit Artefact three - progress report B
<b>Week 11 - 30 Sep 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Workshop		
<b>Week 12 - 07 Oct 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Workshop		Submit Artefact four - final project document and presentation
<b>Review/Exam Week - 14 Oct 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
<b>Exam Week - 21 Oct 2019</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>

## Assessment Tasks

### 1 Software Development Artefacts

#### Assessment Type

Project (applied)

#### Task Description

Welcome to COIT20273 Software Design and Development Project. In this project, you will work in teams using either a plan driven or Agile approach on the realisation of a small software development project: The following artefacts are to be submitted:

#### Artefact one

*Plan-driven approach:* Project Plan and Requirements Specification. The plan and specification document is to provide a description of the project scope and its schedule, risks, product quality and resources. The requirements specification is to provide a clear list of non-functional and functional requirements for the application to be developed.

*Agile approach:* Plan and User Stories. The plan is to provide a record of discussions with the customer regarding the nature of the application that is to be developed, the number of iterations expected and the anticipated involvement of the customer. User Stories document the initial set of user stories agreed with

the customer.

### **Artefact two**

*Plan-driven approach:* Design Document. A document outlining the software architecture and the initial design approach is to be provided.

*Agile approach:* Design review. A document outlining the software architecture and the initial design approach is to be provided.

### **Artefact three - Progress Reports (two submissions)**

Two progress reports are to be submitted as Word documents in Week 8 and Week 10. The reports are to review progress and to review the risk plan. If Agile development is being employed, the reports should also include a review of any design refactoring that have been made. This review will be assessed as part of artefact 2.

### **Artefact four - Final Project Document and Presentation**

*Plan-driven approach* - This final submission includes three distinctive parts:

1. - The first part is a project report describing the implementation and the testing of the product (group).
2. - The second part is a project review report including peer review report (individual).
3. - The last part consists of a power point file (group) and an oral in-class/online presentation (individual).

Each student has to submit this final assignment individually.

*Agile approach* - This final submission includes three distinctive parts:

1. - The first part is a project report describing different aspects of the final submission, which include all the documents for the final release of the software product, final requirements and design documents, implementation and testing report (group).
2. - The second part is a project review report including peer review report (individual).
3. - The last part consists of a power point file (group) and an oral in-class/online presentation (individual).

Each student has to submit this final assignment individually.

**Feedback** for artefacts one, two and three will be provided within two weeks after the submission. Feedback for artefact four will be available on the Certification day. If Agile approach is employed, your marks for each artefact will be assessed at the final stage. Please make sure to re-submit all your previous artefacts in the final submission, if Agile approach is used.

**Contact time** is allocated each week in the form of a workshop. During these workshops, the local lecturer/supervisor will provide teams with assistance and monitor progress. Teams will be required to give presentations for some of the above artefacts in the week that the artefact is due. For distance students, the time of the "presentation" and the technology employed for communication will be determined on an individual basis. The project itself will be concerned with the development of a 3-layered information system or an equivalent application; details will be available on the unit website.

### **Assessment Due Date**

Refer to the unit schedule for due dates.

### **Return Date to Students**

Feedback for Artefacts one, two and three will be returned within 2 weeks of submission. Feedback and the final marks for Artefact four will be returned on Certification day.

### **Weighting**

100%

### **Assessment Criteria**

1. Artefact one (30%)
2. Artefact two (20%)
3. Artefact three (10%)
4. Artefact four (40%)

Note: The detailed marking guides are available on the unit website.

**Referencing Style**

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

**Submission**

Online

**Learning Outcomes Assessed**

- Apply a systems engineering process, including requirement analysis, application software design, algorithm design, coding and debugging, software testing, and software project management, informed by research into best practice
- Demonstrate professional standards of software development including technical skills, documentation, software quality assurance, risk mitigation strategies, ethics and professional responsibility
- Plan and manage the software development project, particularly the scheduling of time and resources and the generation of supporting documentation
- Work collaboratively as part of a productive team
- Communicate effectively by using written and oral presentation, understanding the needs of various stakeholders
- Review and critically evaluate team and individual performance, reflecting on the processes followed and identifying areas for improvement.

**Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility
- Leadership



## 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