School of
Engineering and Computer Science
Te Kura Mātai Pūkaha, Pūrorohiko

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

Withdrawal from Course

Withdrawal dates and process:
https://www.wgtn.ac.nz/students/study/course-additions-withdrawals

Lecturers

Karsten Lundqvist (Coordinator)

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252 Cotton, Kelburn

Peter Andreae

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336 Cotton, Kelburn

Teaching Format

This course will be offered in-person and online. For students in Wellington, tutorials, lectures, and help-desks will be available in-person, complemented by web/internet based resources. We expect to run one in-person lecture per week, with a collection of short video resources with explanations of core technical concepts. We will also use some of the lecture sessions for interactive code demos. It will also be possible to take the course entirely online for those who cannot attend on campus, with all the components provided in-person also made available online.

We will run "Help Desk" sessions for students who want to discuss their assignment work in some detail with an experienced tutor; these will be available in person and online.

Students will be able to ask for help from tutors 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: 13 July 2020 - 18 October 2020
- Break: 17 August 2020 - 30 August 2020
- Exam period: 19 October 2020 - 25 October 2020

Class Times and Room Numbers

13 July 2020 - 16 August 2020

- **Tuesday** 09:00 - 09:50 – LT303, New Kirk, Kelburn
- **Wednesday** 09:00 - 09:50 – LT205, Hugh Mackenzie, Kelburn
- **Friday** 09:00 - 09:50 – LT303, New Kirk, Kelburn

31 August 2020 - 18 October 2020

- **Tuesday** 09:00 - 09:50 – LT303, New Kirk, Kelburn
- **Wednesday** 09:00 - 09:50 – LT205, Hugh Mackenzie, Kelburn
- **Friday** 09:00 - 09:50 – LT303, New Kirk, Kelburn

Other Classes

There will be a one hour tutorial per week. You must sign up for one of the tutorial streams. At least one tutorial session will be conducted by Zoom.

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 the tutorial problems (group mark), the assignments, and two tests.

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
10 Tutorial problems (group mark)	At Tutorial	CLO: 1,2,3,4,5	5%
Assignment 1	Week 3	CLO: 1	10%
Assignment 2	Week 5	CLO: 1,5	15%
Test 1 (1 hour)	Week 7	CLO: 4	12%
Assignment 3	Week 8	CLO: 1,3,4,5	15%
Assignment 4	Week 10	CLO: 1,2,3,4,5	15%
Test 2 (1 hour)	Week 12	CLO: 1,2,3,4,5	13%
Assignment 5	Assessment week	CLO: 1,2,3,4,5	15%

Penalties

LATE DAY POLICY (for Assignments). Each student will have 72 LATE HOURS which you may choose to use for any assignment or assignments during the course. Please note that these 72 hours are for the whole course, not for each assignment. So you have on average 14 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 special circumstances with the course coordinator.

Extensions

All students have an automatic 24 hours of extension that they can distribute over the five assignments. Extensions for assignments beyond the automatic late hours will only be granted on the basis of special circumstances, and require approval by the lecturer.

Submission & Return

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_2020T2/Assignments. Marks and comments will be returned through the ECS marking system, also available through the course web pages.

Group Work

The tutorial problems will be done in groups. Assignments and tests MUST be done individually

Workload

COMP 103 is a 15 point course, and you should plan to spend an average of 10 hours per week on it. A plausible breakdown for these hours would be:

- Lectures and videos: 3
- Tutorials: 1
- Reading/revision: 1
- Assignments: 5

Teaching Plan

See https://ecs.wgtn.ac.nz/Courses/COMP103_2020T2/Schedule

Communication of Additional Information

All online material for this course can be accessed at https://ecs.wgtn.ac.nz/Courses/COMP103_2020T2 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-progess (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-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
- VUWSA: http://www.vuwsa.org.nz

Offering CRN: 945

Points: 15
Prerequisites: COMP 102 or 112
Duration: 13 July 2020 - 25 October 2020
Starts: Trimester 2
Campus: Kelburn