TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

VICTORIA
UNIVERSITY OF WELLINGTON

School of Economics and Finance

QUAN111: Mathematics for Economics and Finance

Trimester 3, 2015

COURSE OUTLINE

Name and Contact Details

Lecturer:	Yiğit Sağlam	Pinky Shah
	Coordinator/Lecturer	Course Administrator
Office:	RH312	RH319
Office Phone:	4-4639989	4-4635818
E-mail:	yigit.saglam@vuw.ac.nz	pinky.shah@vuw.ac.nz

Administrative problems (course registration, tutorial signups, access to Blackboard, assessment grades, test makeup, medical certificates, etc.): please contact Pinky Shah, who will refer you to the course coordinator if necessary.

Academic problems (questions about lectures, tutorial or assignment problems, etc.): please contact your tutor during your tutorial time, ask the lecturers during office hours, or use Blackboard Discussion Board.

Trimester Dates

Teaching Period:	January 4 January	- Sunday 14 February
Examination Period:	Monday 15 February	- Saturday 20 February

Withdrawal from Course

1. Your fees will be refunded if you withdraw from this course on or before one full week after the first class.

2. The standard last date for withdrawal from this course is 3 February 2016.

After the last date stated in #2, students forced to withdraw by circumstances beyond their control must apply for permission on an "*Application for Associate Dean's Permission to Withdraw Late*" including supporting documentation. The application form is available from either of the Faculty's Student Customer Service Desks.

Class Times and Room Numbers

	Date	Time	Room
Lectures - CRN19879:	Tuesdays and Thursdays	09:00–10:50	HMLT205
Office Hours (Yiğit)	Tuesdays and Thursdays	11:00–12:00	EA119

Tutorials: Besides the lectures, tutorials will be offered throughout the trimester starting in week 2 (please refer to intended schedule at the end of this course outline). Each tutorial will cover material from the previous week's lectures. It is highly recommended that you sign up and attend one tutorial per week. You need to sign up for a tutorial group online: https://student-sa.victoria.ac.nz/.

Prescription

Mathematical methods appropriate for study of economics and finance: set theory, functions, calculus of functions of one or several variables, financial mathematics, vectors, matrices and systems of linear equations.

Course Learning Objectives

By the end of this course students should be able to:

1. Carry out mathematical operations on numbers, sets and functions,
2. Calculate rates of change using derivatives of functions,
3. Find derivatives of functions of a single variable,
4. Apply one-variable differentiation (derivatives, product and quotient rules, chain rule, second-order derivatives) to obtain local and global maxima and minima,
5. Integrate a rate of change function to recover the function in levels,
6. Employ partial differentiation to maximise or minimise functions of two or more variables,
7. Represent variables as vectors and assess their linear dependence,
8. Implement data operations using matrices,
9. Solve linear equation systems using matrices, their determinants and inverses.

Expected Workload

You should expect to spend 4 hours in lecture per week, 8 hours in tutorials during the trimester, and about 20 hours per week reading, studying and completing assignments.

Readings

We will use the following textbook throughout this course:

> Essential Mathematics for Economic Analysis with MyMathLab Global access card, 4/E, by Peter Hammond, Knut Sydsæter, Arne Strøm
> ISBN-10: 0273787624, ISBN-13: 9780273787624, 2012 Pearson

This textbook also includes access to MyMathLab, which is an online source designed to provide more practice questions and to develop a plan for self-study. The access to MyMathLab is valid for 12 months.

Course Delivery

This course will be delivered by four lectures per week and a tutorial in 4 out of the 6 weeks. There will be four assignments, two tests, and one final examination.

Materials and Equipment

You must have a calculator that evaluates powers and logs. Graphics calculators and programmable calculators are permitted, but not necessary. All programmable calculators must be reset prior to the test and exam.

Assessment Requirements

The Assessment Handbook will apply to all VUW courses: see
http://www.victoria.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf.

Type	CLOs	Due/Test date	Notes	Weight
Assignment 1:	1–2	Monday, January 11	due 5pm	2.5%
Assignment 2:	7–9	Tuesday, January 26	due 5pm	2.5%
Assignment 3:	3–4	Monday, February 1	due 5pm	2.5%
Assignment 4:	5–6	Tuesday, February 9	due 5pm	2.5%
Test 1:	1–2, 7–9	Wednesday, January 20 at 9am	1 hour	20%
Test 2:	7–9, 3–4	Wednesday, February 3 at 9am	1 hour	20%
Final Exam:	1–9	TBA	2 hours	50%

All assessment marks (except for the exam) will be published on Blackboard via My Grades.

Assignments: Assignments should be placed in the appropriate box (by tutor's name), located on Level 2 of Murphy Building. Do not submit your assignments to lecturers or tutors. Each assignment will be graded out of 2.5 points. A zero grade is given for unsatisfactory work, a one is given for satisfactory work, a two is given for exceptional work. The full (2.5) grade will be given to perfect assignments. It is expected that most students will score between 1 and 2 for each assignment. Marked assignments will be returned at the tutorial in the week following the assignment deadline.

Tests: There are two tests in this course: the dates and times are given in the table above. The test rooms will be sent to you by email and posted on Blackboard approximately one week before each test.

If you are not able to sit the tests for any reason, you need to provide a form of documentation explaining why you cannot take the test. This documentation is to be given to the course administrator (Pinky Shah) as soon as possible. In such a case, the weight for the missed items may be added to that for the final exam.

Penalties

Late submission of assignments will not be accepted without prior approval.

Examinations

Students who enrol in courses with examinations are obliged to attend an examination at the University at any time during the formal examination period. The final examination for this course will be scheduled at some time during the following period:
15–20 February 2016.

Mandatory Course Requirements

In addition to obtaining an overall course mark of 50 or better, students must attend both tests. Any student who is concerned that they have been (or might be) unable to meet any of the MCRs because of exceptional personal circumstances, should contact the course coordinator as soon as possible.

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. www.victoria.ac.nz/home/study/exams-and-assessments/aegrotat

Aegrotat: You should use the assignments as an indicator of your progress and performance. Since aegrotat decisions must be based on internal assessment prior to the final exam, it is important to have this evidence available by completing all assignments and the tests as best you can. For your appeal to have any chance of success, you must present evidence of special circumstances that caused you to fail. If you are denied and sit the final exam, you will still fail the course.

Class representative

A class representative will be elected in the first class, and that person's name and contact details made available to VUWSA, the course coordinator, and the class. The class representative provides a communication channel to liaise with the course coordinator on behalf of students.

Communication of Additional Information

Additional information will be posted on Blackboard.

Student Feedback

Student feedback on University courses may be found at:
www.cad.vuw.ac.nz/feedback/feedback_display.php.

Link to General Information

For general information about course-related matters, go to:
http://www.victoria.ac.nz/vbs/studenthelp/general-course-information

Note to Students

Your assessed work may also be used for quality assurance purposes, such as to assess the level of achievement of learning objectives as required for accreditation and academic audit. The findings may be used to inform changes aimed at improving the quality of VBS programmes. All material used for such processes will be treated as confidential, and the outcome will not affect your grade for the course.

Course Content

A brief outline of the course content, including an indicative schedule for the order of coverage, appears below.

Week	Date	Topic	Textbook	Tutorial
1	Jan 4–8	Introductory Topics I: Algebra	1.1–1.7	
		Introductory Topics II: Equations	2.1–2.5	
	Jan 11	**ASSIGNMENT 1 is due 5pm**	**Coverage: Week 1**	
2	Jan 11–15	Functions of One Variable	3.1,3.2,3.4,3.6,4,5.3	Tut. 1
		Matrix and Vector Algebra	15.1–15.5,15.7,15.8	Tut. 1
	Jan 20	**TEST 1, 1 hour, at 9am**	**Coverage: Weeks 1–2**	
3	Jan 18–22	Determinants and Inverse Matrices	16.1,16.2,16.4–16.7	Tut. 2
	Jan 26	**ASSIGNMENT 2 is due 5pm**	**Coverage: Weeks 2–3**	
4	Jan 25–29	Differentiation	6.1–6.8,6.10,6.11	
		Derivatives in Use	7.1,7.4,7.5,7.7	
	Feb 1	**ASSIGNMENT 3 is due 5pm**	**Coverage: Week 4**	
	Feb 3	**TEST 2, 1 hour, at 9am**	**Coverage: Weeks 3–4**	
5	Feb 1–5	Univariate Optimization, Integration	8.1–8.5,8.7,9.1–9.4	Tut. 3
		Functions of Many Variables	11.1,11.2,11.7,12.1,12.3,12.9	Tut. 3
	Feb 9	**ASSIGNMENT 4 is due 5pm**	**Coverage: Week 5**	
6	Feb 8–12	Multivariate Optimization	13.1–13.5	Tut. 4
		Constrained Optimization	14.1–14.7	Tut. 4
		Examinations (15 Feb – 20 Feb), see http://www.victoria.ac.nz/timetables/		

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