Econ 1088 - 001 Math Tools for Economists II
Course Syllabus — Fall 2008

Instructor: Tianle Zhang

Class Hours: Tuesdays and Thursdays 11:00AM-12:15 PM

Class location: HALE 230

Office: Econ 307

Office Hours: Thursdays 9:00AM-11:00AM

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 or its 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.)

Grading:

Homework and class participation	5%
Quizzes	15%
Exams	80%

Your final letter grade will be determined by the following scales.
90-100 A
80-89 B
70-79 C
60-69 D
Below 60 F

Homework and class participation:

Homework will be assigned so that you can practice with new materials. Some of the homework will be graded. You are required to attend every lecture and are expected to participate actively in class. I will randomly check the attendance as one of the indicators of your class participation.

Quizzes:

Quizzes will be given in class. There will be in total 4 quizzes each of which weights equally (5% each). The quiz with the lowest score will be dropped.

Exams:

Four exams (Exam 1-4) will be given with the days specified below. All the exams are non-cumulative. Each counts 20% towards to your final grade. You also have an alternative option on the Exam 4. You may request to take a cumulative Exam 4. The cumulative exam would count 40% of your grade and in such a case you would drop the worst of your first three exams.

In summary, you have two options to obtain your 80% of your grade as follows:

Option 1: All non-cumulative exams
Exam score = Exam 1*(20%) + Exam 2*(20%) + Exam 3*(20%) + Exam 4*(20%)

Option 2: Non-cumulative exam 1-3 and a cumulative exam 4
Exam score=Best of Exam 1-3*(20%)+Second best of Exam 1-3*(20%)+Exam 4*(40%)

Exam 1	Thursday	September 25th, 2008
Exam 2	Thursday	October 23rd , 2008
Exam 3	Thursday	November 13th, 2008
Exam 4	Tuesday (7:30am-10:00am)	December 16th , 2008

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

8-6 Local Extreme Points
8-7 Inflection Points

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 within a week after you get back the quiz or the exam.

- NO make-ups will be given.

In general, no make-up exams or quizzes will be given. However, I understand one may encounter unexpected events. To be eligible to make up an exam or a quiz you need to present relevant documents. Please see below for details.

Policy regarding emergencies and special events

- In the case of your own illness or injury, confirmation from a physician, physician's assistant, a nurse-practitioner, or a nurse is required. Be advised that Wardenburg Health Center cannot provide such verification unless they have provided treatment and the student authorizes release of information to the instructor. Further, barring extraordinary circumstances, the confirmation must be available to the instructor prior to the missed course event.
- With regard to family emergencies, you must provide verifiable documentation of the emergency. Given the vast array of family emergencies the instructor will provide precise guidance as to what constitutes adequate documentation. Unless the emergency is critical you should notify the instructor in advance of your absence from the scheduled course event. In cases of critical emergencies, you must notify the instructor within one week of your absence.
- For University-approved curricular and extra-curricular activities, verifiable documentation is also required. The student should obtain from the unit or department sponsoring the activity a letter (or class absence form)

indicating the anticipated absence(s). The letter must be presented to the instructor at least one week prior to the first absence.

General policies:

1) 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."
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