

ECEN220 (2017) - Signals and Systems

Prescription

The course introduces analysis techniques for signals and linear time-invariant systems. It includes Discrete and Continuous Fourier transform techniques, with applications to circuit analysis and communication systems.

Course learning objectives

Students who pass this course will be able to:

1. Design, operate, and analyse continuous-time and discrete-time linear time-invariant systems. (BE graduate attribute 3(a)).
2. Calculate continuous-time & discrete-time Fourier transforms from 1st principles & by using a tables of common transforms and known properties and use Fourier transforms in the characterisation of systems and signals (BE graduate attribute 3(a), 3(c)).
3. Select proper configurations for analog-to-digital and digital-to-analog conversion systems, and to identify problems resulting from incorrect conversion design (BE graduate attribute 3(c)) and 3(d)).
4. Use the Matlab programming language to solve problems in statistics, linear systems and signals (BE graduate attributes 3(f)).

Withdrawal from Course

Withdrawal dates and process:

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

Lecturers



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Teaching Format

During the trimester there will be three lectures and a plausible and approximate breakdown of hours would be tutorials, readings and labs.

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

- **Monday** 10:00 - 10:50 – LT105, Alan MacDiarmid Building, Kelburn
- **Tuesday** 13:10 - 14:00 – LT001, Hugh Mackenzie, Kelburn
- **Friday** 13:10 - 14:00 – LT105, Alan MacDiarmid Building, Kelburn

11 September 2017 - 22 October 2017

- **Monday** 10:00 - 10:50 – LT105, Alan MacDiarmid Building, Kelburn
- **Tuesday** 13:10 - 14:00 – LT001, Hugh Mackenzie, Kelburn
- **Friday** 13:10 - 14:00 – LT105, Alan MacDiarmid Building, 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:

- ○ Achieve a grade of at least 40% for the final exam.
- ○ Achieve an overall score of at least 50% for the homework.
- ○ Submit satisfactory lab reports for all labs.

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 assignments, labs, tests, and a final examination.

Workload

To maintain satisfactory progress in ECEN 220, you should plan to spend an average of at least ten hours

per week on this paper. A plausible and approximate breakdown for these hours would be:

- Lectures and tutorials: 3 hours
- Reading: 3 hours
- Assignments and Labs: 4 hours

Teaching Plan

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/
- 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: [18511](#)

Points: 15

Prerequisites: (ENGR 121, 122) or (MATH 142, 151)

Duration: 17 July 2017 - 19 November 2017

Starts: Trimester 2

Campus: Kelburn