

Mathematical Tools for Economists 2 : Econ 1088-002

Instructor: Pooja (Kashyap) Khosla
Class Time: 12:00 PM – 12:50 PM (MWF)
Classroom : Econ 119
Email: pooja.kashyap@colorado.edu
Course Website: Desire2Learn
Office: Econ 309 A
Office Hours: Friday 2:30 PM to 4: 30 PM or by appointment

Course Overview

Math is fun! In this class we will study three important concepts of math - derivatives, optimization, and integrals .These concepts are the building blocks of basic economics models. The motive of this class is to prepare you well for the more advance economic courses. The course is the second of a two course sequence. It is a continuation of ECON 1078. In this course we will specifically focus at the Chapters 6,7,8,9, and 11 in the textbook.

Required Text Books

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

Prerequisites

ECON 1078 or equivalent.

Class Requirements

a. Seats and Attendance

Please, try to select a regular seat in class so it is easier for the instructor to get to know you. Attendance and class participation will be duly noted. A sign-in sheet will be circulated during each class, and it is your responsibility to make sure that you have signed in by the end of class.

b. Class and You

Simple Success Mantra

To succeed in this course a student should

- I. Attend all three classes per week;
- II. Review and augment notes after lectures;
- III. Complete all six Problem Sets
- IV. Complete three examinations; and
- V. complete one final examination

Lecture Outline

The class time will be devoted to both lectures and practice. I expect you to attend most of the classes. The class lectures will be interactive, with extensive use of chalkboard, and mathematical notations. I highly recommend you to take notes on paper.

Office Appointments and Email

I encourage you to come to my office to discuss any material from the lecture you have problem with, however please come prepared on what you want to ask so we don't keep other's waiting. Office hours are on appointment basis. I will try my best to make time for your appointment request. I also encourage you to email me with any questions and concerns. Please be polite and considerate in all email communications. I will do my best to respond within 48 hours. This response may come in the form of an email directly back to you or, if the answer would be beneficial to the entire class, a mass email communication to the class or an announcement during the lecture. Grades and grade related questions will not be discussed over emails, I strongly recommend you to come to my office hours for any grading related queries.

Grading

Problem Sets : To Check Your Course Knowledge and Prepare You For Exams (Individual) 20%

Mid Term I Exam 20%

Mid Term II Exam 20%

Mid Term III Exam 20%

Final Exam 20%

Attendance Bonus : Regularity Should be Rewarded 5% (This will be added to your total score)

Problem sets: I will periodically assign problem sets during the semester to give you the opportunity to practice the material from lecture. This will also help you to practice in completing the types of problems you will encounter on exams. I will grade these problem sets on a five point scale. You will receive zero points for a missing problem set, 2 point for an incomplete problem set, 4 points for a problem set where every problem has been honestly attempted but with several mistakes, and 5 points for a fully completed. **PROBLEM SETS WILL NOT BE ACCEPTED LATE.**

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. (This adjustment will be made for only for one missed 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 Tuesday, Dec. 13, 1:30 PM- 4:00 Pm. 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.

Grading Scale

Your Score Grade Your Score Grade	
94.00 – 100 A	73.00 – 76.99 C
90.00 – 93.99 A-	70.00 – 72.99 C-
87.00 – 89.99 B+	67.00 – 69.99 D+
83.00 – 86.99 B	63.00 – 66.99 D
80.00 – 82.99 B-	60.00 – 62.99 D-
77.00 – 79.99 C+	59.99 and below F

Grading Disputes

Please do NOT send me emails on grades. Grades cannot be discussed over email due to FERPA (the Family Educational Rights and Privacy Act of 1974). If you have any grade related queries you are most welcome to discuss it during my office hours.

Tentative Schedule

Week	Chapter Topics
August 22 nd – 26 th	<ul style="list-style-type: none"> • Topics: Administration, Introducing Derivatives • Reading: Ch 6, Sections 1-4
August 29 th – September 2 nd	<ul style="list-style-type: none"> • Topics: Calculating and Using Derivatives • Reading: Ch 6, Sections 5-7; Homework 1 due
September 6 th - September 9 th	<ul style="list-style-type: none"> • A Really Useful Rule • Reading: Ch 6, Section 8
September 12 th – September 16 th	<ul style="list-style-type: none"> • Topics: More Helpful Derivatives • Reading: Ch 6, Sections 9-10; Homework 2 due
September 19 th – September 23 rd	<ul style="list-style-type: none"> • Topics: Other Helpful Derivatives, Review • Reading: Ch 6, Section 11 • Sep. 23: Midterm 1
September 26 th – September 30 th	<ul style="list-style-type: none"> • Topics: Implicit Differentiation, Using Implicit Diff. in Economics, Elasticities • Reading: Ch 7, Sections 1-2,7
October 3 rd – October 7 th	<ul style="list-style-type: none"> • Topics: Deeper Theory of Differentiation, Introduction to Optimization • Reading: Ch 7, Section 8 and Ch 8, Sections 1-2; Homework 3 due
October 10 th – October 14 th	<ul style="list-style-type: none"> • Topics: Optimization in Economics, Extremely useful stuff • Readings: Ch 8, Sections 3,6,7 • Oct. 14: Midterm 2
October 17 th – October 21 st	<ul style="list-style-type: none"> • Topics: Review, Introduce Multivariate Functions • Reading: Ch 11, Section 1,2; Homework 4 due
October 24 th – October 28 th	<ul style="list-style-type: none"> • Topics: Partial Differentiation, Geometric Representation • Reading: Ch 11, Sections 1-3,6
October 31 st – November 4 th	<ul style="list-style-type: none"> • Topics: Economic Applications; • Reading: Ch 11, Section 7,8 and Ch 12, Section 3; Homework 5 due
November 7 th – November 11 th	<ul style="list-style-type: none"> • Topics: Introduction to Integrals, Review • Reading: Ch 9, Section 1-2; • Nov. 13: Midterm 3
November 14 th – November 18 th	<ul style="list-style-type: none"> • Topics: Calculating Integrals, Economic Examples • Reading: Ch 9, Sections 3-5; Homework 6 due
November 21 st – November 25 th	Fall Break

November 28 th – December 2 nd	<ul style="list-style-type: none">• Topics: Review Integration, More Tools for Integration• Reading: Ch 9, Sections 1-5 (Review) and Sections 6-9
December 5 th – December 9 th	
December 13 th	Final Exam

Additional Information

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 may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and www.colorado.edu/disabilityservices. 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 www.colorado.edu/disabilityservices.

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 term so we can make proper arrangements.

Classroom 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, Consumer Preferences and Utility sensitivity are especially important with respect to individuals and topics dealing with differences of 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. See policies at, <http://www.colorado.edu/policies/classbehavior.html> and http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_cod

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). Other information on the Honor Code can be found at,

<http://www.colorado.edu/policies/honor.html>

<http://www.colorado.edu/academics/honorcode/>.

Discrimination & Harassment Policy

The University of Colorado Policy on Sexual Harassment applies to all students, staff and faculty. Sexual harassment is unwelcome sexual attention. It can involve intimidation, threats, coercion, or promises or create an environment that is hostile or offensive. Harassment may occur between members of the same or opposite gender and between any combinations of members in the campus community: students, faculty, staff, and administrators. Harassment can occur anywhere on campus, including the classroom, the workplace, or a residence hall. Any student, staff or faculty member who believes s/he has been sexually harassed 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 who believe they have been sexually harassed can be obtained at: <http://www.colorado.edu/odh/>