Huron University College
Department of Economics
Economics 2210A – 550
Mathematical Economics 1
Course Outline

G. Stirling   September, 2018
Office: SSC 4047
Phone: 661-2111 ext 85264   **Office Hours:** T, Th: 1:30- 3:30
E-mail: stirling@uwo.ca   **Class (W106):** M, W, F: 1:30-2:30

GENERAL INFORMATION

Economics 2210 is an introduction to Mathematical Economics, showing the application of linear algebra, and differential calculus and optimization techniques to the economics models used in Microeconomics and Macroeconomics.

Students will develop the basic mathematical tools needed to analysis Economic models, especially optimization models. The course will show how different types of economic problems may be formalized and the requirements for these models to function. Methods of generating comparative statics will be developed.

Lectures will be given in class, using the chalkboard for explanations and examples.

Learning Outcomes

Students will be able to formally represent economic relationships in a mathematical form.

Students will be able to represent economics models using matrix algebra and calculus.

Students will be able to set up optimal timing problems and solve them using the appropriate techniques.

Students will be able to interpret the results of economics models.

Students will be able to formulate optimization problems in microeconomics and macroeconomics.

Students will be able to generate the comparative statics from optimization problems, using various techniques.

TEXT

Simon, Carl P. and Blume, Lawrence, *Mathematics for Economists 1994*.

EVALUATION

i)   Four assignments (20%):
        Assignment 1 – due Friday September 28, 2018
        Assignment 2 – due Friday October 19, 2018
        Assignment 3 – due Friday November 2, 2018
        Assignment 4 – due Friday November 23, 2018

ii)   Midterm (35%): Friday October 26, 2018, 5:30-7:30 pm

iii)   Final Exam (45%): 2 hours Set by Registrar

Assignments must be handed in at the beginning of class on the due date.

Course Outline

I: Introduction   Chapters 1

II: One Variable Calculus Comparative Statics   Chapters 2 - 4

III: Exponentials and Logarithms   Chapter 5

IV: Linear Algebra   Chapters 6 - 11

V: Calculus of Several Variables   Chapters 12 - 15

VI: Optimization   Chapters 16 - 22

Tentative Class Schedule

Week 1-2   Section I & II
Week 3-4   Section III
Week 5-6   Section IV
Week 7-9   Section V
Week 10-13   Section VI

The Appendix to Course Outlines is posted on the OWL course site.