



## Prescription

This course will equip students with a basic understanding of mechanical theory and the skills of electronic and mechanical design and construction so that they can successfully design and complete a moderately complex project. A presentation of this project work forms an integral part of the course.

## Course learning objectives

Students who pass this course should be able to:

1. Configure a microcontroller to interface with a variety of sensors and actuators to implement data acquisition and control (BE Graduate Attribute 3(a), 3(b)).
2. Demonstrate the understanding of a range of mechanical principles in relation to engineering design (BE Graduate Attribute 3(a), 3(c)).
3. Use a variety of rapid prototyping techniques and tools to produce an electromechanical prototype (BE Graduate Attribute 3(c), 3(f)).
4. Apply an engineering design process to achieve a project outcome (BE Graduate Attribute 3(d), 3(f)).

## Course content

Note, in 2021, it will be possible to take this course remotely, and distance-based versions of the lectures, labs, and all other material will be available. However, the resources for the remote alternative to the labs are limited, and the remote option will only be available for students with a good justification (for example, enrolling from overseas). Students who can be in Wellington must participate in the face-to-face labs to develop the critical practical lab knowledge and skills for the course.

Students taking this course remotely must have access to a computer with camera and microphone and a reliable high speed internet connection that will support real-time video plus audio connections and screen sharing. Students must be able to use Zoom; other communication applications may also be used. A mobile phone connection only is not considered sufficient. The computer must be adequate to support the programming required by the course: almost any modern windows, macintosh, or unix laptop or desktop computer will be sufficient, but an Android or IOS tablet will not.

If the assessment of the course includes tests, the tests will generally be run in-person on the Kelburn campus. There will be a remote option for students who cannot attend in-person and who have a strong justification (for example, being enrolled from overseas).

The remote test option will use Zoom for online supervision of the tests and you must be able to use Zoom with a camera, microphone, and screen-sharing. Students who will need to use the remote test option must contact the course coordinator in the first two weeks to get permission and make arrangements.

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## Withdrawal from Course

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

## Lecturers

### Gideon Gouws (Coordinator)

Gideon.Gouws@vuw.ac.nz 04 4635952

225 Alan MacDiarmid Building, Kelburn

### Christopher Hollitt

christopher.hollitt@vuw.ac.nz 04 4636965

223 Alan MacDiarmid Building, Kelburn

## Teaching Format

The course will be taught through a combination of lectures and laboratory sessions.

## Student feedback

EEEN201 is a new course in 2021, so no previous feedback is available.

## Dates (trimester, teaching & break dates)

- Teaching: 05 July 2021 - 08 October 2021
- Break: 16 August 2021 - 29 August 2021
- Study period: 11 October 2021 - 14 October 2021
- Exam period: 15 October 2021 - 06 November 2021

## Class Times and Room Numbers

### 05 July 2021 - 15 August 2021

- **Tuesday** 11:00 - 12:50 – LT102, Murphy, Kelburn
- **Thursday** 11:00 - 11:50 – LT103, Hugh Mackenzie, Kelburn

### 30 August 2021 - 10 October 2021

- **Tuesday** 11:00 - 12:50 – LT102, Murphy, Kelburn
- **Thursday** 11:00 - 11:50 – LT103, Hugh Mackenzie, Kelburn

## 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:

- Participate in the two design reviews.

*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 is 100% internally assessed.

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Two in-term tests (1 hour each)	Weeks 7, 12	CLO: 2	40%
Assignments (4)	Weeks 2, 4, 9, 11	CLO: 2,4	20%
Project Report(60 hours)	Assessment Period	CLO: 1,2,3,4	20%
Project Demonstration	Week 12	CLO: 4	10%
Project - Major design review	Week 10	CLO: 1,2,3,4	10%

## Penalties

There will be a 10% penalty per working day or part thereof for assessment items submitted late. Work will not be accepted after the distribution of any solutions.

## Extensions

Extensions will only be given after prior discussion. Extensions will not be possible for work to be submitted for manufacturing or for the two design reviews.

## Submission & Return

Submission will be via the ECS submission system. Work will be returned via the same mechanism.

## Workload

The student workload for this course is 150 hours.

## Teaching Plan

There will be weekly lectures in two parts. One will cover materials and devices, while the other part will look at design principles.

A weekly laboratory will introduce basic software tools in the first four weeks, after which the laboratory times will be used on the trimester long student project.

# Communication of Additional Information

Additional information will be provided via the ECS wiki:

[https://ecs.wgtn.ac.nz/Courses/EEEN201\\_2021T2/](https://ecs.wgtn.ac.nz/Courses/EEEN201_2021T2/)

## 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:** [33053](#)

**Points:** 15

**Prerequisites:** COMP 102 or 112; ENGR 101, 110; ENGR 121 or MATH 141 or equivalent;

**Restrictions:** ECEN 201

**Duration:** 05 July 2021 - 07 November 2021

**Starts:** Trimester 2

**Campus:** Kelburn