



## Prescription

This course addresses the principles of programming language design and use. It introduces different models of computation and the programming languages based on them, particularly functional programming and logic programming. It then examines a range of underlying issues in programming languages, such as semantics of programming languages, type systems, and control in programming languages.

## Course learning objectives

Students who pass this course will be able to:

1. understand and describe the underlying principles of a variety of programming languages.
2. read, design and write programs in a functional programming language.
3. read, design and write programs in a logic programming language.
4. understand the various advantages and disadvantages of the imperative, functional, and logic paradigms.

## Course content

The course is primarily 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.

If the assessment of the course includes tests, the tests will generally 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 imposes extra costs on the School and will be limited to students with a strong justification (for example, being enrolled from overseas). The remote test option will use the ProctorU system for online supervision of the tests. ProctorU requires installation of monitoring software on your computer which also uses your camera and microphone, and monitors your test-taking in real-time. 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.

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COMP 304 will broaden your knowledge about programming languages by introducing you to functional and logic programming. These programming paradigms are very different from the imperative underpinning of the programming languages discussed at levels 100 and 200. Understanding these paradigms and their associated programming techniques and idiomatic usages will not only put you into a better position to evaluate language designs but also will allow you to use a number of these techniques in conventional programming languages. COMP 304 also looks at the history of programming languages, enabling you to place the discussed programming languages into their respective context and thus obtain a broader perspective.

# Withdrawal from Course

Withdrawal dates and process:

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

## Lecturers

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### Thomas Kuehne (Coordinator)

thomas.kuehne@vuw.ac.nz 04 4635443

233 Cotton, Kelburn

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### James Noble

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234 Cotton, Kelburn

## Teaching Format

This course will be offered in-person and online. For students in Wellington, there will be a combination of in-person components and web/internet based resources. 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.

## Student feedback

Student feedback on University courses may be found at:

[www.cad.vuw.ac.nz/feedback/feedback\\_display.php](http://www.cad.vuw.ac.nz/feedback/feedback_display.php)

## Dates (trimester, teaching & break dates)

- Teaching: 22 February 2021 - 28 May 2021
- Break: 05 April 2021 - 18 April 2021
- Study period: 31 May 2021 - 03 June 2021
- Exam period: 04 June 2021 - 19 June 2021

## Class Times and Room Numbers

### 22 February 2021 - 04 April 2021

- **Tuesday** 09:00 - 09:50 – LT206, Easterfield, Kelburn
- **Wednesday** 11:00 - 11:50 – LT118, Laby, Kelburn
- **Friday** 09:00 - 09:50 – LT001, Hugh Mackenzie, Kelburn

### 19 April 2021 - 30 May 2021

- **Tuesday** 09:00 - 09:50 – LT206, Easterfield, Kelburn
- **Wednesday** 11:00 - 11:50 – LT118, Laby, Kelburn
- **Friday** 09:00 - 09:50 – LT001, Hugh Mackenzie, Kelburn

## Other Classes

There are weekly tutorials.

## Set Texts and Recommended Readings

### Required

There is no set text for the course.

### Recommended

Recommended readings will be provided in lectures and via the course web site.

## Mandatory Course Requirements

There are no mandatory course requirements for this course.

*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

Due to the possibility of alert level changes, no physical exam will be set this year. The assignments have been adjusted accordingly.

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Five Marked Assignments	week 5, week 7, week 10, week 12, week 15	CLO: 1,2,3,4	100%

## Penalties

You have a total of three "slip days" which you may use for any number of late submissions during the course. There will be no penalty applied as long as the sum of delays does not exceed three days. You do not need to apply for the use of slip days; any slip days you have left will be automatically applied to assignments that you submit late. The slip 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 (in which case you may need documentation). Once all slip days have been used, no marks will be awarded for any further late submissions.

## Extensions

Individual extensions will only be granted in exceptional personal circumstances, and should be negotiated with the course coordinator before the deadline whenever possible. Documentation (eg, medical certificate) may be required.

## Submission & Return

All work is submitted through the ECS submission system, accessible through the course web pages. Marks and comments will be returned through the ECS marking system, also available through the course web pages.

## Marking Criteria

Assignments will be marked on the basis of correctness and style of code, and of understanding demonstrated of the techniques and principles covered in the course.

## Workload

In order to maintain satisfactory progress in COMP 304, you should plan to spend an average of 10 hours per week on this paper. An approximate breakdown for these hours is:

Lectures, tutorials and laboratories - 3 hrs  
Readings, revision and preparation - 1 hours  
Assignments - 6 hours

## Teaching Plan

See [https://ecs.wgtn.ac.nz/Courses/COMP304\\_2021T1/LectureSchedule](https://ecs.wgtn.ac.nz/Courses/COMP304_2021T1/LectureSchedule)

## Communication of Additional Information

All online material for this course can be accessed at [https://ecs.wgtn.ac.nz/Courses/COMP304\\_2021T1](https://ecs.wgtn.ac.nz/Courses/COMP304_2021T1)

## 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/](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:** [964](#)

**Points:** 15

**Prerequisites:** COMP 261

**Duration:** 22 February 2021 - 20 June 2021

**Starts:** Trimester 1

**Campus:** Kelburn