

Department of Economics
University of Waterloo
ECON 211: Introduction to Mathematical Economics
Winter 2012

Instructor: Aurangzeb Zeb

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Office Hours: Monday and Wednesday 10:00 am – 12:00 pm and 1:00 pm – 3:00 pm

Website: www.uwace.uwaterloo.ca

Meetings

The lecture hours are Mondays and Wednesdays from 4:00 pm to 5:20 pm and will take place in AL 211. I will be available in my office before class for the scheduled office hours. If contacting me by e-mail, please, indicate ECON 211 as the subject of the letter. Due to time constraints I will not reply to questions about the course material via e-mail. Please, note that class attendance is essential for the successful completion of the course.

Course Information

Overview

The course aims to provide students with the basic mathematical tools required for elementary theoretical economic analysis. Topics include an introduction to matrix algebra, differentiation, partial derivatives, and optimization techniques including constrained optimization. The emphasis is not only on the mathematics but also on the building and solution of economic models.

REQUIRED TEXTBOOK

Mathematics for Economics,

3rd edition, Hoy, Livernois, McKenna, Rees, and Stengos, MIT Press.

Student's Solutions Manual (recommended but not required),

3rd edition, Hoy, Livernois, McKenna, Rees, and Stengos, MIT Press.

COURSE CONTENT

1. Basic arithmetic and algebra: Hoy, Student's Solutions Manual, Chapter 1 -- student's responsibility.
2. Sets, subsets, functions, Chapter 2.
3. Sequences and limits, Chapter 3.
4. Continuity of functions of one variable with economic applications, Chapter 4.
5. Derivatives and differential for functions of one variable, Chapter 5.
6. Optimization of functions of one variable Chapter 6.
7. Systems of linear equations, Chapter 7.
8. Matrices, Chapter 8.
9. Determinants and the inverse matrix Chapter 9.
10. Calculus for functions of n-variables, Chapter 11.
11. Unconstrained optimization of functions of n-variable, Chapter 12.
12. Constrained optimization of functions of n-variable, Chapter 13.
13. Integration, Chapter 16.

Evaluation

Grade

The final grade will be determined based on four assignments worth 5% each, one midterm (date will be decided in class) test worth 30%, and a final examination worth 50%. In the case of a significantly better performance on the final examination when compared to the midterm, the grade will be re-weighted with more emphasis on the final.

Re-marking

If a student wants a test re-marked he/she must notify the instructor within 5 business days after the marked test has been distributed in class. The test will be re-marked in its entirety and, as a result, the grade can either increase, decrease, or remain unchanged.

Policy on Missed Assignments and Tests

There will be no make-up tests or assignments. Students will receive a mark of zero on a missed assignment or test without the appropriate medical certificate. For students with the relevant medical certificate the weight of the missed test and/or assignments will be shifted to the final examination.

University Rules

Academic Integrity

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility.

Grievance

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>

Discipline

A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline.

<http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>

Appeals

A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read Policy 72 - Student Appeals,

<http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>

Note for Students with Disabilities

The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.