

At the end of COMP1521, we hope that you ...

- understand the structure of computer systems
- can describe how computers/programs work at a low-level
- are better able to reason about and debug your C programs

Major topics ...

- components of modern computer systems
- how C programs execute (at the machine level)
- how to write (MIPS) assembly language
- Unix/Linux system-level programming

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- bit-level operations
- representation of integers & doubles
- the basic components of a (MIPS) CPU
- representation of programs as (MIPS) machine code
- how to write programs in (MIPS) assembler
- how C programs are implemented as (MIPS) instructions
- systems programming, including:
  - file operations
  - processes
- representation of characters as Unicode
- introduction to virtual memory
- introduction to threads/concurrency

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- 15% Labs
- 10% Weekly Programming Tests
- 15% Assignment 1 — due week 7
- 15% Assignment 2 — due week 10
- 45% Final Exam

Above marks may be scaled to ensure an appropriate distribution

**To pass you must:**

- score 50/100 overall
- score 18/45 on final exam

For example:

55/100 overall, 17/45 on final exam ⇒ **55 UF** not 55 PS

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- 9 labs - weeks 1-5,7-10
  - max lab mark 2 marks with challenge exercises
  - max lab mark ~1.6 marks without challenge exercises
  - 9 labs marks summed and capped at 15
  - you could get 99% for lab mark without challenge exercises
  - most people will get 12+/15
- 8 tests - weeks 3...10:
  - max test mark 1.7
  - best 6 of 8 test marks summed and capped at to give mark out of 10.
  - most people will get 7+/10

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- The 20T2 COMP1521 Final Exam is available at:  
<https://cgi.cse.unsw.edu.au/~cs1521/20T3/exam/practice/questions>
- You can complete it as a practice exam
- Autotests available
- Sample answers will be released noon Wednesday 25th
- 20T3 exam will use similar format similar for at least some questions

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- Run under same conditions as Weekly Tests
- Except 3 hours and some questions may not be coding
- Saturday 28 November 13:00 — 16:00
- Exam will be released on class web site at 12:50
- Announcements before & during exam will be sent to your UNSW email
- Questions during exam can be sent to `cs1521.exam@cse.unsw.edu.au`
- We may also announce a 2nd place you can ask questions during exam.

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## Exam Conditions

- You are not permitted to communicate (email, phone, message, talk, ...) to anyone but COMP1521 staff during exam
- You are not permitted to get help from anyone but COMP1521 staff during the exam.
- This is a closed book exam: you are not permitted to access papers, books, files on your computer or the internet
- You are permitted to access the exam web pages on the class web site
- You are permitted to access the online language cheatsheets & documentation on the class web site
- Deliberate violation of exam conditions will be treated as serious misconduct

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## Exam Format

- 10-15 questions
- Each question answered in a separate file.
- Some questions will ask you to write C.
- Some questions will ask you to write MIPS.
- Other languages not permitted (e.g., Python, C++, Java, Rust, ...)
- Some questions may not involve coding
- Answers will be submitted with give.
- Questions not equal difficulty
- Questions may not be worth equal marks

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- Answers must be an specified file, e.g. `q1.txt`
- Question may specify format of file
  - e.g. 5 integers one per line
  - follow this format **EXACTLY**
- Question must give you an initial file to complete
- File will be submitted with give.

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For question that require you to write C or MIPS ...

- Questions will usually include examples.
- You may or may not be given starting code.
- You may or may not be given test data or other files
- 1 or more autotests may be available on submission.
- Passing autotests does not guarantee any marks. Do your own testing.
- There may be no submission tests for some questions.
- It is not sufficient to match any supplied examples.

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## Marking of Coding Questions

- Answers will be run through automatic marking software.
  - Please follow the input/output format shown exactly.
  - Please make your program behave exactly as specified.
- All answers are hand marked, guided by automarking.
  - No marks awarded for style or comments ...
  - But use decent formatting so the marker can read the program!
  - Comments only necessary to tell the marker something.
- Minor errors will result in only a small penalty.
  - e.g. an answer correct except for a missing semi-colon would receive almost full marks.
- No marks will given unless an answer contains a substantial part of a solution ( $> 33\%$ ).
- No marks just for starting a question and writing some code

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## Special Exam Conditions

- any extra time specified in your ELS exam conditions is allowed in this exam
- all student see the same exam questions text
- the text shows the standard exam deadline, any extra time is additional to it
- give should be configured to allow your extra time
- give should show a deadline **including** your extra time
- email [cs1521@cse.unsw.edu.au](mailto:cs1521@cse.unsw.edu.au) immediately during exam if you have have concerns regarding ELS conditions
- if ELS conditions prevent you taking exam, alternative will be supp in January

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- a small number of students have exams on the same day
  - MARK1012 & COMP9517
- these exams are timetabled as all day exams
- special considerations have advised they will not give special consideration for clashes with all day exams

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- if a problem occurs during the exam, e.g. internet failure
- please document the problem as possible, e.g. take screenshot
- email `cs1521.exam@cse.unsw.edu.au`
- if the problem is of short duration we may be able to give you extra time
- otherwise you'll need to apply for special consideration

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## Special Consideration — 'Fit to Sit'

## What to study

- By starting the exam, you are saying "I am well enough to sit it".
- If unwell before exam, see a doctor, apply for Special Consideration.
- If you become unwell during the exam
  - email `cs1521.exam@cse.unsw.edu.au`
  - if you can't continue the exam you will need to see a doctor and apply for Special Consideration.

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- Important Areas to Focus Your Study On
  - anything covered in a standard lab exercise
  - anything covered in a weekly test
  - anything covered by the assignments
- Less Important Areas
  - challenge lab exercises
  - topics not covered in labs, tests or assignments
  - may still be questions on these topics but not many
- Even Less Important Areas
  - creating pipes and other complex aspects of creating processes
  - complex signal handling
  - semaphores & file locking
  - might or might not be a question on these topics

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- Exam marks will be made available via class database when marking is complete.
- I'll send email announcing this.
- Marking will probably take 12 days.
- You will receive marks for individual exam questions.
- You will be opportunity to have marking reviewed.
- Final results will appear on myUNSW.

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- UNSW supplementary exams are run centrally.
- Supplementary exams are for students who miss original exam due to illness/misadventure.
- If this is you — apply for special consideration.
- Lecturers & schools can not offer supps.
- Students with borderline results are not offered supps.  
... except potential graduands
- Supp exams centrally timetabled for January 11-15, 2021
- Similar format to final exam

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One aim of COMP1521 is to give a taste of many topics:

- Liked MIPS/assembly?  
⇒ COMP3222, COMP3211 ...
- Curious about programming languages?  
⇒ COMP3131, COMP3141, COMP3161, ...
- Liked Operating Systems?  
⇒ COMP3231/3891, COMP9242, ...
- Liked Concurrency?  
⇒ COMP3151, ...
- Liked Networking?  
⇒ COMP3331, COMP4336, COMP4337, ...
- Liked Unix shell?  
⇒ COMP2041

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COMP1531 Software Engineering Fundamentals

- 2021: term1, term3

COMP2511 Object-oriented Programming

- 2021: term2, term3

COMP2521 Data Structures and Algorithms

- 2021: term1, term2, term3

COMP3231 Operating Systems

- 2021: term1

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- MIPS and its relation to C needs to be better explained
- Not enough time to cover (so) many things
- Tuts and Labs need to integrate better.
- Labs a lot of work - but you learnt a lot
- Assignments a **lot** of work - but you learnt a lot

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- Most labs exercises (do you agree??)
- Weekly Tests (do you agree??)
- Tutors
- Discourse
- Students

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## And that's all ...

- Good Luck
- I hope what you've learnt in this course will be useful.
- I hope you get the mark you deserve.

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