

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

Instructor: Osnat Lifshitz

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Lecture times: Tuesday and Thursday 10:00-11:20

Location: RCH 105

Office hours: Tuesday 11:20-12:00 at PAS 1049 (or by appointment)

Course Webpage: <http://learn.uwaterloo.ca>

Course Description: Application of mathematics to problems in economic theory. Topics include an introduction to matrix algebra, differentiation, partial derivatives, optimization techniques including constrained optimization -- all developed within the context of economic theory. The aim is to give students the mathematical tools they need for further study in economics.

References:

Course material will appear on class notes at the course website. Please print the relevant class notes before each lecture.

Recommended Textbooks:

- Simon, Carl P. and Lawrence Blume. 1994. Mathematics for Economists. New York: W.W. Norton.
- Dowling, Edward T. 2006. Introduction to Mathematical Economics (part of Schaum's easy outlines series). New York: McGraw-Hill.

It is **not** necessary to purchase any of the books.

Evaluation:

Assignments (3)	15%	
Midterm #1	20%	February, 2 2012
Midterm #2	20%	March, 8 2012
Final examination	45%	TBA

Missed Midterm examinations:

No make-up examinations will be provided. Students who do not have relevant documentation (e.g. medical certificates) will receive a mark of zero on any missed examination and their final grade will be computed in accordance with the formula specified above. For students who miss an examination and provide relevant documentation, the weight of the missed examination will be transferred to the final

examination. Documentation should be provided in a timely manner (e.g. not after classes are over). If the documentation provided is a doctor's note it should say that the doctor felt you were unable to write the examination on the date in question. Simply saying you were in a doctor's office is not sufficient. Note, only doctor's notes from recognized doctors will be accepted. Also note, documentation that you signed yourself, or a relative signed, is not acceptable.

Topics and Chapters Covered in Simon and Blume:

Topic 1: Review of Basics. Appendix A1

Topic 2: Single variable calculus and other basic math concepts. Chapters 2-5

Topic 3: Matrix Algebra. Chapters 7-9

Topic 4: Multivariable Calculus. Parts of Chapter 10, Chapter 14.

Topic 5: Optimization. Parts of Chapters 16-19.

Note on avoidance of academic offenses:

All students registered in the courses of the Faculty of Arts are expected to know what constitutes an academic offense, to avoid committing academic offenses, and to take responsibility for their academic actions. When the commission of an offense is established, it will be acknowledged by disciplinary penalties. For information on categories of offenses and types of penalties, students are directed to consult the summary of Policy #71 (Student Academic Discipline) which is supplied in the Undergraduate Calendar (p.1:11). If you need help in learning how to avoid offenses such as plagiarism, cheating, and double submission, or if you need clarification of aspects of the discipline policy, ask your course instructor for guidance.

Other resources regarding the discipline policy are your academic advisor and the Undergraduate Associate Dean.

Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance,

<http://www.adm.uwaterloo.ca/infosec/Policies/policy70.html>.

How to Avoid Plagiarism and Other Written Offences: A Guide for Students and Instructors go to <http://watarts.uwaterloo.ca/~sager/plagiarism.html>.

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.