

## **Syllabus for Math Tools for Economists I (Econ 1078-001) Fall 2006**

**Instructor:** Yiting An

I came from Shanghai, China and joined the Ph.D program here in the Economics department in 2002. Personally, I'm interested in the market structures change caused by some international factors like the coming of more productive multinational firms, cheap labor, or policy changes.

**Class Meeting Times:** MWF 12 – 12:50 am @ HLMS 211

**Office Location:** Econ 401

**Office Hours:** M 1:00 pm –3:30 pm  
By Appointment as Necessary

Office hours are held for your benefit. It is an opportunity to come in and ask questions in a one-on-one or small group setting. Everyone is highly encouraged to attend office hours as often as they feel is necessary to help master the material of the course. It is my experience that those students who come to office hours with prepared questions do better in the course than they otherwise would have. If there is any reason that you cannot make these office hours I am willing to meet by appointment.

**Contact:** [Yiting.an@colorado.edu](mailto:Yiting.an@colorado.edu)

This is the best way to get in touch with me. During the week, I will do my best to respond within 24 hours to any query regarding the class. If I don't it is fair to assume that I didn't receive the message and it should be resent.

**Class Website:**

<http://ucsu.colorado.edu/~yyan> (Website for this section)

When you register for this class, you must have noticed that there are several different sections provide the same 1078 course. Find the common resources we share at:

<http://www.colorado.edu/economics/courses/ECON1078/1078home.html>

(Joint Web Page of all 1078 sections)

**Course Description and Objectives:**

The goal of this class is to provide you with the mathematical tools needed for future courses in economics. We will cover algebra of polynomials, functions, basic logic, sets, solving systems of equations, and introduction of derivative. For a complete list of topics see the course schedule that follows.

This is a class designed to teach you the mathematical tools that you will need to solve economic problems. We will apply these tools to solve some basic economic problems, such as find the equilibrium price and quantity in the market, build cost and profit functions, and execute cost-benefit analysis *etc.*

**Class format:** Lecture, problem solving, and discussion

Lecturing and problem solving are given interactively. Small groups are strongly recommended to help you diversify the ways of solving problems and understand material. Quiz will be given in the group quiz form sometimes.

**Textbook:**

*Essential Mathematics for Economic Analysis*, 2<sup>nd</sup> edition,  
by Knut Sydsater, and Peter Hammond is required.

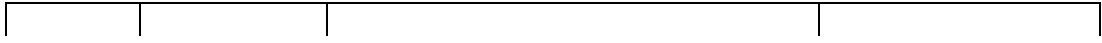
1088 adopts the same textbook. This is a very good reference book, which can always help to refresh your knowledge of algebra and calculus.

**Calculator Note:**

As this is a course designed to teach mathematical techniques you will need a calculator that can do basic mathematical functions. These include exponentials, logarithms, radicals, and factorials ( $\log$ ,  $\ln$ ,  $e^x$ ,  $n!$ )

**Tentative Course Schedule:**

Week of	Course Material	Topics	Wednesday Quiz/Exam
8/28	1.1, 1.2, 1.3	Algebra Basics	Pretest
9/4	1.4, 1.5, 1.6,	Fractions and Inequalities	Quiz 1
9/11	1.7, 2.1, 2.2,	Simple Equations	Quiz 2
9/18	2.3, 2.4, 2.5	Radicals, Equations in One Variable	Quiz 3
9/25	<i>Midterm 1</i> 3.1, 3.4,	Logic and Mathematical Proofs	Midterm 1 (9/



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Frequently Asked Questions can be found at  
<http://www.colorado.edu/disabilityservices>