

## Syllabus for Math Tools for Economists I (Econ 1078)

**Instructor:**

Mariya Burdina

**Class Meeting Times:**

2:00-2:50 on MWF, HUMN 135

**Final Exam**

Thursday, December 17<sup>th</sup>, 7.30 – 10 am, HUMN 135

**Office Location:**

Econ 401 (3<sup>rd</sup> Floor of the Economics Building)

**Email:**

[burdina@colorado.edu](mailto:burdina@colorado.edu)

This is the best way to contact me, if you won't get a reply within 24 hours please assume that I didn't get your email and resend it.

**Class Website:**

<https://webfiles.colorado.edu/burdina/index.html>

This is instructor's web page. Relevant material to the course will be posted here. Specifically, recommended homework problems.

<http://www.colorado.edu/economics/courses/ECON1078/1078home.html>

This is the web page developed by all Econ 1078 instructors. You can find homework and exam problems from previous semesters there.

**Office Hours:**

Tuesday 10-11am

Wednesday 1pm- 2pm

Office hours are held for your benefit. You are highly encouraged to come to my office hours with prepared questions. As it is seen from my experience students who come to the office hours usually do better in course.

**Course Description and Objectives:**

The goal of this class is to provide students with the mathematical tools needed for future courses in business and economics. We will cover polynomials, functions, present and future values, solving systems of equations, logic, probability, and differentiation.

**Textbook:**

*Essential Mathematics for Economic Analysis*, 2<sup>nd</sup> edition, by Knut Sydsater, and Peter Hammond. .

**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,  $e^x$ ,  $n\sqrt{\phantom{x}}$  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:

The scores for the course will be based on the standard scale:

|         |    |           |    |
|---------|----|-----------|----|
| 93-100% | 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  |

Your grade will come from the following breakdown:

20% - Quizzes and in class assignments  
25% - Midterm 1  
25% - Midterm 2  
30% - Final

## Quizzes

There will be a total of five quizzes given during the semester. The lowest of your quiz scores will be dropped. *There will be no makeup quizzes given.*

## In-Class Assignments

Randomly throughout the semester I will assign problems for you to work on in class, which you will hand in to me before you leave. These problems are intended to provide practice and will be similar to problems you will see on quizzes and exams. As with the quizzes, the lowest of your in-class assignment scores will be automatically dropped. *There will be no makeup assignments given.*

## Exams

There will be a total of three exams in this course. The midterm exams will be held on Wednesday, September 23<sup>rd</sup> and Wednesday, November 4<sup>th</sup>. These exams will be held during the normal class time. If you miss a midterm exam, the weight of that exam will carry over onto the final. The final exam will be held on Thursday, December 17<sup>th</sup>, 7.30 – 10 am, HUMN 135. The final exam will be cumulative.

## Tentative Course Schedule:

| Week of | Course Material     | Topics                                      | Quiz/Exam  |
|---------|---------------------|---|------------|
| 8/24    | 1.1, 1.2, 1.3, 1.4  | Algebra Basics                              |            |
| 8/31    | 1.5, 1.6            | Fractions and Inequalities                  | Quiz 1     |
| 9/7     | 1.7, 2.1, 2.2       | Simple Equations                            |            |
| 9/14    | 2.3, 2.4, 2.5       | Radicals, Equations in One Variable         | Quiz 2     |
| 9/21    | Midterm 1           | Midterm Review                              | Midterm 1  |
| 9/28    | 3.1, 3.2, 3.4, 3.5  | Summation, Logic                            |            |
| 10/5    | 3.6, 3.7, 4.1       | Set Theory, Functions of One Variable       | Quiz 3     |
| 10/12   | 4.2, 11.1, 4.3, 4.4 | Linear Function, Functions of Two Variables |            |
| 10/19   | 4.5, 4.6, 4.7       | Quadratic and Polynomial Functions          | Quiz 4     |
| 10/26   | 4.8, 4.9, 4.10      | Power, Exponential, Logarithmic Functions   |            |
| 11/2    | Midterm 2           | Midterm Review                              | Midterm 2  |
| 11/9    | 5.1, 5.2, 5.3       | Shifting Graphs, Inverse Functions          |            |
| 11/16   | 5.4, 5.5, 5.6       | Graphs, Distance, General Function          |            |
| 11/23   |                     | No classes                                  | Fall break |
| 11/30   | 6.1, 6.2, 6.3       | Slope of Curves, Derivative                 | Quiz 5     |
| 12/7    | Final Review        | Review for 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](mailto: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](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\\_religh.html](http://www.colorado.edu/policies/fac_religh.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>