

**ECON 1088-002 Syllabus**  
**Mathematical Tools for Economists II**  
**Fall 2013**

**Instructor:** Xin Geng  
**Office Hours:** M & W 11 - 12pm at MATH 215 or by apt at ECON 206.  
**Email:** [xin.geng-1@colorado.edu](mailto:xin.geng-1@colorado.edu)

**Course Meetings:** MWF 10 - 10:50am BESC 185  
**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>

**CONTENT**

This class is the second of a two-course sequence, and a continuation of ECON 1078 but more advanced and harder. Basically it is a math course that will help prepare you for more advanced economics courses. You will learn lots of concepts and procedures, like derivatives, optimization, and integrals in this math course. If you are never involved with the above math materials before, it requires a lot of effort. I am willing to share any method or trick I know so far to show how to make math study an enjoyable experience for you. Beyond this, the tools you learned in this course will help you better understand the mathematical framework on which economic models are based.

Prerequisite is ECON 1078 or MATH 1071. If you never took these two courses before, DROP my class as soon as possible, as it is extremely possible for you to drop this class in the middle without any tuition refunded or fail it in the end. It requires sophisticated calculation and algebra skills. You will take a simple test of your preliminary knowledge in the first class.

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

**GRADING**

Your grade will consist of two mid-terms, one final, homework assignments and in-class team assignments. NO make-up or early exams. Each portion of your grade will be weighted as follows:

Midterm 1:	21%	Friday	Oct 11th
Midterm 2:	22%	Friday	Nov 15th
Final:	25%	Monday	Dec 16th
Homework Assignments:	16%		
Team Assignments:	16%		

There are tentative five in-class team assignments. Both 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**

Score	Grade
93-100 %	A
90-92.99 %	A-
87-89.99 %	B+
83-86.99 %	B
80-82.99 %	B-
77-79.99 %	C+
73-76.99 %	C
70-72.99 %	C-
67-69.99 %	D+
63-66.99 %	D
60-62.99%	D-
Below 60 %	F

### **ATTENDANCE POLICY**

Attendance is extremely IMPORTANT. Mathematical concepts build on prior knowledge and it is highly cumulative. You cannot afford even missing one class as you would be totally lost on next one. Attendance is taken every class for my own records. I reserve the right to implement a different attendance policy if the attendance is too low. Cell phones and laptops are not allowed in class or exams. No calculator in exams.

### **ASSIGNMENTS**

The grading of homework and team assignments is based on a 0-4 points scale. Not all questions in your homework will be graded due to the large capacity of the class. Policy:

- 4 points: All questions are correct. Allow for one minor mistake.
- 3 points: Finished all. Basic questions are all correct. Allow for up to three minor mistakes in total.
- 2 points: Finished all. Basic questions are almost all correct. Allow for one major mistake and three minor ones in total.
- 1 point: Finished at least 2/3. Basic questions are at least addressed in the correct way. Allow for four major mistakes in total.
- 0 point: Late or not turned in. Most of questions are wrongly answered or left blank.

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.

**TENTATIVE SCHEDULE**

<b>Week</b>	<b>Book</b>	<b>Topic</b>	<b>TA/HW/Exam</b>
<b>8/26</b>	6.1, 6.2, 6.3	Slopes, Derivatives, Tangents, Increasing/Decreasing Functions	
<b>9/2</b>		Labor day (no class)	
<b>9/3</b>	6.4, 6.5, 6.6	Rates of Change, Limits	TA1
<b>9/9</b>	6.7, 6.8,	Sums, Products, Quotients, Chain Rule,	
<b>9/16</b>	6.9, 6.10, 6.11	Higher Order, Exponentials, Logarithms	HW1(due)
<b>9/23</b>	7.1, 7.2, 7.7	Implicit Differentiation, Examples, Elasticities	TA2
<b>9/30</b>	7.8, 7.9	Continuity, More on Limits.	
<b>10/7</b>		Review	HW2(due)
<b>10/11</b>		<b>MIDTERM 1</b>	
<b>10/14</b>	8.1, 8.2, 8.3	Optimization	
<b>10/21</b>	8.6, 8.7	Examples, Local Extrema, Inflection Points	
<b>10/28</b>	11.1, 11.2, 11.3, 12.3	Functions of Many Variables, Partial Derivatives, Geometry	TA3
<b>11/4</b>	11.5, 11.6	Many Variables	
<b>11/11</b>		Review	HW3(due)
<b>11/15</b>		<b>MIDTERM 2</b>	
<b>11/18</b>	9.1, 9.2, 9.3	Indefinite Integral Definite Integral and its Properties	TA4 HW4(due)
<b>11/25</b>		Fall Break (No Class)	
<b>12/02</b>	9.5, 9.6	Intergration by Parts & Substitution	TA5
<b>12/9</b>		Review	HW5(due)
<b>12/16</b>		<b>FINAL (4:30pm)</b>	

## **ADDITIONAL NOTES**

### Disability Policy

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. 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>.