COIT20273 *Software Design and Development Project*
Term 1 - 2017

Profile information current as at 18/04/2024 07:08 pm

General Information

Overview

In this unit, you will design, develop and test a software application to meet quality characteristics of functionality, usability, maintainability and dependability. In this capstone project, you are required to synthesise and demonstrate your technical and generic skills developed across the Master of Information Technology and the software design and development major. You will work in small teams under supervision to identify the requirements of the users and to develop working computational solutions. You will produce typical project management artifacts associated with a project 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 Design: Principles, Models, and Patterns
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 1 - 2017

- Brisbane
- Distance
- Melbourne
- 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. **Written Assessment**
Weighting: 15%
2. **Written Assessment**
Weighting: 8%
3. **Presentation and Written Assessment**
Weighting: 10%
4. **Practical and Written Assessment**
Weighting: 15%
5. **Presentation and Written Assessment**
Weighting: 30%
6. **Written Assessment**
Weighting: 22%

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 self reflection

Feedback
Assessment strategies need to be reviewed

Recommendation
Assessment weighting and submission strategies are to be reviewed and updated

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 and ethics.
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:

- Software Development Process Improvement (SPIM)
- Project Management (PRMG)
- Systems Design(DESN)
- Systems integration (SINT)
- Program ming/Software Development (PROG)
- Data Analysis (DTAN)
- Database/Repository Design (DBDS)
- System development management (DLMG)
- Testing (TEST)
- 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	5	6
1 - Written Assessment - 15%	•		•	•	•	•
2 - Written Assessment - 8%		•	•			•
3 - Presentation and Written Assessment - 10%	•	•		•	•	
4 - Practical and Written Assessment - 15%	•	•		•	•	•
5 - Presentation and Written Assessment - 30%	•	•	•	•	•	
6 - Written Assessment - 22%	•	•		•	•	•

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 - Written Assessment - 15%	○	○	○	○	○			
2 - Written Assessment - 8%	○	○			○		○	
3 - Presentation and Written Assessment - 10%	○	○	○	○	○	○	○	
4 - Practical and Written Assessment - 15%	○	○	○	○	○	○	○	
5 - Presentation and Written Assessment - 30%	○	○	○			○		

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
6 - Written Assessment - 22%	○	○		○	○	○	○	

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)
- 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

Lily Li Unit Coordinator
l.li@cqu.edu.au

Schedule

Week 1 - 06 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		Form groups

Week 2 - 13 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		

Week 3 - 20 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		Submit assessment item 1 - project proposal and plan **Project proposal and project plan** Due: Week 3 Friday (24 Mar 2017) 5:00 pm AEST

Week 4 - 27 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		Submit assessment item 2 (a) - progress report 1

Week 5 - 03 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		Submit assessment item 3 - requirements specification **Requirement specification** Due: Week 5 Friday (7 Apr 2017) 5:00 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
Workshop		Submit assessment item 2 (b) - progress report 2 Submit assessment item 4 - design document **Design document** Due: Week 6 Friday (21 Apr 2017) 5:00 pm AEST

Week 7 - 24 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		

Week 8 - 01 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		Submit assessment item 2 (c) - progress report 3

Week 9 - 08 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		

Week 10 - 15 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		Submit assessment item 2 (d) - progress report 4 Submit assessment item 5 - implementation document **Implementation document and presentation** Due: Week 10 Friday (19 May 2017) 10:12 pm AEST

Week 11 - 22 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		Project presentation

Week 12 - 29 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Workshop		Submit assessment item 6 - Project review and final submission **Project Review and Project Portfolio** Due: Week 12 Friday (2 June 2017) 10:23 pm AEST

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 Project proposal and project plan

Assessment Type
Written Assessment

Task Description
This assessment item is designed to test your skills in project initiation and planning including project scoping, resource scheduling, quality assurance planning, risk mitigation, collaboration, and documentation.

Assessment Due Date
Week 3 Friday (24 Mar 2017) 5:00 pm AEST
Refer to the unit schedule

Return Date to Students

Feedback will be returned within two weeks of submission

Weighting
15%

Assessment Criteria
Well documented project plan which includes main objectives, scope and constraints of the project, system architecture, hardware and software requirements, project organisation, work breakdown structure, project schedule, monitoring and reporting system, and risk plan and quality assurance plan.
The detailed marking guide is 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.
- 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

2 Project reports 2a - 2d

Assessment Type
Written Assessment

Task Description
This assessment item consists of 4 progress reports over the term. It is designed to test your skills in project

management including quality assurance, resource scheduling, risk mitigation, collaboration, and documentation.

Assessment Due Date

Refer to the unit schedule for due dates.

Return Date to Students

Within one week of submission

Weighting
8%

Assessment Criteria
The progress reports should include a review of project schedule, quality assurance, and risk mitigation strategies providing corrective measures for any deviation.
The detailed marking guide is available on the unit website.

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Demonstrate professional standards of software development including technical skills, documentation, software quality assurance, risk mitigation strategies and ethics.
- Plan and manage the software development project, particularly the scheduling of time and resources and the generation of supporting documentation.
- Review and critically evaluate team and individual performance, reflecting on the processes followed and identifying areas for improvement.

Graduate Attributes

- Knowledge
- Communication
- Self-management
- Leadership

3 Requirement specification

Assessment Type
Presentation and Written Assessment

Task Description
This assessment task is designed to test your skills in software requirement analysis. Your group will present your work in written documentation and oral presentation.

Assessment Due Date
Week 5 Friday (7 Apr 2017) 5:00 pm AEST
Oral Presentations for internal students will take place during the scheduled workshop in Week 5. External students need to arrange a time and date during Week 5 in consultation with your tutor.

Return Date to Students

Within two weeks after submission

Weighting
10%

Assessment Criteria
The requirement specification should include documentation depicting completed tasks of functional and non-functional requirements analysis, use cases (UML), and mapping of use cases to requirements.
The detailed marking guide is 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 and ethics.
- Work collaboratively as part of a productive team.
- Communicate effectively by using written and oral presentation, understanding the needs of various stakeholders.

Graduate Attributes

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

4 Design document

Assessment Type
Practical and Written Assessment

Task Description
The design document should include documentation on completed design of software architecture, database, and user interface. It should also include documentation on completed development of modelling for software layers, classes, and behaviour, and interactions of User Interface/Application Layer and Application Layer/Data access layer.

Assessment Due Date
Week 6 Friday (21 Apr 2017) 5:00 pm AEST
Refer to the unit schedule for due date

Return Date to Students

Within two weeks after submission

Weighting
15%

Assessment Criteria
The design document should include documentation on completed design of software architecture, database, and user interface. It should also include documentation on completed development of modelling for software layers, classes, and behaviour, and interactions of User Interface/Application Layer and Application Layer/Data access layer.
The detailed marking guide is 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 and ethics.
- 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

5 Implementation document and presentation

Assessment Type
Presentation and Written Assessment

Task Description
This assessment task is used to test your skills in algorithm design, coding and debugging, software testing, effective collaboration and quality documentation meeting scheduled project timelines and following requirements specification. Students will demonstrate their project implementation using oral presentation.

Assessment Due Date
Week 10 Friday (19 May 2017) 10:12 pm AEST
Refer to the unit schedule for due date

Return Date to Students

Certification date (required for non-exam units)

Weighting
30%

Assessment Criteria
Submission should include a working software application as per the design, testing documentation following the test plan, documented source code, mapping of design to implementation, and installation and user manual.
The oral presentation will be scheduled in Week 11.
The detailed marking guide is 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 and ethics.
- 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.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Ethical and Professional Responsibility

6 Project Review and Project Portfolio

Assessment Type
Written Assessment

Task Description
This assessment requires you to submit the updated requirements specification and updated design documents. You also need to conduct a project review including reflections.

Assessment Due Date
Week 12 Friday (2 June 2017) 10:23 pm AEST

Return Date to Students

Certification date (required for non-exam units)

Weighting
22%

Assessment Criteria
You should submit the updated requirements, update design document, project review and reflections.
The detailed marking guide is 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 and ethics.
- 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
- 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