



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

Peter Smith (Coordinator)

peter.smith@vuw.ac.nz 04 4636738

539 Cotton, Kelburn

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 two-hour lab each 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

Dates (trimester, teaching & break dates)

- Teaching: 08 July 2019 - 13 October 2019
- Break: 19 August 2019 - 01 September 2019
- Study period: 14 October 2019 - 17 October 2019
- Exam period: 18 October 2019 - 09 November 2019

Class Times and Room Numbers

08 July 2019 - 18 August 2019

- **Monday** 14:10 - 15:00 – LT205, Hugh Mackenzie, Kelburn
- **Tuesday** 14:10 - 15:00 – LT205, Hugh Mackenzie, Kelburn
- **Thursday** 14:10 - 15:00 – LT205, Hugh Mackenzie, Kelburn
- **Friday** 14:10 - 15:00 – LT303, New Kirk, Kelburn

02 September 2019 - 13 October 2019

- **Monday** 14:10 - 15:00 – LT205, Hugh Mackenzie, Kelburn
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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 internally and externally assessed through assignments, labs, tests, and a final examination.

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Assignments (weekly)	See website	CLO: 1,2,3	10%
Two in-course tests (1 hour each)	See website	CLO: 1,2,3	20%
Lab reports	See website	CLO: 1,2,3	20%
Final examination		CLO: 1,2,3	50%

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 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.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/
- 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: [27044](#)

Points: 15

Prerequisites: ENGR 121

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

Duration: 08 July 2019 - 10 November 2019

Starts: Trimester 2

Campus: Kelburn