

# COMP(2041|9044) 24T1 — Course Introduction

<https://www.cse.unsw.edu.au/~cs2041/24T1/>

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## Course Goals

- First programming courses deal with ...
  - one language (C or Python at CSE)
  - one program
  - small(ish) tightly-specified examples
  - narrow aspects of programming (e.g. basics, correctness)
- COMP(2041|9044) deals with ...
  - other languages (Shell & Python)
  - combining multiple programs to solve problems
  - larger (less-small) less-specified examples
  - tools for working with software (e.g. git, docker)
  - configuring systems (e.g. package managers, mounting)
- get you to the point where:
  - you could build a package
  - put it on github
  - and have people download & use it

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COMP2041/COMP9044 will expand your coding skills

## Assumed Knowledge

At the start of this course you should be able to:

- write, debug, test programs in C or Python
  - OK for COMP2041/COMP9044 if you don't know C
  - basic Python knowledge will be assumed
  - COMP9021, COMP1531 (pre 2022), learning Python elsewhere, sufficient
- appreciate the use of abstraction in computing

## Changes from recent years

- no web frontend/backend programming
  - moved to COMP6080
  - script to scrape/download web data covered
- no Perl
  - Python will be used to teach same material
  - Perl much less important than when COMP2041 started
  - basic Python assumed, more covered
- COMP1531 used to teach Python
  - Various levels of Python knowledge coming in to COMP2041/COMP9044
  - COMP2041/COMP9044 will assume basic Python knowledge

- Tuesday, 11:00—13:00; Thursday 11:00—13:00;
  - Some lectures delivered in person
  - Some lectures delivered live-streamed via YouTube
  - you will have email about how to access the event
  - feel free to ask questions via chat
  - lectures recorded and linked from course home page
- present a brief overview of theory
- focus on practical demonstrations of coding
- demonstrate problem-solving (testing, debugging)
- Lecture slides available on the web before lecture.

## Tutorials

- Tutorials **start in week 1**.
  - online classes are via Blackboard Collaborate
- tutorials clarify lecture material
- work through problems related to lecture topics
- give practice with design (*think before coding*)
- answers available on the class webpage Friday afternoon
- tutorials run every week except flex-week (week 6)
  - including week 10

To get the best out of tutorials

- **attempt the problems yourself beforehand**
- ask if you don't understand a question or how to solve it
- Do *not* keep quiet in tutorials ... talk, discuss, ...
- Your tutor may ask for your attempt to start a discussion.

## Lab Classes

Each tutorial is followed by a two-hour lab class.

- Several exercises, mostly small implementation/analysis tasks
- Aim to build skills needed for assignments, exam
- Aim to give experience applying tools/techniques
- Done **individually**
- Submitted via `give`, before Monday 12:00 (midday) the following week
- Automarked (with partial marks) — 15% of final mark
- Labs may include challenge exercises:
  - may be silly, confusing, or impossibly difficult
  - 95% possible for labs without completing any challenge exercises

From week 3, weekly tests:

- programming tests
- immediate reality-check on your progress.
- done in your own time under self-enforced **exam conditions**.
- Time limit of 1 hour
  - Half marks awarded for submissions after 1 hour
- Automarked (with partial marks) – 10% of final mark
- best 6 of 8 tests used to calculate the 10%
- any violation of test conditions  $\Rightarrow$  zero for whole component

## Assignments

- Assignments give you experience applying tools/techniques to larger programming problems than lab exercises
- Assignments will be carried out **individually**.
- They *always* take longer than you expect.
- Don't leave them to the last minute.
- Help sessions will be available to assist with assignments.
  - will be **very** busy in the last days before an assignment is due.

## Late Penalties

- Labs, Tests, and Assignments all have the same late penalty
- UNSW standard late penalty
- 0.2% taken from your raw mark for each hour late
  - starts small, but adds up quickly
- after 5 days (125 hours because of maths) late, 100% penalty is applied, e.g.:
  - If your raw mark is 80/100 but you submit 1 minute late (rounded up to 1 hour), your mark will be 79.8/100
  - If your raw mark is 80/100 but you submit 1 hour and 1 minute late (rounded up to 2 hours), your mark will be 79.6/100
  - If your raw mark is 78/100 but you submit 3 days, 8 hours and 42 minutes late (rounded up to 81 hours), your mark will be 61.8/100
  - If your raw mark is 100/100 but you submit 5 days, 1 minute late (rounded up to 125 hours or more), your mark will be 0/100

Because of the late penalty allowing late submissions up to 5 days after the deadline along with extensions for special consideration that may be granted

- Sample solutions for labs, and tests will be released two weeks after the due date.
- Marks for labs, and tests will be released between 12 days and 2 weeks after the due date.
- This means that solutions and marks for the last lab, and test will not be released until after the final exam.
- Sample solutions for assignments are not released.
- Marks for assignments are released in two parts.
  - Automarking will be released 2 weeks after the due date.
  - Hand marking (style, automarking adjustments, etc.) takes longer and will be released another 2 weeks or so after the automarking.

## Code of Conduct

CSE offers an inclusive learning environment for all students.

In anything connected to UNSW, including social media, these things are student misconduct and will not be tolerated:

- racist/sexist/offensive language or images
- sexually inappropriate behaviour
- bullying, harassing or aggressive behaviour
- invasion of privacy

Show respect to your fellow students and the course staff

## Plagiarism

Cheating of any kind constitutes academic misconduct and carries a range of penalties. Please read course intro for details.

Examples of inappropriate conduct:

- group work on individual assignments (discussion OK)
- reading someone else's solution before stating an assignment
- allowing another student to copy your work
- getting your hacker cousin to code for you
- purchasing a solution to the assignment

- Labs, tests, assignments must be entirely your own work.
- You can not work on assignment as a pair (or group).
- Plagiarism will be checked for and *penalized*.
- Plagiarism may result in suspension from UNSW.
- Scholarship students may lose scholarship.
- International students may lose visa.
- Supplying your work to any another person may result in loss of all your marks for the lab/assignment.

## Use of Generative AI Tools

- Generative AI tools, e.g. github copilot, chatGPT have great potential to assist coders
- Code they generate often has subtle errors & security vulnerabilities  
also often generate poor code
- expert coders (hopefully) can spot these problems
- need a deep understanding of language/system to make good use of these tools
- Use of tools like copilot, chatGPT may slow you getting this understanding
- Use of generative AI tools including github copilot, chatGPT **not permitted** in COMP2041/9044
- except assignments may permit use small amount of generated code with **attribution**
  - read the spec carefully
- other courses may allow use of these tools

## Final Exam

- **in-person** practical exam, during exam period; you complete **in CSE labs**
- closed-book — limited language documentation available
- some multiple-choice/short-answer questions, similar to tut questions.
- some questions will ask you to read shell, Python, regex, ...
- 8-12 implementation questions, similar to lab exercises
- most marks for questions which ask you to write shell or Python
- also may ask you to answer written questions
- you *must* score 18+/45 (40%) on the final exam to pass course

- 15% Labs
- 10% Weekly Programming Tests
- 15% Assignment 1 — due Monday week 7
- 15% Assignment 2 — due Monday week 11
- 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 and 17/45 on final exam  $\Rightarrow$  **55 UF** not 55 PS

## How to Pass this Course

- coding is a *skill* that improves with practice
- the more you practise, the easier you will find assignments/exams
- do the lab exercises
- take weekly tests seriously
- start the assignments early
- practise programming outside classes
- treat extra tutorial questions like exam practice