

ECON 1078-001
Mathematical Tools for Economists I
Fall 2005
Syllabus and Tentative Outline

Instructor: Karuna Wiwattanakantang Lecture Time: MTWRF 12:00-12:50
Office: Econ 401 Classroom: HLMS241
Office Hours: MW 11-12.00 a.m. and by appointment
E-mail: wiwattak@colorado.edu (the best way to get in touch with me)
Class Website: <http://www.colorado.edu/Economics/courses/karuna/econ1078.html>
(It is your responsibility to check any updated information on the class website.)
Class time: August 22 – December 9, 2005

Course description:

This course provides an introduction to fundamental mathematics, which are essential tool to analyze economic and business problems. It is the first course in a two-course sequence. We will start with a review of some basic algebraic operations. Then we will cover functions, corresponding graphs, and the introduction to calculus theory. Finally mathematics of finance will be presented.

Materials:

Required textbooks:

College Mathematics for Business, Economics, Life Sciences, and Social Sciences, 10th edition, by Raymond A. Barnett Michael R. Ziegler, and Karl E. Byleen.

Course requirement , grading and exam policies:

There will be take-home quizzes, in-class exercises, three midterm exams, and a mandatory final exam. Your course grades will be determined as follows:

Take-home quizzes	20 points
In-class exercises	5 points
Midterm Exam 1 (September 16, 2005)	25 points
Midterm Exam 2 (October 21, 2005)	25 points
Midterm Exam 3 (November 18, 2005)	25 points
(Only two midterm scores will be counted to the final grade.)	
Final (December 10, 2005 10:30 a.m.-1:00 p.m.)	25 points

Doing exercises in the textbook and take-home quizzes will help you learn how to use mathematical tools and familiarize yourself with problem solving techniques. You are encouraged to work in a group but must turn in answer sheets individually. The quiz and its schedule are on the class website. You must turn it in at the **beginning** of the class. Any submission after I collect class quiz will be considered as a late submission, which will not be counted to the final grade. The solutions will be posted on the class website after the due date.

I understand that there might be some circumstances or emergencies that you might not perform well in the exam up to your expectation or be able to take the test, therefore I will allow you to drop **the midterm exam with the lowest score**. As a general rule, there will be **no makeup exams or exam rescheduling**. The final exam is compulsory and cannot be replaced with any other exam under any circumstances.

If you have three or more final examinations on the given day, you are entitled to reschedule the last of the three or exams scheduled on that day, , provided the arrangement must be made no later than September 30, 2005.. You are expected to provide evidence that you have three or more examinations to qualify for exceptions.

You can find the practice exams and solutions on the class website. After each exam, the grade will be posted. It is your responsibility to verify your grades and inform me as soon as possible if there is any incorrectness.

Your grade will be assigned based on the following scale:

Average Points	94-100	90-93	87-89	84-86	80-83	77-79
Grade	A	A-	B+	B	B-	C+
Average Points	74-76	70-73	67-69	64-66	60-63	0-59
Grade	C	C-	D+	D	D-	F

Tentative time schedule and course outline (This schedule is subject to change if necessary. Any rescheduling will be announced in class and posted on the class website.)

Week1 -4

Pretest

A-1 Algebra and real numbers

A-2 Basic operations on polynomial

A-3 Factoring polynomials

A-4 Basic operations on rational expressions

A-5 Integer Exponents

A-6 Rational exponents and radicals

A-7 Linear Equations and Inequalities in One Variable

A-8 Quadratic Equations

Week5-6

1-1 Functions

1-2 Elementary Functions: Graphs and Transformations

1-3 Linear Functions and Straight Lines

1-4 Quadratic Functions

Week7-8

2-2 Exponential functions

2-3 Logarithmic functions

Week 9-13

9-1 Introduction to Limits

9-2 Continuity

9-3 The Derivative

9-4 Power Rule and Basic Differentiation Properties

9-5 Derivatives of Products and Quotients

9-6 General Power Rule

9-7 Marginal Analysis in Business and Economics

Week14-16

3-1 Simple interest

3-2 Compound interest

3-3 Future value of an annuity : sinking funds

3-4 Present value of an annuity: amortization

Holidays

September 5 – Labor Day

October 14 – Fall Break

November 25 –Thanksgiving

University Policies

The Economics Department will make reasonable accommodations for people with disabilities. If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. For more information, see the web page of the Office of Disability Services, www.colorado.edu/sacs/disabilityservices

We will make reasonable accommodations for students who have conflicts between religious observance dates and course examinations or assignments. Please talk to me at the beginning of the semester, if you think you may require such accommodation. For university policies on this and on other things, see www.colorado.edu/policies/index.html.

For university policies on cheating and plagiarism, and the university honor code, see www.colorado.edu/academics/honorcode/