



## Prescription

Mathematical techniques employed by network and software engineers, including methods of combinatorics, logic, probability and decision theory. The course emphasises engineering applications of these techniques.

## Course learning objectives

Students who pass this course should be able to:

1. Know the important definitions and results in introductory logics and statistics.
2. Understand their significance to computer science and dealing with data.
3. Demonstrate your understanding by stating definitions and results, and solving simple problems.

## Course content

This course can be taken fully online. The following on campus activities are available in this course: lectures, tutorials, laboratory classes, staff office hours and drop in help desk sessions. There will be online alternatives to these, but students are encouraged to attend these where possible. All lectures will be recorded and made available online to students.

This course covers ideas in logic, combinatorics, probability and statistics. On the logic combinatorics side, we will study propositional logic, introductory graph theory, proofs, sets and relations, and induction and recursion. On the probability and statistics side, we will study data and sampling, probabilities and random variables, estimation and confidence intervals, and model fitting.

## Withdrawal from Course

Withdrawal dates and process:

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

## Lecturers

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**Peter Smith (Coordinator)**

[peter.smith@vuw.ac.nz](mailto:peter.smith@vuw.ac.nz) 04 4636738

539 Cotton, Kelburn

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# Steven Archer

steven.archer@vuw.ac.nz 04 4635233 ext 8316

363 Cotton, Kelburn

## Teaching Format

During the trimester, there will be four lectures per week, one of which will run infrequently and students will be informed in class when to attend the fourth lecture. Students attend one one-hour lab every other week, and students are also encouraged to attend one tutorial session each week. Sign-ups for labs and tuts will be in the first week of lectures using myAllocator. Labs and tuts start in week two.

## 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: 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

- **Monday** 11:00 - 11:50 – MT228, Student Union, Kelburn
- **Wednesday** 11:00 - 11:50 – MT228, Student Union, Kelburn
- **Thursday** 13:10 - 14:00 – MT228, Student Union, Kelburn
- **Friday** 11:00 - 11:50 – MT228, Student Union, Kelburn

### 31 August 2020 - 18 October 2020

- **Monday** 11:00 - 11:50 – MT228, Student Union, Kelburn
- **Wednesday** 11:00 - 11:50 – MT228, Student Union, Kelburn
- **Thursday** 13:10 - 14:00 – MT228, Student Union, Kelburn
- **Friday** 11:00 - 11:50 – MT228, Student Union, Kelburn

## Set Texts and Recommended Readings

### Required

There are no required texts for this offering.

## 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

This course will be assessed through assignments, labs and tests.

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Assignments (best 5 from 6)	TBC	CLO: 1,2,3	25%
Two in-course tests (1 hour each)	Week 6, 12	CLO: 1,2,3	40%
Lab reports (best 3 from 4)	TBC	CLO: 1,2,3	25%
Two multi choice tests	Assesment week	CLO: 1,2,3	10%

## Penalties

See either Blackboard or the course homepage for details.

## Extensions

Extensions are not given for assignments or labs. Late assignments will not be marked. Lab reports that are more than five days late are not marked.

## Submission & Return

See the course website or blackboard for details of when assignments are due.

## Workload

Students should expect to spend at least 12 hours a week – including time spent in lectures, labs and tutorials, completing assignments and reviewing notes.

## Teaching Plan

## Communication of Additional Information

Announcements, class notes, and assignments will be posted on the website (either through blackboard or the course homepage), which will be updated frequently.

## 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-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: [27044](#)**

**Points:** 15

**Prerequisites:** ENGR 121

**Restrictions:** the pair MATH 161, (MATH 177, QUAN 102 or STAT 193);

**Duration:** 13 July 2020 - 25 October 2020

**Starts:** Trimester 2

**Campus:** Kelburn