



Rotman Commerce UNIVERSITY OF TORONTO

Course Outline

RSM 482 H1 F

Game Theory for Business Strategy

Fall 2015

Course Meets: Friday/10:00/RT142

Instructor: Matthew Mitchell (RT 8015)
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Office Hours: W, 1:30-2:30 or by appointment

Course Scope and Mission

In many business situations, the profitability of any particular decision or strategy depends on what decisions or strategies others adopt. That is, many business situations are ones of strategic interaction or games. This course uses game theory to consider applications relevant to firm decision making. Sometimes in strategic settings we think of the game as being fixed and decision making as being a matter of simply choosing the “right” strategy. Often the course takes a different approach and looks at the game itself as something over which you have some influence. The course uses insights from game theory to think about how you can “design the games” in which you operate in ways that are advantageous to you. It also examines how your “design decisions” depend on the environment in which you operate: who you interact with, the information you have available, what commitments are enforceable, what alternatives are available to you.

Course Prerequisites

ECO204Y1/ECO206Y1

Required Readings

There is no required text for this course. The class will be based on the in-class notes and material posted on the portal. If you would like a book that contains a more formal treatment of the game theory issues discussed in class, I recommend *Games and Information: An Introduction to Game Theory* by Eric Rasmusen.

Evaluation and Grades

There will be three homework assignments that cover the basics of the material. There will be a comprehensive final exam. Grades are a measure of the performance of a student in individual courses. Each student shall be judged on the basis of how well he or she has command of the course materials.

Work

Homework Assignments 45%
 Final Exam 55%

Due Date

See Schedule
 During Faculty of Arts & Science Final Examination period

Weekly Schedule

Session	Date	Topic	Assignments Due Dates
1	Sep 18	Review of Game Theory Basics: Pure and Mixed Strategy Nash Equilibrium	
2	Sep 25	Games with Many Actions(1): Review of Oligopoly	
3	Oct 2	Games with Many Actions(2): Keynes' Financial Markets and "Iterated Deletion"	
4	Oct 9	The meaning of payoffs and the value of Commitment: Hiring a bad manager	HW1 due
5	Oct 16	Asymmetric Information (1): Adverse Selection, Signaling, and Lemons Markets	
6	Oct 23	Asymmetric Information (2): Contract Design and Incentives	
7	Oct 30	Repeated Games (1): Sustaining cooperation in finitely and infinitely repeated games	HW2 due
8	Nov 6	Repeated Games (2): Imperfect Monitoring and Price Wars	
9	Nov 13	Repeated Games + Asymmetric Information: Reputation and the Chain Store Paradox	
10	Nov 20	no class	
11	Nov 27	Dynamic Games (1): A Finite Patent Race	HW3 due
12	Dec 4	Dynamic Games (2): A Perpetual Innovation Race	
Final Exam	TBA by FAS		

POLICY AND PROCEDURE

Missed Tests and Assignments

Students who miss a test or assignment for reasons entirely beyond their control (e.g. illness) may submit a request for special consideration. Provided that notification and documentation are provided in a timely manner, and that the request is subsequently approved, no academic penalty will be applied.

In such cases, students must notify Rotman Commerce on the date of the missed test (or due date in the case of course work) and submit supporting documentation (e.g. [Verification of Student Illness or Injury form](#)) to the Rotman Commerce Program Office within **48 hours** of the originally scheduled test or due date. Students who do not provide Rotman Commerce or the instructor with appropriate or sufficient supporting documentation will be given a grade of 0 (zero) for the missed test or course deliverable.

Note that the physician's report must establish that the patient was examined and diagnosed at the time of illness, not after the fact. Rotman Commerce will not accept a statement that merely confirms a report of illness made by the student and documented by the physician.

Late Assignments

Late assignments will not be accepted. If a valid excuse is obtained in advance, the other homeworks will be reweighted accordingly.

Accessibility Needs

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: accessibility.services@utoronto.ca or <http://www.accessibility.utoronto.ca/>.

Academic Integrity

Academic Integrity is a fundamental value essential to the pursuit of learning and scholarships at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the UofT degree that you earn will continue to be valued and respected as a true signifier of a student's individual work and academic achievement. As a result, the University treats cases of academic misconduct very seriously.

The University of Toronto's Code of Behaviour on Academic Matters

<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm> outlines the behaviours that constitute academic misconduct, the process for addressing academic offences, and the penalties that may be imposed. You are expected to be familiar with the contents of this document. Potential offences include, but are not limited to:

In assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment (this includes collaborating with others on assignments that are supposed to be completed individually).

On test and exams:

- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else's answers

- Misrepresenting your identity.
- Submitting an altered test for re-grading.

Misrepresentation:

- Falsifying institutional documents or grades.
- Falsifying or altering any documentation required by the University, including (but not limited to), medical notes.

All suspected cases of academic dishonesty will be investigated by the following procedures outlined in the *Code of Behaviour on Academic Matters*. If you have any question about what is or is not permitted in the course, please do not hesitate to contact the course instructor. If you have any questions about appropriate research and citation methods, you are expected to seek out additional information from the instructor or other UofT resources such as College Writing Centres or the Academic Success Centre.

Email

At times, the course instructor may decide to communicate important course information by email. As such, all UofT students are required to have a valid UTmail+ email address. You are responsible for ensuring that your UTmail+ email address is set up AND properly entered on the ROSI system. For more information please visit <http://help.ic.utoronto.ca/category/3/utmail.html>

Forwarding your utoronto.ca email to a Hotmail, Gmail, Yahoo or other type of email account is not advisable. In some cases, messages from utoronto.ca addresses sent to Hotmail, Gmail or Yahoo accounts are filtered as junk mail, which means that important messages from your course instructor may end up in your spam or junk mail folder.

Blackboard and the Course Page

The online course page for this course is accessed through Blackboard. To access the course page, go to the UofT Portal login at <https://portal.utoronto.ca/> and log in using your UTORid and password. Once you have logged in, look for the My Courses module where you'll find the link to all your course websites. If you don't see the course listed here but you are properly registered for the course in ROSI, wait 48 hours. If the course does not appear, go to the Information Commons Help Desk in Robarts Library, 1st floor, for help, or explore the Portal Information and Help at <http://www.portalinfo.utoronto.ca/content/information-students> and review the Frequently Asked Questions.

Recording Lectures

Lectures and course materials prepared by the instructor are considered by the University to be an instructor's intellectual property covered by the Canadian Copyright Act. Students wishing to record a lecture or other course material in any way are required to ask the instructor's explicit permission, and may not do so unless permission is granted (note: students who have been previously granted permission to record lectures as an accommodation for a disability are, of course, excepted). This includes tape recording, filming, photographing PowerPoint slides, Blackboard materials, etc.

If permission is granted by the instructor (or via Accessibility Services), it is intended for the individual student's own study purposes and does not include permission to "publish" them in any way.