



# **COIT20245 *Introduction to Programming***

## **Term 1 - 2020**

Profile information current as at 19/05/2022 10:14 pm

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.

### Corrections

#### **Unit Profile Correction added on 24-04-20**

The end of term examination has now been changed to an alternate form of assessment. Please see your Moodle site for details of the assessment.

## 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 - 2020

- 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. **Examination**

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

More emphasis should be placed on documentation, design and testing.

##### Recommendation

Provide additional teaching material on these topics.

## 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.

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 |
| <b>1 - Practical Assessment - 20%</b> |                   | • |   |   |   |
| <b>2 - Practical Assessment - 30%</b> | •                 | • | • |   |   |
| <b>3 - Examination - 50%</b>          |                   |   | • | • | • |

## Alignment of Graduate Attributes to Learning Outcomes

| Graduate Attributes                                | Learning Outcomes        |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|  | 1                        | 2                        | 3                        | 4                        | 5                        |
| 1 - Knowledge                                      | <input type="checkbox"/> |
| 2 - Communication                                  |                          |                          |                          |                          |                          |
| 3 - Cognitive, technical and creative skills       | <input type="checkbox"/> |
| 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% | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |   | <input type="checkbox"/> |   |   |   |
| 2 - Practical Assessment - 30% | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |   | <input type="checkbox"/> |   |   |   |
| 3 - Examination - 50%          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |   |                          |   |   |   |

## 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

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 8
- NetBeans 8.2

## 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](mailto:d.jarvis@cqu.edu.au)

## Schedule

### Week 1 - 09 Mar 2020

| Module/Topic                                     | Chapter   | Events and Submissions/Topic |
|--|-----------|------------------------------|
| Introduction to Computers, the Internet and Java | Chapter 1 |                              |

### Week 2 - 16 Mar 2020

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

### Week 3 - 23 Mar 2020

| Module/Topic  | Chapter   | Events and Submissions/Topic |
|---|-----------|------------------------------|
| Introduction to Classes, Objects, Methods and Strings | Chapter 3 |                              |

### Week 4 - 30 Mar 2020

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

Control Statements: Part 1 Chapter 4

#### Week 5 - 06 Apr 2020

| Module/Topic               | Chapter   | Events and Submissions/Topic |
|----------------------------|-----------|------------------------------|
| Control Statements: Part 2 | Chapter 5 |                              |

#### Vacation Week - 13 Apr 2020

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

#### Week 6 - 20 Apr 2020

| Module/Topic           | Chapter   | Events and Submissions/Topic   |
|------------------------|-----------|--|
| Methods: A Deeper Look | Chapter 6 | <b>Assignment one</b> Due: Week 6 Friday (24 Apr 2020) 11:59 pm AEST |

#### Week 7 - 27 Apr 2020

| Module/Topic                   | Chapter                          | Events and Submissions/Topic |
|--------------------------------|----------------------------------|------------------------------|
| Arrays and ArrayLists (Part 1) | Chapter 7 Sections 7.1-7.7; 7.16 |                              |

#### Week 8 - 04 May 2020

| Module/Topic                 | Chapter    | Events and Submissions/Topic |
|------------------------------|------------|------------------------------|
| Searching, Sorting and Big O | Chapter 19 |                              |

#### Week 9 - 11 May 2020

| Module/Topic                                | Chapter    | Events and Submissions/Topic |
|---|------------|------------------------------|
| Strings, Characters and Regular Expressions | Chapter 14 |                              |

#### Week 10 - 18 May 2020

| Module/Topic                   | Chapter                     | Events and Submissions/Topic  |
|--------------------------------|-----------------------------|---|
| Arrays and ArrayLists (Part 2) | Chapter 7 Sections 7.8-7.15 | <b>Assignment two</b> Due: Week 10 Friday (22 May 2020) 11:59 pm AEST |

#### Week 11 - 25 May 2020

| Module/Topic           | Chapter                       | Events and Submissions/Topic |
|------------------------|-------------------------------|------------------------------|
| Files, NIO and Streams | Chapter 15 sections 15.1-15.4 |                              |

#### Week 12 - 01 Jun 2020

| Module/Topic                  | Chapter   | Events and Submissions/Topic |
|-------------------------------|---|------------------------------|
| Revision and Exam Preparation | Lecture Notes from Weeks 1 - 12<br>Exam Preparation Notes |                              |

#### Review/Exam Week - 08 Jun 2020

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

#### Exam Week - 15 Jun 2020

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

## Assessment Tasks

### 1 Assignment one

#### Assessment Type

Practical Assessment

#### Task Description

This assessment item is designed to test your understanding of the programming concepts covered in weeks 1-5

through the development and testing of a Java program. Further details will be provided on the unit website.

**Assessment Due Date**

Week 6 Friday (24 Apr 2020) 11:59 pm AEST

**Return Date to Students**

Assignments will be returned two weeks after the due date.

**Weighting**

20%

**Assessment Criteria**

1. Sound program design.
2. Appropriate use of comments, variables, constants, types, operators, expressions, statements and loops.
3. Appropriate use of objects, classes and methods.
4. Use of good programming practice/techniques.
5. Comprehensive testing of the program.
6. Compilation and execution of the program using a modern IDE.

**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**

This assessment item is designed to test your understanding of the programming concepts covered in weeks 1-9 through the development and testing of a Java program. Further details will be provided on the unit website.

**Assessment Due Date**

Week 10 Friday (22 May 2020) 11:59 pm AEST

**Return Date to Students**

Assignments will be returned two weeks after the due date.

**Weighting**

30%

**Assessment Criteria**

1. Sound program design.
2. Appropriate use of comments, variables, constants, types, operators, expressions, statements and loops.
3. Appropriate use of classes, objects, and methods.
4. Use of good programming practice/techniques.
5. Comprehensive testing of the program.
6. Appropriate use of arrays/arrayLists, searching algorithms and sorting algorithms.
7. Compilation and execution of the program using a modern IDE

**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

## Examination

**Outline**

Complete an invigilated examination

**Date**

During the examination period, at a CQUniversity examination centre

**Weighting**

50%

**Length**

180 minutes

**Details**

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

## 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