ECON 1088-001 Syllabus
Mathematical Tools for Economists II
Fall 2014

Instructor: Xin Geng

Office: ECON 206

Office hours: MW   10:50 – 11:50 a.m. or by appointment

Email: xin.geng-1@colorado.edu

Course Meetings: MWF 10 - 10:50 a.m.   ECON 117

Textbook[1]:   *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: http://www.colorado.edu/economics/courses/ECON1088/1088home.html

CONTENT

This course aims to familiarize students with the math concepts of limits, continuity, differentiation, integration and optimization as they apply to prepare for more advanced economic study like intermediate Micro/Macro. It requires sophisticated calculation and algebraic skills. If you are never involved with the above materials before, lots of effort is required.

PREREQUISITES   ECON 1078 or MATH 1071

Please submit proof (transcripts) that you have passed the prerequisite in the first week, otherwise you will be mandatorily dropped in the following week. A pretest will also be given in the first class.

GRADING

The overall grade for this course will be based on four exams, class attendance and participation. **There are no options for extra-credit.** I cannot under any circumstance email grades to students due to university and federal policies; if you have a question about your grade, you must come in to office hours to discuss them. I will not email you back if you email me asking about your grade. Each portion of your grade will be weighted as follows:

Exam 1-3	**20% each**	**Attendance**	**4%**
Exam 4	**30%**	**Participation**	**6%**

Grading scale:

Your score	**Grade**	**Your score**	**Grade**
[93%-100%]	A	[73%-77%)	C
[90%-93%)	A-	[67%-73%)	C-
[87%-90%)	B+	[63%-67%)	D
[83%-87%)	B	[60%-63%)	D-
[80%-83%)	B-	<60%	F
[77%-80%)	C+		

---

[1] While the Sydsaeter textbook is an excellent reference that could prove useful in your further studies of economics, not having your own copy should in no way affect your ability to do well in this course.

EXAMS

Your grade on the four exams will not be dropped under any circumstances. If you have a conflict (3 or more finals on the same day), let me know during the first month, so arrangements for a different time might be mad. Also let me know the first week if you need special accommodations for test taking. **No early, late or make-up exams will be given.** These exams -- except the last one-- are not cumulative and will focus on the material covered up to that point and after the previous exam. Any material covered in lectures and problem sets will be fair game for the exams. If well-prepared for, no exam should take more than 30 minutes to complete; however, 40 minutes will be given for each exam. Calculators are not permitted for any exam and all cell phones must be switched off and put away before any member of the class will be given an exam.

PROBLEM SETS

Problem sets are provided occasionally for your own benefits. They will be good resources for practice after class. Solutions will be posted two days before each exam.

ATTENDANCE

Attendance is extremely **important** as mathematical concepts build on prior knowledge and it is highly cumulative. You are expected to attend class in a manner that optimizes the value you get from your time, effort, and money. Do not come to class if you are sick. Do not email me with reasons for missed classes. If you need to catch up on missed material, your options are: 1) borrow notes from your classmates, 2) read relevant materials from the textbook[2], 3) work on problem sets, 4) seek help in the economics tutor lab. If additional help is needed after you have tried these methods, feel free to see me during office hours. As part of your final grade, attendance is taken before the end of every class. Credits are given as follows:

Your Attendance	Credits	Your Attendance	Credits
[37-40]	4 points	[30-33)	1 point
[35-37)	3 points	<30	0 point
[33-35)	2 points		

PARTICIPATION

You are expected to participate in class in a manner that does not affect other students' ability to learn. Cell phones and laptops[3] are **not** allowed in class. Most of the time, before the end of each class, I will leave around 10 minutes for some simple practice questions. Either voluntarily or upon requested, some of you need to solve them and give a simple explanation on board. Each question, regardless of the correctness, once **finished**, will count for 2 participation credits out of a maximum 6 during the semester. After that, you need to mark it on that day's attendance sheet to be recorded. Good class attendance (4 points fulfilled) and participation (more than 3 times) might help when your final grade end up on a grade borderline.

---

[2] However, this might not be sufficient.

[3] The only exception to this rule is if disability services mandate that you must be allowed to use a laptop for note taking purposes. In this case, an official letter from disability services is required.

EMAIL

I will answer emails between 9:30 am and 5:30 pm from Monday to Friday. I will do my best to return emails within 24 hours. I will not respond to emails asking questions answered in the syllabus (grading, office hours/location) or requesting information about grades

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).

RELIGIOUS OBSERVATION 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 no later than the first week of the semester so we can make proper arrangements.

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.

TENTATIVE SCHEDULE

Week	Book Section	Topic
8/25	6.5, 7.9	Syllabus, Pre-test, Math Recap, Limit
9/1		Labor day (no class)
9/3	7.8, 6.1, 6.2	Continuity, Slopes, Derivatives,
9/8	6.3, 6.4, 6.6	Increasing/Decreasing Functions, Rates of Change, Simple Rules
9/15	6.7, 6.8, 7.12	Sums, Products, Quotients, Chain Rule, L'Hopital's Rule
9/22		Review
9/26		**EXAM 1**
9/29	6.9, 6.10, 6.11	Higher Order, Exponentials, Logarithms
10/6	8.1, 8.2, 8.6	Concavity of Function, Global and Local Extrema,
10/13	8.3, 8.7, 7.1, 7.2	Extrema Examples, Inflection Points, Implicit Differentiation and Examples
10/20		Review
10/24		**EXAM 2**
10/27	11.1, 11.2, 11.3, 12.3	Functions of Two Variables, Partial Derivatives, Level Curve
11/3	11.5, 11.6	Functions of Many Variables, Hessians
11/10	9.1, 9.2, 9.3	Indefinite Integral, Definite Integral and its Properties
11/17		Review
11/21		**EXAM 3**
11/24		Fall Break (No Class)
12/01	9.5, 9.6, 9.7	Integration by Parts & Substitution, Improper Integration,
12/8		Review of first three exams
12/16		**EXAM 4 (10:30 a.m.--1 p.m.)**