



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

In Trimester 2 2021, the course will primarily be offered in-person, but there will also be a remote option and there will be online alternatives for all the components of the course for students who cannot attend in-person.

Students taking 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.

The assessment of the course includes tests which will be run in-person on the Kelburn campus. There will be a remote option for students who cannot attend in-person, but the remote option will be limited to students with a strong justification (for example, being enrolled from overseas). The remote test option will use Zoom for online supervision of the tests and you must be able to use Zoom with a camera, microphone, and screen-sharing. Students who will need to use the remote test option must contact the course coordinator in the first two weeks to get permission and make arrangements.

Withdrawal from Course

Withdrawal dates and process:

Lecturers

Ori Atkins (Coordinator)

ori.atkins@vuw.ac.nz 04 463 5520

Alex Potanin

alex.potanin@vuw.ac.nz

Teaching Format

There will be lectures 9-10 and 1-2 on Mon, Wed, Fri. . There will be three practical lab-based workshops on the same days from 10-1 (between the lectures)The goal of these workshops is for students to engage with the content of the course in an interactive group environment. Time will also be allocated for students to work on assignments with the lecturer present to answer questions.

Outside of the fixed laboratory sessions for COMP 103, you are able to use computers in a variety of places to work on the assignments. Apart from times when particular labs are booked for exclusive use by another course, you are free to use computers in any of the ECS computer laboratories.

Students will be able to ask for help from lecturer on problems with code, via an online help system.

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: 10 January 2022 - 20 February 2022

Class Times and Room Numbers

10 January 2022 - 20 February 2022

- **Monday** 09:00 - 09:50 – LT122, Cotton, Kelburn
- **Monday** 13:10 - 14:00 – LT122, Cotton, Kelburn
- **Wednesday** 09:00 - 09:50 – LT122, Cotton, Kelburn
- **Wednesday** 13:10 - 14:00 – LT122, Cotton, Kelburn
- **Friday** 09:00 - 09:50 – LT122, Cotton, Kelburn
- **Friday** 13:10 - 14:00 – LT122, Cotton, Kelburn

Other Classes

There will be three three-hour lab-based sessions each week which all students should attend.

Set Texts and Recommended Readings

Required

There are no required texts for this offering.

Recommended

The optional textbook for COMP 103 is:

- Lewis, DePasquale and Chase, "*Java Foundations: Introduction to Program Design and Data Structures*", 5th or 4th edition, though earlier editions will still be helpful.

Mandatory Course Requirements

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

- Achieve at least 40% on at least 4 of the 5 assignments. (Required to ensure that CLO's 1, 2, and 3 are met.)

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

Your grade for COMP 103 will be based on five blackboard quizzes, five assignments, and six short weekly tests.

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
5 Blackboard Quizzes	Every Monday, starting 17 Jan	CLO: 1,2,3,4,5	5%
Assignment 1	Thursday, 20 Jan	CLO: 1	7%
Assignment 2	Thursday, 27 Jan	CLO: 1,5	7%
Assignment 3	Thursday, 3 Feb	CLO: 1,2,4,5	7%
Assignment 4	Thursday, 10 Feb	CLO: 1,2,3,4,5	7%
Assignment 5	Thursday, 17 Feb	CLO: 1,2,3,4,5	7%
Weekly Tests (10% each)	Weekly	CLO: 1,2,3,4,5	60%

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

Extensions for assignments will only be granted on the basis of exceptional circumstances, and require

approval by the Course Coordinator.

Submission & Return

Blackboard Quizzes

Submission of blackboard quizzes must be completed via Blackboard. Any quiz that is submitted after the due date will receive 0 marks unless an extension has been arranged with the course coordinator.

Assignments

Submission of assignments must be done via the ECS online submission system, accessible through the course web pages: https://ecs.wgtn.ac.nz/Courses/COMP103_2021T3/Assignments. Marks and comments will be returned through the ECS marking system, also available through the course web pages.

The policy on late submission is as follows:

- Each assignment will be marked out of 100.
- Each student will have 3 "late days" (72 hours) which you may choose to use for any assignment or assignments during the course. There will be no penalty applied for these late days. You do not need to apply for these - any late days you have left will be automatically applied to assignments that you submit late.
- The late days are intended to cover minor illnesses or other personal reasons for being late. You should only ask for extensions in the case of more significant or longer lasting problems (and you may need documentation). Do not waste "late days" on procrastination!
- Assignments submitted after all the late days have been used up will get 0 marks.

Group Work

You may work in groups on the blackboard quizzes. Assignments and tests MUST be completed individually.

Required Equipment

Students are not required to have their own computers, but it helps and [resources](#) are provided to make it easy for students work on the programming assignments on their own computers.

Workload

COMP 103 is a 15-point course, and therefore has nominal total workload of 150 hours. In order to maintain satisfactory progress in COMP 103, you should plan on spending at least 25 hours per week on this course. A plausible and approximate breakdown for these hours would be:

- Lectures, labs, and tutorials: 9
- Reading/revision: 2
- Assignments: 14

Teaching Plan

See https://ecs.wgtn.ac.nz/Courses/COMP103_2021T3/Schedule

Communication of Additional Information

All online material for this course can be accessed at https://ecs.wgtn.ac.nz/Courses/COMP103_2021T2
Announcements will be made via BlackBoard, and also available on the course web site.

Links to General Course Information

- Academic Integrity and Plagiarism: <https://www.wgtn.ac.nz/students/study/exams/integrity-plagiarism>
- 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>
- Terms and Conditions: <https://www.wgtn.ac.nz/study/apply-enroll/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>
- VUWSA: <http://www.vuwsa.org.nz>

Offering CRN: [7223](#)

Points: 15

Prerequisites: COMP 102 or 112

Duration: 10 January 2022 - 20 February 2022

Starts: Trimester 3

Campus: Kelburn