

Ultimatum game, holdup game

- Repeated games; collusion in repeated duopoly
- The core, matching, and the deferred acceptance algorithm

Books

I know of no book that fits the course perfectly. I will refer you a lot to my book

An introduction to game theory (Oxford University Press, New York, 2003)

although the level of some parts of that book is a bit higher than the level of the course. Another book that covers some, but not all of the topics in the course, at approximately the same level, is

R. Gibbons, Game theory for applied economists (Princeton University Press, 1992).

Important announcement from Associate Chair, Undergraduate Studies

You are reminded that you can only take only one (NOT both) of ECO316H and ECO326H, no matter how appealing you find game theory.

- 1. ECO316H and ECO326H are exclusions for each other -- that means you cannot take both courses towards your degree.
- 2. ECO316H cannot be counted towards any program that requires ECO326H. In other words, if you need to take ECO326H for your program, you cannot take ECO316H.
- 3. The Department of Economics will not remove students from courses that are exclusions. However, when the time comes to graduate and courses are counted, the rules will be enforced, and exclusions will not count toward the degree or program. Students are expected to comply with the rules of the calendar when they choose their courses.

More information about the two courses is available at http://www.artsandscience.utoronto.ca/ofr/calendar/crs_eco.htm#ECO316H1 and http://www.artsandscience.utoronto.ca/ofr/calendar/crs_eco.htm#ECO326H1.

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ECO316: Applied game theory Fall 2013
OVERVIEW SCHEDULE EVALUATION HELP FORUM EMAIL LOGOUT
Schedule
Schedule
Section L0101 meets from 10:10am to noon on Thursdays (room TBA). The tutorial session for this section meets from 1:10pm to 2pm on Fridays (room TBA).
Section L0201 meets from 2:10pm to 4pm on Thursdays (room TBA). The tutorial session for this section meets from 2:10pm to 3pm on Fridays (room TBA).
In the following (tentative) schedule, IGT refers to my book An introduction to game theory.
I will post slides for each class by the morning of the day of the class.
Week 1 Strategic games and Nash equilibrium (IGT Chapter 1 and 2.1–2.7). Week 2 Competition between firms: the models of Bertrand and Cournot (IGT 3.2 and 3.1). Using best response functions to find Nash equilibria in general games (IGT 2.8) Week 3 Electoral competition (IGT 3.3). Week 4 Mixed strategy Nash equilibrium (IGT 4.1–4.3 and 4.5). Week 5 Applications of mixed strategy Nash equilibrium (IGT 4.6 and 4.8). Formation of players' beliefs (IGT 4.9). Week 6 Dominated actions and players' reasoning about each others' rationality (IGT 2.9; see also 12.2 and 12.3, although the treatment there is more advanced than the one in class). Weakly dominated actions in Hotelling's model, Bertrand's model, and model of voting (IGT 2.9.3). Week 7 Voting; the "swing voter's curse"; juries (IGT 9.7). Friday: Midterm exam. Friday: Midterm exam. Week 8 Auctions: private value sealed-bid auctions under first- and second-price rules; common value auctions (IGT 9.6). Week 9 Extensive games: subgame perfect equilibrium (IGT 5.1-5.5).
Week 10 Extensive games: Stackelberg duopoly; ultimatum and holdup games (IGT 6.1, 6.2).
Week 11 Repeated games and collusion (IGT 14.1-14.12).
Week 12 The core, matching, and the deferred acceptance algorithm (IGT 8.1, 8.2, and 8.7)
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The midterm test will be held on **Friday October 25, 1:10pm–3:00pm**. The room assignment will be announced on the SCHEDULE page when it is available. The test will receive a weight of 40% in the final grade.

Midterm exam, Winter 2013 • Midterm exam with solutions, Winter 2013

Final exam

The final exam will receive a weight of 60% in the final grade. It will cover the entire term's work.

Final exam, Winter 2013 • Final exam with solutions, Winter 2013

Redemption

A low but passing mark in the midterm test will be redeemable by a high mark on the final exam, and a mark between 40% and 50% on the midterm test will be *partly* redeemable. Specifically, if your mark on the midterm test is at least 50% and is lower than your mark on the final exam, the 40% weight for the test will be transferred to the final exam. If your mark on the midterm test is between 40% and 50% and is lower than your mark on the final exam, the 40% weight for the test will be transferred to the final exam. If your mark on the midterm test is between 40% and 50% and is lower than your mark on the final exam, the midterm test mark, say *x*, will receive a weight of 4(50 - x)% and the weight 40 - 4(50 - x)% will be transferred to the final exam. (For example, if you score 45% on the midterm test, then that test will receive a weight of 20% and the remaining 20% of the weight for the test will be transferred to the final exam.) *If you receive a mark of 40% or less on the midterm, no weight for the test will be transferred to the final exam.* For example, if your mark on the midterm is 60 and your mark on the final exam is 80, your mark for the course will be 80, but if your mark on the midterm is 40 and your mark on the final exam is 80, your mark for the course 40 plus 0.6 times 80).

No calculators or any other aids will be permitted in the midterm exam or in the final exam.

If you miss the midterm exam because of a serious illness, you need to obtain a fully completed University of Toronto Medical Certificate. Here are the rules.

- 1. You need to see the doctor **before** the exam. I will not accept certificates that relate to visits after the exam.
- The illness must be serious enough that you are unable to write the exam. It is not enough that, given the illness, you would not do as well as you otherwise might. I will not accept certificates concerning minor ailments.
- 3. The certificate must be completed by a qualified medical doctor (not, for example, a chiropractor, acupuncturist, or other medical professional).
- 4. The certificate **must** include the doctor's OHIP registration number.
- 5. You **must** email me the day of the exam, explaining the circumstances.
- 6. You **must** bring me the **original** certificate (not a scan or copy) in person as soon as you are better. I will not accept emailed certificates.
- 7. You must write the makeup exam, which will be held on **Friday November 1 from 10am to 12pm**. If you do not write the makeup exam, you will receive 0 for the midterm. (There will be no makeup for the makeup.)

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