ECON 1078-003 Syllabus Mathematical Tools for Economists I

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Office Hours:

Fri 1:00 pm — 4:00 pm

Course Meetings:

Monday, Wednesday & Friday 12 – 12:50 HALE 230

It is my hope that you will learn a lot of concepts and procedures in this math course that will be valuable to you in future economics work and in life in general. My number one goal is to make math *not* an intimidating or frustrating experience, so you will notice throughout the course that my teaching and learning system, grading system and overall focus, are all aimed at making math an enjoyable (yes, *enjoyable*) experience for you. My end goal for the semester is for you to feel confident and self-assured in future mathematical pursuits, and to give you access to some tools you will need to succeed in economics. That having been said, it is ultimately up to you to take responsibility for your learning, do the readings, do the problem sets, participate in class and ask questions when you don't understand. Always, I appreciate constructive, useful suggestions and feedback regarding my teaching and the class in general, at appropriate times. I will make time to answer many topical questions in class, but there are sometimes questions that are better addressed during office hours.

<u>Attendance and Participation</u>: Attendance will be taken on paper each class so that if you choose to have attendance count as part of your grade, I have a record. Attendance is critical for most students, and unless all the material in this course is purely review for you, I suggest making attendance part of your grade and attending every class. Mathematics cannot be learned just from lecture or reading a book—you must practice it to get better! To this end, I incorporate a lot of hands on problem solving, group work and other interactive components into class time. If you've made the choice to be present, you need to participate in all activities—*I absolutely do not tolerate working on other classes' work, reading magazines, using laptops, etc. during class*—so come in ready to learn and participate. I alone determine whether or not your level of "participation" is sufficient, and if I find you are not putting in the requisite effort, I will ask you to leave for the day. Everyone gets one free drop attendance day without explanation needed. Beyond that, you will lose attendance points every day you are absent. The ONLY excused absences are those due to serious illness, emergency, family death or other traumatic event accompanied by *official documentation*.

Grading: This course is graded on the basis of your performance in two areas: attendance/participation and examinations. This class traditionally has students with a variety of math abilities and preparation-for some students this course is entirely review-for others it is entirely new. I trust you as adults to choose which definition best describes you, and choose a grading scheme that will benefit you. Yes, you get to choose from two options as to how your final grade will be calculated. The first option is for students who's math skills are superb and for whom the course material will be a review. In this case, attendance may not be crucial for you, and you will be able to obtain the grade you desire purely based on your test performance. For these students, grading option II is preferable. For all other students (and this will be the majority of students) the better option will be to get credit from attendance and test scores, so that your entire grade does not rest on 3 exam grades. Problem sets will be assigned throughout the semester, but will not be collected or counted toward your grade. Since all the answers are in the back of your book, you should be able to self-assess where you're having problems and see me for help. I cannot emphasize enough that *doing* the problem sets is essential to doing well. They are a good gauge of what will show up on the exams, and you will not become proficient at the vast amount of material we cover without practice. You don't have to inform me which grading option you intend to use-but I advise that you decide right away-if half way through the semester you have a poor attendance score, it is too late for option I to help you! So make your choice and stick with it. At the end of the semester, I run both grade calculations for every student, and whichever yields a higher score will be your final grade. Here are the breakdowns for both grading options:

Option I:		<u>Option II:</u>	
Attendance:	10%	Attendance:	0%
Midterm I:	30%	Midterm I:	30%
Midterm II:	30%	Midterm II:	30%
Final:	30%	Final:	40%

<u>Quizzes</u>: There are no quizzes in this course. I feel that quizzes are usually used to keep you on track and force you to stay on top of things—but the tradeoff is extra, unnecessary anxiety, which I'd rather not put you through. You are adults, and I expect you to take control of your own learning process and keep yourselves on track—if not, you know exams will be painful!

Examinations: There will be three exams total in this course—two midterms and a final. The problems will be very similar in form to the problems you do in the problem sets. There are absolutely no makeups for exams. In the case of the midterms, you will receive a ZERO for any midterm you miss, unless you bring documentation of a genuine and compelling emergency/serious illness. if you miss one midterm and bring the appropriate documentation, the percentage for the final will increase to bring the total to 100%. (This makes the final VERY important, so think twice before you let this happen!). There will be absolutely no makeups for the final exam (except under extraordinary circumstances documented with appropriate paperwork, as for midterms), so make sure to let me know at least a month before hand if there is a conflict (ie—3 or more exams on one day). Though the exams are all weighted equally the final **is cumulative**. To reiterate—if you miss the final, you get a ZERO for your final exam grade, which will make it virtually impossible to pass the class—you will almost certainly fail the course—so do not miss the final!

<u>Networking:</u> Believe it or not, one of the most important skills is getting to know other students well enough that you have them as a resource. I expect everyone in class to get phone numbers or email addresses for other students and to make connections with other students, as they are invaluable to you in terms of studying together, getting notes you may have missed, etc.

<u>Attitude:</u> I come to the university each day ready to teach and eager for you to learn. I am passionate about teaching math and helping people to overcome math anxiety—which is a problem for many people. I know for a fact that everyone can learn math, and I'm here to help you. Accordingly, I expect you to all come to class with good attitudes. There is absolutely no place in my classroom for bad attitudes or behavior. You are all adults, and I expect you to act the part. I am on your side, but I have very high expectations for you—and expect you to have high expectations for yourself. These math basics are essential building blocks for succeeding in further math courses and the field of economics. You are all intelligent people—how much you get out of this course will depend on how much effort you put into it. Most things worth learning at this point in your life are not easy to learn—this class will not be "easy," but I will strive to make it accessible to everyone.

<u>Textbook:</u> The required text for this course is Essential Mathematics for Economic Analysis 3rd ed. by Knut Sydsaeter & Peter Hammond. The book is available at the CU Bookstore, but can also often be found used, online since it is not a brand-new edition. This book is one you'll want to keep as a reference for future math courses, and if you continue on to Mathematical Tools for Economists II, that course uses the same book, picking up where we left off.

<u>Course Materials:</u> At all times, the relevant course materials, including syllabus, problem sets, practice exams, etc. can be found on our class website listed on the first page of this syllabus. The website will direct you to my main website, from which you will click on the appropriate course number on the right hand side of the screen, which will take you to our course website.

<u>Office Hours:</u> My office hours and office location are listed on the front page of this syllabus. If these hours conflict with a course you have, send me your class schedule, and we can schedule time to meet outside these times. Let me be clear—ONLY if you sumbit to me your class schedule (you can take a screenshot and send it to me or print it off) will I make meetings outside regular office hours. It is not sufficient to say its not a "convenient" time for you!

Make use of my office hours to get help—and not just before exams. I am your best resource, so make use of my office hours to get the help you need.

Additional Notes:

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.

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 semester so we can make arrangements.

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).

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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. 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.

Discrimination and Harassment Policy:

The University of Colorado at boulder policy on Discrimination and Harassment can be found at

http://www.colorado.edu/policies/discrimination.html. 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 Schedule					
Week of	Course Material	Topics	Assignments/Exams		
Jan 17 (tues)	Integers, Real Numbers, Algebra basics	Ch. 1.1, 1.2, 1.3	Working Prob. Set 1		
Jan 23	Fractions & Fractional Powers	Ch. 1.4, 1.5	Working Prob. Set 1		
Jan 30	Inequalities, Intervals & Absolute Values	Ch. 1.6, 1.7, review	Prob. Set 1 Due Friday		
Feb 6	Solving Equations & Equations with Parameters	Ch. 2.1, 2.2	Working Prob. Set 2		
Feb 13	Quadratic & Non-linear Equations	Ch. 2.3, 2.4, 2.5 & Review	Prob. Set 2 Due Fri		
Feb 20	Basic Graphing Functions & Linear Functions	Ch.4.1, 4.2 4.3 & 4.4	Working Prob. Set 3		
Feb 27	Soving Linear Systems and Graphing Linear Equations	Ch. 4.5	Working Prob. Set 3		
Mar 5	Quadratics, Polynomials & Graphing them	Ch 4.6, 4.7	Working Prob. Set 3		
Mar 12	Power Functions, Exponential & Log Functions, and Graphing them	Ch. 4.8, 4.9 & 4.10	Prob. Set 3 due Friday		
Mar 19	Review for Exam I, Exam I	Exam I Wednesday	No Class Friday		
Mar 26	Spring Break	No Assignments	No Classes		
Apr 2	Shifting and Manipulating Graphs	Ch. 5.1, 5.2, 5.3	Working Prob. Set 4		
Apr 9	Graphing Equations, Circles and Finding Plane Distances	Ch. 5.4, 5.5, 3.1 start	Prob. Set 4 due Friday		
Apr 16	Summation Notation, Compound Interest & Word Problems	Ch. 3.1, 3.3, mixed	working PS 5		
Apr 23	Mon, Tues review for Exam II	review, Exam II Friday	PS 5 due Friday, Exam II Friday		
Apr 30	review for final all week	review for final all week	review for final all week		
May 5	Finals Week				