

Math Tools for Economists I ECON 1078, Fall 2015

August 23, 2015

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| Instructor | Li Yao |
| Class Meetings | T TH 11:00am 12:15pm |
| Email | li.yao@colorado.edu |
| Office | ECON 309B |
| Office Hours | Thursday 1:00 3:00 PM, another hour for appointment |
| Course Website | The course website is accessed through Desire2Learn |

Course Description and Objectives

Economics is an extremely mathematical discipline. This course and the following course (ECON 1088) are designed to get all students interested in Economics to get well acquainted with the mathematical tools necessary for success in Economics courses. See tentative schedule for topics covered in this course.

Expectations

You can expect me to do my best to help you succeed in this course. I will try my best to answer all questions, provide practice material, provide applications of the material and encourage active thought in the classroom.

I expect you to take the class seriously and to ask questions when something is unclear and actively participate to help us all understand the material better. I also expect you to be respectful and professional at all times by arriving on time, silencing your phone, reserving personal conversation for before and after class, and being courteous with everyone.

Succeeding in a Math class

Math is learned and mastered through practice. Anyone who practices math is capable of doing math well. I will assign homework weekly. It is your responsibility to do all of the homework problems to make sure you are getting sufficient practice with the material. I also recommend reading the book, preferably before class, to supplement the lectures. To encourage practice and completion of homework assignments, there will be several tests in this course.

Textbook

Essential Mathematics for Economic Analysis, 4th edition, by Knut Sydsaeter, and Peter Hammond is required. Economics 1088 uses the same textbook. This is a very good reference book, which you may use in the future to refresh your knowledge of algebra and calculus.

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. Any basic scientific calculator will perform these functions. Although you may find using a graphing calculator useful in doing some of the homework problems, **NO GRAPHING CALCULATORS, CELL PHONES, OR COMPUTERS WILL BE ALLOWED DURING EXAMS. NON-GRAPHING CALCULATORS ONLY!!!**

Tentative Sechedule

| Week of | Course Material | Topics |
|-----------|-----------------|---|
| Aug 25th | 1.1, 1.2, 1.3 | Numbers, Powers, Rules of Algebra |
| Sept 1st | 1.4, 1.5 | Fractions |
| Sept 8th | 1.6, 1.7, 2.1 | Inequalities, Intervals & Absolute Values, Simple Equations |
| Sept 15th | 2.2, 2.3, 2.4 | Equations Continued |
| Sept 22nd | 2.5, 3.1 | Nonlinear Equations, Summation Notation |
| Sept 29th | 3.2, 3.3 | Rules of Sums, Double Sums |
| Oct 6th | 3.4, 3.5, 3.6 | Logic, Proofs, Set Theory |
| Oct 13th | 4.1, Exam | Functions, Review, MIDTERM I (Oct 15th)* |
| Oct 20th | 4.2, 4.3, 4.4 | Functions, Graphs, Linear Functions |
| Oct 27th | 4.5, 4.6, 4.7 | Linear Models, Quadratics, Polynomials |
| Nov 3rd | 4.8, 4.9, 4.10 | Power Functions, Exponential and Log Functions |
| Nov. 10th | 5.1, Exam | Shifting Graphs, Review, MIDTERM II (Nov 12th)* |
| Nov. 17th | 5.2, 5.3, 5.4 | New Functions, Inverses, Graphs of Equations |
| Nov. 24th | | |

sta , 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 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; 303-735-2273). 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,