



# COIT11222 *Programming Fundamentals*

## Term 1 - 2018

Profile information current as at 26/05/2022 08:50 pm

All details in this unit profile for COIT11222 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 for students who have had little or no programming experience. The unit aims to teach students principles, design and development of object-oriented programs. It covers topics such as modern IDEs, pseudocode, variables, constants, data types, operators, expressions, statements, classes, objects, inheritance, loops, methods, passing parameters and arrays. Students will learn how to design, implement and test programs using a modern IDE.

#### 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

There are no requisites for this unit.

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 - 2018

- Adelaide
- Brisbane
- Cairns
- Distance
- Melbourne
- 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. **Written Assessment**

Weighting: 15%

#### 2. **Written Assessment**

Weighting: 20%

#### 3. **Examination**

Weighting: 65%

### 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 Have your say

**Feedback**

Students especially distance students would like to see more practical tutorial videos

**Recommendation**

Create more practical tutorial videos.

#### Feedback from Have your say

**Feedback**

Difficulty for distance students learning programming for the first time and generally need personal help

**Recommendation**

Encourage distance students to form study groups and make workshops available in regional areas. An online discussion time with the unit coordinator could also be very beneficial to distance students.

#### Feedback from Have your say

**Feedback**

Students without a PC have to use Netbeans or other IDE. Students would like a tutorial on using Netbeans.

**Recommendation**

Point students to the Netbeans tutorial on the Moodle site and provide extra support in tutorials for students who have a Mac and cannot install TextPad the preferred IDE

## Unit Learning Outcomes

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

1. Understand the principles of object-oriented programming.
2. Demonstrate the use of modern IDE (integrated development environment).
3. Develop programs using various data types, operators, expressions, statements and loops.
4. Develop programs using arrays for storing, searching and sorting data.
5. Develop programs using user defined methods, parameters and arguments.
6. Develop programs using graphical user interface and streams.
7. Apply techniques used to produce quality programs.
8. Design programs that: (a) are easy to maintain, (b) are free from logic errors, (c) are free from runtime errors, (d) validate input data, (e) respond appropriately to invalid input data, (f) are easy to debug and (g) promote the reuse of code.

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 workplace skills as defined by SFIA. The SFIA code is included:

Program ming/Software Development (PROG)

## 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	7	8
1 - Written Assessment - 15%	•	•	•		•		•	•
2 - Written Assessment - 20%	•	•	•	•	•	•	•	•
3 - Examination - 65%	•		•	•	•	•	•	•

## Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes							
	1	2	3	4	5	6	7	8
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 - Written Assessment - 15%	•	•	•	•		•				
2 - Written Assessment - 20%	•	•	•	•		•				
3 - Examination - 65%		•	•	•						

## Textbooks and Resources

### Textbooks

COIT11222

#### Prescribed

##### Java Programming

Eighth edition (2016)

Authors: Joyce Farrell

Cengage Learning

Boston , Massachusetts , USA

ISBN: 978-1-285-85691-9

Binding: Paperback

### IT Resources

**You will need access to the following IT resources:**

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- JDK, <http://www.oracle.com/technetwork/java/javase/downloads/index.html>
- (Optional)NetBeans, <http://netbeans.org/downloads/index.html>
- TextPad, <http://www.textpad.com/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 - 05 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Creating Java Programs	Chapter 1	

### Week 2 - 12 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Using Data	Chapter 2	

### Week 3 - 19 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Making Decisions	Chapter 5	

### Week 4 - 26 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Looping	Chapter 6	

### Week 5 - 02 Apr 2018

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

Using Methods, Classes and Objects Chapter 3

### Vacation Week - 09 Apr 2018

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

### Week 6 - 16 Apr 2018

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

More Object Concepts

Chapter 4

**Assignment 1** Due: Week 6 Friday  
(20 Apr 2018) 11:45 pm AEST

### Week 7 - 23 Apr 2018

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

Arrays

Chapter 8

### Week 8 - 30 Apr 2018

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

Advanced Array Concepts

Chapter 9

### Week 9 - 07 May 2018

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

Introduction to Swing Components

Chapter 14

### Week 10 - 14 May 2018

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

Characters, Strings, and the  
StringBuilder

Chapter 7

### Week 11 - 21 May 2018

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

Files Input and Output

Chapter 13

**Assignment 2** Due: Week 11 Friday  
(25 May 2018) 11:45 pm AEST

### Week 12 - 28 May 2018

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

Revision

### Review/Exam Week - 04 Jun 2018

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

### Exam Week - 11 Jun 2018

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

## Term Specific Information

## Assessment Tasks

### 1 Assignment 1

#### Assessment Type

Written Assessment

#### Task Description

This assessment item is designed to test your understanding of topics such as variables, constants, types, operators, standard input/output, loops, if statements, classes, objects and methods. The assessment task is to write, compile and execute java programs using the above mentioned topics. Further details are available on the unit website in the

Assessment 1 Specification document.

### **Assessment Due Date**

Week 6 Friday (20 Apr 2018) 11:45 pm AEST

### **Return Date to Students**

Week 9 Monday (7 May 2018)

### **Weighting**

15%

### **Assessment Criteria**

1. Efficient object-oriented program design.
2. Appropriate use of variables, constants, types, operators, expressions, statements and loops.
3. Appropriate use of objects, classes and methods.
4. Effective use of good programming practice/techniques.
5. Rigorous testing of the program for logic, runtime and other errors.
6. Compilation and execution of the program using a modern IDE.

### **Referencing Style**

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

### **Submission**

Online

### **Learning Outcomes Assessed**

- Understand the principles of object-oriented programming.
- Demonstrate the use of modern IDE (integrated development environment).
- Develop programs using various data types, operators, expressions, statements and loops.
- Develop programs using user defined methods, parameters and arguments.
- Apply techniques used to produce quality programs.
- Design programs that: (a) are easy to maintain, (b) are free from logic errors, (c) are free from runtime errors, (d) validate input data, (e) respond appropriately to invalid input data, (f) are easy to debug and (g) promote the reuse of code.

### **Graduate Attributes**

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

## **2 Assignment 2**

### **Assessment Type**

Written Assessment

### **Task Description**

This assessment item is designed to test your understanding of topics such as GUI input/output, arrays/arrayLists, methods with parameters and searching. The assessment task is to write, compile and execute a Java program using the above mentioned topics. Further details are available on the unit website in the Assessment 2 Specification document.

### **Assessment Due Date**

Week 11 Friday (25 May 2018) 11:45 pm AEST

### **Return Date to Students**

Review/Exam Week Friday (8 June 2018)

### **Weighting**

20%

### **Assessment Criteria**

1. Efficient object-oriented program design.
2. Appropriate use of variables, constants, types, operators, expressions, statements and loops.
3. Appropriate use of objects, classes and methods.
4. Effective use of good programming practice/techniques.
5. Rigorous testing of the program for logic and runtime errors, data validation and reuse of code.

6. Compilation and execution of the program using a modern IDE.
7. Efficient use of arrays/arrayLists, searching algorithms.
8. Appropriate use of graphical user interface.

### Referencing Style

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

### Submission

Online

### Learning Outcomes Assessed

- Understand the principles of object-oriented programming.
- Demonstrate the use of modern IDE (integrated development environment).
- Develop programs using various data types, operators, expressions, statements and loops.
- Develop programs using arrays for storing, searching and sorting data.
- Develop programs using user defined methods, parameters and arguments.
- Develop programs using graphical user interface and streams.
- Apply techniques used to produce quality programs.
- Design programs that: (a) are easy to maintain, (b) are free from logic errors, (c) are free from runtime errors, (d) validate input data, (e) respond appropriately to invalid input data, (f) are easy to debug and (g) promote the reuse of code.

### 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

65%

### 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