Mathematics for Economics

ECON 3620 Spring 2014

Monday 6.00pm – 8.30pm

Instructor: Up Sira Nukulkit

Office: OSH , Economic Department, Cubicle #6

Office Hours: M/W 10.00-11.00 am at OSH 378 or by appointment (at my office)

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Overview:

This course will introduce students on how economists use mathematics as a main tool in their analyses in order to understand, and sometimes apply, economic theory. It is intended to cover several important mathematical concepts that will be studied in the context of their applications to economics. Also, it is aimed to develop students' abilities to use mathematical techniques to solve problems in economics. At the end of this semester, students would be expected to understand basic mathematical techniques used in economics such as linear algebra, derivative, differential, optimization with and without constraints, and matrix algebra. However, students should be aware that the real use of mathematics in economics is far more advanced than what they will see in the class; therefore, the course is merely designed to be the first step for those who are interested in mathematical economics.

Credits: 3 semester credit hours

Prerequisites: College Algebra, ECON 2010 and ECON 2020

Required Books: *Fundamental Methods of Mathematical Economics,* 4th ed., by Alpha C. Chiang and Kevin Wainwright.

Course Requirements:

Three Homework Assignments	5 × 8% = 40%
Three Exams	3 × 20% = 60%

Policy for Late Assignment

Turning in assignment as hard copy at the beginning of the class is preferable. If you cannot come to the class, you must email me the assignment before the class time. After receiving the assignment, I will email back saying that I already received it. Late assignment will be accepted

within one week after the due date with 20% penalty. Please note that no work will be accepted after one week from the due date

Schedule

Week	Class	Topic	Note
1 Ch.1-2	6-Jan	Nature of Mathematical Economics Function	
2 Ch.3	13-Jan	Constructing a Model; Single Commodity Constructing a Model; General Market	Assignment1
3	20-Jan	Martin Lunther King Jr. Day	
4 Ch.6-7	27-Jan	Difference Quotient and Slope Rules of Differentiation	Assignment1 Due
5 Ch.9	3-Feb	Rules of Differentiation Optimization; First Derivative	Assignment2
6	10-Feb	Optimization; Second and Higher Derivative Review for Exam 1	Assignment2 Due
7	17-Feb	Presidents' Day	
8 Ch.7	24-Feb	Exam1 Partial Differentiation and Multivariable Calculus	
9 Ch.7-8	3-Mar	The Uses of Partial Differentiation Total Derivatives, and Differential	Assignment3
10	10-Mar	Spring Break	
11 Ch.9	17-Mar	Optimization; Second-Order Partial Derivatives Optimization of Multivariable Functions	Assignment3 Due Assignment4
12 Ch.12	24-Mar	Effects of a Constraint; Lagrange-Multiplier Review for Exam2	Assignment4 Due
13 Ch.4	31-Mar	Exam2 Matrices, Matrix Operations, and Determinants	
14 Ch.4	7-Apr	Matrix Inversion Solving Linear Equations with Matrix Inversion	Assignment5
15	14-Apr	Cramer's Rule Review for Exam 3	Assignment5 Due
16	21-Apr	Exam 3	

University policies

The University expects regular attendance at all class meetings. Instructors must communicate any particular attendance requirements of the course to students in writing on or before the first class meeting. Students are responsible for acquainting themselves with and satisfying the entire range of academic objectives and requirements as defined by the instructor.

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.