



Course Outline

MATH1081 Discrete Mathematics

School of Mathematics and Statistics

Faculty of Science

Term 2, 2022

Contents

Contents	2
1. Staff	3
2. Administrative matters.....	3
Contacting the Student Services Office	3
3. Course information	3
Course summary	4
Course aims.....	4
Course learning outcomes (CLO).....	4
4. Learning and teaching activities.....	5
Lecture and Tutorial Schedule.....	5
Classroom Tutorials.....	5
Weekly Numbas Lessons	5
UNSW Moodle	5
5. Assessment.....	6
Assessment overview	6
Weekly Numbas Lessons	6
Lab Tests	7
Assignment	7
End of Term Examination	7
Schedule of all assessments	7
6. Expectations of students.....	8
School and UNSW Policies	8
Academic Integrity and Plagiarism	8
Plagiarism	9
Detection of academic misconduct.....	9
7. Readings and resources.....	10
Course Pack	10
Textbook	10
Reference Books	10
8. Getting help outside tutorials	11
Staff Consultations.....	11
Mathematics Drop-in Centre.....	11
Additional support for students	11
ELISE (Enabling Library and Information Skills for Everyone)	11
Equitable Learning Services (ELS)	11
Academic Skills Support and the Learning Centre	12
Other Supports	12
9. Applications for Special Consideration	12
10. Syllabus	13

1. Staff

Position	Name	Email	Room*
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Director

Units of credit: 6

Assumed knowledge: The assumed knowledge for this course is equivalent

4. Learning and teaching activities

Lecture and Tutorial Schedule

Please note that Lectures commence in week 1 and run to week 10 according to your myUNSW timetable. Lectures may continue into week 11 according to need.

Activity	Monday	Tuesday	Wed	Thursday	Friday
LEC 1	2 – 4pm (w1-2,4-5,7-10, Law Th G04)			10 – 12pm (w1-5,7-10, NSGlob Th)	9am (w1-5,7-10, Law Th G04)
LEC 2	2 – 4pm (w1-2,4-5,7-10, ONLINE)			10 – 12pm (w1-5,7-10, ONLINE)	9am (w1-5,7-10, ONLINE)
WEB	Pre-recorded lectures are on Moodle as an alternative to live lecture or an extra resource.				
Exam (WEB1)	Lab Tests will be at a variety of times. See Moodle one week in advance.				
Tutorial	Refer to http://timetable.unsw.edu.au/2022/MATH1081.html#S2S				

Students must enroll into a pair of tutorials. The “Other” activity is for assessments only. Tutorials are compulsory. Web lectures are provided th (c)-8 (t)-1.1 8urgh11.9 (v)-1.1 (h e M11.9 (odl)3.1 (e o)-8 (om)11.8 (r)-.7 ()-8 (es

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These Numbas Lessons will cover basic skills. The material covered in each might include upcoming topics as preparation to help you get the most out of lectures and tutorials, as well as material already covered in the lectures and tutorials to help you prepare for the lab tests.

You are encouraged to work on these exercises in groups with other students, but you must only enter answers to your questions that you have worked out for yourself.

The weekly Numbas Lessons allow you to make your answers as you go. $T_c(0.6T_{cu})f^{-1}.s.3$ (ur)

Week	Assignment/lab tests	Weekly Numbas Lessons
1		Start work on your first Weekly Numbas Lesson
2		Week 1 Numbas Lesson due Monday 5pm
3		Week 2 Numbas Lesson due Monday 5pm
4	Lab Test 1 (Thursday 9am to Friday 5pm)	Week 3 Numbas Lesson due Monday 5pm
5	Assignment draft due Friday 5pm	Week 4 Numbas Lesson due Monday 5pm
6	Flexibility Week	
7	Assignment peer review due Wednesday 5pm	Week 5 Numbas Lesson due Monday 5pm
8		Week 7 Numbas Lesson due Monday 5pm
9	Assignment final submission due Friday 5pm	Week 8 Numbas Lesson due Monday 5pm
10	Lab Test 2 (Thursday 9am to Friday 5pm)	Week 9 Numbas Lesson due Monday 5pm Week 10 Numbas Lesson due Sunday 11:59pm**
11	Monday to Thursday: Study break Friday: Start of exams – Check myUNSW for exam timetable	

* The last Weekly Numbas Lesson will remain available until Week 11 Monday 5pm.

6.Expectations of students

School and UNSW Policies

The School of Mathematics and Statistics has adopted a number of policies relating to enrolment, attendance, assessment, plagiarism, cheating, special consideration etc. These are in addition to the Policies of The University of New South Wales. Individual courses may also adopt other policies in addition to or replacing some of the School ones. These will be clearly notified in the Course Initial Handout and on the Course Home Pages on the Maths & Stats web site.

Students in courses run by the School of Mathematics and Statistics should be aware of the School and Course policies by reading the appropriate pages on the Maths Stats web site starting at:

<https://www.unsw.edu.au/science/our-schools/maths/student-life-resources/studentsit2.2> (e)0.277 01T(b)12 0T(d)35.04 T

others and passing them off as your own. Nor is it permissible to sell copies of lecture or tutorial notes as students do not own the rights to this intellectual property.

If a student breaches the Student Code with respect to academic integrity, the University may take disciplinary action under the **Student Misconduct Procedure**.

The UNSW Student Code and the Student Misconduct Procedure can be found at:

7. Readings and resources

Course Pack

Your course pack should contain the following two items:

- x *Problem Sets Booklet*
- x *Past Exam Papers and Solutions Booklet*

These items can also be downloaded from UNSW Moodle, but many students find the hardcopy more efficient for study.

NB: The Course Outline will be provided through the Moodle site and / or School web site, containing:

Information on administrative matters, lectures, tutorials, assessment, syllabus, lab tests, assignment, special consideration and additional assessment.

Textbook

S.S. Epp, "Discrete Mathematics with Applications", Fourth Edition, 2011 OR Second (or Third) Edition, PWS 1995.

J Franklin and A. Daoud, "Introduction to P

8. Getting help outside tutorials

Staff Consultations

From week 2 there will be a roster which shows for each hour of the week a list of names of members of staff who are available to help students in the first year mathematics courses, no appointment is necessary. This roster will be announced in the Moodle course page at the end of week 1 and can be located by visiting web page:

<https://www.unsw.edu.au/science/our-schools/maths/student-life-resources/student-services/consultation-mathematics-staff>

Mathematics Drop-in Centre

The Maths Drop-in Centre provides free help to students with certain first and second year mathematics courses. All first year MATH courses are supported. The Maths Drop-in Centre operates online via Moodle. Some limited in-person sessions may also be arranged. For opening times, week the Drop-in Centre Moodle page.

The Maths Drop-in Centre schedule will be available on the Schools website and Moodle page below by the start of week 1. Please note that no appointment is necessary, this is a drop-in arrangement to obtain one-on-one help from tutors

<https://www.unsw.edu.au/science/our-schools/maths/student-life-resources/student-services/mathematics-drop-in-centre>

Additional support for students

ELISE (Enabling Library and Information Skills for Everyone)

ELISE is designed to introduce new students to studying at UNSW.

Completing the ELISE tutorial and quiz will enable you to:

- f* analyse topics, plan responses and organise research for academic writing and other assessment tasks
- f* effectively and efficiently find appropriate

10. Syllabus

References are to the textbook by Epp, unless marked otherwise. F indicates the textbook by Franklin and Daoud and R indicates the book *Discrete Mathematics* by R. E. Tarjan and M. Yannakakis.

Addition Rule	6.3	9.3
Principle of Inclusion-Exclusion	6.3	9.3
Pigeonhole Principle	7.3	9.4
Permutations and Combinations	6.4, 6.5	9.5, 9.6
Binomial and Multinomial Theorem	6.7, R4.6	9.7, R5.4
Recurrence Relations	8.2, 8.3	5.6, 5.7, 5.8

Recursively Defined Sets and Functions

5

Basic terminology. simple graphs, -_a.Directed graphs,