

COMP9020 20T1

Week 10

Course Review

Course Review

Goal: for you to become a competent computer **scientist**.

Requires an understanding of fundamental concepts:

- number-, set-, relation- and graph theory
- logic and proofs, recursion and induction
- order of growth of functions
- combinatorics and probability

In CS/CE these are used to:

- formalise problem specifications and requirements
- develop abstract solutions (algorithms)
- analyse and prove properties of your programs

Examples:

- The University Course Timetabling Problem (→ [PDF](#))
- COMP9801 (Extended Design and Analysis of Algorithms)

Course Review

- COMP9024 – Data Structures and Algorithms (20T2)

Concept	Used for
logic and proofs	correctness of algorithms
properties of relations	reachability in graphs
graphs	shortest path problems
trees	search trees
\mathcal{O} (big-Oh)	efficiency of algorithms & data structures
alphabets and words	string algorithms
probability, expectation	randomised algorithms

NB

"universitas" (Lat.) = sum of all things, a whole

By acquiring knowledge and enhancing your problem-solving skills,
you're preparing yourself for the future

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Assessment Summary

- 1 quizzes — max. mark 20
- 2 mid-term assignment — max. mark 20
- 3 final exam — max. mark 60

NB

- $\text{QuizMark} = \max \{ \text{quizzes}, 20 * (\text{ExamMark} / 60) \}$
- $\text{MidtermMark} = \max \{ \text{mid-term}, 20 * (\text{ExamMark} / 60) \}$

NB

To pass the course, the sum of your marks

$\text{Sum} = \text{QuizMark} + \text{MidtermMark} + \text{ExamMark}$
must be 50 or higher **and** your ExamMark must be 25 or higher.

$\text{ExamMark} \geq 25.0 \wedge \text{Sum} \geq 50 \Leftrightarrow \text{Grade} = \text{SY}$

Check your marks on WebCMS; Example:

Exam: 45/60

Midterm_Asst1: 15/20

Quiz: 17/20

Satisfactory: Yes

midterm: 10.01/20

quizzes: 17/20

Note: $\max\{10.01, 20 \cdot (45/60)\} = 15$

Reminder: Competition



COMP9020 20T1

Win A Prize
Competition



Final Exam

Goal: to check whether you are a competent computer scientist.

Requires you to demonstrate:

- understanding of mathematical concepts
- ability to apply these concepts and explain how they work

Lectures, study of problem sets and quizzes have built you up to this point.

[Prac Exam](#) on course webpage (→ Final Exam)

Final Exam

2 hour (+10 mins grace time) online test
Monday, 4 May between 2:00pm and 4:15pm

NB

You must start the test between 2:00pm and 2:05pm in order to get the full 130 minutes (= 2 hours 10 mins)

Format:

- Covers **all** of the contents of this course
- 6 multiple-choice questions (with ≥ 1 correct answers), each worth 5 marks
- 4 open questions, each worth either 7 or 8 marks
- Maximum marks: $5 \times 6 + 30 = 60$

If you

... are uncertain about how to interpret a question

... are unsure about how to answer a question

... find a question too difficult

⇒ do answer to the best of your understanding

⇒ do focus on the questions that you find easier

⇒ do not agonise about a question or your answer after you've submitted

Revision Strategy

- Re-read lecture slides
- Read the corresponding chapters in the book (R & W)
- **Review/solve problem sets**
- Solve more problems from the book
- Attempt prac exam on course webpage

(Applying mathematical concepts to solve problems is a skill that improves with practice)

- Fun Quiz in today's lecture

NB

- 1 Last online tutorial **Tue, 28 April, 11–12noon**
- 2 **Course Forum** — questions will be answered quickly

Fit To Sit

If you attend an exam

- you declare that you are “fit to do so”
- it is your only chance to pass (i.e. no second chances)

If during an exam you are unwell and can't continue

- stop working, take note of the time
- immediately apply for Special Consideration

NB

If you experience a technical issue:

- Take screenshots of as many of the following as possible:
error messages, screen not loading, timestamped speed tests,
power outage maps
- If issue was severe, apply for Special Consideration after conclusion of exam. Attach screenshots.

Note: 10 minutes grace time given for non-severe technical issues.

Assessment

Assessment is about determining how well you understand the syllabus of this course.

If you can't demonstrate your understanding, you don't pass.

In particular, I can't pass people just because ...

- please, please, ... my family/friends will be ashamed of me
- please, please, ... I tried really hard in this course
- please, please, ... I'll be excluded if I fail COMP9020
- please, please, ... this is my final course to graduate
- etc. etc.

(Failure is a fact of life. For example, my scientific papers or project proposals get rejected sometimes too)

Assessment (cont'd)

Of course, assessment isn't a "one-way street" ...

- I get to assess you in the final exam
- you get to assess me in UNSW's MyExperience Evaluation
 - go to <https://myexperience.unsw.edu.au/>
 - login using zID@ad.unsw.edu.au and your zPass

Response rate (as of Thursday): 21.3% 

Please fill it out ...

- give me some feedback on how you might like the course to run in the future
- even if that is "Exactly the same. It was perfect this time."

So What Was The Real Point?

The aim was for you to become a better computer scientist

- more confident in your own ability to use formal methods
- with a set of mathematical tools to draw on
- able to choose the right tool and analyse/justify your choices
- ultimately, enjoying solving problems in computer science

Finally

T h a t ' s A l l F o l k s

**Good Luck with the exam
and with your future computing studies**

