



COIT11134 Object Oriented Programming

Term 1 - 2019

Profile information current as at 27/04/2024 05:21 am

All details in this unit profile for COIT11134 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 is designed to extend your understanding of object-oriented programming principles, complex data structures and algorithms. You will learn to develop interactive software applications using a modern programming language, integrated development environment (IDE), and graphical user interface (GUI) components. The strengths and weaknesses of the techniques are also considered. You will develop skills in applying object-oriented programming concepts and algorithm development to implement software solutions. You will apply these skills in implementing software applications to solve practical problems.

Details

Career Level: *Undergraduate*

Unit Level: *Level 1*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisite COIT11222

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 - 2019

- Brisbane
- Cairns
- Melbourne
- Online
- 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: 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 Moodle survey

Feedback

Assignment 1 required lot of work and the marks allotted are not in line with the amount of work load involved.

Recommendation

The work requirement and complexity of the assignments can be minimised proportionate to the marks allotted. It is recommended to trial pair/group submission of assignments to encourage peer support learning and to improve collaboration among students.

Unit Learning Outcomes

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

1. Explain the principles of object-oriented programming
2. Implement object-oriented programs using a modern programming language
3. Build interactive software applications using Graphical User Interface components
4. Apply self-designed and existing algorithms in problem solutions
5. Use complex data structures in software application development.

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)
- Testing (TEST)
- System Design (DESN)
- System Integration (SINT)
- User Experience Design (HCEV)

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

| Assessment Tasks | Learning Outcomes | | | | |
|--|-------------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1 - Practical and Written Assessment - 20% | | • | • | | |
| 2 - Practical and Written Assessment - 20% | | • | • | • | • |

| Assessment Tasks | Learning Outcomes | | | | |
|-----------------------|-------------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 3 - Examination - 60% | • | | | • | • |

Alignment of Graduate Attributes to Learning Outcomes

| Graduate Attributes | Learning Outcomes | | | | |
|---|-------------------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 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 - 20% | • | • | • | • | | • | | • | | |
| 3 - Examination - 60% | • | • | • | • | | | | • | | |

Textbooks and Resources

Textbooks

COIT11134

Prescribed

Core Java Volume I -- Fundamentals

Edition: 11 (2018)

Authors: Cay S. Horstmann

Prentice Hall

New York , USA

ISBN: 13: 978-0135166307

Binding: Paperback

Additional Textbook Information

The examination is open book and the Textbook can be taken into the examination.

Copies can be purchased at the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code)

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Java Development Kit (JDK) 1.8 or later
- Textpad editor
- NetBeans IDE 8 or a higher version

Referencing Style

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

For further information, see the Assessment Tasks.

Teaching Contacts

Bernard Li Unit Coordinator

b.li@cqu.edu.au

Schedule

Week 1 - 11 Mar 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|-----------|------------------------------|
| Revision of Java Classes, Objects and Methods | Chapter 4 | |

Week 2 - 18 Mar 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|-----------|------------------------------|
| Inheritance | Chapter 5 | |

Week 3 - 25 Mar 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|-----------|------------------------------|
| Polymorphism | Chapter 5 | |

| Week 4 - 01 Apr 2019 | | |
|--|--|---|
| Module/Topic | Chapter | Events and Submissions/Topic |
| GUI and Event Handling | Chapter 10 & 11 | |
| Week 5 - 08 Apr 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| GUI and Event Handling | Chapter 12 | |
| Vacation Week - 15 Apr 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| | | |
| Week 6 - 22 Apr 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| Java Exception Handling | Chapter 7 | Assignment 1 Due: Week 6 Friday (26 Apr 2019) 11:45 pm AEST |
| Week 7 - 29 Apr 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| Interfaces and Inner Classes | Chapter 6 | |
| Week 8 - 06 May 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| Generic methods | Chapter 8 | |
| Week 9 - 13 May 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| Generic Classes | Chapter 8 | |
| Week 10 - 20 May 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| Linked Lists and Algorithms | Chapter 9 | Assignment 2 Due: Week 10 Friday (24 May 2019) 11:45 pm AEST |
| Week 11 - 27 May 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| Stacks, Queues and Trees | Chapter 9 | |
| Week 12 - 03 Jun 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| Final Revision and additional readings | Additional lecture materials and resources from the publisher/other sources. | |
| Review/Exam Week - 10 Jun 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| | | |
| Exam Week - 17 Jun 2019 | | |
| Module/Topic | Chapter | Events and Submissions/Topic |
| | | |

Term Specific Information

Unit coordinator: Bernard Li
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Assessment Tasks

1 Assignment 1

Assessment Type

Practical and Written Assessment

Task Description

In this assignment, you have to develop a Java GUI based application to meet the requirements of the given case study. By completing this assignment you will learn to:

- Use more than one Java class to implement Encapsulation, Inheritance, Aggregation and/or Polymorphism.
- Build an interactive software application using graphical user interface components.

You will develop the software solution using an Integrated Development Environment (IDE). This assignment must be submitted on-line through the Moodle assignment submission system. The full specification will be available in the unit Moodle site.

Assessment Due Date

Week 6 Friday (26 Apr 2019) 11:45 pm AEST
Assignment 1 Due

Return Date to Students

Week 8 Friday (10 May 2019)

Weighting

20%

Assessment Criteria

The detailed assessment criteria will be provided along with the assignment specification. Your assignment will be assessed mainly on the following:

- Developing Java classes that implement Encapsulation, Inheritance, Aggregation and/or Polymorphism
- Using suitable Java Layout Managers, GUI controls and Listeners
- Adhering to good programming practice

Penalties related to late submission and plagiarism will be applied as per University policy.

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Implement object-oriented programs using a modern programming language
- Build interactive software applications using Graphical User Interface components

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 have to develop a Java GUI based application that will extend the software solution, developed as part of your Assignment 1, with additional functionality as required in the given specification. By completing this assignment you will learn to:

- Implement object-oriented programs using a modern programming language.
- Build interactive software applications using Graphical User Interface components.
- Apply self-designed and existing algorithms in problem solutions.
- Use complex data structures in software application development.

You will develop the software solution using an Integrated Development Environment (IDE).

This assignment must be submitted on-line through the Moodle assignment submission system.

The full specification will be available in the unit Moodle site.

Assessment Due Date

Week 10 Friday (24 May 2019) 11:45 pm AEST

Assignment 2 Due

Return Date to Students

Week 12 Friday (7 June 2019)

Weighting

20%

Assessment Criteria

The detailed assessment criteria will be provided along with the assignment specification.

Your assignment will be assessed mainly on the following:

- Using ArrayList or LinkedList or any other data structure
- Extending Java classes and/or implementing Interfaces
- Using suitable Java Layout Managers, GUI controls and Listeners
- Developing Java classes for file reading and/or writing
- Adhering to good programming practice

Penalties related to late submission and plagiarism will be applied as per University policy.

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Implement object-oriented programs using a modern programming language
- Build interactive software applications using Graphical User Interface components
- Apply self-designed and existing algorithms in problem solutions
- Use complex data structures in software application development.

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

60%

Length

180 minutes

Exam Conditions

Open Book.

Materials

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

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

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