

# Math Tools for Economists 2: ECON 1088-002

Fall 2018

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<b>Instructor:</b> Natalie Ho	<b>Time:</b> MWF 12:00 { 12:50PM
<b>Email:</b> <a href="mailto:natalie.ho@colorado.edu">natalie.ho@colorado.edu</a>	<b>Place:</b> Muenzinger E432

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**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.

You are expected to attend all class sessions, unless you cannot attend. If you cannot attend, you must notify the instructor in advance. You are also expected to do the homework assignments on time. You are also expected to participate in class discussions and activities. You are also expected to be on time for class.

See the syllabus for more details on course policies. You can find the syllabus at <https://canvas.colorado.edu/>.

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
A	$93 \leq x$	C	$73 \leq x < 77$
A-	$90 \leq x < 93$	C-	$70 \leq x < 73$
B+	$87 \leq x < 90$	D+	$67 \leq x < 70$
B	$83 \leq x < 87$	D	$63 \leq x < 67$
B-	$80 \leq x < 83$	D-	$60 \leq x < 63$
C+	$77 \leq x < 80$	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.

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](mailto: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](http://honorcode.colorado.edu).

### TENTATIVE SCHEDULE:

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; <b>Pretest due: Sept 5</b>
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; <b>MT1: Sept 26</b> Sections: Ch. 6 review, 7.1; <b>HW1 due: Sept 24</b>
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; <b>MT2: Oct 24</b> Sections: Ch. 7/8 review, 11.1, 11.5; <b>HW2 due: Oct 22</b>
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

