

# School of Engineering and Computer Science

Te Kura Mātai Pūkaha, Pūrorohiko



## 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 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.victoria.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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### David Cox

[david.cox@vuw.ac.nz](mailto:david.cox@vuw.ac.nz) 04 4636788

537 Cotton, Kelburn

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# Emma Greenbank

emma.greenbank@vuw.ac.nz 04 4635323

548 Cotton, Kelburn

## Teaching Format

During the trimester, there will be three 2-hour lectures per week. Students attend one two-hour lab each week, and students are also encouraged to attend two tutorial sessions each week. Sign-ups for labs and tuts will be in the first week of lectures using myAllocator. Labs and tuts start in week one.

## 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: 11 November 2019 - 22 December 2019

## Class Times and Room Numbers

### 11 November 2019 - 22 December 2019

- **Monday** 10:00 - 11:50 – LT002, Hugh Mackenzie, Kelburn
- **Tuesday** 10:00 - 11:50 – LT002, Hugh Mackenzie, Kelburn
- **Thursday** 10:00 - 11:50 – LT002, Hugh Mackenzie, 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.

- Sit both tests.

*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 internally assessed through assignments, labs and tests.

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Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Assignments (weekly)	See website	CLO: 1,2,3	20%
Mid-course test (2 hours)	See website	CLO: 1,2,3	20%
Lab reports	See website	CLO: 1,2,3	20%
Final test	See website	CLO: 1,2,3	40%

## Penalties

Late assignments will not be marked. You can miss up to two (out of eight) assignments without losing any credit.

Late lab reports will result in lost marks, 10% loss for each day up to five days late. Later reports will not be marked. The best three out of the four lab reports are counted towards lab credit; the worst lab mark is discarded.

Any plagiarism is likely to result in zero marks for both parties.

## 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 for details of when assignments are due.

## Workload

Students should expect to spend at least 20 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.victoria.ac.nz/students/study/exams/integrity-plagiarism>
- Academic Progress: <https://www.victoria.ac.nz/students/study/progress/academic-progress> (including restrictions and non-engagement)
- Dates and deadlines: <https://www.victoria.ac.nz/students/study/dates>
- Grades: <https://www.victoria.ac.nz/students/study/progress/grades>

- Special passes: Refer to the Assessment Handbook, at <https://www.victoria.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf>
- Statutes and policies, e.g. Student Conduct Statute: <https://www.victoria.ac.nz/about/governance/strategy>
- Student support: <https://www.victoria.ac.nz/students/support>
- Students with disabilities: [https://www.victoria.ac.nz/st\\_services/disability/](https://www.victoria.ac.nz/st_services/disability/)
- Student Charter: <https://www.victoria.ac.nz/learning-teaching/learning-partnerships/student-charter>
- Terms and Conditions: <https://www.victoria.ac.nz/study/apply-enrol/terms-conditions/student-contract>
- Turnitin: <http://www.cad.vuw.ac.nz/wiki/index.php/Turnitin>
- University structure: <https://www.victoria.ac.nz/about/governance/structure>
- VUWSA: <http://www.vuwsa.org.nz>

**Offering CRN:** [31159](#)

**Points:** 15

**Prerequisites:** ENGR 121

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

**Duration:** 11 November 2019 - 22 December 2019

**Starts:** Trimester 3

**Campus:** Kelburn