

School of Economics and Finance

QUAN103
INTRODUCTORY MATHS FOR BUSINESS

Trimester Three 2006

COURSE OUTLINE

Contact Details

Penelope de Boer RH 319 ext 5818 and EA129 ext 7449 or 021 071 362

The **Course Coordinator** is also **Penelope de Boer**. She has overall responsibility for the course and is the person to speak to about anything. You should see her if you are having any difficulties with the course or have any academic questions which you have been unable to resolve at tutorials. Mrs de Boer is also the person to see if you need to make special arrangements because of a disability, or if you want to appeal your test mark or Terms result.

Class Times and Room Numbers

Lecture times: Mon, Tue, Wed, Thu 1:10pm – 3pm MCLT102

There will also be optional tutorials for which you can sign up (after 8:00pm on Monday 13 November) at <http://signups.vuw.ac.nz>. Information regarding times for these will be available at that URL after that time.

The course will have a final exam during the period December 18 – December 21

Course Objectives

The objective of this course is to provide an introduction to mathematical techniques which are useful for the study and practice of business. (Students planning to advance in Economics or Money & Finance should note that QUAN 111 is the preferred Maths course - QUAN 103 alone is not really sufficient.) The sequence of topics will be as follows:

- | | |
|---------------------------|----------------------------------|
| §1. Basic algebra | §4. Introductory financial maths |
| §2. Functions and graphs | §5. Basic linear algebra |
| §3. One-variable calculus | §6. Linear programming |

Lecture Schedule

Readings refer to pages in Maths Made Easy*

Week 1: November 13 - 17

1	Introduction; real numbers, operations	*1–6
2	Powers	6–7
3	Roots	7
4	Inequalities; absolute values	7–9
5	Simplifying expressions	20–21
6	Solving single equations	21–23
7	Simultaneous equations	23
8	Problems	95–98

Week 2: November 20 - 24

9	Logarithms	29
10	Properties of logs; problems	29–30
11	Functions	37
12	Graphing straight lines and simple curves	38–40
13	Graphing more complicated curves	
14	Graphs of log and exponential functions	41
15	Slopes of straight lines and curves	58-61
16	Derivatives and simple rules	61–63

Week 3: November 27 – December 1

17	Product and quotient rules	63–64
18	Chain rule	64
19	Derivatives of log and exponential functions	64
20	Second derivatives, convexity and concavity	73
21	Local maxima and minima	73
22	Global maxima and minima	74
23	Integration	82–84
24	Areas and integrals	84–85

TEST Friday 1 December time tba

Week 4: December 4 – 8

25	Simple and compound interest	99–100
26	Discounting	101
27	Investment appraisal	102-103
28	Problems	
29	Vector operations	108–110
30	Matrix operations	110–114
31	Introduction to linear programming	114–115
32	Graphical and arithmetic solutions	115–121

Week 5: December 11 - 15

33	Linear programming	
34	Revision	

Expected Workload

A student with a weak mathematical background and aiming at an average pass should expect to spend eight hours a week in lectures, one hour in a tutorial and a further six hours per week, on average, reading the handbook before lectures, doing the assignments and preparing for clinics or the test.

Readings

The recommended textbook, available at Victoria Book Centre, is
Penelope Proffitt, *Maths Made Easy*, (Pearson Ed 2002)

Available on blackboard are the tutorial and assignment questions.

Materials and Equipment

You will need a calculator that can evaluate powers and logs.

Assessment

Schedule for Submission of Assignments

<i>Assignment</i>	<i>Date due</i>	<i>Time due</i>
1	Monday November 20	3.00 p.m.
2	Monday November 27	3.00 p.m.
3	Monday December 4	3.00 p.m.
4	Monday December 11	3.00 p.m.

Presentation of Answers

We do not require typed answers to assignments, but we do expect them to be clearly legible; avoid the use of abbreviations and symbols not used in lectures or the textbook. Model answers to assignment questions will be available on Blackboard, so make sure you look at these regularly and learn from your mistakes.

(a) Submission of Assignments

Assignment questions are available on Blackboard. They are due on Mondays at 3.00 p.m. starting from November 20 and are to be handed in at the lecture. Please do not place the assignments anywhere-else.

Head your assignments with your NAME, your ID number and the assignment number. STAPLE all sheets together - DO NOT FOLD your assignments or seal them shut. Do NOT enclose your assignment in a plastic sleeve.

Assignments not meeting these conditions, or which are late, will not be marked. Assignment marks do not count directly towards the course assessment, but they will be taken into account for students on the border-line or who do not sit the final exam.

Therefore they should be your own work, not copied from others. (Copied work will be given zero marks.)

(b) Return of Assignments

Assignments will be returned at tutorials; uncollected assignments will go back to Penelope de Boer.

Course assessment

Test 30% + Exam 70% (or Exam 100% if exam mark better than test mark)

The test, covering Lectures 1-22, will be held at a time to suit on Friday 1 December, while the exam, covering the whole of the course, will be held in the end of year examination period, on or before 22 December.

Mandatory Course Requirements

There are no mandatory course requirements for the course.

Communication of Additional Information

Additional material will be posted on Blackboard. Emails may also be sent to the email address that is registered with the University (as on your enrolment).

Faculty of Commerce and Administration Offices

Railway West Wing (RWW) - FCA Student and Academic Services Office

The Faculty's Student and Academic Services Office is located on the ground and first floors of the Railway West Wing. The ground floor counter is the first point of contact for general enquiries and FCA forms. Student Administration Advisers are available to discuss course status and give further advice about FCA qualifications. To check for opening hours call the Student and Academic Services Office on (04) 463 5376.

Easterfield (EA) - FCA/Education/Law Kelburn Office

The Kelburn Campus Office for the Faculties of Commerce and Administration, Education and Law is situated in the Easterfield Building - it includes the ground floor reception desk (EA005) and offices 125a to 131 (Level 1). The office is available for the following:

- Duty tutors for student contact and advice.
- Information concerning administrative and academic matters.
- Forms for FCA Student and Academic Services (e.g. application for academic transcripts, requests for degree audit, COP requests).
- Examinations-related information during the examination period.

To check for opening hours call the Student and Academic Services Office on (04) 463 5376.

General University Policies and Statutes

Students should familiarise themselves with the University's policies and statutes, particularly the Assessment Statute, the Personal Courses of Study Statute, the Statute on Student Conduct and any statutes relating to the particular qualifications being studied; see the Victoria University Calendar available in hard copy or under 'About Victoria' on the VUW home page at www.vuw.ac.nz.

Student and Staff Conduct

The Statute on Student Conduct together with the Policy on Staff Conduct ensure that members of the University community are able to work, learn, study and participate in the academic and social aspects of the University's life in an atmosphere of safety and respect. The Statute on Student Conduct contains information on what conduct is prohibited and what steps are to be taken if there is a complaint. For information about complaint procedures under the Statute on Student Conduct, contact the Facilitator and Disputes Advisor or refer to the statute on the VUW policy website at www.vuw.ac.nz/policy/studentconduct. The Policy on Staff Conduct can be found on the VUW website at www.vuw.ac.nz/policy/staffconduct.

Academic Grievances

If you have any academic problems with your course you should talk to the tutor or lecturer concerned; class representatives may be able to help you in this. If you are not satisfied with the result of that meeting, see the Head of School or the relevant Associate Dean; VUWSA Education Coordinators are available to assist in this process. If, after trying the above channels, you are still unsatisfied, formal grievance procedures can be invoked. These are set out in the Academic Grievances Policy which is published on the VUW website at www.vuw.ac.nz/policy/academicgrievances.

Academic Integrity and Plagiarism

Academic integrity is about honesty – put simply it means **no cheating**. All members of the University community are responsible for upholding academic integrity, which means staff and students are expected to behave honestly, fairly and with respect for others at all times.

Plagiarism is a form of cheating which undermines academic integrity. The University defines plagiarism as follows:

The presentation of the work of another person or other persons as if it were one's own, whether intended or not. This includes published or unpublished work, material on the Internet and the work of other student or staff.

It is still plagiarism even if you re-structure the material or present it in your own style or words.

Note: It is however, perfectly acceptable to include the work of others as long as that is acknowledged by appropriate referencing.

Plagiarism is prohibited at Victoria and is not worth the risk. Any enrolled student found guilty of plagiarism will be subject to disciplinary procedures under the Statute on Student Conduct and may be penalised severely. Consequences of being found guilty of plagiarism can include:

- an oral or written warning
- cancellation of your mark for an assessment or a fail grade for the course
- suspension from the course or the University.

Find out more about plagiarism, and how to avoid it, on the University's website at www.vuw.ac.nz/home/studying/plagiarism.html.

Students with Impairments

The University has a policy of reasonable accommodation of the needs of students with disabilities. The policy aims to give students with disabilities the same opportunity as other students to demonstrate their abilities. If you have a disability, impairment or chronic medical condition (temporary, permanent or recurring) that may impact on your ability to participate, learn and/or achieve in lectures and tutorials or in meeting the course requirements, please contact the Course Coordinator as early in the course as possible. Alternatively you may wish to approach a Student Adviser from Disability Support Services (DSS) to discuss your individual needs and the available options and support on a confidential basis. DSS are located on Level 1, Robert Stout Building, telephone (04) 463 6070, email disability@vuw.ac.nz. The name of your School's Disability Liaison Person is in the relevant prospectus or can be obtained from the School Office or DSS.

Student Support

Staff at Victoria want students to have positive learning experiences at the University. Each Faculty has a designated staff member who can either help you directly if your academic progress is causing you concern, or quickly put you in contact with someone who can. Assistance for specific groups is also available from the Kaiwawao Māori, Manaaki Pihipihinga or Victoria International.

In addition, the Student Services Group (email student-services@vuw.ac.nz) is available to provide a variety of support and services. Find out more at www.vuw.ac.nz/st_services/.

VUWSA employs Education Coordinators who deal with academic problems and provide support, advice and advocacy services, as well as organising class representatives and Faculty delegates. The Education Office (tel. 04 463 6983 or 04 463 6984, email education@vuwsa.org.nz) is located on the ground floor, Student Union Building.

Manaaki Pihipihinga - Maori and Pacific Mentoring Programme (Faculty of Commerce and Administration)

This is a mentoring service for Maori and Pacific students studying at all levels. Weekly one hour sessions are held at the Kelburn and Pipitea Campuses in the Mentoring Rooms, 14 Kelburn Parade, and Room 210 and 211, Level 2, Railway West Wing. Sessions cover drafting and discussing assignments, essay writing, and any questions that may arise from tutorials and/or lectures. A computer suite networked to Cyber Commons is available for student use.

To register with Manaaki Pihipihinga, please contact one of the following:

Puawai Wereta
Manaaki Pihipihinga Coordinator
Room 210, Level 2
Railway West Wing
Tel. (04) 463 8997
Email: Puawai.Wereta@vuw.ac.nz

Fa'afai Seiuli
Pacific Support Coordinator
Room 109 B
14 Kelburn Parade
Tel. (04) 463 5842
Email: Faafoi.Seiuli@vuw.ac.nz

The Pacific Support Coordinator is also available on the Pipitea Campus, Room 212, Level 2, Railway West Wing, every Thursday, 1-4pm. No appointment is necessary. You can either come in, email or phone with any issue that you need help with. Fa'afai links Pacific students to the services and support they need while studying at Victoria.