The Hashemite University
College of Economics and Business Administration
Department of Economics
Fall Semester 2018/ 2019

Course Title: Mathematical Economics   **Instructor Name:** Dr. Samer Abdelhadi
Course Number: 1802011314   **Office Room:** Econ. No. 336
Prerequisite: 110108102   **Class time:** Sun, Tue and Thu (11:00 – 12:00)

Office Hours: Sun, Tue and Thu (10:00-11:00) and Mon. & Wed (11:00-12:30)
Email Address: samera@hu.edu.jo

Course Description:

This course discusses the nature of mathematical economics and economic models. The static (or equilibrium) analysis in economics is discussed. In addition the course deals with functional shifts and the comparative static analysis. Matrix Algebra and linear models including the Leonitef input – output models. The course also covers free optimization and constrained optimization using the Lagrange Multiplier. Finally, we study economic dynamics, growth and welfare analysis by using the integration.

Course Objectives:

By the end of the semester, you should be able to:
1) Understand economics theories and relations mathematically.
2) Use mathematical tools in analysis.
3) Show how managers can use mathematical techniques in decision making.

Required Textbook:

Alpha C. Chiang and Kevin Wainwright, Fundamental Methods of Mathematical Economics, Fourth edition, McGraw – Hill, New York, 2005.

Course Requirements

Attendance is required and is assumed and expected. Students missing classes should seriously reflect on their commitment to this course as missing classes are highly correlated with poor performance on the exams.

At the end of each chapter I will assign you a set of practice problems, these are not for grading purposes they are just for practice to support your understanding of the topics.

Grading Policy

There will be two midterm exams and a final exam. The final exam will be comprehensive. Each midterm exam weighs 25% of the overall grade. The final exam weighs 40% of your overall grade. Attendance and Participation contribute 10% to your grade.
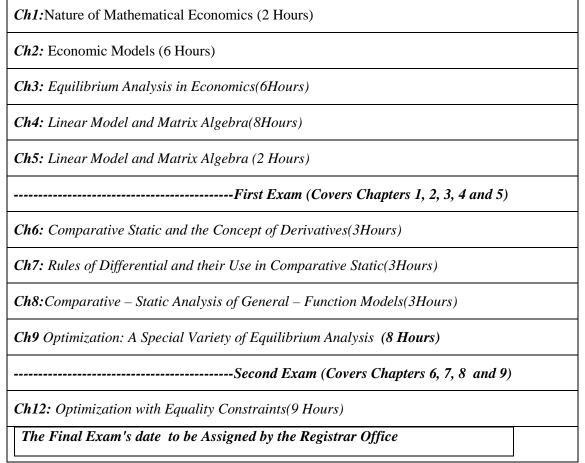
Missing Exam

A missed exam may be made – up only and only if: 1) the reason for missing the exam is beyond the student's control, or 2) the student receives prior consent from the instructor for missing the exam. In either case, the student must submit a written and signed statement concerning the reasons for missing the exam, with appropriate documentation, and petition for make – up. A missed exam will carry a zero grade if these conditions are not met.

Academic Integrity

Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Should issues concerning academic integrity arise; the Hashemite University's <u>Judicial Code</u> will be strictly enforced. Cheating in exams will result in an automatic zero score.

Tentative Course Outline:

Ch1: Nature of Mathematical Economics (2 Hours)
Ch2: Economic Models (6 Hours)
Ch3: *Equilibrium Analysis in Economics(6Hours)*
Ch4: *Linear Model and Matrix Algebra(8Hours)*
Ch5: *Linear Model and Matrix Algebra (2 Hours)*
---***First Exam** (Covers Chapters 1, 2, 3, 4 and 5)*
Ch6: *Comparative Static and the Concept of Derivatives(3Hours)*
Ch7: *Rules of Differential and their Use in Comparative Static(3Hours)*
Ch8: *Comparative – Static Analysis of General – Function Models(3Hours)*
Ch9 *Optimization: A Special Variety of Equilibrium Analysis* **(8 Hours)**
--***Second Exam** (Covers Chapters 6, 7, 8 and 9)*
Ch12: *Optimization with Equality Constraints(9 Hours)*
The Final Exam's date to be Assigned by the Registrar Office

Note: the course outline is tentative and subject to changes according to time and other circumstances with proper notification.

The end.