



MATH1007

Discrete Mathematics I

Session 2, In person-scheduled-weekday, North Ryde 2026

School of Mathematical and Physical Sciences

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General Information

Unit convenor and teaching staff

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Credit points

10

Prerequisites

Corequisites

Co-badged status

Unit description

This unit provides a background in the area of discrete mathematics to provide an adequate foundation for further study in computer science. It is also of great interest to students wishing to pursue further study in mathematics. In this unit, students study propositional and predicate logic; methods of proof; fundamental structures in discrete mathematics such as sets, functions, relations and equivalence relations; Boolean algebra and digital logic; elementary number theory; graphs and trees; and elementary counting techniques.

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: Demonstrate knowledge of the basic concepts of discrete mathematics, including logic, sets, functions relations, proofs, counting arguments, elementary number theory, matrices, and graph theory.

ULO2: Construct logical, clearly presented and justified mathematical arguments in the context of discrete mathematics.

ULO3: Apply the principles, concepts, and techniques learned in this unit to solve practical and abstract problems.

ULO4: Demonstrate appropriate interpretation of information communicated in mathematical form and formulate ideas and language from discrete mathematics.

ULO5: Communicate to a general audience the relevance of mathematics to computer science.

ULO6: Demonstrate foundational learning skills including active engagement in your learning process.

General Assessment Information

HURDLES: There are no hurdles for the unit.

MODULE TASKS 1-3: If you are unable to do a module task you may apply for special consideration.

FINAL EXAM POLICY: All students are expected to ensure that they are available until the end of the teaching semester, that is, the final day of the official examination period. For successful special considerations for the final exam, this availability then also applies to the supplementary exam, held in December. The only excuse for not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these special circumstances, you may apply for special consideration via <https://connect.mq.edu.au>.

SECOND CHANCE ON MODULE TASKS: The final exam for the unit is a second chance at your module tasks. You may attempt any none, or one, or two, or all, of the module tasks, and we will take the higher result between the in-session module task and the final exam attempt. If you are satisfied with the in-session mark for your module task, there is no need to attempt the final exam.

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Module task 1	33%	No	SGTA week 5	Individual	No	Observed
Module Task 2	34%	No	SGTA week 9	Individual	No	Observed
Module Task 3	33%	No	SGTA week 12	Individual	No	Observed

Module task 1

Assessment Type [1](#): Problem-based task

Indicative Time on Task [2](#): 16 hours

Due: **SGTA week 5**

Weighting: **33%**

Groupwork/Individual: Individual

Short extension [3](#): No

AI Approach: Observed

You will undertake an in-class invigilated assessment based on the material of Module 1. You will be offered a second opportunity to complete a different version of this task during the final exam period. If you make two attempts, the final mark awarded will be the maximum of the two marks attained.

On successful completion you will be able to:

- Demonstrate knowledge of the basic concepts of discrete mathematics, including logic, sets, functions relations, proofs, counting arguments, elementary number theory, matrices, and graph theory.
- Construct logical, clearly presented and justified mathematical arguments in the context of discrete mathematics.
- Apply the principles, concepts, and techniques learned in this unit to solve practical and abstract problems.
- Demonstrate appropriate interpretation of information communicated in mathematical form and formulate ideas and language from discrete mathematics.
- Communicate to a general audience the relevance of mathematics to computer science.
- Demonstrate foundational learning skills including active engagement in your learning process.

Module Task 2

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 17 hours

Due: **SGTA week 9**

Weighting: **34%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

You will undertake an in-class invigilated assessment based on the material of Module 2. You will be offered a second opportunity to complete a different version of this task during the final exam period. If you make two attempts, the final mark awarded will be the maximum of the two marks attained.

On successful completion you will be able to:

- Demonstrate knowledge of the basic concepts of discrete mathematics, including logic, sets, functions relations, proofs, counting arguments, elementary number theory, matrices, and graph theory.
- Construct logical, clearly presented and justified mathematical arguments in the context

of discrete mathematics.

- Apply the principles, concepts, and techniques learned in this unit to solve practical and abstract problems.
- Demonstrate appropriate interpretation of information communicated in mathematical form and formulate ideas and language from discrete mathematics.
- Communicate to a general audience the relevance of mathematics to computer science.
- Demonstrate foundational learning skills including active engagement in your learning process.

Module Task 3

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 17 hours

Due: **SGTA week 12**

Weighting: **33%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

You will undertake an in-class invigilated assessment based on the material of Module 3. You will be offered a second opportunity to complete a different version of this task during the final exam period. If you make two attempts, the final mark awarded will be the maximum of the two marks attained.

On successful completion you will be able to:

- Demonstrate knowledge of the basic concepts of discrete mathematics, including logic, sets, functions relations, proofs, counting arguments, elementary number theory, matrices, and graph theory.
- Construct logical, clearly presented and justified mathematical arguments in the context of discrete mathematics.
- Apply the principles, concepts, and techniques learned in this unit to solve practical and abstract problems.
- Demonstrate appropriate interpretation of information communicated in mathematical form and formulate ideas and language from discrete mathematics.
- Communicate to a general audience the relevance of mathematics to computer science.
- Demonstrate foundational learning skills including active engagement in your learning process.

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
- [Academic Success](#) 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.

³ An automatic short extension is available for some assessments. Apply through the [Service Connect Portal](#).

Delivery and Resources

Learning activities

Content videos: the mathematical content of the unit will be available via short weekly videos, approximately eight videos of around 10-15 minutes for each week. These videos can be accessed via iLearn and ECHO360. In total you should expect to spend around two hours per week watching these videos.

Small Group Teaching Activities (SGTA): you should register for and participate in SGTA classes on campus every week. These give the chance to try problems for yourself in small groups of your peers, with assistance from the class instructors.

Required and Recommended Texts and/or Materials

The recommended texts for MATH1007 are:

- Kenneth H Rosen, Discrete Mathematics and Its Applications, McGraw-Hill, any edition.
- The open text [Discrete Mathematics, An Open Introduction](#) by Oscar Levin, which is freely available online.

Other useful resources and materials will be made available via the MATH1007 iLearn site.

Technology Used and Required

Students are expected to have access to an internet-enabled computer with a web browser and Adobe Reader software. Most areas of the university provide wireless access for portable devices. There are computers for student use in the Library.

Difficulties with your home computer or internet connection do not constitute a reasonable excuse for lateness of, or failure to submit, assessment tasks.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://policies.mq.edu.au) (<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) (<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) (<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](#).

Student Support

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

Academic Success

[Academic Success](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Ask a Study Coach](#)
- [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 <https://students.mq.edu.au/support/technology/service-desk>.

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

The assessments have changed to three invigilated module tasks, held in SGTAs in weeks 5, 9, and 12. A second chance at the module tasks is available in the final exam period; for each module task, the higher mark of the in-session and exam module mark is awarded.

Unit information based on version 2026.04 of the [Handbook](#)