MATH TOOLS FOR ECONOMISTS 2: ECON 1088-002

Fall 2018

Instructor:	Natalie Ho	Time:	MWF $12:00 - 12:50$ PM
Email:	natalie.ho@colorado.edu	Place:	Muenzinger E432

Office Location: Economics 414

Office Hours:

Mon 1:00 – 2:00PM, Wed 1:00 – 2:00PM, Thu 2:00 – 3:00PM, and by appointment

Course Page: https://canvas.colorado.edu/

Textbooks: Essential Mathematics for Economic Analysis, CU Boulder Special Edition ISBN: 1323259236 Authors: Knut Sydsaeter and Peter Hammond (3rd or 4th editions are also acceptable!)

Prerequisites: ECON 1078 or equivalent

Course Description and Objectives: This class is the second of a two-course sequence. It is a continuation of ECON 1078 which builds upon the 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.

COURSE POLICIES:

General:

- Class periods will be devoted to lecture and practice, which means that participation is important and will be a decent component of your grade. Participation will be recorded with pre-class questions on Canvas or in-class collected questions. I will record attendance for the first two weeks of class, and if you do not attend the first three class meetings and do not contact me, I will administratively drop you according to departmental procedure.
- You will not need a computer during class, unless you feel confident in your ability to type notes that include extensive mathematical notation. If you use a computer for notes, sit in the back three rows to avoid distracting your classmates. Stay off the internet you're paying me to teach you math, not to check your messages. No mobile devices are allowed during class periods.
- Please allow 24 hours for me to respond to your emails or 48 hours if it is on the weekend. 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:

Grade Item	Percentage	
Participation	10	
Homework	9	
Pretest	1	
Midterm	25	
Midterm	25	
Final	30	

- Reporting: Grades will be uploaded into Canvas 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: Let your grade be "x".

Grade	Percentage	Grade	Percentage
А	$93 \le x$	С	$73 \le x < 77$
A-	$90 \le x < 93$	C-	$70 \le x < 73$
B+	$87 \le x < 90$	D+	$67 \le x < 70$
В	$83 \le x < 87$	D	$63 \le x < 67$
B-	$80 \le x < 83$	D-	$60 \le x < 63$
C+	$77 \le x < 80$	F	x < 60

• 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. I will automatically increase final course grades that are 0.5% below any grade cutoff after any final grading curve has been applied. After these steps are taken, no further increases to grades will occur. Individual requests for bumps or extra credit assignments will be denied.

Practice Problems and Assigned Homework:

- A pretest assignment due on **September 5th by 3:30PM** will check your ability to use prerequisite material. This assignment is graded only for completion.
- Recommended practice problems from your textbook will be posted on Canvas each Friday. Detailed solutions will be either covered in class or posted on Canvas on the following Wednesday. These problems will not be graded, but they will benefit your exam preparation.

• A homework assignment (four in total) will be due before each exam. I will drop the lowest score of these assignments. The problems will mirror the types of questions that will be on the exams. Working in groups is 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 accommodations). You must notify me with documentation of your accommodation at least one week before the first exam for it to apply.
- Final Exam: The final exam is cumulative. The exam will be held at the university assigned place and time. 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.

Cheating: If you are caught cheating in any fashion (on exams or homework) you will be given an F for the semester and your case will be reported to the Honor Code Council for review.

UNIVERSITY POLICIES:

Students with Disabilities If you qualify for accommodations because of a disability, please submit to your professor a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303-492-8671 or by e-mail at dsinfo@colorado.edu. If you have a temporary medical condition or injury, see Temporary Injuries guidelines under the Quick Links at the Disability Services website and discuss your needs with your professor.

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, if you have a conflict, please contact me at the beginning of the term so that we can make proper arrangements. See full details at http://www.colorado.edu/policies/fac_relig.html.

Classroom Behavior Policy 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 www.colorado.edu/studentaffairs /judicialaffairs/code.html#student_code. 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, gender expression, age, disability, and nationalities.

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 enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the academic integrity policy of the institution. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access, clicker fraud, resubmission, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code Council as well as academic sanctions from the faculty member. Additional information regarding the academic integrity policy can be found at honorcode.colorado.edu.

Week	Lecture
Aug 27 - Aug 31	Topics: Administration, Introducing Derivatives Sections: 6.1, 6.2
Sept 3 - Sept 7	Topics: Uses of Derivatives Sections: 6.5, 6.3, 6.4, 6.6; Pretest due: Sept 5
Sept 10 - Sept 14	Topics: Rules of Derivatives Sections: 6.7, 6.8
Sept 17 - Sept 21	Topics: More Rules of Derivatives Sections: 6.9, 6.10, 6.11
Sept 24 - Sept 28	Topics: Review, Using Derivatives; MT1: Sept 26 Sections: Ch. 6 review, 7.1; HW1 due: Sept 24
Oct 1- Oct 5	Topics: Using Derivatives Sections: 7.2, 7.7, 7.8
Oct 8 - Oct 12	Topics: Introducing Optimization Sections: 8.1, 8.2, 8.3
Oct 15 - Oct 19	Topics: More on Optimization Sections: 8.6, 8.7
Oct 22 - Oct 26	Topics: Review, Multi-variable Functions; MT2: Oct 24 Sections: Ch. 7/8 review, 11.1, 11.5; HW2 due: Oct 22
Oct 29 - Nov 2	Topics: Partial Derivatives Sections: 11.2, 11.6, 11.7
Nov 5 - Nov 9	Topics: Using Multi-variable Derivatives, Practice Sections: 11.8, 14.1

TENTATIVE SCHEDULE:

Nov 12 - Nov 16	Topics: Introduction to Integrals; MT3: Nov 14 Sections: Ch. 11 review, 9.1; HW3 due: Nov 12
Nov 19 - Nov 23	Fall Break
Nov 26 - Nov 30	Topics: Anti-derivatives and their Interpretations Sections: 9.1, 9.2, 9.4
Dec 3 - Dec 7	Topics: Definite Integrals Sections: 9.3, 9.6
Dec 10 - Dec 14	No Class Dec 14 Sections: Ch. 9, semester review; HW4 due: Dec 10