Econ 1088 - 002 Math Tools for Economists II
Course Syllabus — Spring 2009

Instructor: Tianle Zhang

Class Hours: MWF 2:00-2:45 PM

Class location: HUMN 1B80

Office: Econ 414

Office Hours: Tuesdays 12:45-1:45PM   Wednesdays   12:55PM-1:55PM

E-mail: **tianle@colorado.edu**

Course Website: (All course materials will be posted on CULearn)

Econ 1088 common website: (Old exams are on this website)

http://www.colorado.edu/economics/courses/ECON1088/1088home.html

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"Why do economists need math?"

Here are some reasons given by Greg Mankiw.

"Every economist needs to have a solid foundation in the basics of economic theory and econometrics, even if you are not going to be either a theorist or an econometrician."

"Math is good training for the mind. It makes you a more rigorous thinker."

For additional reasons, go to the following link

http://gregmankiw.blogspot.com/2006/09/why-aspiring-economists-need-math.html

Course Description:

This class is a continuation of ECON 1078. The goal of Econ 1088 is to help students to acquire the mathematical tools they will need in advanced economic courses (e.g. Intermediate Microeconomics and Macroeconomics). By the end of the semester, you will need to understand derivatives, know how to take derivatives, and understand their importance in economics. We will start with single-variable functions and move onto functions of many variables. The class formats include lecture and individual/group problem solving. While I will lecture most of the class time you will have a considerable amount of time doing practice exercises in class. You are encouraged to participate actively and ask questions in class. This will help you understand the course material better. Attending class will not guarantee passing the course. You are expected to spend at least 4 hours per week after class reviewing lecture notes, reading the textbook and doing homework.

Prerequisite:

Econ 1078.
In general, math courses (for example, *Finite Math*) in high schools are NOT equivalent to Econ 1078. A pretest will be given in the first day of class.

Textbooks Required:

Knut Sydsaeter and Peter Hammond, "Essential Mathematics for Economic Analysis", Second edition (You will be expected to have, and know, this book throughout your undergraduate career as an economics major.)

Grading:

(1) Quizzes and Homework	25%
(2) Midterm 1	25%
(3) Midterm 2	25%
(4) Midterm 3	25%
(5) Final Exam	25%

The lowest score of (1)-(4) will be dropped to make the total 100%. Note that you cannot drop the final exam. Your letter grade will be determined by the following scales.
90-100 A
80-89 B
70-79 C
60-69 D
Below 60 F

Students doing exceptionally well (with 93% or higher score on three Midterms and homework & quizzes) may be exempt from final and receive an A in class.

Homework and Quizzes:

Homework will be assigned so that you can practice with new materials. Quizzes will be given in class. Homework weighs 5% and quizzes 20%.

Exams:

Exams will be given on the dates specified below. Each counts 25% towards to your final grade.

Midterm 1	Wednesday	February	11th, 2009
Midterm 2	Wednesday	March	11th, 2009
Midterm 3	Wednesday	April	8th, 2009
Final Exam	Tuesday (1:30pm-4:00pm)	May	5th, 2009

Tentative Course Outline

Chapter 6 Differentiation:
6-1 Slopes of Curves
6-2 The derivative. Tangents
6-3 Increasing and Decreasing Functions
6-4 Rates of Change
6-5 A Dash of Limits
6-6 Simple Rules for Differentiation
6-7 Sums, Products, and Quotients
6-8 Chain Rule
6-9 Higher Order Derivatives
6-10 Exponential Functions
6-11 Logarithmic Functions

Chapter 7 Derivatives in Use:
7-1 Implicit Differentiation
7-2 Economic Examples
7-7 Why Economists Use Elasticities

Chapter 8 Single-Variable Optimization:
8-1 Introduction
8-2 Simple Tests for Extreme Points
8-3 Economic Examples
8-4 The Extreme-Value Theorem
8-5 Further Economic Examples

Chapter 11 Functions of Many Variables:
11-1 Functions of Two Variables
11-2 Partial Derivatives with Two Variables
11-5 Functions of More Variables
11-6 Partial Derivatives with More Variables
11-7 Economic Application
11-8 Partial Elasticities

Some notes on this course.

Classroom behaviors

Students desire a good learning environment. I believe students who contribute to good class environment should be rewarded and who affect the others negatively should receive punishment. Coming late to class, leaving early and talking loudly in class are not appropriate class behaviors as they may interrupt my teaching and distract other students.

Exam and quiz scores

Any concern or question about grading of a quiz or an exam should be raised U391aee3 0228ystudents. .

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/

Honor Code: "On my honor, as a University of Colorado at Boulder student, I have neither given nor received unauthorized assistance on this work."

2) 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.

3) 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. Students can see full details at http://www.colorado.edu/policies/fac_relig.html

4) 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