



## Prescription

The course introduces the fundamentals of engineering statistics. Topics include probability mass and density functions, random variables and functions of random variables, confidence intervals, statistical tests, and regression, as applied to engineering problems.

## Course learning objectives

Students who pass this course should be able to:

1. Identify random variables and use them to model observations in engineering applications.
2. Apply statistical tests to and compute confidence intervals for observed data.
3. Identify relationships between sets of data using linear regression.
4. Use the Matlab programming language to solve problems in statistics encountered by engineers.
5. To select an appropriate standard family of probability mass or density functions, and estimate its parameters.

## Withdrawal from Course

Withdrawal dates and process:

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

## Lecturers

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**Paul Teal (Coordinator)**

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420 Alan MacDiarmid Building, Kelburn

## Teaching Format

Three lectures per week, some taking tutorial format, weekly assignments, and a Lab every second week.

## 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: 02 March 2020 - 07 June 2020
- Break: 13 April 2020 - 27 April 2020
- Study period: 08 June 2020 - 11 June 2020
- Exam period: 12 June 2020 - 27 June 2020

## Class Times and Room Numbers

### 02 March 2020 - 22 March 2020

- **Monday** 09:00 - 09:50 – LT118, Laby, Kelburn
- **Wednesday** 09:00 - 09:50 – LT118, Laby, Kelburn
- **Thursday** 09:00 - 09:50 – LT105, Alan MacDiarmid Building, Kelburn

### 27 April 2020 - 07 June 2020

- **Monday** 09:00 - 09:50 – LT118, Laby, Kelburn
- **Wednesday** 09:00 - 09:50 – LT118, Laby, Kelburn
- **Thursday** 09:00 - 09:50 – LT105, Alan MacDiarmid Building, Kelburn

## Other Classes

A 4 hour Lab every second week.

## Set Texts and Recommended Readings

### Required

To be able to follow the course the student will need the textbook cited below.

- W. Navidi, *Statistics for Engineers and Scientists*. Mcgraw-Hill.

## Mandatory Course Requirements

In addition to achieving an overall pass mark of at least 50%, students must:

- achieve a passing grade in at least four lab reports.
- achieve a grade of at least 40% in the final exam.

*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

The course will have weekly assignments, half of the assignments are graded.

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Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Tests (2)		CLO: 1,2,3	20%
Assignments (weekly)		CLO: 1,2,3,4	15%
Labs (5)		CLO: 1,3,4	15%
Final examination (2 hours)		CLO: 1,2,3	50%

## Penalties

No credit for assignments handed in after the solutions are posted.

## 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.

## Workload

A typical workload is three hours for lectures, three hours for reading, and four hours for assignments and labs.

## Teaching Plan

See [https://ecs.wgtn.ac.nz/Courses/ECEN321\\_2020T1/LectureSchedule](https://ecs.wgtn.ac.nz/Courses/ECEN321_2020T1/LectureSchedule)

## Communication of Additional Information

All online material for this course can be accessed at [https://ecs.wgtn.ac.nz/Courses/ECEN321\\_2020T1/](https://ecs.wgtn.ac.nz/Courses/ECEN321_2020T1/)

## 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: [29033](#)**

**Points:** 15

**Prerequisites:** (ENGR 121, 122) or (MATH 142, 151), 30 200-level ECEN pts

**Duration:** 02 March 2020 - 28 June 2020

**Starts:** Trimester 1

**Campus:** Kelburn