Welcome to Discrete Mathematics

Welcome to amth140!
Here you are some vital statistics:

   All the information regarding this unit can be found on Moodle or here, on our school’s server called turing:
   http://turing.une.edu.au/~amth140

Administrative Details

Unit Title: Discrete Mathematics
Unit Code: AMTH140
Trimester: 2, 2013

Unit amth140
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Tutor: TBA

Lectures

   Monday 12:00 – 13:00 B264
   Wednesday 13:00 – 14:00 B264
   Friday 11:00 –12:00 B264

Tutorials

   Wednesday 2:00 – 3:00 p.m. B251
   Wednesday 3:00 – 4:00 p.m. B251
   Thursday 3:00 – 4:00 p.m. B264
Practical

Tuesday 11:00 – 12:00 a.m. B264
Thursday 2:00 – 3:00 p.m. B264

Consultation times

9:00 - 11:00 a.m. Monday
10:00 - 11:00 a.m. Friday

All internal students must attend 3 Lectures, 1 Practical/Laboratory Class and 1 Tutorial each week. Practical and Tutorial classes start in the second week.

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Aims and Prerequisites

Discrete Mathematics introduces you to a wide range of terminology and tools that have particular use in computer science. Topics covered in this unit include Sets, Mathematical Induction, Big O Notation, Logic, Predicate Calculus, Graphs, Linear Recurrence Relations, Sorting Method, Relations and Partial Ordering.

As a guide, you should allocate ten hours per week private study time for this unit. There will be lecture notes appearing on the web & the Internet as the unit proceeds. So you should pay close attention to the amth140 web pages on turing.
Learning Outcomes (LO) and Graduate Attributes (GA)

Upon completion of this unit, students will be able to develop ideas that provide a way of analysing the physical world; undertake problem identification, formulation and solution; become proficient in using new tools that are useful in Computer Science, that is

LO 1 demonstrate competency and fluency in the terminology and notation of discrete mathematics

LO 2 solve problems based on the application of concepts relating to discrete or finite mathematics

LO 3 obtain the ability to think scientifically.

UNE graduate attributes

UNE has a policy that identifies the special attributes of a UNE graduate. The policy can be found at [http://www.une.edu.au/gamanual/](http://www.une.edu.au/gamanual/). It is expected that, during the course of your undergraduate degree, you will develop these attributes in conjunction with your discipline knowledge. Those addressed by this unit are reflected in the unit learning outcomes and assessment tasks. You can assess your developing skill level after each unit by using the self-reflection guide and resources located at [http://www.une.edu.au/gamanual/students](http://www.une.edu.au/gamanual/students)

This unit addresses the following graduate attributes (GA):

GA 1 Knowledge of discipline: Students will be taught the knowledge useful in computer sciences in this unit and the students are expected to use them to solve practical problems.

GA 2 Communication Skills: Students will be taught on how to build up their ability to use mathematics through their life long learning.

GA 6 Problem Solving: Students will be taught to use their knowledge in mathematics to solve problems arising from computer science.


Intensive school

There is no intensive school for this unit.

Textbooks

Lecture notes will be provided. The lecture notes cover all the material required of this unit. While the booklet of lecture notes is more concise, the below mentioned textbooks provide you with extra reading and insights. Therefore the lecture notes and the textbooks can be used to complement each other.


Recommended Readings


From time to time the lecturer will post on the AMTH140 web pages the slides he used to teach a particular lecture, more exercises and examples, etc. Check UnitLinks[1] if hungry for more information.

How to study the unit

It is essential that you read carefully the lecture notes and try to understand everything presented there. On the other hand, assignments are an essential part of this unit. It is important to notice that through doing the assignments and through the feedbacks from your marked assignments, you can check your understanding of the materials in this unit in a timely fashion. Do not get too far behind and do not leave important materials unfinished before going to the next step.

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Assignments & Assessment

You must complete all assessment tasks to pass the unit. There will be 6 assignments for students enrolled in anth140. Each assignment is worth 100 marks. The exam is worth 100 marks. The assignments represent 30% from the final mark (so each assignment will bring at most 5% to the final mark), and the exam represents the other 70%.

To pass the unit you must get at least 50% in each component, that is

- 300 marks (representing 15% in the final mark) in the assignments part and
- 50 marks (representing 35% in the final mark) in the exam.

See the separate Assessment booklet for information about the assessment for this unit.

At the School Teaching and Learning Committee meeting on 9 February 2012 the Late Assessment Policy for this School was amended and now reads:

School Policy on Late Assignments

For assessment tasks worth at least 10% of the overall mark for the unit, a penalty of 5% per working day will apply. This penalty rate applies for a maximum of ten days, after which no mark will be awarded. A period of grace of 7 days from the due date will apply to externals for assignments posted to the University from remote locations. An extension for an Online Quiz may be granted by the Unit Coordinator but cannot be extended beyond the date by which solutions have been posted. Consideration will be given for extenuating personal circumstances, but evidence must be supplied.

Grounds for extensions may be considered based on

1. Medical certificate or obvious illness; or

2. Extenuating personal circumstances, which must be accompanied by documentary evidence, eg, certificate from counsellor.

Notes

- No submission will be accepted after the end of the trimester, that is after Friday, 4th of October, 2013.
• Asking unit coordinators for preliminary review of any assessment tasks prior to formal submission is inappropriate and unfair to other students without that opportunity.

• Students may request that an assessment task be re-marked, in its original form, in circumstances where the student presents a case arguing that the original marking was unfair or inconsistent with marking guidelines. This request must be directly addressed to the unit coordinator, with a copy to the Head of School, by the student within 10 working days of receipt of the original marked assessment task.


• Information about special assessment (Special Examinations, Special Extension of Time) can be found at http://www.une.edu.au/policies/alphabetic.php#S.

• In any situation you have to submit the assignments prior to the end of trimester.

• To request an extension, you will need to email amth140@mcs.une.edu.au, prior to the due date, and provide the following:
  – your name,
  – the assignment for which you seek an extension,
  – the grounds for granting an extension, and
  – the date you anticipate being able to submit your assignment.

UNEonline

UNEonline is UNE’s online teaching system. As a current student you have access to the student portal [myUNE], through which you can access your online units, manage your enrolment, change personal information and access many useful functions. Log in to myUNE from the UNE homepage using your UNE username and password. All units have an online site that may include features such as a message board, a discussion forum and electronic downloads of teaching material.
Accessing the online site for your other units

To access the online sites for most UNE units (stored on a Moodle server), log in to myUNE from the UNE homepage using your UNE username and password. Go to the myStudy tab. A list of the units in which you are currently enrolled will be displayed in the myUnits and Services table. When the online site for one of your units becomes available, a UNEonline column will be displayed. You can access the online unit by clicking on the icon in this column. Please note that most online units will not be available until the first day of teaching. If you have any problems related to accessing myUNE or the online site for your unit, contact the IT Service Desk on 02 6773 5000, via AskUNE or by emailing servicedesk@une.edu.au.

List of usernames disclaimer

Please note that your username within UNEonline appears as part of a list in some places. Only students enrolled in the unit have access to this list. Please contact your unit coordinator if you have any concerns.

General Information

Student Centre

The Student Centre provides you with a focal point of contact for all your administrative enquiries during your study at UNE, including selecting units and managing your enrolment. If you have administrative enquiries relating to your study at UNE, go to the Student Centre page at StudentCentre. Alternatively, you can go to AskUNE and submit a question by clicking on the Contact Us tab. You can also find information on all aspects of studying at UNE on the Current Students page at Current Students.

UNE Contacts Page updated: http://www.une.edu.au/contacts/#is

2http://www.une.edu.au/studentcentre
3http://www.une.edu.au/askune
4http://www.une.edu.au/for/current-students/
Library Services

The UNE University Library has an extensive collection of books, journals and online resources.

What can the Library do for you?

Find out at http://www.une.edu.au/library/services/unit_guide.php. This guide provides easy pathways to UNEs vast online resources and shows how the Library can help you with your studies. You can borrow books, obtain copies of articles and exam papers, and request advice from librarians on search strategies and information tools to use.

Learning support

The Academic Skills Office (ASO) is UNE’s learning support unit. The ASO has study skills advisors and a wealth of print and online resources to help you with your study skills development or problems.

ASO fact sheets

The ASO has developed a series of fact sheets that answer the questions most frequently asked by students. They can be found at http://www.une.edu.au/tlc/aso/students/factsheets/

ASO discussion forum

If you would like to discuss specific issues related to study skills or academic writing with an advisor, or benefit from the questions other students ask, you can log on to the ASO Discussion Forum at http://www.une.edu.au/tlc/aso/students/programs/tuneup/advisor.php

Key terms

A glossary of some of the key terms used to describe academic and administrative activities, roles and structures at UNE can be found at http://www.une.edu.au/policies/pdf/glossarykeyterms.pdf. It is very useful for understanding the terminology associated with your study.
Other Support at UNE

Other support services are available to assist you throughout the course of your studies. Some of these services are outlined below. For the full range of support services, go to [http://www.une.edu.au/for/current-students/](http://www.une.edu.au/for/current-students/) and follow the links.

**Student Assist**

Student Assists support services include disability and special needs support, counselling, and career development. To see the range of services they offer, go to [http://www.une.edu.au/student-assist/](http://www.une.edu.au/student-assist/)

**Aboriginal and Torres Strait Islander students**

The Oorala Aboriginal Centre is a study support and advisory centre for internal and external Aboriginal and Torres Strait Islander students at UNE. To find out more about the support services Oorala offers, go to [http://www.une.edu.au/oorala/](http://www.une.edu.au/oorala/)

**International students**

International Services provides support for international students and provides a link between the administrative and academic functions at UNE. For more information about the services offered, go to [http://www.une.edu.au/elis](http://www.une.edu.au/elis) and for an e-copy of the International Student Handbook go to [http://www.une.edu.au/elis/brochures/](http://www.une.edu.au/elis/brochures/)

**AskUNE**

If you have questions that are not answered by this booklet, go to AskUNE, [http://www.une.edu.au/askune/](http://www.une.edu.au/askune/) At AskUNE you can find answers to many common enquiries or submit an enquiry of your own by clicking on the 'Contact Us' tab.
PLAGIARISM

Students are warned to read the statement in the Faculty’s Undergraduate and Postgraduate Handbooks for 2011 regarding the University’s Policy on Plagiarism.

Full details of the Policy on Plagiarism are available in the UNE Handbook and at the following site:

Please read carefully:

and

In addition, you must complete the Plagiarism Declaration Form for all assignments, practical reports, etc. submitted in this unit.

For electronic submission of assignments, it is presumed that you have read the web site and have agreed with the conditions so you don’t have to submit the form.

Plagiarism is the action or practice of taking and using as one’s own the thoughts or writings of another without acknowledgment. The following practices constitute acts of plagiarism and are a major infringement of UNE’s academic values:

• where paragraphs, sentences, a single sentence or significant parts of a sentence are copied directly, are not enclosed in quotation marks and appropriately referenced;

• where direct quotations are not used, but are paraphrased or summarised, and the source of the material is not referenced within the text of the paper; and

• where an idea which appears elsewhere in any form is used or developed without reference being made to the author or the source of that idea.

It is your responsibility to:

• read, understand and comply with the policy on Plagiarism and Academic Misconduct found at the website above;

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5Some examples of this are books, journals, WWW material, theses, computer stored data and software, lecture notes or tapes.
• familiarise yourself with the conventions of referencing for your discipline(s);

• avoid all acts which could be considered plagiarism or academic misconduct;

• seek assistance from appropriate sources if you become aware that you need more knowledge and skills in relation to academic writing;

• be aware that when you submit an assignment through the University's e-Submission system, you are deemed to have signed the plagiarism declaration form;

• submit a separate signed and dated plagiarism declaration form with every task, report, dissertation or thesis submitted in hard copy for assessment or examination.

You should refer to the following websites for further advice and assistance:

• Avoiding Plagiarism and Academic Misconduct (Coursework): Information for Students
  This information explains the principles of good scholarship and has guidelines to help you avoid plagiarism. It also has guidelines for referencing and research, and advice on the use of internet sites.

• Academic Skills Office,
  The Academic Skills Office has a variety of support materials to assist you with referencing and avoiding plagiarism.

• eSKILLS UNE Keeping Track,
  eSkills Keeping Track has advice about organising your information for assignments and on referencing appropriately.
TurnItIn

UNE uses a software application to determine the originality of assessable work submitted by its students. This software is called TurnItIn and it is part of the submission process.

When a file is submitted to TurnItIn, the software compares the text in the submitted files with text from a range of electronic sources including online journals, online databases, the Internet and the TurnItIn database. Any strings of text that occur in both the submitted document and in one or more of the electronic sources are identified by the software with a unique number and colour in what TurnItIn calls the ‘originality report’.

More information about e-Submission and TurnItIn can be found at http://www.une.edu.au/tlc/students/services/esub-tii.php

Examinations

The Examinations page at http://www.une.edu.au/exams/ has important information about examinations, including your responsibilities as a student in relation to exams, information about examination dates and special exams, and links to who to contact if you have queries.

Complaints and Appeals


Please visit http://www.une.edu.au/elis/services/complaints.php for more information and procedures.