



## Prescription

This course provides a general introduction to the fundamental technical concepts needed to understand the design and engineering of electronic, mechatronic, networked and software systems. Experience is gained in basic engineering practice, with assembly and testing of basic hardware, software and networked systems, and construction of a personal computer.

## Course learning objectives

Students who pass this course will be able to:

1. Understand the fundamental principles underlying Engineering, especially electronic, mechatronic, networked and software systems (BE graduate attributes 3(a)).
2. Work within a team, including breaking up and allocating tasks, managing a team, and working with other people to achieve a defined task (BE graduate attributes 2(a), 2(b) and 3(d)).
3. Communicate through explaining what they have done in coursework and reasons for it with their peers and others (BE graduate attribute 2(b)).
4. Understand the role of engineers and their responsibility to society (BE graduate attribute 1(a)).
5. Be creative and able to apply critical thinking through the design, implementation and testing of systems to solve real-world problems (BE graduate 3(b)).

## Course content

It is intended to give students experience in basic engineering practice, through gaining understanding of basic software and hardware systems and applying this knowledge to complete projects which include all aspects of these technologies.

## Withdrawal from Course

Withdrawal dates and process:

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

## Lecturers

---

**Howard Lukefahr (Coordinator)**

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

334 Cotton, Kelburn

---

**Arthur Roberts**

## Teaching Format

ENGR 101 is a project-based course and the weekly schedule will vary. See the Course Schedule for details.

## Student feedback

Feedback from previous students who have taken ENGR 101 is available here:  
[http://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** 16:10 - 17:00 – LT103, Maclaurin, Kelburn
- **Wednesday** 16:10 - 17:00 – LT205, Hugh Mackenzie, Kelburn
- **Thursday** 16:10 - 17:00 – LT205, Hugh Mackenzie, Kelburn

### 27 April 2020 - 07 June 2020

- **Monday** 16:10 - 17:00 – LT103, Maclaurin, Kelburn
- **Wednesday** 16:10 - 17:00 – LT205, Hugh Mackenzie, Kelburn
- **Thursday** 16:10 - 17:00 – LT205, Hugh Mackenzie, Kelburn

## Other Classes

During lecture weeks we will have three lectures and one lab session (B) per week which will be used for a tutorial. During project weeks we will have two labs (A and B) per week and one lecture (Friday). Note students working on projects will sometimes need to coordinate their schedules with other students.

## 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 assessed through two short projects, the Automated Vehicle Challenge (AVC), two in-term tests, and tutorial exercises.

Assessment Item	Due Date or Test Date	CLO(s)	Percentage
Terms Test #1	Week 8	CLO: 1,4,5	15%
Terms Test #2	Week 12	CLO: 1,4,5	15%
On-line quizzes	Across the term	CLO: 1,3,4,5	4%
Tutorials	Across the term	CLO: 1,3,4,5	10%
Short Project 1	Week 4	CLO: 1,2,3,5	13%
Short Project 2	Week 7	CLO: 1,2,3,5	13%
Autonomous Vehicle Challenge (Group and Individual assessments adding up to 30% of the course mark)		CLO: 1,2,3,5	30%

## Penalties

Work submitted late will be subject to a penalty of 10% per day for 4 days. No work will be accepted after this unless previously arranged with the course organiser.

## 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.

## Submission & Return

All work is submitted through the ECS submission system, accessible through the course web pages. Marks and comments will be returned through the ECS marking system, also available through the course web pages.

## Group Work

The short projects and the autonomous vehicle challenge contain group work components based on the performance of the product developed in the project and project documentation such as project plans.

## Workload

In order to maintain satisfactory progress in ENGR 101, you should plan to spend 10 hours per week on this paper.

A plausible and approximate breakdown for these hours would be:

Lectures: 1-3 hours per week

Laboratories and tutorials: 2 - 4 hours per week

Writing lab reports/assignments: 3 hours

Reading, review, preparation: 2 hours

## Teaching Plan

Full details and schedule available at

[https://ecs.wgtn.ac.nz/Courses/ENGR101\\_2020T1/LectureSchedule](https://ecs.wgtn.ac.nz/Courses/ENGR101_2020T1/LectureSchedule)

## Communication of Additional Information

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

[https://ecs.wgtn.ac.nz/Courses/ENGR101\\_2020T1/](https://ecs.wgtn.ac.nz/Courses/ENGR101_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-enroll/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:** [15243](#)

**Points:** 15

**Prerequisites:** enrolment in BE(Hons)

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

**Starts:** Trimester 1

**Campus:** Kelburn