Econ 1088 - 002 Math Tools for Economists II Course Syllabus — Spring 2008

Instructor: Tianle Zhang

A little about me: I come from Guangzhou, a city in southern China. I am currently a Ph.D. student in Economics Department. My research interest is Industrial Organization, which studies the strategic behavior of firms, the structure of markets and their interactions. I have been teaching Econ 1088 since fall 2006.

Your final letter grade will be determined based on a following scale.

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
- 7-7 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

Chapter 13 Multivariable Optimization:

We will cover this in detail commensurate with available time

General policies of this class:

- 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. If you miss an exam or a quiz, you will be given a zero. Moreover, if you need to take the final other than the scheduled time, I should be informed at least two weeks ahead. You can only rearrange your final if you have three or more finals on the same day.
- 3) According to the university policy, no grades are allowed to be released via email. In other words, I am prohibited from emailing any grade to you.
- 4) You are responsible for any missing class.
- 5) Any concern or question about grading of a quiz or a midterm should be raised within a week after you get back the quiz or the midterm.

Even more general policies:

6) 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/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."

- 7) 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.
- 8) 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
- 9) Students and faculty each assign