

School of Economics and Finance

**QUAN103**  
**INTRODUCTORY MATHS FOR BUSINESS**

Trimester One 2008

**COURSE OUTLINE**

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**Contact Details**

Jacek Krawczyk (pronounced Kraff-chick) RH 325 ext 55352 Lecturer

The **Course Coordinator** is also Jacek Krawczyk. He has overall responsibility for the course and is the person to speak to about anything. You should see him if you are having any difficulties with the course or have any academic questions which you have been unable to resolve at tutorials. He 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.

**Class Times and Room Numbers**

QUAN 103	6105	Lecture	TWF	9:00	9:50	HMLT003
QUAN 103	6105	Tutorial	T	11:00	11:50	HU317
QUAN 103	6105	Tutorial	W	11:00	11:50	KP24202

The tutorials are optional - you can sign up (after 8:00pm on Tuesday 26 February) at <http://signups.vuw.ac.nz>.

The final exam will be held in the period 6 – 24 June 2008

**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. In order for QUAN103 to count as a prerequisite you need at least a B+). 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           |

## Course Content

### Lecture Schedule

Readings refer to pages in Maths Made Easy\*

#### Lectures

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
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
17	Product and quotient rules	63–64
18	Chain rule	64
19	Derivatives of log and exponential functions	64
Mid term break		
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
25	Test 9 May on material covered in lectures 1–22	
26	Simple and compound interest	99–100
27	Discounting	101
28	Investment appraisal	102–103
29	Problems	
30	Vector operations	108–110
31	Matrix operations	110–114
32	Introduction to linear programming	114–115
33	Graphical and arithmetic solutions	115–121
34	Linear programming	

#### Expected Workload

A student with a weak mathematical background and aiming at an average pass should expect to spend ten to twelve hours per week on this subject, three hours in lectures, one hour in a tutorial and six to eight hours reading, preparing for lectures and tutorials

## **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 Requirements**

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

The test, covering Lectures 1-22, will be held in class time on Friday 9 May while the exam, covering the whole of the course, will be held in the end of trimester examination period.

## **Schedule for Submission of Assignments**

Each week, starting in week three an assignment is due at 10am in the Tuesday lecture. Please do not hand your assignments in anywhere else. They will be returned to you in lectures the following Tuesday.

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.

## **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 on the ground floor (EA005). This counter is the first point of contact for :

- 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.

### **Notice of Turnitin Use**

Student work provided for assessment in this course may be checked for academic integrity by the electronic search engine <<http://www.turnitin.com>>. Turnitin is an on-line plagiarism prevention tool which identifies material that may have been copied from other sources including the Internet, books, journals, periodicals or the work of other students. Turnitin is used to assist academic staff in detecting misreferencing, misquotation, and the inclusion of unattributed material, which may be forms of cheating or plagiarism. *At the discretion of the School, handwritten work may be copy typed by the School and subject to checking by Turnitin.* You are strongly advised to check with your tutor or the course coordinator if you are uncertain about how to use and cite material from other sources. Turnitin will retain a copy of submitted materials on behalf of the University for detection of future plagiarism, but access to the full text of submissions will not be made available to any other party.

### **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 or go to [www.victoria.ac.nz/home/about/policy/students.aspx](http://www.victoria.ac.nz/home/about/policy/students.aspx)

For information on the following topics, go to the Faculty's website [www.victoria.ac.nz/fca](http://www.victoria.ac.nz/fca) under Important Information for Students:

- Academic Grievances
- Student and Staff Conduct
- Meeting the Needs of Students with Impairments
- Student Support

### **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 students 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 penalized 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: [www.victoria.ac.nz/home/studying/plagiarism.html](http://www.victoria.ac.nz/home/studying/plagiarism.html)

### **Manaaki Pihipihinga Programme**

Manaaki Pihipihinga is an academic mentoring programme for undergraduate Māori and Pacific students in the Faculties of Commerce and Administration, and Humanities and Social Sciences. Sessions are held at the Kelburn and Pipitea Campuses in the Mentoring Rooms, 14 Kelburn Parade (back courtyard), Room 109D, and Room 210, Level 2, Railway West Wing. There is also a Pacific Support Coordinator who assists Pacific students by linking them to the services and support they need while studying at Victoria. Another feature of the programme is a support network for Postgraduate students with links to Postgraduate workshops and activities around Campus.

For further information, or to register with the programme, email [manaaki-pihipihinga-programme@vuw.ac.nz](mailto:manaaki-pihipihinga-programme@vuw.ac.nz) or phone (04) 463 6015. To contact the Pacific Support Coordinator, email [pacific-support-coord@vuw.ac.nz](mailto:pacific-support-coord@vuw.ac.nz) or phone (04) 463 5842.