



# COMP1010

## Fundamentals of Computer Science

Session 1, Weekday attendance, North Ryde 2020

*Department of Computing*

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## General Information

Unit convenor and teaching staff  
Convenor, Lecturer (weeks 1 to 8)  
Gaurav Gupta  
[gaurav.gupta@mq.edu.au](mailto:gaurav.gupta@mq.edu.au)

Lecturer (weeks 9 to 12)  
Matthew Roberts  
[matthew.roberts@mq.edu.au](mailto:matthew.roberts@mq.edu.au)

Tutor  
Daniel Sutantyo  
[daniel.sutantyo@mq.edu.au](mailto:daniel.sutantyo@mq.edu.au)

Tutor  
Sophie Kaelin  
[sophie.kaelin@mq.edu.au](mailto:sophie.kaelin@mq.edu.au)

Tutor  
John Kim  
[j.kim@mq.edu.au](mailto:j.kim@mq.edu.au)

Tutor  
Cooper Timewell  
[cooper.timewell@mq.edu.au](mailto:cooper.timewell@mq.edu.au)

Tutor  
Michael Lay  
[michael.lay@mq.edu.au](mailto:michael.lay@mq.edu.au)

Tutor  
Sarah Stanton  
[sarah.stanton@mq.edu.au](mailto:sarah.stanton@mq.edu.au)

Tutor  
Thomas Yap  
[thomas.yap@mq.edu.au](mailto:thomas.yap@mq.edu.au)

Credit points  
10

#### Prerequisites

(COMP1000 or COMP115) or admission to (BActStud or BActStudBSc or BAppFinBActStud or BActStudBProfPrac)

#### Corequisites

#### Co-badged status

#### Unit description

This unit studies programming as a systematic discipline and introduces more formal software design methods. Programming skills are extended to include elementary data structures and abstract data types. There is a strong emphasis on problem solving and algorithms, including aspects of correctness, complexity and computability.

## 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 enhanced problem solving skills to develop algorithms

**ULO2:** implement programs from algorithms, showing an understanding of the underlying architecture of the computer

**ULO3:** adhere to standard software engineering practices, including documentation, unit testing and debugging

**ULO4:** compare different methods available for the same problem in terms of efficiency and other criteria

**ULO5:** demonstrate foundational learning skills including active engagement in their learning process

## Assessment Tasks

### Coronavirus (COVID-19) Update

Assessment details are no longer provided here as a result of changes due to the Coronavirus (COVID-19) pandemic.

Students should consult [iLearn](#) for revised unit information.

[Find out more about the Coronavirus \(COVID-19\) and potential impacts on staff and students](#)

## General Assessment Information

### Students with reasonable adjustments

Students with reasonable adjustment approvals will sit practical exams in relevant weeks on **Friday 18:00 (in room 09WW-121)**

### Practical Exam 3

For practical exam 3, the **best (out of 2 attempts) mark** counts towards the final grade.

### Late Submission

No extensions will be granted without an approved application for Special Consideration. There will be a deduction of 20% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late. For example, 25 hours late in submission for an assignment worth 10 marks – 40% penalty or 4 marks deducted from the total. No submission will be accepted after solutions have been posted.

## Delivery and Resources

### Coronavirus (COVID-19) Update

Any references to on-campus delivery below may no longer be relevant due to COVID-19.

Please check here for updated delivery information: [https://ask.mq.edu.au/account/pub/display/unit\\_status](https://ask.mq.edu.au/account/pub/display/unit_status)

## CLASSES

Each week you should attend

- three hours of lectures,
- 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.

Please note that you are **required** to submit work regularly. You will get the help that you need by attending your practical class. Failure to submit work may result in you failing the unit (see the precise requirements in the "Grading Standards" section) or being excluded from the final examination.

## TEXTS AND/OR MATERIALS

Lecture notes: <https://rebrand.ly/COMP1010LectureNotes>

Video tutorials: <https://rebrand.ly/COMP1010VideoTutorials>

**Recommended Textbook:** T. Gaddis, **Starting out with Java: From control structures through objects (Pearson), Global edition (6th). ISBN 9781292110653**

- [Online edition](#) of this book is available through MQ Library. There can be up to 5 simultaneous accesses. Click on "Full text available at: [2018 eTextbooks](#)" and login with OneID and password.

## TECHNOLOGY USED AND REQUIRED

### Audio and Video Lecture

Digital recordings of lectures are available from within iLearn via **Active Learning Platform**.

### Technology

- [Java SE](#) - download the latest Java SE to be compatible with the labs.
- [Eclipse](#) and [Visual Studio Code](#) - the IDEs we shall be using during the session.
- Learning Management System [iLearn](#)
- <http://codingbat.com/> for programming exercises.

### Discussion Boards

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

## Unit Schedule

### Coronavirus (COVID-19) Update

The unit schedule/topics and any references to on-campus delivery below may no longer be relevant due to COVID-19. Please consult [iLearn](#) for latest details, and check here for updated delivery information: [https://ask.mq.edu.au/account/pub/display/unit\\_status](https://ask.mq.edu.au/account/pub/display/unit_status)

Note that three important themes will pervade the entire unit:

1. **Problem solving.** A crucial skill for all of the weekly topics will be to write appropriate code to meet a given problem specification. This theme relates to the first two learning outcomes for this unit.
2. **Software development.** Use of the JUnit testing framework is an important development

practice which will be taught from the beginning, and used throughout the unit. This theme relates to the third learning outcome of this unit.

3. **Comparing different solution methods.** Very often different algorithms are available for the same problem. Another important skill to develop throughout this unit is the ability to compare different algorithms in terms of efficiency and other criteria. This theme relates to the fourth learning outcome of this unit.

| Week | Topic                                    | Assessments  |
|------|--|--|
| 1    | Programming environment (language, IDEs) | Diagnostic test (does not contribute towards final mark) |
| 2    | Problem solving, JUnit testing           |  |
| 3    | Classes and Objects - 1                  |  |
| 4    | Classes and Objects - 2                  | Practical exam 1   |
| 5    | Recursion - 1                            |  |
| 6    | Binary search                            | Assignment 1 Due   |
| 7    | Case study                               | Practical exam 2   |
| 8    | List Interface                           |  |
| 9    | Custom-built ArrayList                   |  |
| 10   | Self-referencing classes (Node class)    |  |
| 11   | Custom-built LinkedList                  |  |
| 12   | Recursion - 2                            | Assignment 2 Due   |
| 13   | Revision                                 | Practical exam 3 First Attempt                           |
| 14   | -  | Practical exam 3 Second Attempt                          |

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). 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](#)
- [Grade Appeal Policy](#)

- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

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

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/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](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Student Support

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

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [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

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](https://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](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.