



# COIT20245 *Introduction to Programming*

## Term 1 - 2023

Profile information current as at 20/04/2024 03:50 am

All details in this unit profile for COIT20245 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

In this unit, you will learn how to program using the Java programming language. It is assumed that you have little or no programming experience so you will be guided through the basics of application development using classes and objects. You will learn about the parts of a program including variables, types, and methods, and learn how to take input and produce output. A key aspect of this unit is practical, hands-on, simple application development and testing which you will do in an industry standard integrated development environment (IDE).

#### Details

Career Level: *Postgraduate*

Unit Level: *Level 8*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

#### Pre-requisites or Co-requisites

Anti-requisite: COIT29222 Programming Principles.

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 - 2023

- Brisbane
- Melbourne
- Online
- 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 Postgraduate 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 Assessment**

Weighting: 20%

#### 2. **Practical Assessment**

Weighting: 30%

#### 3. **Project (applied)**

Weighting: 50%

### 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 items are not covered enough in tutorials.

**Recommendation**

Ensure tutors are covering the assessment items in tutorials by making tutorial sessions more specific to assessment items.

#### Feedback from Student feedback

**Feedback**

Computers in the labs are very slow

**Recommendation**

Labs have been dormant during the pandemic. Hopefully, they are improving with face-to-face labs returning.

#### Feedback from Unit Coordinator reflection

**Feedback**

Some assessment attempts (including the project) by the students have used techniques not covered in the unit.

**Recommendation**

Make it mandatory that only techniques covered in the unit are used. Include this condition in the specification and the marking rubrics.

## Unit Learning Outcomes

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

1. Develop professionally documented and thoroughly tested object-oriented applications using an industry standard integrated development environment (IDE)
2. Apply procedural concepts (methods, iteration, selection) to the realisation of object behaviour
3. Implement standard algorithms such as searching, sorting, and sequential processing for arrays and lists of objects
4. Employ the stream abstraction to process records contained in sequential text files
5. Demonstrate command of the subset of the programming language presented in this unit, including its syntax, type system, scope rules, and libraries.

The 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)

## 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 Assessment - 20%		•			
2 - Practical Assessment - 30%	•	•	•		
3 - Project (applied) - 50%				•	•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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 - Practical Assessment - 20%	○	○	○		○			
2 - Practical Assessment - 30%	○	○	○		○			
3 - Project (applied) - 50%	○	○	○					

## Textbooks and Resources

### Textbooks

COIT20245

#### Prescribed

##### Java How to Program : Early Objects Edition

11th Edition (2018)

Authors: Paul Deitel and Harvey Deitel

Pearson Education

Upper Saddle River , NJ , USA

ISBN: 9780134743356

Binding: Paperback

#### Additional Textbook Information

Textbooks can be accessed online at the CQUniversity Library website. If you prefer your own copy, you can purchase either paper or eBook versions 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)
- TextPad, <http://www.textpad.com/download/index.html>
- JDK 17 , <https://www.oracle.com/java/technologies/javase/jdk17-archive-downloads.html>
- Apache NetBeans 13, <https://netbeans.apache.org/download/index.html>

## Referencing Style

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

For further information, see the Assessment Tasks.

## Teaching Contacts

**Bruce McKenzie** Unit Coordinator

[b.mckenzie@cqu.edu.au](mailto:b.mckenzie@cqu.edu.au)

## Schedule

### Week 1 - 06 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Object Technology and Java	Chapter 1	

### Week 2 - 13 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Java Applications	Chapter 2	

### Week 3 - 20 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Control Statements: Part 1	Chapter 4	

Week 4 - 27 Mar 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Control Statements: Part 2	Chapter 5	
Week 5 - 03 Apr 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Classes, Objects, Methods and Strings	Chapter 3	
Vacation Week - 10 Apr 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Week 6 - 17 Apr 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Methods: A Deeper Look	Chapter 6	<b>Assignment One</b> Due: Week 6 Friday (21 Apr 2023) 11:59 pm AEST
Week 7 - 24 Apr 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Arrays and ArrayLists	Chapter 7	
Week 8 - 01 May 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Arrays and ArrayLists (Continue from Week 7)	Chapter 7	
Week 9 - 08 May 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Searching, Sorting and Big O	Chapter 19	
Week 10 - 15 May 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Strings, Characters and Regular Expressions	Chapter 14	
Week 11 - 22 May 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Files and Streams	Chapter 15	<b>Assignment two</b> Due: Week 11 Friday (26 May 2023) 11:59 pm AEST
Week 12 - 29 May 2023		
Module/Topic	Chapter	Events and Submissions/Topic
Revision and Project Preparation	Lecture Notes from Weeks 1 - 12	
Review/Exam Week - 05 Jun 2023		
Module/Topic	Chapter	Events and Submissions/Topic
		<b>Project</b> Due: Review/Exam Week Friday (9 June 2023) 11:59 pm AEST
Exam Week - 12 Jun 2023		
Module/Topic	Chapter	Events and Submissions/Topic

## Assessment Tasks

# 1 Assignment One

## Assessment Type

Practical Assessment

## Task Description

A simple Java program which uses basic Java concepts such as declaration of variables, input and output, and control statements such selection and repetition. See Moodle for the full specification of the assignment.

## Assessment Due Date

Week 6 Friday (21 Apr 2023) 11:59 pm AEST

Online via Moodle

## Return Date to Students

Week 8 Friday (5 May 2023)

Online via Moodle

## Weighting

20%

## Assessment Criteria

The students are assessed mainly against their:

1. knowledge about Variables, constants and types;
2. ability to code with standard coding practices;
3. understanding about input, processing and output;
4. ability to report correctly.

More detailed marking criteria can be accessed from Moodle.

## Referencing Style

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

## Submission

Online

## Learning Outcomes Assessed

- Apply procedural concepts (methods, iteration, selection) to the realisation of object behaviour

## Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Self-management

# 2 Assignment two

## Assessment Type

Practical Assessment

## Task Description

A menu program will be supplied in which students will complete the method stubs and their own methods. The students will also create a class in which an array of objects will be implemented. See Moodle for the full specification of the assignment.

## Assessment Due Date

Week 11 Friday (26 May 2023) 11:59 pm AEST

Online via Moodle

## Return Date to Students

Review/Exam Week Friday (9 June 2023)

Online via Moodle

## Weighting

30%

### **Assessment Criteria**

The students are assessed mainly against their:

1. knowledge about objects, search and sorting.
2. ability to design methods and classes.
3. knowledge of error handling;
4. ability to report correctly.

More detailed marking criteria can be accessed from Moodle.

### **Referencing Style**

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

### **Submission**

Online

### **Learning Outcomes Assessed**

- Develop professionally documented and thoroughly tested object-oriented applications using an industry standard integrated development environment (IDE)
- Apply procedural concepts (methods, iteration, selection) to the realisation of object behaviour
- Implement standard algorithms such as searching, sorting, and sequential processing for arrays and lists of objects

### **Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Self-management

## **3 Project**

### **Assessment Type**

Project (applied)

### **Task Description**

Students will submit their own program and specification based on the learning outcomes learned during the term.

### **Assessment Due Date**

Review/Exam Week Friday (9 June 2023) 11:59 pm AEST

Online via Moodle

### **Return Date to Students**

Exam Week Friday (16 June 2023)

Certification of grades

### **Weighting**

50%

### **Assessment Criteria**

- Understand the principles of object-oriented programming
- Develop a program using various data types, operators, expressions, statements and loops
- Develop a program using arrays for storing, searching and sorting data
- Develop a program using user-defined methods, parameters and arguments
- Create a specification and marking scheme

### **Referencing Style**

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

### **Submission**

Online

### **Learning Outcomes Assessed**

- Implement standard algorithms such as searching, sorting, and sequential processing for arrays and lists of objects
- Employ the stream abstraction to process records contained in sequential text files



- Demonstrate command of the subset of the programming language presented in this unit, including its syntax, type system, scope rules, and libraries.

### **Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills

## 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