Curtin College | in association with Curtin University

UCP1000 - Unix and C Programming

UNIT OUTLINE

Trimester 1A, 2023

Singapore

Contents

1. Welcome

Welcome to Unix and C Programming

This unit is designed for students who need an introduction to the C programming language and the related concepts and tools used to design, implement, test and debug C programs.

In this unit as a developing professional you will develop the knowledge and skills necessary to design and implement C programs as well as make use of the commands and features of Unix-like operating systems.

To be successful in your field of study requires you to participate actively in the learning process. To get a sound understanding of Unix and C Programming it is essential that you demonstrate your skills and abilities in this area by completing all learning activities and assessment tasks yourself. Your classes have been designed to allow you to gain knowledge of the concepts and then engage in learning activities where you will apply this knowledge and develop your skills in Unix and C Programming.

1.1. Aim

In this unit you will learn Commands in Unix, C Fundamentals, functions and program structure, designing programs with derived types, pointers, abstract data types, strings, streams and input/output (I/O). Dynamic memory allocation and C programming utilities for program construction and diagnosis.

1.2. Unit Details

Credit Value:	**25 credits**
Pre-Requisite:	Object Oriented Program Design (OOPD1001) OR Engineering Programming (EPRO1004) OR Fundamentals of Programming (FOP1005)
Co-Requisite:	Nil
Additional Requirements:	Access to computer/ webcam/ note taking apps.
Fees and Charges	All tuition and miscellaneous fee information can be obtained through your Standard PEI-Student Contract.

1.3. Teaching Team

1.3.1. Lecturers/Tutors

Your lecturer/tutor will assist you with your learning and any problems or difficulties you may experience while undertaking this unit. They will mark your assessments and provide feedback in relation to your progress in this unit. You will be able to contact your lecturer/tutor through Axis via your Curtin Student email. All emails should be sent from your student email account. Your lecturer/tutor is available for consultation. Please check the Moodle unit for their availability.

Name	Email address
Andy Lee	andy.lee@learning.curtin.edu.sg

1.3.2. Unit Coordinator/Program Manager

The Unit Coordinator is responsible for the overall administration of that unit. The Program Manager is responsible for the program this unit is in. If you cannot contact your lecturer/tutor or if you have further queries about this unit, you may wish to contact the Unit Coordinator. Contact the Program Manager for program related queries. Their contact details are below:

Staff	Name	Email address
Unit Coordinator	Rob McKnight	rob.mcknight@curtincollege.edu.au
Program Team	Navid Memar	Computing@curtincollege.edu.au

1.4. Student Workload

The workload in this unit that you are expected to commit to comprises of:

Lecture engagement	2 hours
Tutorial participation	2 hours
Personal Study	4 hours
TOTAL:	10 hours

Lecture and/or tutorial times will be advised through the published timetable. Personal Study includes preparation for class and completion of assessments and any self-directed learning in assigned topics.

1.5. Learning Support

The following additional academic support is provided by Curtin Singapore to help you maximise successful completion of this unit:

1.5.1. Your Lecturers or Unit Coordinator

Your first point of reference for help in a unit is your lecturer/tutor. If you need further support please contact the Unit Coordinator. The email addresses for both are listed above.

1.5.2. Study Kiosk

For online help with study skills, assessments and student life head to the Study Kiosk on Moodle to view guides and materials.

1.5.3. Library Workshops

If you require assistance with researching and referencing, register for one of the online workshops conducted by the Curtin Singapore Library or drop by the Curtin Singapore Library at Block B, Level 1.

1.5.4. Student & Academic Services Team

If you have any general enquiries, enrolment issues, need assistance with change of programs, transfer between campuses, withdrawals, document requests, and appeals, then please either visit Student Connect, send an email to academic@curtin.edu.sg or make an appointment with a member of the Student & Academic Services Team on 65938008

1.6. Wellbeing Support

During your time at Curtin Singapore, you might need some guidance and support to help you cope with your studies and life in general. The following wellbeing support is provided:

1.6.1. Student Counsellor

You can make an appointment with our counsellor through Student Connect for confidential advice and support.

2. Academic Details

2.1. Learning Outcomes

Upon successful completion of this unit, you will be able to:		Graduate Capabilities
LO1	Implement algorithms in the C programming language.	2,4,5
LO2	Write and interpret standard C pointer expressions.	2,4,5
LO3	Implement C code which dynamically allocates/de-allocates memory.	2,4,5
LO4	Employ standard Unix/C tools to diagnose program faults	2,4,5
LO5	Employ standard Unix/C tools to build software.	2,3,4,5

2.2. Graduate Capabilities

In your Curtin Singapore program, you will develop the following set of capabilities designed to assist you in your further studies or employment.

1. Culturally capable

Graduates will demonstrate an understanding of and the ability to engage with diverse cultural perspectives.

2. Logical, critical and creative

Graduates will be able to apply logical, critical and creative thinking and problem solving skills to generate solutions in a range of contexts.

3. Globally aware

Graduates will demonstrate an understanding of international perspectives and develop ethical approaches to current and emerging issues.

4. Competent in communication and digital literacy

Graduates will be able to communicate clearly and effectively in a range of contexts and utilise appropriate technology.

5. Career capable

Graduates will be capable of working both autonomously and collaboratively to build employability skills.

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2.3. Weekly Learning Schedule

Each week you should refer to the Weekly Learning Schedule to see what topics will be covered in class that week, how they connect to the Learning Outcomes for the unit and which assessments are due. Please refer to your Moodle Page to see which activities are pre-class or post class.

Study Week	Topic	Learning Outcome	Assessment Due
1	Basics	1,5	
2	Environments	1,5	
3	Pointers	1,2,5	Checkpoint Quiz
4	Arrays and Strings	1,2,3,5	
5	Input and Output	1,2,3,5	
6	Function Pointers	1,2,5	
7	Pointers and Structs	1,2,3,5	Assignment Task 1
8	Shell Scripting	5	
9	Testing and Debugging	1,2,3,4,5	
10	Other Data Types	1,2,3,5	
11	Revision and Assignment Work	1,2,3,4,5	
12	Revision	1,2,3,4,5	Assignment Task 2

2.4. Learning Resources

2.4.1. Moodle

You will find learning materials for the unit on the unit Moodle page, which you can access through Axis. You can access Axis via learning.curtin.edu.sg.

2.4.2 Digitally Assisted Learning (DAL)

To access your digital classroom, you will need to be able to access Zoom and Moodle on a laptop or desktop computer. You are expected to take responsibility for your learning and to engage fully in classroom activities. Please make sure that your webcam and microphone are operational, and you have reliable internet access, so that you can have the best experience of online learning. You will also need Microsoft (MS) office – MS word, Power point and Excel.

2.4.3 Prescribed and Recommended Reading

You do not have to purchase the following text book but you may like to refer to it:

- Hanly, J.R, & Koffman, E. B. (2013), Problem Solving and Program Design in C, 7th ed., Prentice Hall, ISBN 0132936496.

2.4.4 Referencing

Curtin Singapore uses the Chicago Referencing system in this unit. You can find a guide to the current referencing system on the Unit Moodle page.

2.5 Assessments

You will do the following assessments in this Unit.

Assessment Task	Learning Outcome	Graduate Capability	Weighting	Week Due
1 – Checkpoint Quiz	1,2,3,5	2,3,4,5	5%	3
2 – Assignment Task 1	1,2,3,5	2,3,4,5	15%	7
3 – Assignment Task 2	1,2,3,4,5	2,3,4,5	35%	12
4 – Final Assessment	1,2,3,4,5	2,3,4,5	45%	TBA
TOTAL			100%	

2.5.1 Pass Requirements

To pass this unit you must achieve an overall Final Mark of 50% or greater and meet all unit hurdles. The unit hurdles are:

- Submit a valid attempt for assessment 3 – Assignment Task 2 (determined by Lecturer)
- Submit a valid attempt for assessment 4 – Final Assessment (determined Lecturer)

2.5.2 Assessment Task Overview

You can find full details of the assessment task, submission instructions and the marking criteria/rubrics on the **Unit Moodle page**/in the **Unit Assessment Guide**.

2.5.3 Submission and Return of Assessments

Unless otherwise indicated, all assessments are to be completed as individual assessments, not as group assessments.

In-class assessments are to be completed in your timetabled class in the week due.

Usually your marks will be posted in your Gradebook for the unit on Moodle within 14 calendar days of the due date for submission of the assessment task.

You may be required to present written assignment submissions orally to your lecturer or other academic staff, present evidence such as sources, written notes and drafts and/or demonstrate relevant unit skills used to produce your assignment.

You must be able to produce a copy of all work submitted if requested. Please save a copy of your marked online submissions as you may not have access to the marked documents after the exam week. Copies should be kept until after the release of final results for the unit.

2.5.4 Late Submission

If you submit work after the due date without an approved assessment extension; a late penalty will be applied as set out in the Assessment Submission Guidelines which is located under Policies and Procedures on https://www.curtincollege.edu.au/about-curtin-college/policies-procedures/.

2.5.5 Assessment Extensions

If you require an extension for your assessment as you are unable to submit it by the due date, you need to receive approval for an Assessment Extension from Curtin Singapore.

An application for an extension must, wherever possible, be submitted three (3) days prior to the due date. If this is not possible, the application for extension must be submitted within two (2) calendar days of the submission deadline.

For information on Assessment Extensions, please contact assessments@curtin.edu.sg or refer to the Assessment Submission Guidelines which is located under Policies on https://www.curtincollege.edu.au/about- curtin-college/policies-procedures/.

3 Student Responsibilities and Rights

3.1 Recording of Live Course Content Policy

The purpose of this Policy is to confirm the established the parameters within which live course content can be recorded and used in order to provide study resources and ongoing education via a digital learning and teaching framework for those students whose circumstances require a more flexible learning environment. The Policy is all inclusive, which means it covers all learning and teaching activity undertaken by academic staff within the Division and the students enrolled in courses provided by all Colleges within the Division. Where available, automated classroom recording technology will be used to record all lectures and seminars for every subject. Copyright obligations apply to all digital learning materials.

- Copyright in these sessions is owned by the College delivering the materials;
- The material contained in this session may only be used for your personal study purposes;
- Any use of this material for any other purpose or distribution of this material without the express permission of the College Director and Principal will infringe the College's copyright licence and policy.
- Students are not permitted to record this material on personal devices unless instructed to do so by the responsible academic and/or after first gaining permission from the Academic Director.

As per the Curtin College/Navitas Recording of Live Course Content Policy, all online class are recorded and uploaded to Moodle for teaching and study purposes. As part of this unit, you will be asked to participate in live video sessions that will be recorded. These recordings are made for your benefit and for the benefit of your peers; these recordings will be stored in the College's Learning Management System (Moodle) for study purposes only and will not be offered for future offerings of this unit. Students are not to distribute the recordings, as this would be in breach of the Privacy Act. By attending scheduled Zoom classes, you are consenting to participation in a recording in which you may be identified. To opt out of participation you can turn off the video camera and/or audio when attending each session. Please understand that opting out could restrict your ability to participate in class activities and engage with your classmates and teacher.

3.2 Attendance

Attendance is an important element in your academic success.

All Students

Students are required to maintain a minimum 75% attendance for each enrolled unit. Students who fail to obtain the minimum attendance requirement will not be eligible to sit for the final examination or receive grades for the final assessment, regardless of previous work submitted.

International Students

In addition to the requirements above, international student must achieve a minimum monthly attendance requirement of above 90%. Curtin Singapore shall inform the Immigration and Checkpoint Authority (ICA) when an international student's attendance is 90% or below or has failed to attend classes for a continuous period of 7 days or more. This may lead to cancellation of the Student's Pass.

3.3 Student Feedback

You will be invited to participate in online surveys to provide feedback on the unit and your lecturer. Your feedback plays an important role in improving the quality and educational effectiveness of the Unit.

Recent changes to this unit include:

- [Detail the changes that have been made to the unit].
- Preparation for digitally assisted learning

3.4 Code of Conduct

Curtin Singapore is committed to cultivating a respectful, diverse and inclusive community. Curtin Singapore takes seriously, the right of students and staff to have a safe, secure and comfortable learning and work environment, on campus and through digitally assisted learning space.

For detailed information on Code of Conduct and how incidents of Academic, General and Gross Misconduct are dealt with at Curtin Singapore, please refer to the **Code of Conduct policy** located under Policies and Procedures on https://www.curtincollege.edu.au/about-curtin-college/policies-procedures/

3.3.1 Academic Integrity

You are expected to act with academic integrity in your studies and ensure that you submit academic work that is honest and fair. To demonstrate your understanding of Academic Integrity, you are required to complete the Academic Integrity Quiz on Moodle in your first study period. This is a requirement of all students and non-completion of the quiz will result in access to your results being blocked.

In your studies, you should ensure that you avoid academic misconduct, which includes but is not limited to:

- Plagiarism (the use of another's work without correct attribution/referencing)
- Unauthorised collaboration and/or Collusion
- Cheating in assessment/examinations
- Theft of another student's work

3.3.2 General and Gross Misconduct

In your dealings with Curtin Singapore community members, please show respect to others and help create a safe and comfortable learning environment for all.

3.4 Appeals

3.4.1 Appealing your in-class assessment mark/grade (not final exam)

If you receive a mark for an assessment task, and you believe the result is incorrect or unfair, you may submit an appeal within 10 working days.

Please refer to the **Appeals Policy Singapore** located at https://www.curtincollege.edu.au/about-curtin-college/policies-procedures/ for more details.

3.4.2 Appealing your final grade for the unit (include final exam mark)

If you receive your final result, and believe that the result is incorrect or unfair, you may submit an appeal. Please be aware that when submitting an appeal, the results may be changed either upward or downward, or remain unchanged.

Please refer to the **Appeals Policy Singapore** located at https://www.curtincollege.edu.au/about-curtin-college/policies-procedures/ for more details.

3.5 Complaints

Any student of Curtin Singapore is entitled to access the complaints process set out in the Dispute Resolution Policy.

Please refer to the **Dispute Resolution Policy** located at https://curtin.edu.sg/wp-content/uploads/sites/3/2019/01/Dispute-Resolution-Policy.pdf for more details.