TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI VICTORIA UNIVERSITY OF WELLINGTON

SCHOOL OF ENGINEERING AND COMPUTER SCIENCE

Engineering Mathematics with Calculus - Course Outline

ENGR 122: 2015 Trimester 2

This document sets out the workload and assessment requirements for ENGR 122. 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.

The current version of this document is still under revision, but should be in its final state by 14 July.

Objectives

By the end of the course, students are expected to be able to:

1. *Interpret, manipulate and derive expressions and properties of differential and integral calculus, and linear algebra.*
2. *Apply concepts and techniques of calculus and linear algebra to analyse engineering systems and solve engineering problems.*
3. *Demonstrate mastery of a range of fundamental techniques for solving problems in calculus and linear algebra.*
4. *Demonstrate an ability to effectively use approximation and numerical techniques, especially in the estimation of physical parameters.*
5. *Creatively and collaboratively combine skills and knowledge from mathematics, physics, computing and engineering to model an engineering problem.*

Textbook

The textbook for ENGR 122 is: *Engineering Mathematics: A Foundation for Electronic, Electrical, Communications and Sytems Engineers (4th Edition)*, by Anthony Croft, Robert Davison, Martin Hargreaves and James Flint, Pearson, 2012. We follow this book very closely, so it will be very useful. It costs about $138 at Vic Books.

Also recommended, but not required, is *Engineering Mathematics*, by K.A. Stroud, with Dexter J. Booth, Palgrave MacMillan, London.

Lectures, Tutorials, Laboratories, and Practical work

A schedule of lecture topics, readings, and assignment due dates is available online

Lectures for ENGR 122 are:

Tue, Wed and Fri 16:10-17:00 in HULT323, and

Mon 16:10-17:00 in MCLT103

Sudents attend one two-hour lab each week, and students are also required to attend one two-hour tutorial session each week. Sign-ups for labs and tuts will be in the first week of lectures using myAllocator.

Lectures begin on 13 July and end on 18 October 2014. The examination period for trimester 2 is 19 Oct - 15 Nov, 2015

Class Representative

Congratulations Joel (robertjoel@myvuw.ac.nz) on your election by approbation as class rep for ENGR122! And thanks for volunteering!

Lab Times,

Labs will be held in CO219 each Wednesday 2-4pm and Thu 10-12noon.

Day	Time	Room
Tue	1:10 to 3:00pm	CO219
Thu	1:10 to 3:00pm	CO219

You sign up (after the first lecture) at https://student-sa.victoria.ac.nz/ to book your place in a lab.

Engr 122 labs are normally in CO219, but in weeks 2 and 3 they'll be in CO250

Tutorial Times

Note that a tutorial is nearly two hours long. These times are still being finalised:

Day	Time	Room	Tutor
Mon	15:10-16.00	VZ107	Aleksa Vujicic
Thu	16:10-17.00	KK106	Aleksa Vujicic
Wed	11:00-11:50	CO119	Steven Archer

Tutorials start in Week Two. Students should sign up for at least one tutorial, but may come to more than one, and may attend only part of a tutorial.

Practical Work - Assignments, Labs and Projects

One assignment will be given out each week, and will be due back the following week, usually 1pm on Fridays. Assignments will be marked, to provide feedback to students on their progress. As well as a numerical mark, an assignment which represents a satisfactory attempt will be given an "S" by the marker; otherwise it will be given a "U" for unsatisfactory. Each satisfactory assignment counts towards the ten percent in the final course grade for assignments. Late assignments will not be marked, and will get a "U". The tutorial sessions will provide useful help for doing the assignment for that week.

Eight satisfactory assignments out of the ten that will be given out, will attract the full 10% credit towards the final grade. Fewer satisfactory assignments means a pro-rata reduced %. Assignments are an important way to learn what you need to know, for tests, labs, project and exam.

There is a two-hour lab each week, and every two weeks the lab work is reported. Lab reports are due back during weeks 3, 5, 8, and 10. Reports that are completed in time will be marked and the marks from these lab reports will count 20% in total towards your final grade.

Workload

In order to maintain satisfactory progress in ENGR 122, you should plan to spend an average of at least *fourteen* hours per week or 168 hours per Trimester on this paper. A plausible and approximate breakdown for these hours would be:

- Lectures and tutorials: six hours per week
- Reading and preparation: two hours per week
- Assignments: two hours per week
- Labs: two hours per week, plus one hour preparation and one hour to write the report.

School of Engineering and Computer Science

The School office is located on level three of the Cotton Building (Cotton 358).

The notice board for ENGR 122 is located on the second floor of the Cotton Building.

Staff

The lecturers for ENGR 122 are Dimitrios Mitsotakis (lectures the first half of the Trimester) and David Balduzzi (lectures the second half of the Trimester). Their contact details are:

- Dimitrios Mitsotakis
- Cotton 361
- +64 4 463 6739
- Dimitrios.Mitsotakis@vuw.ac.nz

- David Balduzzi
- Cotton 441
- +64 4 463 5275
- David.Balduzzi@vuw.ac.nz

The course tutor is:

- Steven Archer
- Cotton 363
- +64 4 463 5233 ext 8316
- Steven.Archer@vuw.ac.nz

The course coordinator is

- Dimitrios Mitsotakis
- Cotton 361
- +64 4 463 6739
- Dimitrios.Mitsotakis@vuw.ac.nz

Announcements and Communication

The main means of communication outside of lectures will be the ENGR 122 web area at http://ecs.victoria.ac.nz/Courses/ENGR122_2015T2/. There you will find, among other things, this document, the lecture schedule and assignment handouts, and the ENGR 122 Forum. The forum is a web-based bulletin board system. Questions and comments can be posted to the forum, and staff will read these posts and frequently respond to them. Often you will find that other students in this course respond sooner.

Assessment

Your grade for ENGR 122will be determined based on the following assessment weightings:

Item	Weight	Objectives addressed
Assignments	10%	1,2,3
Two tests	20%	1,2,3
Lab reports	20%	1,2,3,4
Final examination	50%	1,2,3

If it is to your advantage, test marks will be ignored and the final exam will be worth 70%.

Tests and Exams

There will be two tests held during lecture times, one in week 4, 7 August 2015, and one in week 9, 21 September 2015. Each is worth 5% towards the final grade. Please alert the course coordinator if you cannot be there for a test.

There will be a final exam, held during the Victoria University examination period. The timetable for final examinations will be available from the University web site and will be posted on a notice board outside the faculty office. The final examination will be three hours long. No computers or mobile phones will be allowed in the final examination, and calculators must be silent. Paper non-English to English dictionaries will be permitted. The examination period for trimester 2 is 20 Oct - 16 Nov, 2014.

Plagiarism

Working Together and Plagiarism

We encourage you to discuss the principles of the course and assignments with other students, to help and seek help with programming details, problems involving the lab machines. However, any work you hand in must be your own work.

The School policy on Plagiarism (claiming other people's work as your own) is available from the course home page. Please read it. We will penalise anyone we find plagiarising, whether from students currently doing the course, or from other sources. Students who knowingly allow other students to copy their work may also be penalised. If you have had help from someone else (other than a tutor), it is always safe to state the help that you got. For example, if you had help from someone else in writing a component of your code or solving your problem, it is not plagiarism as long as you state (eg, as a comment in the code) who helped you in writing the method or solving the problem.

Mandatory Requirements

1. Attempt both tests.
2. Hand in a reasonable attempt at three lab reports.
3. Obtain at least 45% in the final examination.

Passing ENGR 122

To pass ENGR 122, a student must satisfy mandatory requirements and gain at least a **C-** grade overall.

Withdrawal

The last date for withdrawal from ENGR 122 with entitlement to a refund of tuition fees is Friday 24 July 2015. The last date for withdrawal without being regarded as having failed the course is Friday 25 September 2015 -- though later withdrawals may be approved by the Dean in special circumstances.

Rules & Policies

Find key dates, explanations of grades and other useful information at http://www.victoria.ac.nz/home/study.

Find out about academic progress and restricted enrolment at http://www.victoria.ac.nz/home/study/academic-progress.

The University's statutes and policies are available at http://www.victoria.ac.nz/home/about/policy, except qualification statutes, which are available via the Calendar webpage at http://www.victoria.ac.nz/home/study/calendar (See Section C).

Further information about the University's academic processes can be found on the website of the Assistant Vice-Chancellor (Academic) at http://www.victoria.ac.nz/home/about/avcacademic

All students are expected to be familiar with the following regulations and policies, which are available from the school web site:

Grievances
Student and Staff Conduct
Meeting the Needs of Students with Disabilities
Student Support
Academic Integrity and Plagiarism
Dates and Deadlines including Withdrawal dates
School Laboratory Hours and Rules
Printing Allocations
Expectations of Students in ECS courses

The School of Engineering and Computer Science strives to anticipate all problems associated with its courses, laboratories and equipment. We hope you will find that your courses meet your expectations of a quality learning experience.

If you think we have overlooked something or would like to make a suggestion feel free to talk to your course organiser or lecturer.

Course Outline as PDF