

ECO326H1F
Advanced Economic Theory – Micro
Summer 2013

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Lectures: Tuesday/Thursday 6-8 pm SS2110
Tutorials: Tuesday/Thursday 8-9 pm SS2110

Description:

This is a course in game theory. Game theory is the study of strategic interactions between decision makers. It has evolved as a field of mathematics with applications in economics, political science, and biology. Much of the research being done in economics today has its roots in game theory. This course seeks to give students an understanding of the fundamentals of game theory, and provide them with techniques to apply the concepts. Students entering the course should have a good understanding of formal mathematical arguments, and be comfortable with the basic calculus and probability theory.

Textbook:

The required textbook is *An Introduction to Game Theory* by Martin J. Osborne. All of the topics covered in the course are covered in the textbook, and problem sets will consist primarily of problems out of the textbook.

Course Prerequisites:

ECO200Y1(70%)/ECO204Y1(70%)/ECO206Y1,
ECO220Y1(70%)/ECO227Y1/(STA247H1(70%),STA248H1(70%))/
(STA250H1(70%),STA255H1(70%))/(STA257H1,STA261H1).

It is your responsibility to ensure you have the correct prerequisites for this class. The Department strictly enforces the prerequisites – if you do not have them you will be dropped.

ECO326H and ECO316H are exclusions for each other; you may not count both towards your degree.
Recommended math preparation: MAT223H1/MAT240H1, MAT235Y1/MAT237Y1/ECO210H1

Evaluation:

There will be one midterm exam on June 4th and a cumulative final exam. Each exam will count for 40% of your final mark. The remaining 20% will be allocated to the higher of your two exam scores. If you are unable to write the exam because of illness, you must notify me before the exam is written and provide me with a University of Toronto Medical Certificate completed by a qualified doctor as soon as possible in order to qualify to write the make-up midterm. If you fail to do so, you will receive a score of 0.

Problem sets are not graded. However, the only way to learn game theory is through practice. Tutorials will be aimed for students who have worked on the problems. You should plan to spend some time between each lecture working through the problem set.

Regrade Policy:

Requests for a regrade will be accepted within 2 weeks after the exam is returned. In order for your application to be considered, you must include your entire exam along with a written explanation of the marks you feel you deserve. The whole exam will be regraded, so your mark could go down.

Email policy:

Students may email me with questions to which the answer is not readily available on the course syllabus or Blackboard. If the question is about course material, I encourage you to use the discussion forum on Blackboard. If you are confused about something, it is almost certain that other students are confused about the same issue, even if they have not realized it yet. The discussion forum allows your question to be answered and all other students to benefit from the answer. It also allows you to see questions others might have that you have not thought of. I will monitor the forum and answer questions that need answering. I also encourage you to monitor and answer any questions you are able to. Answering questions and explaining your knowledge to others is a great learning tool.

I will generally answer questions emailed or posted on the forum within 24 hours on weekdays. If you have a question that requires more than a 3-4 sentence answer, I will ask that you bring it to me offline.

Tentative Schedule:

Date	Topics	Textbook reference:
May 14	Introduction to game theory; Nash equilibria	1, 2.1-2.7
May 16	Best response functions; Dominated strategies	2.8-2.9, 12.2
May 21	Applications: Cournot, Bertrand, Hotelling	3.1-3.3
May 23	Auctions; Introduction to mixed strategy Nash equilibria	3.5, 4.1-4.3
May 28	Mixed strategy Nash equilibria	4.3-4.5, 4.8-4.10
May 30	Extensive games	5.1-5.5
June 4	Midterm	
June 6	Applications of extensive games	5.5, 6.2, 7.2
June 11	Bargaining	6.1, 16.1-16.2
June 13	Repeated games	14.1-14.8
June 18	Games with incomplete information	9.1-9.3
June 20	Applications of games with incomplete information;	9.4-9.6

Academic integrity:

The University of Toronto takes academic integrity very seriously. You are expected to know and abide by the Code of Behaviour available at <http://www.utoronto.ca/academicintegrity/>. Any attempts to cheat will be reported.