ECON 1088-200 Syllabus Mathematical Tools for Economists II Summer 2012

| Instructor: | Xin Geng | | | | | | |
|------------------|---|---------------|----------------------|---------------------------|--|--|--|
| Office: | Econ 206 | | Office Hours: | M & W 1:30-2:30pm or apt. | | | |
| Email: | xin.geng-1@ | @colorado.edu | | | | | |
| Course Meetings: | MTWRF | 2:30-4:05pm | ECON 119 | | | | |
| Prerequisite: | ECON 1078 or MATH 1071 | | | | | | |
| Textbook: | Essential Mathematics for Economic Analysis, 3d edition, by Knut Sydsæter and | | | | | | |
| | Peter Hammond, Prentice Hall, 2008. | | | | | | |
| Websites: | Homework, solutions and grades will be posted on your Desire2Learn | | | | | | |
| | Past exams are available at: | | | | | | |
| | http://www.colorado.edu/economics/courses/ECON1088/1088home.html | | | | | | |
| | Student Resources are available at: | | | | | | |
| | http://www.pearsoned.co.uk/Sydsaeter | | | | | | |

CONTENT

This class is the second of a two-course sequence, and a continuation of ECON 1078. You will learn lots of concepts and procedures, like derivatives, optimization, and integrals in this math course. I am willing to share any methods or tricks I know so far to show how to make math study an enjoyable experience for you. Beyond this, I hope the tools you learned in this course will help you better understand the mathematical framework on which economic models are based and help prepare you for more advanced economics courses.

Prerequisite is ECON 1078 or MATH 1071. If you never took these two courses before, I recommend you drop my class as soon as possible, as it is extremely possible for you to fail it in the end.

Always, as an international instructor, I appreciate constructive, useful suggestions or feedback on any aspect regarding my teaching, language or the class in general, at appropriate times. I will leave time to answer questions for you in class, but there are sometimes questions that are better addressed during office hours.

GRADING

Your grade will consist of three mid-term exams, homework assignments and in-class team assignments. I will not give any make-up or early exams except for some emergency issues. Each portion of your grade will be weighted as follows:

| Midterm 1: | 25% Friday, February 17 |
|-----------------------|-------------------------|
| Midterm 2: | 25% Friday, March 23 |
| Midterm 3: | 25% Friday, April 20 |
| Homework Assignments: | 15% |
| Team Assignments: | 10% |

There are tentative five in-class team assignments. The lowest of the team grades and homework grades will be dropped. Your grade on the three exams will not be dropped under any circumstances. Homework assignments should be turned in at the beginning of the class on the due date. Late assignments will not be given any credit. If you have a conflict (3 or more finals on the same day), let me know during the first week, so I can make arrangements for a different time for you. Also let me know the first week if you need special accommodations for test taking.

GRADING SCALE

| Grade |
|-------|
| А |
| A- |
| B+ |
| В |
| B- |
| C+ |
| С |
| C- |
| D+ |
| D |
| D- |
| F |
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ATTENDANCE POLICY

Attendance is not counted for your grade, but I will take attendance every class for my own records. As we know, mathematical concepts build on prior knowledge. It is highly cumulative. So even if you are absent from only one class, you will be totally lost on next one. Nevertheless, I reserve the right to implement a different attendance policy if the attendance to class is too low. Also, please restrain yourselves of using cell phones in class. Laptops are not allowed.

ASSIGNMENTS

Homework and in-class team assignments are where the learning takes place. Each time I will grade only a random subset of the homework (ie—problem 3, 5, 12, ...etc) on correctness, not just the answer, but the process. And the completeness of other questions also counts part of the score(like 5 pts on 1st question, 5 pts on 3rd question, 5 pts on 5th question, 5 pts on the completeness of other questions. Total 20 pts).

Practice makes perfect. This works especially well in studying math. I believe the homework assignments are very important, and encourage you to make sure you get help to understand all the problems, not just the graded ones. Work with your friends from class, see me in office hours, seek help in the economics tutor lab if you need help, but use the problem sets for your learning benefit. An answer without showing the work will be graded zero, so show your work!

TENTATIVE SCHEDULE

| Book | Торіс | TA/HW/Exam |
|-----------------------------|--|--|
| 6.1, 6.2, 6.3 | Slopes, Derivatives, Tangents, Increasing/Decreasing Functions | |
| 6.4, 6.5, 6.6 | Rates of Change, Limits | TA1 |
| 6.7, 6.8, 6.9 | Sums, Products, Quotients, Chain Rule, Higher Order | HW1(due) |
| 6.10, 6.11 7.1, 7.2, 7.7 | Exponentials, Logarithms Implicit Differentiation, Examples, Elasticities | TA2 |
| 7.8, 7.9 | Continuity, More on Limits. | |
| 8.1, 8.2, 8.3 | Optimization MIDTERM 1 | HW2(due) 7/24 |
| 8.6, 8.7 | Examples, Local Extrema, Inflection Points | |
| 11.1, 11.2, 11.3 | Functions of Many Variables, Partial Derivatives, Geometry | TA3 |
| 11.5, 11.6 | Many Variables, MIDTERM 2 | HW3(due) 7/31 |
| 9.1, 9.2, 9.3 | Indefinite Integral Definite Integral and its Properties | TA4 |
| 9.4 | Application | HW4(due) |
| 9.3, 9.0 | MIDTERM 3 | 1A5 HW5(due) 8/10 |
| | Book 6.1, 6.2, 6.3 6.4, 6.5, 6.6 6.7, 6.8, 6.9 6.10, 6.11 7.1, 7.2, 7.7 7.8, 7.9 8.1, 8.2, 8.3 8.6, 8.7 11.1, 11.2, 11.3 11.5, 11.6 9.1, 9.2, 9.3 9.4 9.5, 9.6 | BookTopic6.1, 6.2, 6.3Slopes, Derivatives, Tangents, Increasing/Decreasing Functions Rates of Change, Limits6.4, 6.5, 6.6Sums, Products, Quotients, Chain Rule, Higher Order Exponentials, Logarithms Implicit Differentiation, Examples, Elasticities 7.8, 7.98.1, 8.2, 8.3Optimization MIDTERM 1 Examples, Local Extrema, Inflection Points Functions of Many Variables, Partial Derivatives, Geometry11.5, 11.6Many Variables, MIDTERM 2 Definite Integral Definite Integral and its Properties9.49.4 9.5, 9.69.4Application Integration by Parts and Substitution MIDTERM 3 |

ADDITIONAL NOTES

Disability Policy:

If you qualify for accommodations because of a disability, please submit tome a letter from Disability Services in a timely manner so that your needs maybe addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322.Religious Observance Policy: 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. If you have a conflict, please contact me at the beginning of the semester so we can make arrangements.

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; 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).

Code of Behavior Policy:

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty has the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences or race, culture, religion, politics, sexual orientation, gender variance and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

Discrimination and Harassment Policy:

The University of Colorado at boulder policy on Discrimination and Harassment can be found at http://www.colorado.edu/policies/discrimination.html. The university policy on Sexual Harassment and on Amorous Relationships applies to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://www.colorado.edu/odh.