

**ECON 1088-001 Syllabus**  
**Mathematical Tools for Economists II**  
**Spring 2013**

**Instructor:** Xin Geng  
**Office:** Econ 206  
**Office Hours:** T & TH 12:15-1:15 pm or apt.  
**Email:** [xin.geng-1@colorado.edu](mailto:xin.geng-1@colorado.edu)

**Course Meetings:** MWF 12:00-12:50 pm DUAN G125

**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 than it. 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 methods or tricks 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, I recommend you 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 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 two mid-term exams, one final, 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:	20%	Friday	March 12th
Midterm 2:	26%	Friday	April 5th
Final:	30%	Saturday	May 4th
Homework Assignments:	12%		
Team Assignments:	12%		

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
90-93 %	A-
87-90 %	B+
83-87 %	B
80-83 %	B-
77-80 %	C+
73-77 %	C
70-73 %	C-
67-70 %	D+
63-67 %	D
60-63%	D-
Below 60 %	F

### **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. The grading of homework is based on a 0-3 points scale. I probably won't have time to grade each of your homework in detail as we have so many students in class. Homework grading policy:

- 3 points: Finished all the questions. Basic questions are all correct. Allow for up to two small mistakes in total.
- 2 points: Finished all the questions. Basic questions are almost all correct. Allow for one big mistake and three small ones in total.
- 1 point: Finished at least 2/3 of the questions. Basic questions are at least addressed in the correct way. Allow for three big 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>
1/14	6.1, 6.2, 6.3	Slopes, Derivatives, Tangents, Increasing/Decreasing Functions	
1/21		Martin Luther King, Jr. Holiday (no class)	
1/23	6.4, 6.5, 6.6	Rates of Change, Limits	
1/28	6.7, 6.8,	Sums, Products, Quotients, Chain Rule,	TA1
2/4	6.9, 6.10, 6.11	Higher Order, Exponentials, Logarithms	HW1(due)
2/11	7.1, 7.2, 7.7	Implicit Differentiation, Examples, Elasticities	TA2
2/18	7.8, 7.9	Continuity, More on Limits.	
2/25		Review	HW2(due)
<b>3/1</b>		<b>MIDTERM 1</b>	
3/4	8.1, 8.2, 8.3	Optimization	
3/11	8.6, 8.7	Examples, Local Extrema, Inflection Points	TA3
3/18	11.1, 11.2, 11.3	Functions of Many Variables, Partial Derivatives, Geometry	
3/25		Spring Break (no class)	
4/1		Review	HW3(due), TA4
<b>4/5</b>		<b>MIDTERM 2</b>	
4/8	11.5, 11.6	Many Variables,	
4/15	9.1, 9.2, 9.3	Indefinite Integral Definite Integral and its Properties	
4/22	9.5, 9.6	Application Intergration by Parts & Substitution	HW4(due) TA5
4/29		Review	HW5(due)
<b>5/4</b>		<b>Final (7:30pm)</b>	

## ADDITIONAL NOTES

### Students with Disabilities

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 be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Center for Community N200, and <http://www.Colorado.EDU/disabilityservices>.

If you have a temporary medical condition or injury, see guidelines at <http://www.colorado.edu/disabilityservices/go.cgi?select=temporary.html>.

Disability Services' letters for students with disabilities indicate legally mandated reasonable accommodations. The syllabus statements and answers to Frequently Asked Questions can be found at <http://www.colorado.edu/disabilityservices>.

### Religious Observance Policy

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, { {insert your procedures here} } See full details at [http://www.colorado.edu/policies/fac\\_relig.html](http://www.colorado.edu/policies/fac_relig.html).

*\*I always use, "If you have a conflict, please contact me at the beginning of the term so that we can make proper arrangements," for the, "In this class, { {insert your procedures here} }, " statement.*

### Classroom Behavior Policy

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veteran's status, sexual orientation, gender, gender identity, and gender expression, age, disability, 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. See policies at <http://www.colorado.edu/policies/classbehavior.html> and at [http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student\\_code](http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code).

### Discrimination and Harassment Policy

The University of Colorado at Boulder Discrimination and Harassment Policy and Procedures, the University of Colorado Sexual Harassment Policy and Procedures, and the University of Colorado Conflict of Interest in Cases of Amorous Relationships Policy apply to all students, staff, and faculty. Any student, staff, or faculty member who believes s/he has been the subject of sexual harassment or discrimination or harassment based upon race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127, or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>.

### 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](mailto:honor@colorado.edu); 303-735-2273). 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/>.