

THE UNIVERSITY OF SYDNEY
Semester 2, 2009

Information Sheet for **MATH1004 Discrete Mathematics**

Web Site

It is important that you check the Junior Mathematics web site regularly.

It may be found by following links from the University of Sydney front page or by going directly to

<http://www.maths.usyd.edu.au/u/UG/JM/>

Important announcements relating to Junior Mathematics are posted on the site, and there is a link to the MATH1004 page. Material available from the MATH1004 page may include information sheets, the Junior Mathematics Handbook, notes, exercise sheets and solutions, and previous examination papers.

Lectures

Times	Location	Lecturer	Consultation
1 pm Wed & Thurs	Carslaw 159	A/Prof A Molev, Carslaw room 707	Wed 12–1pm*

* If you are unable to see A/Prof Molev during his scheduled consultation hour, other times may be possible by appointment.

Lectures run for 13 weeks. The last lecture will therefore be on Thursday 29 October.

Tutorials

Tutorials (one per week) start in week 2. You should attend the tutorial given on your personal timetable. Attendance at tutorials will be recorded. Your attendance will not be recorded unless you attend the tutorial in which you are enrolled.

Tutorial sheets

The tutorial sheets will be available on the MATH1004 webpage. **You must take the current week's sheet to your tutorial.** The sheet must be printed from the web.

Solutions to tutorial exercises for week n will usually be posted on the web by the end of week n .

Assessment

Your final raw mark for this unit will be calculated as follows:

- 65%: Exam at end of semester 2.
- 30%: Quiz mark.
- 5%: Assignment mark.

Your final raw mark is then scaled to produce your final mark. Marks are scaled so that the distribution of grades is consistent with the quality of the class, and the difficulty of the unit, as required by the University.

Examination

There is one examination of 1.5 hours' duration during the examination period at the end of semester 2. Further information about the exam will be made available at a later date.

Quizzes

There are two quizzes, each worth 15% of your final raw mark. Quizzes are held during tutorials, in

week 5 (beginning 24 August) and **week 9** (beginning 21 September).

You should put those dates in your diary now! You must sit for the quiz during the tutorial in which you are enrolled. Your quiz mark will not be recorded if you sit for the quiz in a tutorial in which you are not enrolled (unless you have made an arrangement with the Student Office). If you miss a quiz, then you must go to the Student Office as soon as possible afterwards.

Assignments

One assignment will be marked, and will be worth 5% of your final raw mark. The assignment will be due on **Thursday 15 October**. Please see page 26 of the Junior Mathematics Handbook for details relating to the submission of assignments.

Text book

KG Choo and DE Taylor. *Introduction to Discrete Mathematics*. Addison Wesley Longman Australia, Melbourne, Vic, Australia, 1998. Available from the Co-op Bookshop.

Any questions?

Before you contact us with any enquiry, please check the FAQ page:

<http://www.maths.usyd.edu.au/u/UG/JM/FAQ.html>

Where to go for help

For administrative matters, go to the **Mathematics Student Office, Carlaw room 520**.

For help with mathematics, see your lecturer, or your tutor.

If you are having difficulties with mathematics due to insufficient background, you should go to the Mathematics Learning Centre (Carlaw room 441).

Week-by-week outline

The unit follows the textbook fairly closely.
The chapter references in the following table refer to the textbook by Choo and Taylor.

Week	Topics
1	Introduction to the unit. Chapter 1. The Catalan numbers.
2	Chapter 2. Sets.
3	Chapter 3. Functions.
4	Chapter 4. Counting principles. Chapter 5. Ordered selections.
5	Chapter 6. Unordered selections. Chapter 8. Multinomial coefficients.
6	Chapter 7. The inclusion-exclusion principle.
7	Chapter 9. Boolean expressions.
8	Chapter 10. Karnaugh maps. Chapter 12. Digital logic.
9	Chapter 11. Logic.
10	Chapter 13. Mathematical induction.
11	Chapter 14. Generating functions.
12	Chapter 15. Linear recurrence relations.
13	Chapter 19. Catalan numbers (again). Revision.