

**ECON 1078-001**  
**Math Tools for Economists-I**  
**Spring 2010**

**Instructor:** Youngho Kang  
**Class Meetings:** MWF 12:00-12:50, BESC 185  
**E-mail:** [youngho.kang@colorado.edu](mailto:youngho.kang@colorado.edu)  
This is the best way to contact me. If you won't get a reply within 24 hours, please assume that I didn't get your email and resent it.

**Final Exam:** **Sat. May 1 7:30p.m-10:00p.m**  
**Office:** Econ 309c (3<sup>rd</sup> Floor of the Economics Building)  
**Office Hours:** Tuesday 3:00-5:00 p.m and by appointment  
Office hours are held for your benefit. You are highly encouraged to come to my office hours with prepared questions.

**Course Websites:** On CULearn  
Relevant materials to the course will be posted here.

**Course Description and Objectives:**

The goal of this class is to provide students with the mathematical tools needed for future courses in business and economics. We will cover rules of algebra, polynomials, functions, solving systems of equations, logic, probability, and differentiation.

**Textbook:**

*Essential Mathematics for Economic Analysis*, 3<sup>rd</sup> edition, by Knut Sydsaeter, and Peter Hammond is technically "required". Economics 1088 (Math Tools II) uses the same textbook. This is a very good reference book, which you may use in the future to refresh your knowledge of algebra and calculus. I will highly recommend that you have this book (or the 2<sup>nd</sup> edition) but I will not assign problems to be turned in. The practice problems that I will suggest come from the 3<sup>rd</sup> edition.

**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. Any basic scientific calculator will perform these functions. While a graphing calculator may be useful in doing some of the homework problems, you cannot use a graphing calculator on exams or quizzes. You also cannot use a cell phone calculator on quizzes or exams.

**Grading:**

The grades for the course will be based on the standard scale:

93-100%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
77-79%	C+	below 60%	F

Your grade will come from the following breakdown:

15%-Quizzes (Top 4 out of 5 scores)  
5%-In-Class Assignments  
25%-Midterm 1  
25%-Midterm 2  
30%-Final

About makeup and curve:

There will be no makeup quizzes and midterm exams given. I reserve the right to curve your overall grade after the final, but there will be no curved midterms separately.

## Quizzes

There will be a total of five quizzes given during the semester. The lowest of your quiz scores will be dropped. **There will be no makeup quizzes given.**

## In-Class Assignments

Randomly throughout the semester I will assign problems for you to work on in class, which you will hand in to me before you leave. These problems are intended to provide practice and will be similar to problems you will see on quizzes and exams. As with the quizzes, the lowest of your in-class assignment scores will be automatically dropped. **There will be no makeup assignments given.**

## Problem Sets

For each chapter, I will suggest a list of problems from the book that will be good practice from the exams and quizzes. These problems will not be handed in, but I highly encourage you to attempt as many of them as possible and ask questions as necessary.

## Exams

We will take a total of three exams in this course. The midterm exams will be held on February 10<sup>th</sup> (Wed.) and March 31<sup>th</sup> (Wed.) in class. These exams will be held during the normal class time. **If you miss a midterm exam, the weight of that exam will carry over onto the final.** The final exam is scheduled for May 1<sup>st</sup> (Sat.) from 07:30 to 10:00 am. in our normal classroom .. The final exam will be cumulative. **If you have three final exams scheduled for this day, and this is the last of your exams, you can take the final on another day.**

## Tentative Course Schedule:

Week of (Month/date)	Course Material	Topics	Quiz/Exam (Month/data)
Jan. 11	1.1, 1.2, 1.3, 1.4	Algebra Basics	
Jan. 18	1.5,1.6	Fractions and Inequalities	Quiz 1 (Fri. 1/22)
Jan. 25	1.7, 2.1, 2.2	Simple Equations	
Feb. 1	2.3, 2.4, 2.5	Radicals, Equations in One Variable	Quiz 2 (Fri. 2/5)
Feb. 8	Midterm 1	Midterm Review	Mid1 (Wed. 2/10)
Feb. 15	3.1, 3.2, 3.4, 3.5	Summation Logic	
Feb. 22	3.6, 3.7, 4.1	Set Theory, Induction, Functions of One Variable	Quiz 3 (Fri. 2/26)
Mar. 1	4.2, 11.1, 4.3, 4.4	Linear Function, Functions of Two Variables	
Mar. 8	4.5, 4.6, 4.7	Quadratic and Polynomial Functions	Quiz 4 (Fri. 3/12)
Mar. 15	4.8, 4.9, 4.10	Power, Exponential, Logarithmic Functions	
Mar. 22	Spring Break	No Class	
Mar. 29	Midterm2	Midterm Review	Mid 2 (Wed. 3/31)
Apr. 5	5.1, 5.2, 5.3	Shifting Graphs, Inverse Functions	
Apr. 12	5.4, 5.5, 5.6	Graphs, Distance, General Function	
Apr. 19	6.1, 6.2, 6.3	Slope of Curves, Derivative	Quiz 5 (Fri. 4/23)
Apr. 26	Final Review	Review for Final Exam	

**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. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and [www.Colorado.EDU/disabilityservices](http://www.Colorado.EDU/disabilityservices)

**Religious Observances:**

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, let me know, in advance, if you may have a conflict. Students can see full details at [http://www.colorado.edu/policies/fac\\_relig.html](http://www.colorado.edu/policies/fac_relig.html)

**Classroom Behavior:**

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to behavioral standards may be subject to discipline. Faculty has the professional responsibility to treat students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which students express opinions.

See polices at

<http://www.colorado.edu/policies/classbehavior.html>

and at

[http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student\\_code](http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code)

**Honor Code:**

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council ([honor@colorado.edu](mailto:honor@colorado.edu); 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at

<http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode/>

**Sexual Harassment:**

The University of Colorado Policy on Sexual Harassment applies to all students, staff and faculty. Sexual harassment is unwelcome sexual attention. It can involve intimidation, threats, coercion, or promises or create an environment that is hostile or offensive. Harassment may occur between members of the same or opposite gender and between any combination of members in the campus community: students, faculty, staff, and administrators. Harassment can occur anywhere on campus, including the classroom, the workplace, or a residence hall. Any student, staff or faculty member who believes s/he has been sexually harassed should contact the Office of Sexual Harassment (OSH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the OSH and the campus resources available to assist individuals who believe they have been sexually harassed can be obtained at:

<http://www.colorado.edu/sexualharassment/>