

# ENGR110 (2017) - Engineering Modelling and Design

## Prescription

This course introduces the role of modelling in the engineering design process. Different modelling techniques will be presented and techniques for evaluating each that can aid design decisions will be demonstrated. Practical work will support the learning of different modelling and simulation techniques.

## Course learning objectives

Students who pass this course will be able to:

1. Explain and follow engineering processes involving specification, design, modelling, analysis and construction to solve engineering problems.
2. Construct simulations of formal models and explain the role of analysis and evaluation in the engineering design process.
3. Prepare a report presenting the outcomes of using a particular model to evaluate a design.
4. Work in a team, applying an understanding of how different skills in a team complement each other.

## Course content

This course introduces the role of modelling in the engineering design process. Different modelling techniques will be presented and techniques for evaluating each that can aid design decisions will be demonstrated. Practical work will support the learning of different modelling and simulation techniques. This document sets out the workload and assessment requirements for ENGR 110. It also provides contact information for staff involved in the course. If the contents of this document are altered during the course, you will be advised of the change by an announcement in lectures and/or on the course web site. A printed copy of this document is held in the School Office.

## Required Academic Background

The prerequisite courses for ENGR 110 are ENGR 101 and COMP 102 or COMP 112

## Withdrawal from Course

Withdrawal dates and process:

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

## Lecturers

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**Elf Eldridge** (Coordinator)

elf.eldridge@vuw.ac.nz

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**Howard Lukefahr**

howard.lukefahr@vuw.ac.nz 04 4635233 ext 7288

261 Cotton, Kelburn  
Dr. Howard Lukefahr  
Arthur Roberts

# Teaching Format

During the trimester there will be three lectures per week, 2 hour weekly laboratory sessions and 1 hour weekly tutorial.

## Dates (trimester, teaching & break dates)

- Teaching: 17 July 2017 - 20 October 2017
- Break: 28 August 2017 - 08 September 2017
- Study period: 24 October 2017 - 26 October 2017
- Exam period: 27 October 2017 - 18 November 2017

## Class Times and Room Numbers

### 17 July 2017 - 27 August 2017

- **Tuesday** 12:00 - 12:50 – LT103, Maclaurin, Kelburn
- **Thursday** 12:00 - 12:50 – LT205, Hugh Mackenzie, Kelburn
- **Friday** 12:00 - 12:50 – LT205, Hugh Mackenzie, Kelburn

### 11 September 2017 - 22 October 2017

- **Tuesday** 12:00 - 12:50 – LT103, Maclaurin, Kelburn
- **Thursday** 12:00 - 12:50 – LT205, Hugh Mackenzie, Kelburn
- **Friday** 12:00 - 12:50 – LT205, Hugh Mackenzie, Kelburn

## Other Classes

Weekly lab in CO145 (2 hours)

Weekly tutorial in CO145 (1 hour)

## Set Texts and Recommended Readings

### Required

There are no required texts for this offering.

## Mandatory Course Requirements

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

- Students must achieve at least a **D** grade overall for their **final report**.

*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 projects, 2 in-term tests, tutorials and a final report which is due during the exam period.

Five modelling assignments (6% each)	CLO: 1,2,3,4	30%
Terms Test 1	CLO: 1,2	20%
Terms Test 2	CLO: 1,2	20%
Tutorials	CLO: 1,2	5%
Report, approx 15 pages, due in Exam period	CLO: 1,2,3,4	25%

## Penalties

Work submitted late will be subject to a penalty of 10% of the total mark per day.

## Submission & Return

All the assignments are important for your learning. All assignments will be marked, We will mark the assignments as quickly as possible; our goal is to have the marks and comments returned within two weeks of the submission time. Your marks and comments on your submission will be accessible via the web: see the links on the Assignments page

## Marking Criteria

Student work provided for assessment in this course may be checked for academic integrity by the electronic search engine <http://www.turnitin.com>. Turnitin is an online plagiarism prevention tool which compares submitted work with a very large database of existing material. Turnitin will retain a copy of submitted material on behalf of the University for detection of future plagiarism, but access to the full text of submissions is not made available to any other party.

## Group Work

Laboratory work will often require working as part of a group, however assignments are all assessed individually.

## Required Equipment

There is no required textbook for ENGR 110

## Workload

In order to maintain satisfactory progress in ENGR 110, you should plan to spend an average of at least 10 hours per week on this paper. A plausible and approximate breakdown for these hours would be:

- Lectures and tutorials: 4
- Labs: 2
- Readings and Lab preparation: 1
- Additional work on the assignments: 3

## Teaching Plan

## Communication of Additional Information

All communication about the course will be provided through the course website:

[https://ecs.victoria.ac.nz/Courses/ENGR110\\_2017T2/](https://ecs.victoria.ac.nz/Courses/ENGR110_2017T2/)

## 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:** [26051](#)

**Points:** 15

**Prerequisites:** COMP 102 or 112, ENGR 101

**Duration:** 17 July 2017 - 19 November 2017

**Starts:** Trimester 2

**Campus:** Kelburn