COIT12200 *Software Design & Development*
Term 1 - 2017

Profile information current as at 05/05/2024 03:45 pm

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 - 2017

- 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

— 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	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

View textbooks at the CQUniversity Bookshop

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

Dennis Jarvis Unit Coordinator
d.jarvis@cqu.edu.au

Schedule

Week 1 - 06 Mar 2017

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

Week 2 - 13 Mar 2017

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

Week 3 - 20 Mar 2017

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

Week 4 - 27 Mar 2017

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

Week 5 - 03 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Requirements Analysis; Case Study 1: AddressBook - Model/View/Presenter (MVP)	Online Material; Online Material	**Assignment 1** Due: Week 5 Friday (7 Apr 2017) 11:45 pm AEST

Vacation Week - 10 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 17 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Architectural Design; GUI, DB Design	Chapter 6; Online Material	

Week 7 - 24 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Design and Implementation; Design Documents	Chapter 7; Online Material	

Week 8 - 01 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Design Principles; Case Study 1: AddressBook - Model/View/Controller (MVC)	Online Material; Online Material	

Week 9 - 08 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Software Testing; Case Study 1: AddressBook - Critique	Chapter 8; Online Material	

Week 10 - 15 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Software Evolution; Case Study 2: Wumpus - Specification	Chapter 9; Online Material	

Week 11 - 22 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Quality Management; Case Study 2: Wumpus - Design	Chapter 24; Online Material	**Assignment 2** Due: Week 11 Friday (26 May 2017) 11:45 pm AEST

Week 12 - 29 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Configuration Management; Review	Chapter 25; Online Material	

Review/Exam Week - 05 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 12 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Assignment 1

Assessment Type
Practical and Written Assessment

Task Description
In this assignment, students 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 (7 Apr 2017) 11:45 pm AEST

Return Date to Students

Two weeks after submission

Weighting
20%

Assessment Criteria
[Assignment](#) 1 (Total = 20 marks)

Criteria	Marks Available
Exception handling (database handling)	2
Exception handling (query handling)	2
GUI implementation (as per design)	3
Class implementation (as per design)	5
Query construction	3
Display query results	3
Source code documentation	2

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, students will implement a revised specification for the application developed in Assignment 1. Additional requirements will include the refactoring of the Phase 1 system to conform to the MVP (Model View Presenter) pattern. The specification of the system to be built will be available on the unit website.

Assessment Due Date
Week 11 Friday (26 May 2017) 11:45 pm AEST

Return Date to Students

Two weeks after submission

Weighting
40%

Assessment Criteria
Assignment 2 (Total = 40 marks)

Criteria	Marks Available
Application class	5
Model + interface classes	5
View + interface classes	5
Presenter class	5
Layer interactions (Application/MVP, V/P, P/M, M/DB)	12
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
Calculator - all non-communicable calculators, including scientific, programmable and graphics calculators are authorised
Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

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