Syllabus

Econ 1088 - 001 Math Tools for Economists II
Fall 2006

Instructor: Tianle Zhang (I am currently a Ph.D. student in Economics Department.)
Class Hours: TR 5:00 - 6:15 pm
Class location: HLMS 201
Office: Econ 307
Office Hours: Tuesday 3:30-4:45pm, Thursday 3:30-4:45pm and by appointment
Office Phone: 303-492-7617
E-mail: tianle@colorado.edu (preferred method of contact)
Course Website: http://ucsu.colorado.edu/~tianle
1088 Common Website: http://www.colorado.edu/economics/courses/ECON1088/1088home.html

Course Description: This class is a continuation of ECON 1078. It introduces the math tools which will help you to better understand the mathematical framework on which economics models are based. The class time will be mainly spent on lecturing and problem solving.

Prerequisite:
Econ 1078 or equivalent

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.)

Homework:
Homework will be assigned weekly so that you can practice with the new material. This homework will not be graded.

Quizzes:
In addition to homework, quizzes will be given weekly which will test the knowledge of the homework problems. These are graded. The two lowest quizzes will be dropped at the end of the semester. As such no make up quizzes will be provided.

Exams:
Three midterms will be given and one comprehensive final. All exams are given in the classroom. The lowest of the exams will be dropped. Again, this means that no make up exams will be granted. The final will not be dropped.

Midterm 1 Tuesday September 26, 2006
Midterm 2 Tuesday October 31, 2006
Midterm 3 Tuesday December 5, 2006
Final Exam (7:30-10:00pm) December 19, 2006

Grading:
Top N-2 quizzes will make up 20% of your grade
Top 2 Midterms will make up 50% of your grade (25% each)
Cumulative Final will make up 30% of your grade

Letter Grading:
90-100 A

80-89 B
70-79 C
60-69 D
Below 60 F

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
7-3 Differentiating the Inverse
7-4 Linear Approximations
7-5 Polynomial Approximations
7-6 Taylor's Formula
7-7 Why Economists Use Elasticities
7-8 Continuity
7-9 More on Limits
7-10 Intermediate Value Theorem and Newton's Method
7-11 Infinite Sequences
7-12 L'Hopital's Rule

Chapter 11 Functions of Many Variables:

11-1 Functions of Two Variables
11-2 Partial Derivatives with Two Variables
11-3 Geometric Representation
11-4 Surfaces and Distances
11-5 Functions of More Variables
11-6 Partial Derivatives with More Variables
11-7 Economic Application
11-8 Partial Elasticities

Chapter 12 Tools for Comparative Statics:

12-1 A Simple Chain Rule
12-3 Implicit Differentiation along a Level Curve
12-5 Elasticity of Substitution
12-8 Linear Approximations
12-9 Differentials

Chapter 13 Multivariable Optimization:

13-1 Two Variables – Necessary Conditions
13-2 Two Variables – Sufficient Conditions
13-3 Local Extreme Points
13-4 Linear Models with Quadratic Objectives
13-5 The Extreme- Value Theorem
13-6 Three or More Variables

13-7 Comparative Statics and the Envelope Theorem
Chapter 14 Constrained Optimization:
We will cover this in detail commensurate with available time

General policies:

1) It is the students' responsibility to take control of their own education. If you are having problems, I am more than willing to help you. You just need to approach me at some point.
2) No make-ups will be given unless there is a proven emergency that prevents you from attending class on the scheduled exam date. You are required to submit proof of the emergency. If you miss an exam or a quiz, you will be given a zero.
3) 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; 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/
   Honor Code: "On my honor, as a University of Colorado at Boulder student, I have neither given nor received unauthorized assistance on this work."
4) 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.
5) 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
6) 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 (an) 0 1 scn0 Tc29.08570.0017