

ECONOMICS 311 (SPRING 2012)

TAO CHEN

COURSE DESCRIPTION

Economics 311 is the second course in a two course sequence representing the core of mathematical economics required for undergraduate students in economics department. The objective of this course is to prepare the students for most 400 level economics courses. The prerequisite is Economics 211 or an equivalent course from another department. The overall grade will be based on a set of homeworks, two midterms and a final.

TEXT

The required textbook for this course is *Mathematics for Economics* by Michael Hoy, John Livernois, Chris McKenna, Ray Rees and Thanasis Stengos (2011, MIT Press). I will follow the text closely and plan to cover the following topics:

- I. Quick review of Econ 211 concepts
 - (a) Univariate calculus and optimization
 - (b) Some Linear Algebra
 - (c) Calculus and optimization of functions of n -variables
- II. Multivariate calculus (Continued)
 - (a) Constrained optimization
 - (b) Comparative statics
 - (c) Concave programming and Kuhn-Tucker conditions
- III. Integration and dynamic methods
 - (a) Integration
 - (b) Linear, first-order difference equations
 - (c) Nonlinear, first-order difference equations
 - (d) Linear, first-order differential equations
 - (e) Nonlinear, first-order differential equations
 - (f) Simultaneous systems of differential and difference equations
 - (g) Optimal Control theory

GRADING

The overall grade will be based on homework (20%), two midterms (20% each) and a final (40%). There will be no late homework and no makeup for the midterms. If you miss a midterm, your final will count for 60% (80% if you miss both) of the grade. The final is compulsory to pass the course.

CLASS TIME

Tuesday and Thursday 14:30–15:50 in EV2 2002.

EXAMS

TBA

CONTACT INFORMATION

- Room: 207 HH
- Phone: 519-888-4567 ext. 32558
- Email: t66chen@uwaterloo.ca
- Office hours: TBA

ACADEMIC INTEGRITY, GRIEVANCE, DISCIPLINE, APPEALS AND NOTE FOR STUDENTS WITH DISABILITIES

See www.uwaterloo.ca/accountability/documents/courseoutlinestmts.pdf. The text for this web site is listed below:

- 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 www.uwaterloo.ca/academicintegrity/ 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, www.adm.uwaterloo.ca/infosec/Policies/policy70.htm. When in doubt please be certain to contact the departments administrative assistant who will provide further assistance.
- Discipline: A student is expected to know what constitutes academic integrity [check www.uwaterloo.ca/academicintegrity/] to avoid committing an academic offence, 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 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, www.adm.uwaterloo.ca/infosec/Policies/policy71.htm. For typical penalties check Guidelines for the Assessment of Penalties, www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm.
- 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) 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.
- Turnitin.com: Plagiarism detection software (Turnitin) will be used to screen assignments in this course. This is being done to verify that use of all material and sources in assignments is documented. In the first week of the term, details will be provided about the arrangements for the use of Turnitin in this course. Note: students must be given a reasonable option if they do not want to have their assignment screened by Turnitin. See: <http://uwaterloo.ca/academicintegrity/Turnitin/index.html> for more information.