University of Waterloo
Department of Economics
Economics 211
Introduction to Mathematical Economics
Class: Monday, Wednesday, Friday 8:30 AM - 9:20 AM, AL 124
Tutorial: Wednesday 9:30 AM - 10:20 AM, AL 124

Course Outline Winter 2017

Instructor Information

Instructor: John Burbidge
Office: HH-125
Office Hours: MW: 1:00-3:00, or by appointment
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Course web page: http://artsonline.uwaterloo.ca/jburbidg/
Tutorial instructor: Ghazal Memartoluie
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Course description

The undergraduate calendar description for this course is:

ECON 211 LEC,TUT 0.50   Course ID: 004890
Introduction to Mathematical Economics
 An introduction to mathematical techniques of particular use in economics.
 Topics include matrix algebra, differentation, partial derivatives,
 optimization techniques including constrained optimization - all developed
 within the context of economic problems.

Prereq: ECON 101 or ECON 100/COMM103; one of MATH 104, 4U
Advanced Functions, 4U Calculus and Vectors; Not open to students in the
Faculty of Mathematics

Note that Math 104 or its equivalent is a pre-requisite.

Math 104

An introduction to applications of calculus in business, the behavioural sciences, and the social sciences. The models studied will involve polynomial, rational, exponential and logarithmic functions. The major concepts introduced to solve problems are rate of change, optimization, growth and decay, and integration.

Course Goals and Learning Outcomes

Economics is the most mathematical of the social sciences. This course, together with Econ 221, Statistics for Economists, provides students with the mathematical background required to complete the core second, third and fourth-year courses in economic theory and econometrics.

Required Text

Michael Hoy, John Livernois, Chris McKenna, Ray Rees and Thanasis Stengos, 2011, Mathematics for Economics, third edition (Cambridge, MA: MIT Press), together with its Solution Manual.

Topics

Basics: Sets, numbers, functions, sequences, limits and series: Hoy et al., chapters 2-3.

Univariate calculus and optimization: Hoy et al., chapters 4-6.

Linear algebra: Hoy et al., chapters 7-10.

Multivariate calculus and optimization: Hoy et al., chapters 11-14.

Evaluation

The final grade will be based on tutorials, five take-home assignments, two term tests and a final exam.

Tutorials (10% of the final grade)

Tutorial attendance/participation marks will start in week 1. Students will achieve a maximum of 3 marks each week based on their solution to a random question asked during the tutorial session. A mark of 1 will be allocated as an attendance mark. Students who hand in their solution with the right approach but wrong answer will receive 1 additional mark on top of attendance mark, whereas students who hand in a solution with the right approach and right answer will receive 2 additional marks on top of the attendance mark. The total number of tutorial sessions is 12; the highest 10 marks will be used to calculate the tutorial grade (again, this is worth 10% of the final grade).

Assignments (10% of the final grade)

There will be 5 assignments, worth 2% each. The assignments and their due dates will be posted on the course web site, which is stated above. The assignments must be submitted in person in class on their due dates.

In-class test (30% of the final grade)

There will be two in-class tests, each worth 15% of the final grade. The first test will be held Friday January 27th. The second test will be held Friday March 10th.

Final Examination (50%)

The final examination will be on the entire term's work and will be scheduled by the Registrar.

There will be no make-up assignments or tests. If a student misses an assignment or a test, and she/he can provide credible documentation for missing the assignment or the test, the weight on the assignment or test will be transferred to the final exam.

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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. [Check the Office of Academic Integrity for more information.]

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. When in doubt, please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline: A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for his/her actions. [Check the Office of Academic Integrity for more information.] 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 instructor, academic advisor, or the undergraduate associate dean. For information on categories of offences and types of penalties, students should refer to Policy 71, Student Discipline. For typical penalties, check Guidelines for the Assessment of Penalties.

Appeals: A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72, Student Appeals.

Note for students with disabilities: AccessAbility Services, located in Needles Hall, Room 1401, 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 AccessAbility Services at the beginning of each academic term.

Economics Department Deferred Final Exam Policy
Deferred Final Exam Policy found at https://uwaterloo.ca/economics/current-undergraduates/policies-and-resources/deferred-final-exam-policy.