COMP1000

Introduction to Computer Programming

Session 2, In person-scheduled-weekday, North Ryde 2024

School of Computing

Contents

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

Weekly SGTA Tasks

Every week in your registered SGTAs a teaching assistant will guide you through exercises that apply the topics covered in the lectures. Beyond the exercises, the SGTA will guide you through your programming assignment. You are expected to submit your work in progress at the end of the workshop (with few exceptions). The teaching assistant will review a selection of the submissions during the next workshop. Each genuine submission is worth 1% of the final mark. You can score a maximum of 10 out of 100.

If you miss a class please sign up for one of the rebound classes in the same or the next week.

Programming Assessments.

The unit includes two programming assessments: an individual programming project and a live programming exercise. The programming project spans the entire unit, from week 1 to week 13. You are required to submit a preliminary version in week 5 and a final version in week 12, both of which will be graded. Following the final submission, you will participate in a live code review of your final project in week 13. Your understanding of your submission and the concepts applied will be evaluated during this review. The first submission will carry 5, the second submission 15, and for live code review 10 out of 100 marks.

For the second programming assessment, you will have to attend a live coding exercise demonstrating basic programming skills. This in-person assessment will take place during the workshops on week 6. It will carry 10 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.

Module exams (hurdle)

There are 3 module exams together worth 50 out of 100 marks, and 10, 15, and 25 marks out of 100, respectively. These take place in week 4, 8, and 11. Participation in the module exams will require you to sign up in a timely fashion, as they may occur outside of your registered workshop hours.

The module exams are a hurdle, as they assess your understanding of the core concepts in this unit and their application. You must pass the module exams collectively. Passing means to achieve a combined 25 of the 50 marks. If you fail a module exam, you will be given another attempt since this assessment is a hurdle. These attempts will scheduled in weeks 6, 11, and the first week of exam week, respectively. Failing the 25 out of 50 marks for all three assessments combined means an automatic fail of the unit. Failure in any single module exam can be compensated by higher marks in another.

Each module exam will be preceded by a practice exam. You are strongly encouraged to undertake the practice exam, which will be available straight after signing up for the module exam. The value of this is that should you receive a failing grade in the module exam, your mark may be increased based on your performance in the practice exam. That is, if the module exam mark is lower than the practice exam mark, we will take the weighted average of 25% of the practice mark and 75% of the exam mark to calculate your module mark.

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 all uploaded assessments is on a Sunday at 11:55 pm. A 1-hour grace period is provided to students who experience technical problems.

Assessments where Late Submissions will be accepted

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

- Programming Assessments: YES
- Module Exams: NO
- Weekly SGTA Tasks: NO

Requirements to Pass

- Must obtain a mark of 50 (50% of 100) overall.
- Must obtain a combined mark of 25 (50% of 50) on the module exams.

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 https://ask.mq.edu.au/

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 apply for Special Consideration.

Before submitting a special consideration, check whether you can make use of a second attempt offered to students regardless of a special consideration. This applies in particular to module exams and weekly tasks. A special consideration should explain why the student missed both: the assessment task, and any offered second attempt.

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly SGTA Tasks	10%	No	Weekly
Programming Assessments	40%	No	Sunday at 11:55 of week 5, 12. Viva in week 6 and 13.
Module Exams	50%	Yes	Scheduled for week 4,8,11.

Weekly SGTA Tasks

Assessment Type [1]: Practice-based task
Indicative Time on Task [2]: 10 hours
Due: **Weekly**
Weighting: **10%**

Weekly tasks during the SGTAs that students need to complete. Students must attend the SGTA and show their work to the Teaching Staff to be eligible for the 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

Programming Assessments

Assessment Type [1]: Programming Task
Indicative Time on Task [2]: 20 hours
Due: **Sunday at 11:55 of week 5, 12. Viva in week 6 and 13.**
Weighting: **40%**

Multiple programming tasks spread through the semester where students put all their skills to work creating games or demos.

On successful completion you will be able to:
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Module Exams

Assessment Type [1]: Examination
Indicative Time on Task [2]: 42 hours
Due: **Scheduled for week 4,8,11.**
Weighting: **50%**
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.

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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 and workshops commence in week 1.

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
- 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)

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.

COVID Information

For the latest information on the University's response to COVID-19, please refer to the Coronavirus infection page on the Macquarie website: https://www.mq.edu.au/about/coronavirus-faqs. Remember to check this page regularly in case the information and requirements change during the semester. If there are any changes to this unit concerning COVID, these will be communicated via iLearn.

Unit Schedule

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

Week	Topic	Assessment Activity
1-12		Workshop Task
1	Getting started in Processing	
2	Variables and arithmetic	
3	Decisions: Ifs, booleans, and boolean algebra	
4	Iteration: While and for-loops	module exam 1
5	Loops and Ifs	submission 1 due

6	Functions	live coding exercise
7	Arrays	
8	Array algorithms	module exam 2
	Two-week teaching break	
9	Functions and arrays	
10	Program Design and Problem Solving	
11	Theory, Physics, and Processing Goodies.	module exam
12	Beyond Processing	submission 2 due
13	Revision	live code 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 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 Advocacy provides independent advice on MQ policies, procedures, and processes

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

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 remain unchanged in the topics that are covered, but the order in which they are offered will change. The basic concepts will be introduced earlier, such that can they be discussed more often in the content of other more advanced concepts. The workshops 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. The assessment during the SGTA will be predominantly formative.

The summative assessments that were part of the SGTA are now part of the prep exams. Note, there is no minimum mark required for the prep exams, but good marks will count towards the module exams.

Unit information based on version 2024.04 of the Handbook