



COIT12200 *Software Design & Development*

Term 1 - 2018

Profile information current as at 02/05/2024 10:49 am

All details in this unit profile for COIT12200 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 develops practical knowledge and skills of the system design, implementation and testing and maintenance phases of the systems development lifecycle (SDLC). Software is constructed to demonstrate understanding of SDLC processes as they relate to layered software systems, that is, systems consisting of presentation, application and data layers.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Pre-requisites: COIT11134 and COIT11237 OR COIT11134 and COIT12167

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 - 2018

- Brisbane
- Cairns
- Distance
- Melbourne
- 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. **Practical and Written Assessment**

Weighting: 20%

2. **Practical and Written Assessment**

Weighting: 40%

3. **Examination**

Weighting: 40%

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 feedback

Feedback

Assessment

Recommendation

Assignment specifications will be more detailed

Feedback from Student feedback

Feedback

Content

Recommendation

Students appreciated both the practicality and relevance of the course content. No change in this regard will be made.

Feedback from Self Reflection

Feedback

Textbook

Recommendation

A replacement text has been identified which provides a better coverage of the course content

Unit Learning Outcomes

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

1. apply user interface and software design principles.
2. develop appropriate documentation for the design, implementation and testing phases of the SDLC.
3. prepare a detailed design for a layered information system using appropriate design methods.
4. implement a layered information system.
5. understand the issues involved in software maintenance and how maintenance activities differ from design and implementation activities.
6. Use SQL effectively in a range of different design scenarios.

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:

- Program ming/Software Development (PROG)
- Testing (TEST).

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
1 - Practical and Written Assessment - 20%	•	•	•	•		
2 - Practical and Written Assessment - 40%	•	•	•	•		•
3 - Examination - 40%	•				•	•

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 - Practical and Written Assessment - 20%	•	•	•	•		•	•	•		
2 - Practical and Written Assessment - 40%	•	•	•	•		•		•		
3 - Examination - 40%	•	•	•					•		

Textbooks and Resources

Textbooks

COIT12200

Prescribed

Software Engineering

Edition: 10th. (2015)

Authors: Sommerville, I.

Pearson

Harlow , Essex , England

ISBN: 1-292-09613-6

Binding: Paperback

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- The NetBeans IDE

Referencing Style

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

For further information, see the Assessment Tasks.

Teaching Contacts

Partha Gangavalli Unit Coordinator

p.gangavalli@cqu.edu.au

Schedule

Week 1 - 05 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Introduction; NetBeans	Chapter 1; Online Material	

Week 2 - 12 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Software Processes; JDBC	Chapter 2; Online Material	

Week 3 - 19 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Agile Software Development; Case Study 1: AddressBook - Model/View (MV)	Chapter 3; Online Material	

Week 4 - 26 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Requirements Engineering; System Modelling	Chapter 4; Chapter 5	

Week 5 - 02 Apr 2018

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

Requirements Analysis; Case Study 1:
AddressBook - Model/View/Presenter
(MVP)

Online Material(MVP Example
provided is online material)

Assignment 1 Due: Week 5 Friday (6
Apr 2018) 11:45 pm AEST

Vacation Week - 09 Apr 2018

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

Week 6 - 16 Apr 2018

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

Architectural Design; GUI, DB Design	Chapter 6; Online Material	
--------------------------------------	----------------------------	--

Week 7 - 23 Apr 2018

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

Design and Implementation; Design Documents	Chapter 7; Online Material	
---	----------------------------	--

Week 8 - 30 Apr 2018

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

Design Principles; Case Study 1: AddressBook - Model/View/Controller (MVC)	Online Material((MVC Example provided is online material)	
--	--	--

Week 9 - 07 May 2018

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

Software Testing; Case Study 1: AddressBook - Critique	Chapter 8; Online Material	
---	----------------------------	--

Week 10 - 14 May 2018

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

Software Evolution; Case Study 2: Wumpus - Specification	Chapter 9; Online Material	
---	----------------------------	--

Week 11 - 21 May 2018

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

Quality Management; Case Study 2: Wumpus - Design	Chapter 24; Online Material(Wumpus Design)	Assignment 2 Due: Week 11 Friday (25 May 2018) 11:45 pm AEST
--	---	--

Week 12 - 28 May 2018

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

Configuration Management; Review	Chapter 25; Online Material	
----------------------------------	-----------------------------	--

Review/Exam Week - 04 Jun 2018

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

Exam Week - 11 Jun 2018

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

Assessment Tasks

1 Assignment 1

Assessment Type

Practical and Written Assessment

Task Description

In this assignment, you will implement a two-layered Java application consisting of a Swing-base GUI that interacts with a Java DB database through the JDBC API. The specification of the system to be built will be provided on the unit website.

Assessment Due Date

Week 5 Friday (6 Apr 2018) 11:45 pm AEST

Return Date to Students

Two weeks after submission

Weighting

20%

Assessment Criteria**Assignment 1 (Total = 20 marks)**

Criteria	Marks Available
GUI Implementation	3
Exception Handling	2
Query Construction	6
Acceptance Testing	4
Class Implementation	5

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- apply user interface and software design principles.
- develop appropriate documentation for the design, implementation and testing phases of the SDLC.
- prepare a detailed design for a layered information system using appropriate design methods.
- implement a layered information system.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

2 Assignment 2

Assessment Type

Practical and Written Assessment

Task Description

In this assignment, you will implement a three layered system using MVP pattern. The system developed in assignment 1 should be refactored with some additional functionality. The specification of the system to be built will be available on the unit website.

Assessment Due Date

Week 11 Friday (25 May 2018) 11:45 pm AEST

Return Date to Students

Two weeks after submission

Weighting

40%

Assessment Criteria

Assignment 2 (Total = 40 marks)

Criteria	Marks Available
GUI Implementation	2
Application class	5
Model + interface classes	5
View + interface classes	5
Presenter class	5
Layer interactions (Application/MVP, V/P, P/M, M/DB)	10
Source code documentation / variable naming / code layout	3
Package structure	2
Acceptance tests (0 if any test fails)	3

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- apply user interface and software design principles.
- develop appropriate documentation for the design, implementation and testing phases of the SDLC.
- prepare a detailed design for a layered information system using appropriate design methods.
- implement a layered information system.
- Use SQL effectively in a range of different design scenarios.

Graduate Attributes

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

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

40%

Length

180 minutes

Exam Conditions

Open Book.

Materials

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).
Calculator - all non-communicable calculators, including scientific, programmable and graphics calculators are authorised

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