

ENGR201 (2017) - Engineering in Context

Prescription

This course addresses the research, analysis, critical and creative thinking skills embodied in written and oral communication which professional engineers are expected to display in the workplace. While addressing these aspects, the course at the same time develops the personal and interpersonal skills required to work effectively as part of a team in an engineering context.

Course learning objectives

Students who pass this course should be able to:

1. Conduct research using a library and academic databases
2. Understand the nature and purpose of written documents required in advanced study of engineering and the professional workplace: literature review, case study, technical report
3. Understand the principles of visual and oral presentation
4. Collaborate effectively on team tasks
5. Develop and demonstrate an understanding of the ethical and social responsibilities of being a professional engineer.

Course content

Engineering in context is a course which teaches you how to put your knowledge and ideas about engineering into connection with other people's ideas and technical knowledge in order to answer questions and solve engineering problems. There is more to technical knowledge than simply using it. To be useful in most situations, technical engineering knowledge has to be explained to others, and combined with other knowledge.

This connecting is the work of language. Spoken language, but equally importantly, written language. Pictures can also help – images, figures, diagrams – for example in data analysis and representation; but it is also the language that makes them meaningful, gives them context.

This course is mainly about evolving engineering knowledge into context. We will also be looking at spoken technical language as it is used in group or team discussions and oral presentations. But the primary focus of this course is in writing engineering and technical reports. We will provide in-depth instruction on three types of writing that will be increasingly important in your third and fourth years of study, and in your professional career

- Engineering Literature review
- Case study of an Engineering problem
- Professional Engineering body publication

The skills you will learn, or develop if you already have some understanding, are those which are also essential for producing the proposals, reports, and effective email messages related to your engineering (Software, Electronics, or Networking) that will be required of you in the engineering workplace.

Withdrawal from Course

Withdrawal dates and process:

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

Lecturers



Ramesh Rayudu (Coordinator)

ramesh.rayudu@vuw.ac.nz 04 4635233 ext 8068

421 Alan MacDiarmid Building, Kelburn



Craig Watterson

craig.watterson@vuw.ac.nz 04 4635233 ext 9448

253 Cotton, Kelburn



Derek Wallace

Derek.Wallace@vuw.ac.nz 04 4635630

319 Von Zedlitz, Kelburn



Jean Parkinson

jean.parkinson@vuw.ac.nz 04 463 5233 ext 8009

417 Von Zedlitz, Kelburn

Teaching Format

During the trimester there will be one lecture per week (offered at two different times) and one two-hour workshop.

Student feedback

This year is the first offering of ENGR 201.

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, Hugh Mackenzie, Kelburn
- **Wednesday** 10:00 - 10:50 – LT118, Laby, Kelburn

11 September 2017 - 22 October 2017

- **Tuesday** 12:00 - 12:50 – LT103, Hugh Mackenzie, Kelburn
- **Wednesday** 10:00 - 10:50 – LT118, Laby, Kelburn

Other Classes

One two-hour workshop must also be attended in addition to the weekly lecture. These workshops will start in Week 2 of the trimester and there are four alternative times to choose from:

Tuesday 1:10 to 3:00 p.m. FT83/203

Tuesday 3:10 to 5:00 p.m. KK204

Wednesday 4:10 to 6:00 p.m. in EA201

Friday 10:00 to 11:50 a.m. in KK202

Note: Students selecting a Tuesday workshop must be able to attend the Tuesday version of the lecture. Workshops will be strongly based on the corresponding weekly lecture.

Set Texts and Recommended Readings

Required

No set text for this course

Recommended

All required lecture material will be available on Blackboard

Mandatory Course Requirements

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

- Submit during your weekly workshop at least eight of the ten short tasks assigned in the workshop over the duration of the 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

Literature Review	25 August 2017	CLO: 1,2	25%
Case Study Report	29 September 2017	CLO: 1,2,4	25%
Professional Body Report	3 November 2017	CLO: 1,2,5	25%
Oral Assessment on Workshop skills	Week 12 Workshops	CLO: 1,2,3,4,5	15%
Short Workshop Exercises	Weeks 2-11	CLO: 1,2	10%

Penalties

All work is due on the due date and extensions will only be given in exceptional circumstances, and if agreed before the due date. If an extension is required apply in writing (email) to one of the course lecturers. Marks for late work without an agreed extension will be deducted at a rate of 10% of the full mark for each working day late. Work will not be marked if more than one week late. **Any work that is late (after the due date) should not be put in the drop boxes but should be directly handed to one of the course lecturers.**

Extensions

Extensions will only be given in exceptional circumstances. Please communicate these circumstances before the due date.

After the due date, please discuss your situation with the course coordinator.

Submission & Return

Drop boxes [located in second floor Cotton Building] will be used for handing in assignments. Marked material will be handed back in workshops or can be collect from the ECS administration office on the third floor of Cotton (CO358). Any work that is late (after the due date) should not be put in the drop boxes but should be directly handed to one of the course lecturers.

Assignments 1, 2 and 3 (Reports) should also be submitted electronically to Turnitin via Blackboard on the due date.

Marking Criteria

Assignment 1. Literature Review

Your task is to produce a short literature review on a topic that is similar to those undertaken by ENGR 489 students (but less extensive than is required at that level). You may choose from:

- Current, at-home medical devices, specifically discussing Tricorder X-prize winners
- The most common vectorization techniques used in machine learning (at least three)
- Available methods for finding security issues in software.

Your final review should be no longer than 5 pages (see above for full specifications) and should focus on the major developments in these fields particularly within the last 5 years. Good reviews should highlight aspects of research that have yet to be performed (a knowledge gap) OR critically compare the tools or techniques etc. described (e.g. contrasting different vectorization techniques or available at-home medical devices). In either case, ensure you provide your own conclusion about what should be the future research focus in the topic area you are discussing. All reviews should contain a short introduction to the relevant field and must reference a minimum of five 5 but preferably closer to 10 peer-reviewed journal articles or conference publications each.

Assignment 2

Due to word limitations here the details will be delivered in the class.

Assignment 3:

Details of the Assignment will be given in the class.

Assignment 4. Oral Assessment on Workshop Skills

Good to excellent work will show evidence of:

- Teamwork in developing a coherent debate structure.
- Clear and interesting explanation of the chosen topic.
- Ability to construct and interact in discussion in a professional manner.
- Adherence to basic rules of debate.

Group Work

Assignment 4 oral presentation will also include team work.

Workload

In order to maintain satisfactory progress in ENGR 201, you should plan to spend an average of at least 12 hours per week on this paper. A plausible and approximate breakdown for these hours will be:

- Lecture and workshop – 3 hours
- Weekly short task – 1 hour
- Assignments (research, reading, writing) – 8 hours

Teaching Plan

The course consists of one weekly lecture and a weekly two-hour workshop which builds on the information provided in the lecture through follow-up activities and discussions. These prepare you to undertake three major written assignments – one of which is a group assignment – and a short oral presentation. Small weekly writing tasks will also be set over ten weeks of the course, each of which will contribute one mark to your overall assessment if it is completed and brought to the following week's workshop. This is not extra work: these small staged tasks all contribute to your production of the larger assignments.

Note: There are no workshops in the first week of the trimester.

Week 1

Lecture	Introduction to Course (ECS & LALS) No Workshop in the first week
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Week 2

Lecture	Literature Review – Genre Requirements (LALS) Occasion and Purpose
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Week 3

Lecture	Reading Texts – Strategies (LALS)
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Week 4

Lecture	Critiquing Sources and Content (LALS)
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Week 5

Lecture	Plagiarism/ Citations/ Paraphrasing (LALS) Foreshadow case study assignment
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Week 6

Lecture	Oral Presentations (LALS)
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Week 7

Lecture	Case Study/Academic Report – Genre Requirements (LALS) Occasion and Purpose. Principles of exposition
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Week 8

Lecture	Organising and Sequencing Information (LALS)
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Week 9

Lecture Societal Impact of Engineering – Technology for Communication (ECS)

Week 10

Lecture Societal Impact of Engineering – Technology for Productivity (ECS)

Week 11

Lecture Societal Impact of Engineering – Technology for Health (ECS)

Week 12

Lecture Concluding Remarks (ECS & LALS)
Oral Assessment on Workshop skills

Communication of Additional Information

All additional communication and information will be delivered through lectures and Blackboard.

Links to General Course Information

- Academic Integrity and Plagiarism: <http://www.victoria.ac.nz/students/study/exams/integrity-plagiarism>
- Academic Progress: <http://www.victoria.ac.nz/students/study/progress/academic-progress> (including restrictions and non-engagement)
- Dates and deadlines: <http://www.victoria.ac.nz/students/study/dates>
- Grades: <http://www.victoria.ac.nz/students/study/progress/grades>
- Special passes: Refer to the Assessment Handbook, at <http://www.victoria.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf>
- Statutes and policies, e.g. Student Conduct Statute: <http://www.victoria.ac.nz/about/governance/strategy>
- Student support: <http://www.victoria.ac.nz/students/support>
- Students with disabilities: http://www.victoria.ac.nz/st_services/disability/
- Student Charter: <http://www.victoria.ac.nz/learning-teaching/learning-partnerships/student-charter>
- Terms and Conditions: <http://www.victoria.ac.nz/study/apply-enrol/terms-conditions/student-contract>
- Turnitin: <http://www.cad.vuw.ac.nz/wiki/index.php/Turnitin>
- University structure: <http://www.victoria.ac.nz/about/governance/structure>
- VUWSA: <http://www.vuwsa.org.nz>

Offering CRN: [29036](#)

Points: 15

Prerequisites: ENGR 101, 110 and 45 further points from Part 1 of the BE(Hons) schedule

Duration: 17 July 2017 - 19 November 2017

Starts: Trimester 2

Campus: Kelburn