Engineering Mathematics with Logic and Statistics - Course Outline
ENGR 123: 2016 Trimester 2

This document sets out the workload and assessment requirements for ENGR 123. 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.

Course Content

This course covers ideas in logic, combinatorics, probability and statistics. On the logic and combinatorics side, we will study propositional logic, introductory graph theory, proofs, sets and relations, and induction and recursion. On the probability and statistics side, we will study data and sampling, probabilities and random variables, estimation and confidence intervals, and model fitting.

Learning Outcomes

By the end of the course you should know the important definitions and results in introductory logic and statistics, and understand their significance to computer science and dealing with data. You should be able to demonstrate your understanding by stating definitions and results, and solving simple problems. You will be required to demonstrate an ability to create rigorous arguments and communicate them.

Lectures

A schedule of lectures and lecture notes is available online.

Workload

Students should expect to spend at least 12 hours a week – including time spent in lectures, labs and tutorials, completing assignments and reviewing notes.

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 123 is located on the second floor of the Cotton Building.

Staff

The course organiser for ENGR 123 is David Balduzzi. The lecturers for the course are David Balduzzi and Peter Smith. Their contact details are:

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

- *Peter Smith*
- Cotton 539
- +64 4 463 6738
- Peter.Smith@vuw.ac.nz

Labs are run by
- *Steven Archer*
- Cotton 363
- +64 4 463 5233
- Steven.Archer@vuw.ac.nz

The Senior Tutor in charge of things administrative like assignments and tutorials and marking is
- *Steven Archer*
- Cotton 363
- +64 4 463 5233
- Steven.Archer@vuw.ac.nz

Tutor details

Announcements and Communication

The main means of communication outside of lectures will be the ENGR 123 web area at http://ecs.victoria.ac.nz/Courses/ENGR123_2016T2/. There you will find, among other things, this document, the lecture schedule and assignment handouts, and the ENGR 123 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.

Assessment

Your grade for ENGR 123will be determined based on the following assessment weightings:

Item	Weight
Assignments	15%
Labs	15%
Tests	20%
Final Examination	50%

Tests and Exams

There are two in-class tests
- Tuesday 6 September
- Monday 10 October

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 3 hours long. **[CORRECTION:] Silent non-programmable calculators or silent programmable calculators with their memories cleared are permitted in the final examination**. Paper non-English to English dictionaries will be permitted. The examination period for trimester 2 is 21 October - 12 November.

Assignments

Assignment questions will be posted on the course webpage on Fridays.

Tutorial exercises. These are included on the assignment sheet and are an opportunity for you to understand and practise techniques before tackling the assignment. We recommend that you look at and attempt at least some of the tutorial exercises *before* you go to a tutorial. Tutorials may be run in slightly different ways: some tutors will mainly work through problems on the board, while others will encourage you to do the exercises yourselves, working in small groups. Tutorial exercises are not to be handed in.

Assignments. Assignments form part of the mandatory course requirements (see below). They should take you up to 4 hours each to complete. If you find they typically take longer than that, you may want to make use of the Helpdesk or seek advice from the lecturers.

You may work on assignments with other students or in study groups. The library has group study rooms that can be booked for up to 2 hours a day. However, if you do work with others it is very important that you make sure you contribute to the work and gain a good understanding yourself. Do not produce a group version of the answers but write up your own version. Never simply copy someone else's assignment, even in part.Whether you are working alone or with others, you will usually need to do some working in rough. Include all relevant working in your good copy as this is as important as the answer itself – an answer alone is unlikely to gain full marks. Assignments should be neat and legible.

Handing in and collecting your assignment.
- Please staple the assignment as a coversheet with your name and student IDon your assignment. There is a stapler by the hand-in boxes. Post the completed assignment in the ENGR 123 hand-in box in the main corridor on Cotton level 3 **by 10:00am on the due date** (usually Tuesday a week after the date of handout). Do not fold your assignment as this can block the hand-in box. The boxes are ordered alphabetically by family name – please make sure you use the right box.
- Assignments will be collected by markers (senior mathematics students) at the due time. Your marker will indicate on your assignment where questions are right or wrong, give relevant feedback and a total mark.
- Marked assignments are available from the school office CO 358 at the designated times

- Worked solutions will be available on the course website.

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, it is not plagiarism as long as you state (eg, as a comment in the code) who helped you in writing the method.

Mandatory Course Requirements

To be eligible to pass the course, you must
- Hand in reasonable attempts to at least 8 out of 10 assignments.
- Sit the terms tests.
- Obtain at least 45% in the final examination.

In the case of illness or unusual family commitments, you may request exemption from a requirement from the course coordinator or, in the case of the final examination, apply for an aegrotat pass via the Faculty of Science office.

Passing ENGR 123

To pass ENGR 123, a student must satisfy mandatory requirements and gain at least a **C-** grade overall.

Withdrawal

The last date for withdrawal from ENGR 123 with entitlement to a refund of tuition fees is Friday 22 July 2016. The last date for withdrawal without being regarded as having failed the course is Friday 23 September 2016 -- 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 information