



Prescription

This course focuses on the techniques for designing, building and analysing computer programs that deal with large collections of data. The course addresses techniques for programming with collections of data, and the data structures and algorithms needed to implement these collections. The course expands programming skills and provides an understanding of the principles of data abstraction, algorithm design, and the analysis of algorithms fundamental to computer science.

Course learning objectives

Students who pass this course will be able to:

1. Read and write programs using standard collections (sets, lists, bags, stacks, queues, priority queues, maps)
2. Read and write programs using linked data structures, particularly tree structures
3. Read and write programs using recursion
4. Understand ideas of algorithm complexity, do approximate analysis of simple programs with collections, and make efficient design decisions
5. Recognise, understand and use a selection of basic algorithms

Course content

2022 Summer:

The summer (Tri 3) offering of this course is designed for in-person enrolment with closely integrated lectures and labs (11-4:30 on Mon, Wed, Fri). Students who cannot attend the lectures, labs, and tests in-person will not receive the planned learning experience, support and feedback from the lecturers and tutors.

Although the lectures will be recorded and zoomed for students who need to be studying remotely, only limited lab support can be provided to online students. Note that the labs are the central learning activity of the course!

Tests are designed to be taken in-person, and a remote option for the tests will only be available to students studying from outside the Wellington region. The remote option for tests will use a Zoom-based system or similar for online supervision of the tests.

Students planning to take this course remotely must have access to a computer with camera and microphone and a reliable high speed internet connection that will support real-time video plus audio connections and screen sharing. Students must be able to use Zoom; other communication applications may also be used. A mobile phone connection only is not considered sufficient. The computer must be adequate to support the programming required by the course: almost any modern windows, macintosh, or unix laptop or desktop computer will be sufficient, but an Android or IOS tablet will not be enough.

Withdrawal from Course

Withdrawal dates and process:

<https://www.wgtn.ac.nz/students/study/course-additions-withdrawals>

Lecturers

Dr Peter Andreae (Coordinator)

Peter.Andreae@vuw.ac.nz 04 463 5834

Dr Ghassem Narimani

ghassem.narimani@vuw.ac.nz 04 886 5632

CO 251 Cotton Building (All Blocks), Gate 7, Kelburn Parade, Kelburn

Teaching Format

There will be in-person lectures at the beginning and end of each of the three days, with an in-person lab for 3 hours between the lectures. The lectures and labs are very closely connected and it will be important to attend them all.

Student feedback

Student feedback on University courses may be found at:

http://www.cad.vuw.ac.nz/feedback/feedback_display.php

Dates (trimester, teaching & break dates)

- Teaching: 09 January 2023 - 19 February 2023

Class Times and Room Numbers

09 January 2023 - 19 February 2023

- **Monday** 11:00 - 11:50 – LT205, Hugh Mackenzie, Kelburn
- **Monday** 15:30 - 16:20 – LT205, Hugh Mackenzie, Kelburn
- **Wednesday** 11:00 - 11:50 – LT205, Hugh Mackenzie, Kelburn
- **Wednesday** 15:30 - 16:20 – LT205, Hugh Mackenzie, Kelburn
- **Friday** 11:00 - 11:50 – LT205, Hugh Mackenzie, Kelburn
- **Friday** 15:30 - 16:20 – LT205, Hugh Mackenzie, Kelburn

Other Classes

Lectures are 11-12 and 3:30 to 4:30 and the labs are 12:30-3:30 on Mon, Wed, Fri. Because it is a compressed course, it is important to attend all the lab sessions.

Set Texts and Recommended Readings

Required

There are no required texts for this offering.

Mandatory Course Requirements

In addition to achieving an overall pass mark of at least 50%, students must:

- Submit reasonable attempts for at least 4 out of the 5 assignments.
(As a general indication, a mark of at least 40% will count as a reasonable attempt, but assignments showing genuine engagement with the assignment may be accepted even with a lower mark)

If you believe that exceptional circumstances may prevent you from meeting the mandatory course requirements, contact the Course Coordinator for advice as soon as possible.

Assessment

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Assignment 1	16-01-2023	CLO: 1,2,3,4,5	5%
Test 1	20-01-2023	CLO: 1,2,3,4,5	10%
Assignment 2	23-01-2023	CLO: 1,2,3,4,5	5%
Test 2	27-01-2023	CLO: 1,2,3,4,5	10%
Assignment 3	30-01-2023	CLO: 1,2,3,4,5	6%
Test 3	03-02-2023	CLO: 1,2,3,4,5	10%
Assignment 4	06-02-2023	CLO: 1,2,3,4,5	6%
Test 4	10-02-2023	CLO: 1,2,3,4,5	10%
Test 5	17-02-2023	CLO: 1,2,3,4,5	30%
Assignment 5	19-02-2023	CLO: 1,2,3,4,5	8%

Penalties

There is an automatic extension ("late days") policy (see below). Late assignments after the automatic extensions will get zero marks unless you have made arrangements on the basis of special circumstances with the course coordinator.

Extensions

Trimester 3: 2022: LATE DAY POLICY (for Assignments). Each student will have ONE "LATE DAY" - 24 hours of automatic extension which will be applied to any assignment or assignments during the course, as needed. Please note that these 24 hours are for the whole course, not for each assignment. So you have on average 2.4 late hours for each assignment. There will be no penalty applied for these hours. You do not need to apply for them, instead any late hours you have left will be automatically applied to assignments that you submit late. You get zero marks for late assignments when you run out of these late hours. unless you have made arrangements on the basis of exceptional circumstances with the

course coordinator.

Assignments submitted after the solutions are made available will generally not be marked, unless you have made arrangements on the basis of exceptional circumstances with the course coordinator.

Submission & Return

Via the ECS submission system.

Workload

The course is a total of 150 hours. That means it will take about 25 hours per week. The scheduled times - lectures, labs and tests - will be 15 hours each week; you will need to spend an additional 10 hours per week outside the scheduled lectures and labs to complete the assignments and to study for the tests.

Teaching Plan

Communication of Additional Information

All online material for this course can be accessed at https://ecs.wgtn.ac.nz/Courses/COMP103_2022T2. Announcements will be made via Nuku.

Links to General Course Information

- Academic Integrity and Plagiarism: <https://www.wgtn.ac.nz/students/support/student-interest-and-conflict-resolution/academic-integrity>
- Academic Progress: <https://www.wgtn.ac.nz/students/study/progress/academic-progress> (including restrictions and non-engagement)
- Dates and deadlines: <https://www.wgtn.ac.nz/students/study/dates>
- Grades: <https://www.wgtn.ac.nz/students/study/progress/grades>
- Special passes: Refer to the Assessment Handbook, at <https://www.wgtn.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf>
- Statutes and policies, e.g. Student Conduct Statute: <https://www.wgtn.ac.nz/about/governance/strategy>
- Student support: <https://www.wgtn.ac.nz/students/support>
- Students with disabilities: https://www.wgtn.ac.nz/st_services/disability/
- Student Charter: <https://www.wgtn.ac.nz/learning-teaching/learning-partnerships/student-charter>
- Student Feedback on University courses may be found at: http://www.cad.vuw.ac.nz/feedback/feedback_display.php
- Terms and Conditions: <https://www.wgtn.ac.nz/study/apply-enrol/terms-conditions/student-contract>
- Turnitin: <http://www.cad.vuw.ac.nz/wiki/index.php/Turnitin>
- University structure: <https://www.wgtn.ac.nz/about/governance/structure>
- The Use of Te Reo Māori for Assessment Policy:
Victoria University values te reo Māori. Students who wish to submit any of their assessments in te reo Māori must refer to [The Use of Te Reo Māori for Assessment Policy](#)
He mea nui te reo Māori ki te Whare Wānanga o te Upoko o te Ika. Kī te pīrangī koe ki te tuhituhi i ō aro matawai i roto i te reo Māori, tēnā me mātua whakapā atu ki te kaupapa here, [The Use of Te Reo Māori for Assessment Policy](#)
- VUWSA: <http://www.vuwsa.org.nz>

Offering CRN: **7223**

Points: 15

Prerequisites: COMP 102 or 112
Duration: 09 January 2023 - 19 February 2023
Starts: Trimester 3
Campus: Kelburn