COMP9020 Course Information for Session 1 2016

Update Policy

Any updates of this course outline after week 1 will be discussed in class and announced under the header **Notices** in the menu on the left hand side of the course web page.

Course Overview

The official scope is: mathematical methods for designing correct and efficient programs; mathematics for algorithm analysis; logic for proving and verification.

The actual content is taken from a list of subjects that constitute the basis of the tool box of every serious practitioner of computing: set and relation theory; induction, recursion and recurrence relations; order of growth of functions; structured counting (combinatorics); discrete probability; graph theory; trees for algorithmic applications; propositional logic and boolean algebras.

Prerequisites / Background Knowledge

none

Course Aims

After successfully completing this course, you will have developed an increased level of mathematical maturity to assist with the fundamental problem of *finding, formulating, and proving properties* of programs.

Learning Outcomes

According to UNSW policy, graduate attrbiutes *are important because the disciplinary knowledge that students develop at university is not adequate in itself as the basis for their future lives. Instead, graduates need qualities and skills that equip them for lifelong learning. These include critical thinking and problem-solving skills as well as communication skills and information literacy skills.*

- **Critical thinking and problem-solving skills** will be fostered through problem sets and in-class quizzes.
- **Communication skills**, both oral and written, are sharpened by writing and presenting mathematical thought.
- **Information literacy skills** are developed through solving problems outside of class.

Course Evaluation and Development

This course is being continuously improved and we will conduct a survey through the CATEI (Course and Teaching Evaluation and Improvement) process at the end of session to obtain feedback on the quality of the various course components. Your participation in the survey will be greatly appreciated. Students are also encouraged to provide informal feedback during the session, and to notify the lecturer-in-charge of any problems as soon as they arise.

Student feedback from last offerings indicated that students were very satisfied with the course, but expressed an interest in more quizzes and exercises. We will endeavour to achieve this in this offering.

Staff

Name	Role
Michael Thielscher	lecturer-in-charge

Lecture Times

Time	Location
Friday, 14:00 – 17:00	ElecEngG25 (Building G17)

Course Web Site

Important notices related to this course will be displayed on the *course home page*, which is located at http://www.cse.unsw.edu.au/~cs9020/. It is your responsibility to check this page regularly.

Email

Only in rare cases urgent information may also be sent to your CSE email account.

Requests of a confidential nature should be sent to the lecturer-in-charge by email.

Textbook

The textbook associated with this course is

- [RW] KA Ross and CR Wright, *Discrete Mathematics*, 5th edition, Pearson, 2003. This has been the prescribed textbook for the course for the last 10 or more years.

Assessment Summary

The final mark is determined as the sum of the marks for the assessable components for this course:

- 100% exams:
  - a mid-session test (1 hour in week 7) worth up to 25 marks
  - a final exam (2 hours) worth up to 100 marks

  Your final mark for this course will be the maximum of f and $m + f * 0.75$, where
  - m is the mid-session test mark
  - f is the final exam mark

  In other words, **the mid-term exam can only improve your final mark.**

Academic Integrity

Academic misconduct carries penalties as severe as being excluded from further study at UNSW. There are several on-line sources to help you understand what academic integrity is and how it is dealt with at UNSW:

- Academic Integrity at UNSW
- UNSW: Student Misconduct Procedure
- CSE: Addendum to UNSW Plagiarism Guidelines
- CSE: Yellow Form (whose terms you have agreed to)

Make sure that you read and understand these. Ignorance is not accepted as an excuse for academic misconduct, especially after completing your first semester of study.

Acknowledgments

Slides, notes, problem sets and other material are partially from previous lecturers of this course, especially Kai Engelhardt and Lavy Libman, and Ross and Wright's book.
