

ECON 1088-001

Math Tools for Economists II

Spring 2016

Course Meeting: MWF 1-1:50pm, ECON rm. 117

Instructor: Samara Mendez

Email: samara.mendez@colorado.edu

Office Location: ECON 414 (south tower)

Office Hours: MW 2-3pm or by appt.

Website: Desire2Learn (<https://learn.colorado.edu/>) - *check this site often!!*

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*, CU Boulder Special Edition
ISBN: 1323259236

Authors: Knut Sydsaeter and Peter Hammond
(3rd or 4th edition are also acceptable!)

Course Policies:

- **General**

- Class periods will be devoted to lectures and practice. Attendance will be taken during class, and any bonus attendance points earned will cover absences. *If you have missed every class period through Jan. 22, I will administratively drop you according to departmental procedure.*
- Lectures are chalk-based, 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:**

Pre-test	2%	Midterm	25%
Homework	8%	Midterm	25%
Attendance	5%	Final Exam	30%

- **Reporting:** Grades will be uploaded into D2L as assignments are graded.
 - **Curving:** Midterms may be curved individually, and a curve *may* be applied to the overall course grade to conform 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. If you are worried about your grade, come to me early to make a plan for your success. No grades will be adjusted after a final overall course curve has been applied. *Individual requests for extra credit and changes to final grades will be denied in order to maintain fairness to other students.*

- **Practice Problems and Assigned Homework**

- A pre-test assignment due in the first week of class will check your ability to use prerequisite material. This assignment is graded *only for completion*.
 - Weekly, uncollected practice problems will be assigned from the book each Friday. Detailed solutions to the problems will be posted on the following Wednesday. I highly encourage you to form study groups to work through these problems each week, and to seek help from me in office hours if you don't understand the problems. Struggling through these problems will be key to your success on the midterms and final exam.
 - Three homework assignments will be due before each midterm. The problems will mirror the types of questions that will be on the exams. Working in groups is acceptable and encouraged, however each student must turn in an individual assignment with the names of groups members written at the top of the page. *I will randomly choose two problems from each assignment to grade.*

- **Exams**

- **Midterms:** Three midterms will be given during lecture time on the *fixed* dates in the schedule given in this syllabus. The lowest exam score will be dropped, and therefore no makeup or separate time exams will be given (except for students with documented disabilities). You must notify me with documentation of your disability before the exam in order to receive accommodation.

- **Final Exam:** The final exam is cumulative. The exam is held in our regular classroom on Wed. May 4 at 4:30pm. 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 before the 11th week of the semester.
- *Partial credit will be awarded on all exams.*

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 may be 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
Jan. 11-15	<ul style="list-style-type: none"> • Topics: Administration, Introducing Derivatives • Reading: 6.1, 6.2, 6.5; Pre-test due: Jan. 15
Jan. 18-22	<ul style="list-style-type: none"> • Topics: <i>Jan. 18: MLK Day - No class!</i>; Uses of Derivative • Reading: 6.3, 6.4, 6.6
Jan. 24-29	<ul style="list-style-type: none"> • Topics: Rules of Derivatives • Reading: 6.7, 6.8
Feb. 1-5	<ul style="list-style-type: none"> • Topics: More Rules of Derivatives • Reading: 6.9, 6.10, 6.11
Feb. 8-12	<ul style="list-style-type: none"> • Topics: Practice, Review; Feb. 12: Midterm 1 • Homework 1 due: Feb. 10
Feb. 15-19	<ul style="list-style-type: none"> • Topics: Using Derivatives • Reading: 7.1, 7.2, 7.7, 7.8
Feb. 22-26	<ul style="list-style-type: none"> • Topics: Introduction to Optimization • Reading: 8.1, 8.2 (8.3)
Feb. 29-Mar. 4	<ul style="list-style-type: none"> • Topics: Tools for Optimization in Economics • Readings: 8.6, 8.7
Mar. 7-11	<ul style="list-style-type: none"> • Topics: Review; Mar. 9: Midterm 2; Multivariable Functions • Homework 2 due: Mar. 7; 11.1, 11.5
Mar. 14-18	<ul style="list-style-type: none"> • Topics: Partial Derivatives and Their Uses • Reading: 11.2, 11.6 (11.7), 11.8, 14.1
Mar. 21-25	<ul style="list-style-type: none"> • <i>Mar. 21-25: Spring Break - No class!</i>
Mar. 28-Apr. 1	<ul style="list-style-type: none"> • Topics: Practice, Review; Apr. 1: Midterm 3 • Reading: Homework 3 due: Mar. 30
Apr. 4-8	<ul style="list-style-type: none"> • Topics: Basic Integrals and Interpretation • Reading: 9.1, 9.2 (9.4)
Apr. 11-15	<ul style="list-style-type: none"> • Topics: Basic Definite Integrals • Reading: 9.3, 9.6
Apr. 18-22	<ul style="list-style-type: none"> • Topics: More Definite Integrals • Reading: 9.6, 9.5
Apr. 25-29	<ul style="list-style-type: none"> • Topics: Practice, Review; May 4, 4:30-7pm: Final Exam • Review for Final Exam