COMP1000

Introduction to Computer Programming

Session 2, In person-scheduled-weekday, North Ryde 2022

School of Computing

Contents

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General Information

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Credit points
10

Prerequisites

Corequisites

Co-badged status

Unit description
This unit is an introductory computer science unit, providing a practical introduction to basic
computing and programming concepts. Students gain an understanding of, and practical
experience in, computer programming; practical experience in implementing informal prose
descriptions of problem solutions using an imperative language; an understanding of, and
practical experience in, designing, coding, testing and debugging simple algorithms; and an
understanding of the principle of incremental development. Other topics include: the concept
of program correctness; the differences between high-level languages, assembly languages
and machine languages; the role played by compilers; and the execution of programs by
computer hardware.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are
available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

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

> **ULO1:** apply problem solving skills to develop algorithms that solve small to medium-sized computational problems
>
> **ULO2:** design and write code to implement a program description in an imperative programming language
>
> **ULO3:** use standard software engineering practices to document, debug and test their programs
>
> **ULO4:** understand and apply appropriately the concepts of variables, loops, functions, conditionals and compound data in the implementation of programmed systems
>
> **ULO5:** identify and describe ethical issues in an academic environment and demonstrate active engagement in the learning process

General Assessment Information

Major creative work

Out of the 40 marks for the major creative work,

- 5 marks are for the checkpoint,
- 15 marks are for evaluation of submitted work, and,
- 20 marks are for the following viva.

Module exams

There are 6 modules, each worth 10% of your total unit mark:

You must get 50% or more (5 or more out of 10) in the module exams overall. You will have two attempts for each module, the first during the semester (see unit schedule) and the second in the final exam period. For each module, the best of the two attempts counts towards your final mark for that module. As an example, if you get 90% in the first attempt for Loops and 40% in the second attempt for Loops, your final mark would be 90% for Loops.

Note that you are NOT required to sit the second attempt if you are happy with your grade for that module in the first attempt. However, you are free to sit the second attempt to try and achieve a higher grade, as we take the higher of the two marks to calculate your final mark for each module.

Late Submission

From 1 July 2022, Students enrolled in Session based units with written assessments will have the following late penalty applied. Please see https://students.mq.edu.au/study/assessment-exams/assessments for more information.

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the

total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written assessments is set at **11:55 pm**. A 1-hour grace period is provided to students who experience a technical concern.

For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for Special Consideration.

Assessments where Late Submissions will be accepted

In this unit, late submissions will be accepted as follows:

- Major Work Checkpoing: YES

- Major Work File Submission: YES

- Major Work Viva: NO

- Module Exams: NO

Assessment Tasks

Name	Weighting	Hurdle	Due
Major Creative Work	40%	No	Week 6, Week 12, Week 13
Module Exams	60%	Yes	Various

Major Creative Work

Assessment Type [1]: Programming Task
Indicative Time on Task [2]: 30 hours
Due: **Week 6, Week 12, Week 13**
Weighting: **40%**

A semester-long programming task where students put all their skills to work creating a game or demo.

On successful completion you will be able to:
- apply problem solving skills to develop algorithms that solve small to medium-sized computational problems
- design and write code to implement a program description in an imperative programming language

- use standard software engineering practices to document, debug and test their programs
- understand and apply appropriately the concepts of variables, loops, functions, conditionals and compound data in the implementation of programmed systems
- identify and describe ethical issues in an academic environment and demonstrate active engagement in the learning process

Module Exams

Assessment Type [1]: Examination
Indicative Time on Task [2]: 42 hours
Due: **Various**
Weighting: **60%**
This is a hurdle assessment task (see assessment policy for more information on hurdle assessment tasks)

A number of exams spread through the semester. Students will have the opportunity to repeat any exam to improve their mark.

On successful completion you will be able to:

- apply problem solving skills to develop algorithms that solve small to medium-sized computational problems
- design and write code to implement a program description in an imperative programming language
- use standard software engineering practices to document, debug and test their programs
- understand and apply appropriately the concepts of variables, loops, functions, conditionals and compound data in the implementation of programmed systems
- identify and describe ethical issues in an academic environment and demonstrate active engagement in the learning process

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[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

CLASSES

Each week you should attend

- two-hour lecture
- two-hour practical class

For details of days, times and rooms, consult the timetables webpage.

Note that Lectures and Practical classes commence in week 1.

You should have selected a practical class during enrolment. **You should attend the practical class in which you are enrolled**. You won't always get the class of your choice. Check availabilities via **eStudent** regularly. If ALL practical classes are full, only then, contact the convenor.

TEXTS AND/OR MATERIALS

Lecture notes: https://softwaretechnologymq.github.io/

Online tutorials on Processing website: https://processing.org/tutorials/

Learning Processing site (examples, exercises, videos): http://learningprocessing.com/

Textbook:

Learning Processing: A Beginner's Guide to Programming Images, Animation, and Interaction, by Daniel Shiffman. Second edition, 2015. ISBN: 978-0123944436. **IMPORTANT:** Online/Digital version is available here on MQ Library. Click on "Elsevier ScienceDirect Books - Single Purchased Titles", log in using OneID credentials, and "Download all chapters".

Technology

Programming environment: Processing IDE (even though the latest version is 4.0.5 Beta, we suggest that you install version 3.5.4 to be consistent with the lab. But if you install version 4.0.5, it's also ok!)

Flowchart generator: https://code2flow.com/

Web sequence diagram generator: https://www.websequencediagrams.com/

Diagrams: https://app.diagrams.net/ (lucid chart is better but this one is free)

Discussion Boards

The unit makes use of forums hosted within iLearn. Please post questions there, they are monitored by the unit staff.

Unit Schedule

1	Foundations of Programming	transition to processing, academic integrity module, study skills, how to use google	
2	Foundations of Programming	primitive operations, algorithms	
3	Variables & Conditionals	variables, debugging in processing, conditions	
4	Variables & Conditionals	variables, debugging in processing, conditions	FP Exams
5	Loops	loops	
6	Loops		V&C Exams
7	Functions	functions	Major work Checkpoint

8	Functions	scope	L Exams
9	Compound Data	compound data	
10	Compound Data	reference semantics	F Exams
11	Program Design and Problem Solving	refactoring	
12	Program Design and Problem Solving	case study	CD Exams Major Creative Work Submission
13	Revision		PDPS exam Major Creative Work Vivas
Exam Period			Second-attempts for all six module exams

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Assessment Procedure
- Complaints Resolution Procedure for Students and Members of the Public

- Special Consideration Policy

Students seeking more policy resources can visit Student Policies (https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

Academic Integrity

Using the work or ideas of another person, whether intentionally or not, and presenting them as your own without clear acknowledgement of the source is called Plagiarism.

Macquarie University promotes awareness of information ethics through its Academic Integrity Policy. This means that:

- all academic work claimed as original must be the work of the person making the claim;
- all academic collaborations of any kind must be acknowledged;
- academic work must not be falsified in any way; and
- when the ideas of others are used, these ideas must be acknowledged appropriately.

All breaches of the Academic Integrity Policy are serious and penalties apply. Students should be aware that they may fail an assessment task, a unit or even be excluded from the University for breaching the Academic Integrity Policy.

Assessment Policy

Students should familiarise themselves with their responsibilities under the Assessment Policy, and notably the Final Examination Procedure.

Grade Appeals

A student who has been awarded a final grade for a unit has the right to appeal that grade as outlined in the Assessment Policy. Grade appeals apply to the final mark and the grade a student receives for a unit of study. They do not apply to results received for individual assessment tasks.

Grade appeals must be submitted via ask.mq.edu.au within 15 working days from the published result date for the relevant unit. Before submitting a Grade Appeal, please ensure that you read the Assessment Policy and note valid grounds for appeals.

Students are expected to seek feedback on individual assessment tasks prior to the award of a final grade. Students also have the right to request generic feedback from the teaching staff on their overall performance in the unit, including in a final examination. This can be done at any time in the six-month period starting from the day on which the final grade of the relevant unit is published.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support

- Safety support to respond to bullying, harassment, sexual harassment and sexual assault

- Social support including information about finances, tenancy and legal issues

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/ offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Changes from Previous Offering

1. Nature of hurdles changed to collective module exam hurdle requirement.