

Syllabus for Math Tools for Economists I (Econ 1078)

Instructor:

Yiting An

Class Meeting Times:

MTWRF 11 – 12:35am @ Econ 119

Office Location:

Econ 401

Email:

Yiting.an@colorado.edu best way to get in touch with me. During the week, I will do my best to respond within 24 hours to any query regarding the class. If I don't it is fair to assume that I didn't receive the message and it should be resent.

Class Website:

<https://ucsub.colorado.edu/~yyan>

Relevant material to the course will be posted here.

Office Hours:

Tuesday & Thursday 12:35 am –15:00 pm

By Appointment as Necessary

Office hours are held for your benefit. It is an opportunity to come in and ask questions in a one-on-one or small group setting. Everyone is highly encouraged to attend office hours as often as they feel is necessary to help master the material of the course. It is my experience that those students who come to office hours with prepared questions do better in the course than they otherwise would have. If there is any reason that you cannot make these office hours I am willing to meet by appointment.

Course Description and Objectives:

The goal of this class is to provide students with the mathematical tools needed for future courses in economics. We will cover algebra of polynomials, functions, basic logic, sets, solving systems of equations, probability, and differentiation. For a complete list of topics see the course schedule that follows.

Textbook:

College Mathematics, 10th Edition by Raymond A. Barnett, Michael R. Ziegler, and Karl E. Byleen is required.

Calculator Note:

As this is a course designed to teach mathematical techniques you will need a calculator that can do basic mathematical functions. These include exponentials, logarithms, radicals, and factorials (\log , \ln , e^x , $\sqrt[n]{\quad}$ and $x!$). Any basic scientific calculator will perform these functions. While a graphing calculator may be useful in doing some of the homework problems, **you cannot use a graphing calculator on the exam.**

Grading:

Grades will be determined on the basis of your performance on 5 quizzes, 3 midterms, and a non-cumulative final exam.

The 5 quizzes will be scheduled on each Wednesday. The questions will be similar to the recommended homework problems. If you have completed and understand the homework from the previous week the questions should be relatively easy. Your lowest quiz grade will be dropped and the other 4 will be averaged together to obtain your quiz grade. The quiz grade is worth 20% of your over all grade.

The midterms will be administered on Fridays, June 16th, June 23rd, and June 30th, in class. Each test is worth 20% of the course grade. The midterms are not cumulative and will cover only the material since the previous test.

The final exam is scheduled for **July 7th** class meeting time. The final exam is mandatory and worth 20% of your grade.

Final grading will be on a strait scale. While these grades are guaranteed I reserve the right to curve the grades upward.

| | | | |
|---------|----|-----------|----|
| 100-93% | A | 73-76% | C |
| 90-92% | A- | 70-72% | C- |
| 87-89% | B+ | 67-69% | D+ |
| 83-86% | B | 63-66% | D |
| 80-82% | B- | 60-62% | D- |
| 77-79% | C+ | below 60% | F |

5 Quizzes (Drop the lowest) – 20% total

3 Midterms – 20% each

Final – 20%

Some Misconceptions about the Exam Period

(Quoted from Brad Zakarin, Website of the Mather House Senior Tutor's Office)

1. You get one "freebie" make-up exam during your undergraduate career; no questions asked.
2. Scribbling illegible nonsense in exam booklets will get you nothing lower than a B- on your final exam.
3. Instructors can make individual arrangements with you regarding the scheduling of final exams or make-up exams.
4. Once you start a final exam, you cannot stop because of illness so you better grind it out even if your fever is causing hallucinations.
5. Instructors can give you extensions on written work beyond the end of the exam period.
6. There is no way to get a make-up final exam if you sleep through it.
7. You cannot go to the bathroom during a final exam.

Tentative Course Schedule:

| Date | Course Material | Topics | Wednesday Quiz/Exam |
|-------------|------------------------|---------------------------------------|----------------------------|
| 6/5 | | | Pretest |
| 6/6 | Intro, A.1 | Algebra Basics | |
| 6/7 | A.2, A.3 | Polynomials | Quiz 1 |
| 6/8 | A.3, A.4 | Rational Expression | |
| 6/9 | A.5 | Integer Exponents | |
| 6/12 | A.6, A.7 | Radicals, Equations in One Variable | |
| 6/13 | 1.1, 1.2 | Functions, Graphs, Transformations | |
| 6/14 | 1.2, 1.3 | Lines | Quiz 2 |
| 6/15 | 1.4 | Quadratic Functions | |
| 6/16 | | | Midterm 1 |
| 6/19 | 4.1 | Systems of Linear Equations | |
| 6/20 | 5.1 | Systems of Linear Inequalities | |
| 6/21 | 2.2 | Exponential | Quiz 3 |
| 6/22 | 2.3 | Logarithmic Functions | |
| 6/23 | | | Midterm 2 |
| 6/26 | 6.2, 6.3 | Sets, Basic Counting Principles | |
| 6/27 | 7.1, 7.5 | Probability, Distributions | |
| 6/28 | 9.1 | Limits | Quiz 4 |
| 6/29 | 9.2 | Continuity | |
| 6/30 | | | Midterm 3 |
| 7/3 | 9.3 | Derivatives | |
| 7/4 | | <i>Happy Independence Day!</i> | |
| 7/5 | 9.4, 9.5 | Power and Product Rules | Quiz 5 |
| 7/6 | 9.6, 9.7 | Chain Rules, Marginal Analysis | |
| 7/7 | | | Final Exam |

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

Expectations of Classroom Behavior:

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which students express opinions.

See policies at

<http://www.colorado.edu/policies/classbehavior.html> and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

Absences:

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. Please notify me as soon as possible so that the proper arrangements can be made. Students can see full details at http://www.colorado.edu/policies/fac_relig.html

Disabilities Statement:

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 <http://www.Colorado.EDU/disabilityservices>.

Time extensions for exams must be approved by me prior to the exam. If you have not talked to me personally prior to the exam you will not be granted an extension.

Disability Services' letters for students with disabilities indicate legally mandated reasonable accommodations. Other letters/requests you may receive from agencies such as the Wardenburg Student Health Center, or other health providers, such as physicians or counselors, are recommendations you may choose to follow to assist students but are not necessarily legal mandates. The syllabus statements and answers to Frequently Asked Questions can be found at <http://www.colorado.edu/disabilityservices>