Unit Outline

COMP1007 (V.1) Programming Design and Implementation
Semester 1, 2025

Unit study package number:	COMP1007
Mode of study:	Internal
Tuition pattern summary:	Note: For any specific variations to this tuition pattern and for precise information refer to the Learning Activities section. Computer Laboratory: 1 x 2 Hours Weekly Workshop: 1 x 2 Hours Weekly This unit does not have a fieldwork component.
Credit value:	25
Pre-requisite units:	Nil
Co-requisite units:	Nil
Anti-requisite units:	Nil
Result type:	Grade/Mark
Approved incidental fees:	Information about approved incidental fees can be obtained from our website. Visit https://www.curtin.edu.au/students/essentials/fees/understanding-your-fees for details.

Unit coordinator:

Name: Dr. David McMeekin
Phone: 08 9266 7604
Email: COMP1007-5011@curtin.edu.au
Location Building: 314 - Room: 324
Consult:

Teaching Staff:

Administrative contact:

Name: Curtin Connect
Phone: 1300 222 888
Email or Website: https://students.connect.curtin.edu.au/app/ask
Location Building: 102 - Room: N/A

Learning Management System: Blackboard

Acknowledgement of Country

We respectfully acknowledge the Indigenous Elders, custodians, their descendants and kin of this land past and present. The Centre for Aboriginal Studies aspires to contribute to positive social change for Indigenous Australians through higher education and research.

Syllabus

Students will be introduced to the Linux operating system and programming environment. They will then learn how to design software in pseudocode, and implement their designs in the Java programming language. Topics covered include: compiling and executing a Java program; primitive and reference data types; numeric expressions; the principles behind programming control structures and their implementation in Java; the design and implementation of sub-modules; file input and output; and searching and sorting. The unit also includes applications to real-world problems and number systems.

Introduction

Welcome to the unit **Programming Design and Implementation**. This unit is the cornerstone of the academic curriculum within the Computing discipline. Engagement with pre-workshop materials, consistent active participation in workshops;and practical sessions are imperative for academic achievement in this unit. The primary objective of this unit is to serve as an initial stride towards a professional trajectory in software design and development.

This unit, in line with current research and university values, strives to achieve a positive and inclusive educational environment. This supports improved academic performance, increased confidence and creates a greater sense of safety and belonging. Your teaching team is committed to providing a safe and inclusive learning experience and requires students to take reasonable and appropriate measures to actively eliminate discrimination on the basis of ability; cultural and social background; and diverse sex, sexuality, and gender.

Link to Equity and Inclusivity web resources:
https://about.curtin.edu.au/values-vision-strategy/diversity-equity/

Unit Learning Outcomes

All graduates of Curtin University achieve a set of six Graduate Capabilities during their course of study. These inform an employer that, through your studies, you have acquired discipline knowledge and a range of other skills and capabilities which employers would value in a professional setting. Each unit in your course addresses the Graduate Capabilities through a clearly identified set of learning outcomes. They form a vital part in the process referred to as assurance of learning. The learning outcomes notify you of what you are expected to know, understand or be able to do in order to be successful in this unit. Each assessment for this unit is carefully designed to test your knowledge of one or more of the unit learning outcomes. On successfully completing all of the assessments you will have achieved all of these learning outcomes.

Your course has been designed so that on graduating you will have achieved all of Curtin's Graduate Capabilities through the assurance of the learning process in each unit.

	On successful completion of this unit student can:	Graduate Capabilities addressed
1	Identify appropriate primitive data types required for the translation of pseudo code algorithms into Java	
2	Design in pseudocode simple classes and implement them in Java in a linux command-line environment	
3	Design in pseudocode and implement in Java structured procedural algorithms in a linux command-line environment	
4	Apply design and programming skills to implement known algorithms in real world applications	
5	Reflect on design choices and communicate design and design decisions in a manner appropriate to the audience	

Curtin's Graduate Capabilities

	Apply discipline knowledge, principles and concepts		**Innovative, creative and entrepreneurial**		**Effective communicators with digital competency**
	Globally engaged and responsive		**Culturally competent to engage respectfully with local first people and other diverse cultures**		**Industry connected and career capable**

Find out more about Curtin's Graduate Capabilities at the Learning Innovation and Teaching Excellence Centre (LITEC) website: http://www.curtin.edu.au/about/learning-teaching/

Learning Activities

All students in this unit are expected to participate in every weekly learning activity. Each week there is an expectation that you will arrive at class having completed any previous assigned work. Some other expectations are listed below:

- **Dive into the readings** before each workshop to make the most of our time together.
- **Watch the pre-recorded videos** before each workshop to stay ahead of the curve.
- **Join in and contribute** by attending each workshop; your insights make our sessions richer!
- **Be there and be active** in the computer lab sessions (2 hours); it's where the magic happens.
- **Tackle the computer lab worksheet exercises** with gusto. The time in the lab will kickstart your efforts, but remember, the real growth happens when you stretch beyond our time together and complete them on your own.
- **Embrace your curiosity** and broaden your understanding by exploring more about the unit's concepts through independent research, whether it's websites, journals, or textbooks. Your initiative is the key to unlocking new knowledge!

Learning Resources

Library Reading List

The Reading List for this unit can be accessed through Blackboard.

The text(s) for this unit are:

Farrell, J. (2022). *Java Programming* (10th ed.). Cengage.

Electronic: No **Essential:** Yes **Resource Type:** Book **ISBN:** 9780357673423

Robertson, L.A., (2006), Simple Program Design, A Step-by-Step Approach, 5ed, Cengage Learning Australia.

Electronic: No **Essential:** No **Resource Type:** Book

Essential Software

In this unit the following software is used: Java, VMWare Horizons and Linux.

Assessment

Assessment policy exemptions

There are no exemptions to the assessment policy

Assessment Schedule

	Task	Value %	Date Due	Unit Learning Outcome(s) Assessed	Late Assessments Accepted?	Assessment Extensions Considered? *
1	Mid Sem Test	25 %	**Week:**6 **Day:**Week starting Monday 31 Mar 2025 **Time:**TBA	1,3	No	No
2	Assignment	25 %	**Week:**12 & 13 **Day:**Sun, 18 May 2025 & Enrolled practical day **Time:**23:59 AWST & Enrolled practical time	1,2,3,4,5	Yes	Yes
3	Final Exam	50 %	**Week:**15 or 16 **Day:**Centrally Scheduled **Time:**Centrally Scheduled	1,2,3,4	No	Yes

*Please refer to the Late Assessment and the Assessment Extension sections below for specific details and conditions.

Detailed Information on assessment tasks

Mid Sem Test

The Mid Sem Test occurs in week 6 of the semester. You must attend the test on campus to sit the assessment. The assessment will be based off the assigned reading, pre-workshop videos, workshop activities and computer lab worksheet exercises covered up until the time of the assessment. More details of the mid semester assessment will be announced during the semester.

If you score less than 50% for this assessment, a re-sit will be made possible. If you successfully pass the re-sit, you will be awarded a score of 50% for this assessment, regardless of the mark achieved in the re-sit. Only one re-sit is possible and there are no deferment possibilities for this re-sit.

Assignment

The assignment will be based off the assigned reading, pre-workshop videos, workshop activities and computer lab worksheet exercises. The assignment specification, when released, will contain the required information.

You will be required to demonstrate your Assignment solution and you will be asked a series of questions in a viva, specifically about your assignment, during the final week's practical session. It is expected that you will be able to correctly answer the questions. Failing to answer the questions correctly will then require you to complete an ongoing assessment during the deferred/further assessment period. Not completing the viva will result in a score of 0 being applied to your assignment.

Final Exam

The final assessment will be an individual restricted book assessment. The assessment may include all materials covered in the assigned reading, pre-workshop videos, workshop activities and .

Pass requirements

To gain a pass in this unit, you must obtain an overall mark of 50% or greater from the combined assessments. In addition, you must satisfy each of the following criteria:

- Demonstrate development towards meeting unit learning outcomes 1, 3 & 5 under controlled conditions, at the midway section of the unit, through achieving a mark of 40% or more in the Mid Sem Test;
- Independently demonstrate the meeting of unit learning outcomes 1, 2, 3, 4, & 5, near the end of the unit, through achieving a mark of 40% or more in the assignment. Successful completion of this task requires the submission of an assignment solution with a successful demonstration and viva, where you will need to answer of questions related to the assignment during the final week practical session; and
- Demonstrate having met unit learning outcomes 1, 2, 3 & 5, under controlled conditions, through achieving a mark of 40% or more in the Final Exam.

Failing to meet this criteria may result in a F or F-IN grade being applied even if your mark is greater than 50%.

Assessment Moderation

Fair assessment through moderation

Moderation describes a quality assurance process to ensure that assessments are appropriate to the learning outcomes, and that students work is evaluated consistently by assessors. Minimum standards for the moderation of assessments are described in the Assessment and Student Progression Manual, available from policies.curtin.edu.au/findapolicy/

Pre-marking moderation

Staff responsible for assessing student work will, as a minimum, be provided with an assessment rubric (or marking guide) in advance of the marking task. Assessment task details and marking criteria will be made available to students after the assessment task is assigned. Other pre-marking moderation activities may be employed as appropriate to each assessment task.

Intra-marking / Post-marking moderation

Post-marking moderation will include (but is not limited to) at least one of the following methods:

- An analysis of the variances between markers and locations;
- Second marking or check second marking of a random sample of student work;
- Second marking or check second marking of a sample of student work deemed to be at significant thresholds;
- Second marking or check second marking of a sample of outliers (high or low scoring assessments);
- Panel of academics discuss and collectively reach a consensus.

Late Assessment

Where the submission of a late assessment is permitted, late penalties will be consistently applied in this unit.

Where a late assessment **is** permitted for an assessment item or the entirety of the unit (refer to the Assessment Schedule table in this Unit Outline) and the student does not have an approved assessment extension:

1. For assessment items submitted within the first 24 hours after the due date/time, students will be penalised by a deduction of 5% of the total marks allocated for the assessment task;
2. For each additional 24 hour period commenced an additional penalty of 10% of the total marks allocated for the assessment item will be deducted; and
3. Assessment items submitted more than 168 hours late (7 calendar days) will receive a mark of zero.

Where late assessment **is NOT** permitted for an assessment item or the entirety of the unit (refer to the Assessment Schedule table in this Unit Outline) and the student does not have an approved assessment extension:

1. All assessment items submitted after the due date/time will receive a mark of zero.

Assessment Extension

Where an application for an assessment extension **is** permitted for an assessment item(s) within this unit (refer to the Assessment Schedule table in this Unit Outline):

1. A student who is unable to complete an assessment item by/on the due date/time as a result of exceptional circumstances beyond the student's control, may apply for an assessment extension on the Assessment Extension Application Form as prescribed by the Academic Registrar. The form is available on the Forms page at https://students.curtin.edu.au/essentials/forms-documents/forms/ and also within the student's OASIS (My Studies tab – Quick Forms) account.
2. The student will be expected to submit their application for an Assessment Extension with supporting documentation via the online form.
3. Timely submission of this information supports the assessment process. For applications that are declined, delayed submission may have significant ramifications on the possible marks awarded.
4. An application may be accepted up to five working days after the due date/time of the assessment item where the student is able to provide a verifiable explanation as to why they were not able to submit the application prior to the assessment due date/time

Where an application for an assessment extension **is NOT** permitted for an assessment item(s) within this unit (refer to the Assessment Schedule table in this Unit Outline):

1. All assessment items submitted after the due date/time will be subject to late penalties or receive a mark of zero depending on the unit permitting late assessment submissions.

Deferred Assessments

If your results show that you have been granted a deferred assessment you should immediately check OASIS for details.

Deferred examinations/tests will be held from 14/07/2025 to 19/07/2025. Notification to students will be made after the Board of Examiners' meeting via the Official Communications Channel (OCC) in OASIS.

Further Assessments

Further assessments, if granted by the Board of Examiners, will be held between 14/07/2025 to 19/07/2025. Notification to eligible students granted a further assessment will be made after the Board of Examiners meeting via the Official Communications Channel in OASIS.

It is the responsibility of the student to be available to complete the requirements of a further assessment. If your results show that you have been granted a further assessment you should immediately check OASIS for details.

Reasonable adjustments for students with disabilities/health circumstances likely to impact on studies

A Curtin Access Plan (CAP) is a document that outlines the type and level of support required by a student with a disability or health condition to have equitable access to their studies at Curtin. Carers for people with disability may also be eligible for support. This support can include alternative exam or test arrangements, study materials in accessible formats, access to Curtin's facilities and services or other support as discussed with an advisor from AccessAbility Services.

Documentation is required from your treating Health Professional to confirm your health circumstances or carer responsibilities.

If you think you may be eligible for a CAP, please contact AccessAbility Services. If you already have a CAP please provide it to the Unit Coordinator in week 1 of each study period.

Referencing style

The referencing style of this unit is APA 7th Ed.

More information can be found on this style from the library web site
https://uniskills.library.curtin.edu.au/referencing/apa7/introduction/

Privacy

As part of a learning or assessment activity, or class participation, your image or voice may be recorded or transmitted by equipment and systems operated by Curtin University. Transmission may be to other venues on campus or to others both in Australia and overseas.

Your image or voice may also be recorded by students on personal equipment for individual or group study or assessment purposes. Such recordings may not be reproduced or uploaded to a publicly accessible web environment. If you wish to make such recordings for study purposes as a courtesy you should always seek the permission of those who are impacted by the recording.

Recording of classes or course materials may not be exchanged or distributed for commercial purposes, for compensation, or for any other purpose other than personal study for the enrolled students in the unit. Breach of this may subject a student to disciplinary action under Statute No 10 – Student Disciplinary Statute.

If you wish to discuss this please talk to your Unit Coordinator.

Copyright

The course material for this unit is provided to you for your own research and study only. It is subject to copyright. It is a copyright infringement to make this material available on third party websites without the express written consent of Curtin University.

Academic Integrity (including plagiarism and cheating)

Academic Integrity

Curtin's Student Charter, Academic Integrity Program (AIP), and core Values guide expectations regarding student behaviour and responsibilities. Information on these topics can be found on the Academic Integrity Website.

Academic Integrity Warnings

An Academic Integrity Warning may be issued to a student in limited circumstances and only where misconduct is not involved.

Academic Misconduct

Staff members are required to report poor academic practice and suspected misconduct. Academic Misconduct means conduct by a student that is dishonest or unfair in connection with any academic work. This includes all types of plagiarism, cheating, collusion, falsification or fabrication of content, and behaviours like falsifying medical certificates for extension. Contract cheating, the use of file sharing, translation services/apps, paraphrasing tools (text-spinners), article generators, and assignment help websites also may be considered academic misconduct.

Check your assessment instructions carefully before using any generative artificial intelligence (Gen-AI) software (e.g. Chat GPT, Midjourney, GitHub Copilot, etc.). You are not permitted to use Gen-AI software in any assessment task unless written permission is explicitly granted by the Unit Coordinator (e.g. within Blackboard or the assignment specifications). If the use of Gen-AI software has been approved, you must document its use, apply appropriate acknowledgement and attribution rules, and include a statement as to the nature and extent of the use when submitting the assessment. Unapproved, inappropriate, or undisclosed use may be dishonest or unfair behaviour, and thus considered misconduct. For further information on the use of Gen-AI software see the Academic Integrity Website.

The longer term personal, social, and financial consequences of misconduct can be severe, so please ask your tutors or unit coordinator if you need clarification or are unsure what to do. If your work is the subject of an inquiry, you will be given an opportunity to respond and appropriate support will be provided. Academic work under inquiry will not be graded until the process has concluded. Penalties for misconduct may include a warning, a reduced or nil grade, a requirement to repeat the assessment, an annulled grade (ANN) or termination from the course. For more information refer to Statute No.10 Student Discipline and Academic Misconduct Rules.

Information and Communications Technology (ICT) Expectations

Curtin students are expected to have reliable internet access in order to connect to OASIS email and learning systems such as Blackboard and Library Services.

You may also require a computer or mobile device for preparing and submitting your work.

For general ICT assistance, in the first instance please contact OASIS Student Support:

oasisapps.curtin.edu.au/help/general/support.cfm

For specific assistance with any of the items listed below, please visit UniSkills and IT tools and guides webpage.

1. Using Blackboard, the I Drive and Back-Up files
2. Introduction to PowerPoint, Word and Excel

Curtin students are expected to have reliable internet access in order to connect to OASIS email and learning systems such as Microsoft Teams, Blackboard and Library Services.
Students are required to have all the necessary equipment to study this unit: a computer and reliable Internet access. If access to any necessary equipment is not available, students should use the resources available on their campus. If accessing the on campus facilities is not possible, please contact Curtin Connect.

Curtin Bentley students have access to a range of free and discounted software. Follow the steps below to download your free copy of Microsoft Office 365:

- Within the OASIS 'Welcome' tab, click on 'Open your OASIS email'.
- Click 'Office 365' in the top left corner of the page.
- Select 'Install Office' and follow the prompts.

Students on other campuses should check with their on campus services.

For general ICT assistance, in the first instance please contact OASIS Student Support:

- oasisapps.curtin.edu.au/help/general/support.cfm

Additional information

Communications with the unit coordinator: please be aware that the Unit Coordinator (UC) will attempt to respond to messages within a reasonable time frame. The best means of communication with the UC will be shared in the first class. Generally, communications are responded to during the week during office hours.

University Services for Students: The university offers a wide range of services for you as a student. Please have a look at them at: https://www.curtin.edu.au/students/personal-support/

Self-study: Combined with the assigned reading, pre-workshop videos, workshop activities and practical worksheet exercises, it is important to revise and practice the content covered in this unit on a regular basis.

It has been shown that setting aside specific fixed times to work on the materials is extremely helpful in successfully completing this unit.

Curtin Access Plans

Students with Curtin Access Plans (CAP) must ensure that these are provided in accordance to the requirements set out within the CAP.

Enrolment

It is your responsibility to ensure that your enrolment is correct - you can check your enrolment through the eStudent option on OASIS, where you can also print an Enrolment Advice.

Student Rights and Responsibilities

It is the responsibility of every student to be aware of all relevant legislation, policies and procedures relating to their rights and responsibilities as a student. These include:

- the Student Charter
- Values and Signature Behaviours
- the University's policy and statements on plagiarism and academic integrity
- copyright principles and responsibilities
- the University's policies on appropriate use of software and computer facilities

Information on all of the above is available through the University's "Student Rights and Responsibilities" website at: students.curtin.edu.au/rights.

Note: In Australia and other jurisdictions, students are required to complete a screening check prior to undertaking any activities that include children (e.g. surveying children at a school as part of a project). If this applies to you, start by contacting your unit coordinator for advice.

Student Equity

There are a number of factors that might disadvantage some students from participating in their studies or assessments to the best of their ability, under standard conditions. These factors may include a disability or medical condition (e.g. mental illness, chronic illness, physical or sensory disability, learning disability), significant caring responsibilities, pregnancy, religious practices, living in a remote location,or another reason. If you believe you may be unfairly disadvantaged on these or other grounds please contact the appropriate service below. It is important to note that the staff of the University may not be able to meet your needs if they are not informed of your individual circumstances, so please get in touch with the appropriate service if you require assistance.

To discuss your needs in relation to:

- Disability or medical conditions, contact AccessAbility Services: https://students.curtin.edu.au/personal-support/disability/
- Elite athletes, contact Elite Athlete Coordinator: https://www.curtin.edu.au/sport/competitive-sport-2/elite-athletes/
- All other grounds, contact the Student Wellbeing Advisory Service: https://students.curtin.edu.au/personal-support/counselling-guidance/wellbeing/

Recent Unit Changes & Response to Student Feedback

Students are encouraged to provide feedback through student surveys (such as Insight - Curtin's new unit and teaching survey developed in collaboration with students and staff and the annual Student Experience Survey) and interactions with teaching staff.

Listed below are some recent changes to the unit as a result of student feedback.

- The workshops may begin with a brief review of the video learning materials.
- New GUI materials have been included.

Program Calendar

Week	Begin Date	Learning Topic	Prac	Assessment
Orientation	17 Feb	Orientation Week		
1.	24 Feb	Intro & Fundamentals	Setting up & first steps	
2.	3 Mar	Programming basics	First Programs	
3.	10 Mar	Coding standards & selection	Selecting Specifics	
4.	17 Mar	Looping & arrays	Looping & arrays	
5.	24 Mar	Methods, nesting & 2D arrays	Modularity	
6.	31 Mar	Mid Sem Test		Mid Sem Test
7.	7 Apr	Object orientation design	Designing Objects	
8.	14 Apr	Object orientation implementation	Implementing and using objects	
9.	21 Apr	Tuition Free Week		
10.	28 Apr	File I/O & exceptions	Files and problems	
11.	5 May	Searching & Sorting	Where is that, where should it be	
12.	12 May	Debugging & object sorting	Ooops	Assignment
13.	19 May	Next?	Assignment Demo	Ass Demo
14.	26 May	Study Week		

15.	2 Jun	Examinations
16.	9 Jun	Examinations