Fall 2006: Syllabus for Math Tools for Economists I (Econ 1078-003)

Instructor:

Shuichiro Nishioka

I am a 5th year PhD student who comes from Tokyo Japan.
After worked in public sector in Japan, I joined the PhD program in 2002.
My field is International Trade. In particular, I am interested in empirical studies of
international specialization: why the U.S imports textiles and exports airplanes?

Office: Economics Room 206 (2nd floor in the Economics Building)
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Class Website:
    http://ucsu.colorado.edu/~shuichir (Instructor's website)
    http://www.colorado.edu/economics/courses/ECON1078/1078home.html (Joint Web
    Page of 1078 Instructors; This page is provided as a supplement to the course materials
    for Econ 1078. We, instructors, maintain the page to provide questions, quizzes, and
    handouts so that students can access to the materials of other instructors.)

Class Meeting Times:
    MWF 12:00-12:50   BESC (Benson Earth Sciences) 185

Office Hours:
    Wednesday 1:00 pm-4:00 pm and by appointment

Course Objectives:
    The goal of this class is to provide students with the mathematical tools for future courses
    in economics. We will cover algebra of polynomials, functions, basic logic, sets, solving
    systems of equations, probability, and differentiation. For the complete list of topics, see
    the course schedule below. The class consists of lectures, quizzes, and in-class discussion
    that enhance understandings of the materials.

Required Textbook:
    Essential Mathematics for Economic Analysis, 2nd edition,
    Knut Sydsaeter and Peter Hammond (This textbook is a good reference book for
    mathematics and will be used for Econ-1088)

Grading:

Grades will be determined on the basis of your performance on 12 quizzes (take-home, in-class, group, …), 2 midterms, and a cumulative final exam. Midterms and quizzes will be given on Wednesdays. The questions will be taken mostly from the recommended homework problems (though the numbers will be changed slightly). Your lowest 2 quiz-grades will be dropped and the other 10 will be averaged together to obtain your quiz grade. The quiz grade is worth 20% of your overall grade.

The midterms will be administered on September 27 and November 8 in class. Each test is worth 25% of the course grade. The midterms are not cumulative and will cover only the material since the previous test. If students miss one of two midterms (or do bad on midterms), you can take a make-up midterm covering both midterms 1 and 2 (worth 25%) on December 6 from 6:00 to 7:00. This is the sole make-up opportunity.

The final exam is scheduled for December 19 (Tuesday) from 1:30 to 4 pm. The final exam is worth 30% of your grade and will consist of two parts. A "midterm" sized section will cover all of the material after second midterm and be worth 15% of your grade in the course. The rest of the final will cover material from the entire course. No make-up tests will be given for final unless you talk to the instructor in advance.

- 12 Quizzes (Drop lowest 2) – 20% total
- 2 Midterms – 25% each
- Final – 30% (15% for materials after midterm 2, 15% semester-cumulative materials)

Final grading will be on a strait scale but I reserve the right to curve the grades.

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

Tentative Course Schedule:

Week of	Course Material	Topics	Wednesday Quiz/Exam
8/28	1.1, 1.2, 1.3	Algebra Basics	Pretest
9/4	1.4, 1.5,1.6,	Fractions and Inequalities	Quiz 1
9/11	1.7, 2.1, 2.2,	Simple Equations	Quiz 2
9/18	2,3, 2.4, 2.5	Radicals, Equations in One Variable	Quiz 3
9/25	*Midterm 1* 3.1, 3.4	Logic and Mathematical Proofs	Midterm 1 (9/27)
10/2	3.5, 3.6, 3.7	Essentials of Set Theory	Quiz 4
10/9	4.1, 4.2, 4.3	Functions of One Variable	Quiz 5
10/16	11.1, 4.4, 4.5	Functions of 2 variables; Linear Function	Quiz 6
10/23	4.6, 4.7, 4.8	Quadratic, Polynomial and Power Function	Quiz 7
10/30	4.9, 4.10	Exponential & Logarithmic Functions	Quiz 8
11/6	Midterm 2 5.1, 5.2,	Shifting Graph and Functions Transform	Midterm 2 (11/8)
11/13	5.3, 5.4	Inverse Functions	Quiz 9
11/20		*Fall Break & Thanksgiving!*	
11/27	5.5, 5.6	General Function	Quiz 10
12/4	6.1, 6.2	Slopes of Curves, The Derivative	Make-up midterm (12/6), Quiz 11
12/11	6.3, Review	Increasing/Decreasing Functions	Quiz 12
Final Exam on Dec 19th from 1:30-4 pm			

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 polices 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 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 (physicians or counselors) are not necessarily legal mandates. The syllabus statements and answers to Frequently Asked Questions can be found at http://www.colorado.edu/disabilityservices