



ECON 1078-001

Math Tools for Economists I

MWF, 2:00 p.m - 2:50 a.m., MUEN E432

Instructor: Joshua Schabla

Email: joshua.schabla@colorado.edu

Website: Canvas

Office: Econ 14 (in the basement)

Office Hours: By appointment only. On weeks of the exams and the last week of classes I'll announce set office hours in class the Friday before.

Course Description: Teaches mathematical skills and logical thinking for use in economics. Topics include algebra, graphs, and functions.

The true challenge of mathematics is not the math, it's the language describing what math you're doing. If you get through calculus you'll be able to solve a problem such as, how should a tree grow? The tree clearly isn't sitting down and doing math, but it is possible to set up a mathematical expression describing the problem the tree faces, solve it, and see that the solution you get actually reproduces a tree. The aim of this course is to help you start to see the language of math.

Prerequisites: None.

Note(s): A minimum grade of C- is required in this course to progress to Math Tools II.

Text(s): *Essential Mathematics for Economic Analysis*. This is the official text you can obtain in the library. If you plan on taking Math Tools II you should get this book as it's used there as well, but you don't need to get the book if you don't want it.

Author(s): Kurt Sydsaeter, Peter Hammond, and Arne Strom

Grade Distribution:

Clicker Questions	15%
Quizzes	15%
Attendance	10%
2 Midterms each worth	20%
Final Exam: Monday Dec 16, 1:30-4:00	30%

I will give homework each Friday, a total of 13 homeworks. These homeworks will be broken into 3 sections, the first 2 being clicker questions for Monday and Wednesday. If you do the homework you will be able to answer the clicker questions just by looking at your answer on the homework. The quiz will come from the homework as well except with numbers changed. Thus the homework is optional and won't be turned in, but it's in your interest to do it.

Grades sum to greater than 100. This is built in bonus points. Attendance is taken by simply using the clickers or turning in a quiz.

Date	Sections	Topic
28-Aug	3.6	Set Theory
30-Aug	3.6	Set Theory
4-Sep	1.1	The Real Numbers
6-Sep	1.2	Integer Powers
9-Sep	1.3	Rules of Algebra
11-Sep	1.4	Fractions
13-Sep	1.4	Fractions
16-Sep	1.5	Fractional Powers
18-Sep	1.6	Inequalities
20-Sep	1.7	Intervals and Absolute Value
23-Sep	2.1	Simple Equations
25-Sep	2.2	Equations with Parameters
27-Sep	Exam	
30-Sep	2.3	Quadratic Equations
2-Oct	2.4	Linear Equations with Two Unknowns
4-Oct	2.4	Linear Equations with Two Unknowns
7-Oct	2.5	Nonlinear Equations
9-Oct	3.2 + 3.2	Summation Notation
11-Oct	4.1	Double Summation
14-Oct	4.2	Basic Definition
16-Oct	5.6	General Functions
18-Oct	4.3	Graphs of Functions
21-Oct	4.4	Linear Functions
23-Oct	4.4	Linear Functions
25-Oct	4.5	Linear Models
28-Oct	4.5	Linear Models
30-Oct	4.5	Linear Models
1-Nov	Exam 2	
4-Nov	4.6	Quadratic Functions
6-Nov	4.7	Polynomials
8-Nov	4.7	Polynomials
11-Nov	4.8	Power Functions
13-Nov	4.9	Exponential Functions
15-Nov	4.9	Exponential Functions
18-Nov	4.10	Logarithmic Functions
20-Nov	5.1	Shifting Graphs
22-Nov	5.2	New Functions from Old
25-Nov	5.2	New Functions from Old
2-Dec	5.3	Inverse Functions
4-Dec	5.3	Inverse Functions
6-Dec	5.4	Graphs of Equations
9-Dec		Review
11-Dec		Review
16-Dec	FINAL	1:30-4:00

Letter Grade Distribution:

≥ 93.00	A	73.00 - 76.99	C
90.00 - 92.99	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	F

Course Policies:

- **General**

- **No makeup exams will be given.** If you miss an exam for any reason your clicker questions will take the place of that exam.

- **Accommodation for Disabilities**

- If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition or injury, see Temporary Medical Conditions under the Students tab on the Disability Services website. **If you need special accommodations for exams please bring me the form by the end of the second week of the semester. If you wait until too close to exam time you will NOT get the accommodations for that exam.**

- **Classroom Behavior**

- 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 race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. 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. For more information, see the policies on classroom behavior and the Student Code of Conduct.

- **Attendance Policy**

- I missed class regularly as an undergrad so I'm tolerant of others doing the same. That said, I'd have done much better going to class regularly and so will you. The clicker questions above are an incentive but if you never show up and get A's on everything I'm fine with that. To be crystal clear, if you decide you don't want to do anything but show up for the exams, get A's (A- doesn't count) on both of them and the Final, and do absolutely nothing else, I'll give you an A. If you fall short of that, you'll get graded like everyone else. Come to class, do your homework.

- **Honor Code:**

- All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the Honor Code Office website.

- **SEXUAL MISCONDUCT, DISCRIMINATION, HARASSMENT AND/OR RELATED RETALIATION**

- The University of Colorado Boulder (CU Boulder) is committed to fostering a positive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (including sexual assault, exploitation, harassment, dating or domestic violence, and stalking), discrimination, and harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or cureport@colorado.edu. Information about the OIEC, university policies, anonymous reporting, and the campus resources can be found on the OIEC website. Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

- **RELIGIOUS HOLIDAYS**

- 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. Let me know if you need this accommodation at least two weeks in advance.