Math Tools for Economists I. ECON 1078, Fall 2013.

Instructor  Patrick Gourley
Class Meetings  MWF 12:00-12:50, FLMG 154
Email  patrick.gourley@colorado.edu
This is the best way to contact me. I will try to respond with 24 hours to all emails.
Office  ECON 401
Office Hours  Monday 1:00PM - 4:00 PM or by appointment.
Course Website  The course website is accessed through Desire2Learn where you will find all related course materials.

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 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. You may expect me to be respectful and professional at all times by arriving on time, silencing my phone, reserving personal conversation for before and after class, and being courteous with everyone.

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. There will be no graded homework in this class, but those who wish to do well in this class should make use of the problems at the end of each section of the textbook.

Textbook
Essential Mathematics for Economic Analysis, 4th edition, by Knut Sydsaeter, and Peter Hammond with Arne Strom 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 (\log, \ln, \exp, n\sqrt{} and x!). 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. CALCULATORS ONLY!!!**

**Laptop Note**
Nothing works better than good old fashion paper and pencil for taking notes in a math class, so it is hard to imagine why anyone would need a computer in this class. In general, **NO OPEN LAPTOPS ALLOWED** during lecture.

**Grading**
Your grade will come from the following breakdown:
- 10% Attendance
- 20% Quizzes (Drop lowest quiz)
- 40% 2 Midterms
- 30% Final Exam (Cumulative)

**Quizzes**
There will be 3 quizzes throughout the semester. I will announce quiz dates in advance during lectures. **THERE ARE NO MAKE UP QUIZZES. If you miss a quiz, then it will simply be your lowest score and it will be dropped.**

**Midterms**
- Midterm 1  Friday, October 18th
- Midterm 2  Friday, December 6th

These exams will be held during the normal class time.

**Final**
Wednesday, December 18th 4:30PM – 7:00PM
The final exam will be cumulative and cannot be dropped for any reason.

**THE EXAM DATES ARE FIXED. THERE ARE NO MAKEUP EXAMS (see exception for the final below)!!!** If you do miss an exam, then the final will be worth 50% of your final grade.

If you have three or more final exams scheduled on the same day, you are entitled to arrange an alternative exam time for the last exam or exams scheduled on that day. If you have this conflict, arrangements must be made with me no later than Oct. 4th.

**Cheating**
Anyone caught cheating will at minimum fail the assignment in questions and will be referred to the University Honor Code Council.
## Tentative Schedule

<table>
<thead>
<tr>
<th>Week of</th>
<th>Course Material</th>
<th>Topics</th>
<th>Exams</th>
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<tbody>
<tr>
<td>Aug 26th</td>
<td>1.1, 1.2, 1.3</td>
<td>Numbers, Powers, Rules of Algebra</td>
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<tr>
<td>Sept 2nd</td>
<td>1.4, 1.5</td>
<td>No School Sept 2\textsuperscript{nd}, Fractions</td>
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<tr>
<td>Sept 9th</td>
<td>1.6, 1.7, 2.1</td>
<td>Inequalities, Intervals &amp; Absolute Values, Simple Equations</td>
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<tr>
<td>Sept 16th</td>
<td>2.2, 2.3, 2.4</td>
<td>Equations continued</td>
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<td>Sept 23rd</td>
<td>2.5, 4.1, 4.2</td>
<td>Nonlinear equations, Functions</td>
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<tr>
<td>Sept 30th</td>
<td>4.3, 4.4, 4.5</td>
<td>Graphs of Functions, Linear Functions, Linear Models</td>
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<tr>
<td>Oct 7th</td>
<td>4.6, 4.7, 4.8</td>
<td>Quadratic Functions, Polynomials, Power Functions</td>
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<td>Oct 14th</td>
<td>4.9, 4.10</td>
<td>Exponential Functions, Logarithmic Functions</td>
<td>Midterm 1: Oct 18\textsuperscript{th}</td>
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<tr>
<td>Oct 21st</td>
<td>5.1, 5.2</td>
<td>Shifting Graphs, New Functions from Old</td>
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<td>Oct 28th</td>
<td>5.3, 5.4, 5.5</td>
<td>Inverse Functions, Graphing equations, Distance in the Plane</td>
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<td>Nov 4th</td>
<td>5.6, 3.1</td>
<td>General Functions, Summation Notation</td>
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<td>Nov 11th</td>
<td>3.2, 3.3, 3.4</td>
<td>Rules of Sums, Double Sums, Logic</td>
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<td>Nov 18th</td>
<td>3.5, 3.6, 3.7</td>
<td>Mathematical Proofs, Set Theory, Induction</td>
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<td>Nov 25th</td>
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<td>Thanksgiving Break</td>
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<tr>
<td>Dec 2nd</td>
<td>Midterm 2</td>
<td>Midterm and Review</td>
<td>Midterm 2: Dec 6\textsuperscript{th}</td>
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<td>Dec 9th</td>
<td>Review</td>
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Final Exam on Wednesday, December 18\textsuperscript{th} 4:30PM – 7:00PM
Additional Notes:

**Students with Disabilities**

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 be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Center for Community N200, and http://www.Colorado.EDU/disabilityservices.

If you have a temporary medical condition or injury, see guidelines at http://www.colorado.edu/disabilityservices/go.cgi?select=temporary.html.

Disability Services' letters for students with disabilities indicate legally mandated reasonable accommodations. The syllabus statements and answers to Frequently Asked Questions can be found at http://www.colorado.edu/disabilityservices.

**Religious Observance Policy**

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. If you have a conflict, please contact me at the beginning of the term so that we can make proper arrangements. See full details at http://www.colorado.edu/policies/fac_relig.html.

**Classroom Behavior Policy**

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 differences of race, color, culture, religion, creed, politics, veteran’s status, sexual orientation, gender, gender identity, and gender expression, age, disability, and nationalities.


**Discrimination and Harassment Policy**
The University of Colorado at Boulder Discrimination and Harassment Policy and Procedures, the University of Colorado Sexual Harassment Policy and Procedures, and the University of Colorado Conflict of Interest in Cases of Amorous Relationships Policy apply to all students, staff, and faculty. Any student, staff, 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, 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/.