



# COIT13235 *Enterprise Software Development*

## Term 2 - 2017

Profile information current as at 27/04/2024 12:58 pm

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 students to the practical issues involved in the design and implementation of enterprise software applications. The focus will be on applications employing 3 tiers - a presentation layer, an application layer and a data persistence layer. In terms of technology, both traditional desktop applications and web-based applications will be covered. Emerging technologies will also be discussed.

### 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: 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 2 - 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 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: 20%

#### 3. **Examination**

Weighting: 60%

### 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 response

**Feedback**

Overall satisfaction

**Recommendation**

The overall student satisfaction fell in comparison to past terms. This can be largely due to less participation of students in the survey; which in turn did not truly represent the entire student population. 1) It is to recommend that in-campus teaching staff orient students about the importance of survey and encourage them to participate in the survey. 2) It is to also recommend that teaching staff emphasise students to participate regularly in all lecturer and tutorials to understand and grasp technologies used in the course. Unless students take ample self-initiatives and drives, without a facilitator course like this can be difficult to understand and digest. [3] In future, the CC and teaching staff should encourage students to participate in online forum and discussions to harness engagement.

#### Feedback from Student feedback response

**Feedback**

Moodle navigation

**Recommendation**

[1] Besides the changes in assessment questions, all learning resources were similar to previous term. Whilst saying this, the course rating fell from 4.6 to 3.5. It is partly due to very limited number of students participated in the survey. [2] Likewise, in future, we need to look into ways and means to improve navigations using appropriate blocks, sections or hyperlinks in Moodle course site. [3] Subsequently, since navigation is a very broad term, specific questions in future surveys relating to navigation will help to rectify the problem.

#### Feedback from Student feedback response

**Feedback**

Learning resources

**Recommendation**

The course website provided all resources: lecturer slides, tutorial activities and instructions, instructional videos, and other supplementary technical documents for students to learn and apply all technologies covered in the course. While observing lab sessions in Sydney campus, students fully used those resources. In many occasions, students told that the instructional resources including videos helped them a lot to learn and apply the tools and technologies. Recommendation: In future, additional supplementary learning resources such as links to external reading materials and videos in Moodle site will help students to build more confidence on the technologies used in the course.

## Unit Learning Outcomes

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

1. Explain the design rationale for n-tiered software architectures.
2. Describe the industry standards that apply to the major enterprise software architectures.
3. Analyse and evaluate the technology options available for each tier within a particular enterprise software architecture.
4. Design and implement 3-tier applications.
5. Evaluate emerging enterprise computing technologies.

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:

- Program ming/Software Development (PROG)

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
<b>1 - Practical and Written Assessment - 20%</b>			•	•	
<b>2 - Practical and Written Assessment - 20%</b>			•	•	
<b>3 - Examination - 60%</b>	•	•	•		•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
<b>1 - Communication</b>	•	•	•	•	•
<b>2 - Problem Solving</b>				•	
<b>3 - Critical Thinking</b>	•	•	•	•	•
<b>4 - Information Literacy</b>	•	•	•	•	•
<b>5 - Team Work</b>					
<b>6 - Information Technology Competence</b>	•	•	•	•	•

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
<b>7 - Cross Cultural Competence</b>					
<b>8 - Ethical practice</b>					
<b>9 - Social Innovation</b>					
<b>10 - Aboriginal and Torres Strait Islander Cultures</b>					

## Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
<b>1 - Practical and Written Assessment - 20%</b>	•	•	•	•		•				
<b>2 - Practical and Written Assessment - 20%</b>	•	•	•	•		•				
<b>3 - Examination - 60%</b>	•		•	•		•				

## Textbooks and Resources

### Textbooks

COIT13235

#### Prescribed

#### Beginning Java EE 7

(2013)

Authors: Antonio Goncalves

Apress

New York , NY , USA

ISBN: 978-1-4302-4626-8

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)
- Apache Maven 3 or higher
- Derby database 10.6 or higher
- GlassFish application server 4.0 or higher
- JDK 1.7 or higher
- NetBeans IDE 8 or higher

## Referencing Style

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

## Teaching Contacts

**Mahesh Kayastha** Unit Coordinator  
[m.kayastha@cqu.edu.au](mailto:m.kayastha@cqu.edu.au)

## Schedule

### Week 1 - 10 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Enterprise Computing & Java EE	1 and 4	

### Week 2 - 17 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Object-Relational Mapping	5	

### Week 3 - 24 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Managing Persistent Objects	5 and 6	

### Week 4 - 31 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Callbacks and Listeners	6	

### Week 5 - 07 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Enterprise Java Beans	7	<b>Assignment 1</b> Due: Week 5 Friday (11 Aug 2017) 11:45 pm AEST

### Vacation Week - 14 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Mid-term break		

### Week 6 - 21 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Session Beans	7	

### Week 7 - 28 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Callbacks, Timer Service and Authorization	8	

### Week 8 - 04 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
JavaServer Faces	10	

### Week 9 - 11 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Pages and Components	10	

### Week 10 - 18 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic

Processing and Navigation 11

### Week 11 - 25 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Transactions	9	<b>Assignment 2</b> Due: Week 11 Wednesday (27 Sept 2017) 11:45 pm AEST

### Week 12 - 02 Oct 2017

Module/Topic	Chapter	Events and Submissions/Topic
Messaging	13	

### Review/Exam Week - 09 Oct 2017

Module/Topic	Chapter	Events and Submissions/Topic
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### Exam Week - 16 Oct 2017

Module/Topic	Chapter	Events and Submissions/Topic
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## Term Specific Information

Mahesh Kayatha  
Course Coordinator  
Email: m.kayastha@cqu.edu.au  
Mobile: +61 430 363 864

## Assessment Tasks

### 1 Assignment 1

#### Assessment Type

Practical and Written Assessment

#### Task Description

In this assignment you are required to design, implement, test and document the persistence tier of a Java Enterprise Application using Derby database server and Apache Maven. This assignment will assess your competency in enterprise software paradigm and Java Persistence API (JPA) programming. Since this assignment will lay the foundation for Assignment-2, it is important that you spend ample time to understand and accomplish it. The assignment specification and marking criteria can be found in the Moodle unit website.

#### Assessment Due Date

Week 5 Friday (11 Aug 2017) 11:45 pm AEST

Assignment 1 Due

#### Return Date to Students

Week 7 Friday (1 Sept 2017)

Assignment 1 Results Release

#### Weighting

20%

#### Assessment Criteria

This assignment will assess your knowledge and skills in Object-Relational Mapping (ORM) techniques, Java Persistence API (JPA), and Java Persistence Query Language (JPQL) to store and query data in Derby database server. The assignment specification and marking criteria can be found in the course website in Moodle.

#### Referencing Style

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

#### Submission

Online

### **Submission Instructions**

You must submit your assignment electronically through the unit Moodle site. Any email or hard copy submission will not be acceptable.

### **Learning Outcomes Assessed**

- Analyse and evaluate the technology options available for each tier within a particular enterprise software architecture.
- Design and implement 3-tier applications.

### **Graduate Attributes**

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

## **2 Assignment 2**

### **Assessment Type**

Practical and Written Assessment

### **Task Description**

In this assignment you are required to design, implement, test and document a fully functional 3-tier (presentation, business, and persistence tiers) enterprise application system. This assignment is an extension of your Assignment-1 where you will be using the Entity Classes, Object Relational Mapping (ORM), and Java Persistence Query Language (JPQL) that you developed in Assignment-1 as Persistence Tier for this assignment. The purpose of this assignment is to assess your competency in enterprise software paradigm, Java Server Faces (JSF), Enterprise Java Beans (EJB) programming, and the inter-operations between these 3-tiers of an enterprise application.

The assignment specification and marking criteria can be found in the course website in Moodle.

### **Assessment Due Date**

Week 11 Wednesday (27 Sept 2017) 11:45 pm AEST

Assignment 2 Due

### **Return Date to Students**

Week 12 Friday (6 Oct 2017)

Assignment 2 Results Release

### **Weighting**

20%

### **Assessment Criteria**

The assignment will assess your knowledge and competence in designing, developing, testing, and documenting a 3-tier enterprise application that uses Java enterprise and associated technologies such as Object Relational Mapping (ORM), Java Persistence API (JPA), Java Persistence Query Language (JPQL), Java Server Faces (JSF), Enterprise Java Beans (EJB), Derby Database Server, Glassfish Application Server, and Maven.

The assignment specification and marking criteria can be found in the course website in Moodle.

### **Referencing Style**

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

### **Submission**

Online

### **Submission Instructions**

You must submit your assignment electronically through the unit Moodle site. Any email or hard copy submission will not be acceptable.

### **Learning Outcomes Assessed**

- Analyse and evaluate the technology options available for each tier within a particular enterprise software architecture.
- Design and implement 3-tier applications.

### **Graduate Attributes**

- Communication

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## Examination

### **Outline**

Complete an invigilated examination.

### **Date**

During the examination period at a CQUniversity examination centre.

### **Weighting**

60%

### **Length**

180 minutes

### **Exam Conditions**

Open Book.

### **Materials**

Calculator - non-programmable, no text retrieval, silent only

Law dictionaries, Business and Law dictionaries (discipline specific dictionaries) 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