ECON 1088-002
Math Tools for Economists II
Fall 2015

Course Meeting: MWF 2-2:50pm, ECON 117
Instructor: Samara Mendez
Email: samara.mendez@colorado.edu
Office Location: ECON 414
Office Hours: Mon 3-4pm; Tues 3:30-4:30pm; Wed 12-1pm
Website: https://learn.colorado.edu/

Course Description: This class is the second of a two course sequence. It is a continuation of ECON 1078 which builds upon the basic foundation developed in that course. We will study derivatives, optimization, and integrals. These are Chapters 6,7,8,9, and 11 in the textbook. These tools will help you better understand the mathematical framework on which economics models are based and help prepare you for more advanced economics.

Prerequisite: ECON 1078 or equivalent.

Text: *Essential Mathematics for Economic Analysis*, 4th Edition (or any earlier edition).
Authors: Knut Sydsaeter and Peter Hammond;
ISBN-13: 978-0273760689

Course Policies:

- **General**

  - Class periods will be devoted to lectures and practice. Therefore, good attendance is key to succeeding in the course. Attendance will be taken at the end of the class period, but up to three absences will be excused.

  - Lectures will be based around the chalkboard, and extensive mathematical notation will be used. Therefore, I highly recommend taking notes on paper. However, if you can successfully take notes with a computer or tablet, please minimize the distraction to other students and sit toward the back of the classroom. Stay off of the internet - you're paying me to teach you math, not to check your messages.

  - Please allow 24 hours for me to respond to your emails. Grades will not be discussed over email. Emails regarding grades will receive a reply of "Office hours."

  - *No makeup assignments will be given.*

- **Grades**

  - **Distribution:**

Homework	10%
Attendance	5%
Midterm 1	20%
Midterm 2	20%
Midterm 3	20%
Final Exam	25%

  - **Reporting:** Grades will be uploaded into D2L as assignments are graded.
  - **Curving:** Midterms will be curved individually, and a curve *may* be applied to the overall course grade according to departmental standards.
  - **Letter Grade Cutoffs:**

≥ 93	A	73-76.9	C
90-92.9	A-	70-72.9	C-
87-89.9	B+	67-69.9	D+
83-86.9	B	63-66.9	D
80-82.9	B-	60-62.9	D-
77-79.9	C+	≤ 59.9	F

  - **Adjustment:** You will be responsible for monitoring your own grades. No grades will be adjusted after an overall course curve has been applied. *Individual requests for extra credit or grade adjustment due to falling within a few points of grade cutoffs will be denied out of fairness to other students.*

- **Homework**

  - Homework will generally be assigned on Fridays, due on Wednesday, and returned the following Friday (apart from . Two problems from each assignment will be randomly chosen to be graded, however students are responsible for completing all assigned problems. Answer keys will be provided after the due date.
  - Students are encouraged to work in groups on homework assignments. The assignments (while graded) are for your own practice and understanding of the material. If you don't fully understand the problems, you will struggle on the exams. You are welcome and encouraged to attend office hours to discuss homework problems.
  - The assignment with the lowest grade will be dropped. **Therefore, no late assignments will be accepted under any circumstances**.

- **Exams**

  - **Midterms:** Midterm will be given during lecture time on the *fixed* dates in the schedule given in this syllabus. No makeup or separate time exams will be given (except for students with documented disabilities), but if you miss an exam, the weight of the missed midterm will be added to your final exam. You must notify me of your exam absence before the midterm date in order to avoid a zero. *Midterms will be curved individually.*

– **Final Exam:** The final exam will be cumulative, held in our regular classroom on Sunday, Dec. 13, 4-7:30pm. This date is non-negotiable. The only exception to this standard is if you have 3 final exams scheduled on the same day; in this circumstance, you must notify me one month before the final exam.

University Policies:

- **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 maybe addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322.

- **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. I will gladly honor your request to address you by an alternate name or gender pronoun.

- **DISCRIMINATION AND HARASSMENT POLICY** The University of Colorado, Boulder policy on Discrimination and Harassment can be found on the CU Boulder website. 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 Course Outline:
The weekly coverage might change as it depends on the progress of the class. I will provide readings each week according to our progress. Lectures and in-class exercises will be much more productive if you read before each class period.

Week	Content
Aug. 24-28	• Topics: Administration, Introducing Derivatives • Reading: Ch 6, Sections 1-4
Aug. 31-Sep. 4	• Topics: Calculating and Using Derivatives • Reading: Ch 6, Sections 5-7; Homework 1 due
Sep. 7-11	• Topics: *Sep. 7: Labor Day Holiday - No class!*; A Really Useful Rule • Reading: Ch 6, Section 8; Homework 2 due
Sep. 14-18	• Topics: More Helpful Derivatives • Reading: Ch 6, Sections 9-10; Homework 3 due
Sep. 21-25	• Topics: Other Helpful Derivatives, Review; **Sep. 25: Midterm 1** • Reading: Ch 6, Section 11; Homework 4 due
Sep. 28-Oct. 2	• Topics: Implicit Differentiation, Using Implicit Diff. in Economics, Elasticities • Reading: Ch 7, Sections 1-2,7
Oct. 5-9	• Topics: Deeper Theory of Differentiation, Introduction to Optimization • Reading: Ch 7, Section 8 and Ch 8, Sections 1-2; Homework 5 due
Oct. 12-16	• Topics: Optimization in Economics, Extremely useful stuff • Readings: Ch 8, Sections 3,6,7; Homework 6 due
Oct. 19-23	• Topics: Review, Introduce Multivariate Functions; **Oct. 16: Midterm 2** • Reading: Ch 11, Section 1,2; Homework 7 due
Oct. 26-30	• Topics: Partial Differentiation, Geometric Representation • Reading: Ch 11, Sections 1-3,6
Nov. 2-6	• Topics: Economic Applications; • Reading: Ch 11, Section 7,8 and Ch 12, Section 3; Homework 8 due
Nov. 9-13	• Topics: Introduction to Integrals, Review; **Nov. 13: Midterm 3** • Reading: Ch 9, Section 1-2; Homework 9 due
Nov. 16-20	• Topics: Calculating Integrals, Economic Examples • Reading: Ch 9, Sections 3-5; Homework 10 due *on Nov. 20, 11:45pm*
Nov. 23-27	• *Nov. 23-27: Fall Break - No class!*
Nov. 30-Dec. 4	• Topics: Review Integration, More Tools for Integration, • Reading: Ch 9, Sections 1-5 (Review) and Sections 6-9
Dec. 7-13	• Topics: Review, Study Days; **Dec. 13, 4-7:30pm: Final Exam** • Review for Final Exam; Homework 11 due