COMP1000

Introduction to Computer Programming

Session 1, In person-scheduled-weekday, North Ryde 2025

School of Computing

Contents

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General Information

Unit convenor and teaching staff
Convener and lecturer
Ansgar Fehnker
ansgar.fehnker@mq.edu.au

Lecturer
Charanya Ramakrishnan
charanya.ramakrishnan@mq.edu.au

Senior Teaching Assistant
Samantha Kuhn
samantha.kuhn@mq.edu.au

Senior Teaching Assistant
Gunjan Chamania
gunjan.chamania@mq.edu.au

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 high-level 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 a high-level programming language

ULO3: use standard software engineering practices and tools to document, debug, test and manage their programs

ULO4: understand and apply appropriately the taught concepts such as variables, loops, functions, conditionals and compound data in the implementation of well-designed programs

ULO5: identify and describe ethical issues to academic and professional practice, and demonstrate active engagement in the learning process

General Assessment Information

Programming Skills Demonstration

You will have to attend a live coding exercise demonstrating basic programming skills. You will be asked to use the IDE to create, modify, change, extend, test, and debug a basic program. This in-person assessment will take place during the workshops on week 6. It will carry 30 out of 100 marks.

Please check iLearn for the exact dates, as dates may change if circumstances require it. Participation in the in-person assessments will require you to sign up in a timely fashion, as they may occur outside of your registered workshop hours.

Summative Programming Assessment

There is one summative programming assessment worth 40 out of 100 marks, assessing your understanding and application of the programming concepts covered in the unit. This invigilated test will take place in week 11. You need to sign up in advance, as it may be scheduled outside your regular workshop hours.

Before the invigilated test, there will be an online practice test. It's highly recommended that you complete the practice test. If your practice test mark is higher than your invigilated test mark, your final test mark will be calculated using 25% of the practice test mark and 75% of the invigilated test mark.

Project Review

Every week in your registered SGTAs, a teaching assistant will guide you through exercises that apply to the topics covered in lectures. In addition to these exercises, the SGTA will also support you with your programming assignment. You are expected to submit your work in progress (with

few exceptions) for formative feedback. A checkpoint in week 7 will provide you with written formative feedback on the progress of your project.

In Weeks 12 or 13, you will be scheduled for an oral exam, during which you will be required to discuss the Week 12 version of your program. You will have to submit your program at 23:55 on the day before your week 12 SGTA. Even if your viva is scheduled for week 13.

Your mark for this assessment will be based on your performance in the viva and the quality of the program presented. The combined mark will be 40 out of 100 marks. Students who fail the viva will have an opportunity to retake it to achieve a passing mark for this assessment.

The description of the project will be released before 28 Apr 2025.

Late Submission for Assessments

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a submission for the programming assessment is late is not submitted, until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. For example, if the assignment is worth 8 marks (of the entire unit) and your submission is late by 19 hours (or 23 hours 59 minutes 59 seconds), 0.4 marks (5% of 8 marks) will be deducted. If your submission is late by 24 hours (or 47 hours 59 minutes 59 seconds), 0.8 marks (10% of 8 marks) will be deducted, and so on.

The submission time for the programming project is at 11:55 pm, on the day before your scheduled workshop time in week 12. A 1-hour grace period is provided to students who experience technical problems.

You will not be able to participate in the viva if you have not submitted your program beforehand.

Assessments where Late Submissions will be accepted.

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

- Project Review: Yes
- Summative Programming Assessment: NO
- Programming Skills Demonstration: NO

Special Consideration

If you cannot make a required submission on time because of illness or other circumstances, please apply for special consideration within 5 working days through request through http://conn ect.mq.edu.au/

Students need to apply for special consideration for any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs.

Before submitting a special consideration, check whether you can use a second attempt offered to students regardless of the special consideration. A special consideration should explain why the student missed both the assessment task and any offered second attempt.

Requirements to Pass

- Must obtain a mark of 50 (50% of 100) overall.

Assessment Tasks

Name	Weighting	Hurdle	Due
Programming Skills Demonstration	30%	No	Practical Class Week 6
Summative Programming Assessment	30%	No	Practical Class Week 11
Project Review	40%	No	Practical Class Week 12

Programming Skills Demonstration

Assessment Type [1]: Programming Task
Indicative Time on Task [2]: 20 hours
Due: **Practical Class Week 6**
Weighting: **30%**

Weekly tasks during the SGTAs prepare students for an in-lab exercise where they must demonstrate programming skills, such as using standard software engineering tools to create, modify, debug, test, and manage programs. Students will have an opportunity to retake this task 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 a high-level programming language
- use standard software engineering practices and tools to document, debug, test and manage their programs
- understand and apply appropriately the taught concepts such as variables, loops, functions, conditionals and compound data in the implementation of well-designed programs
- identify and describe ethical issues to academic and professional practice, and demonstrate active engagement in the learning process

Summative Programming Assessment

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 24 hours
Due: **Practical Class Week 11**
Weighting: **30%**

This is a summative assessment of the unit's content. Students will have an opportunity to retake the assessment to improve their marks.

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 a high-level programming language
- use standard software engineering practices and tools to document, debug, test and manage their programs
- understand and apply appropriately the taught concepts such as variables, loops, functions, conditionals and compound data in the implementation of well-designed programs
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Project Review

Assessment Type [1]: Viva/oral examination
Indicative Time on Task [2]: 28 hours
Due: **Practical Class Week 12**
Weighting: **40%**

Multiple formative programming tasks throughout the semester contribute to a programming project, culminating in a viva where students present their program. Both the performance in the viva and the quality of the program will be assessed. Students who fail the viva will have an opportunity to repeat it to achieve a passing mark for this assessment.

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 a high-level programming language
- use standard software engineering practices and tools to document, debug, test and manage their programs
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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

WEEK 1

Note that lectures commence in week 1. Workshops scheduled on Monday after the lecture and from Tuesday to Friday will also commence in week 1. Workshops scheduled before the lecture on Monday will commence in week 2.

CLASSES

Each week you should attend

- two-hour lecture
- two-hour workshop

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

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

TEXTS AND/OR MATERIALS

- Lecture notes: https://comp1000-58cd9.web.app/comp1000/
- 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

Methods of Communication

The unit makes use of forums hosted within iLearn. Please post questions there, they are monitored by the unit staff. For personal questions regarding the unit, please contact the super tutors or unit conveners.

Unit Schedule

Note, that dates and deadlines may change if circumstance requires. Please check iLearn for the latest updates.

Week	Topic	Assessment Activity
1-10		Formative Feedback: Workshop Submissions
1	Getting Started in Processing	
2	Variables and arithmetic	
3	Decisions: Ifs, booleans, and boolean algebra	
4	Iteration: While and for-loops	Formative Feedback: Diagnostic Test
5	Loops and Ifs	
6	Functions	Summative Assessment: Programming Skills Demonstration
7	Objects and Classes	Formative Feedback: Mid-project Checkpoint

	Two-week teaching break	
8	Arrays and array algorithms	
9	Understanding Data Passing: Value vs. Reference	
10	Program Design and Problem Solving	Formative Assessment: Practice Test
11	Theory, Physics, and Processing Goodies.	Summative Programming Assessment
12	Beyond Processing	Summative Assessment: Viva - Project Review
13	Revision	Summative Assessment: Viva- Project Review

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 connect.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://stu
dents.mq.edu.au/support/

Academic Success

Academic Success 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 Advocacy provides independent advice on MQ policies, procedures, and
  processes

Student Enquiries

Got a question? Ask us via the Service Connect Portal, 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

We value student feedback to be able to improve the way we offer our units continually. As such, we encourage students to provide constructive feedback via student surveys, to the teaching staff directly, or via the FSE Student Experience & Feedback link on the iLearn page.

The unit will cover the first 10 chapters of the textbook Learning Processing, including Section 7. This means that the content will more closely align with teaching material related to the textbook.

The unit takes part in the university-wide change toward three summative assessments. Some of the previous assessments will become formative, others will be combined into one assessment. For example, the first project submission will become a formative assessment, while the second project submission will be combined with the viva to form a single assessment. The assessment during the SGTA will be formative. These SGTAs still expect students to do exercises related to the covered lecture content. In addition, SGTAs will also be used for code review of student contributions.

Unit information based on version 2025.04 of the Handbook