

Professor Jim Engle-Warnick
Office: Leacock 531
Telephone: 514-398-1559
Office Hours: Tuesday and Thursday 10-11

Course location: Leacock 15 and CIRANO laboratory, 2020 University Ave
Date and time: Tuesday and Thursday, 8:35 – 9:55

WebCT Communication: If you wish to contact the instructor by e-mail, please use the facility in WebCT. A discussion list named “Behavioral Economics” is available for use on WebCT. Important events, including which classes will take place in the computer lab, will be posted on the WebCT calendar.

Required textbook: Dixit, A. and S. Skeath., 2nd edition, (2004): *Games of Strategy*, W.W. Norton: New York.

Course pack: There is no course pack, but links to other required readings will be provided in WebCT.

Course material: You will need access to a computer and a spreadsheet program to analyze data. You will be shown how to program your project using free software available on the web. Everything you need is available in McGill’s computer labs.

Content: ECON 310 is a course in Behavioral Economics, which is a growing body of knowledge that is concerned with how people make decisions of consequence in economic markets, strategic environments, and individual decision-making situations. We will introduce the theories with classroom decision-making experiments conducted in a computer laboratory to demonstrate how psychology informs our theories in economics. In the experiments you will make decisions in situations identical to the theories we study and then for homework you will analyze the decisions. We will try to cover all the topics in the outline, but if time does not permit we will cover fewer topics with an emphasis on covering them well. The order of the topics is not important, and may not be the same as presented on the outline.

Learning Outcomes: You will be able to model a strategic environment as a game, derive the solution to the game, predict actual behavior when people play the game, and apply the model to real decision making. You will also be able to implement your model as an experiment in which human subjects can participate, or which can be simulated on a computer.

Composition of assessment: Attendance and participation in the laboratory experiments, and participation in class: 10%; in class test Tuesday, October 17th: 20%; final exam 35%; class project (you may work groups of up to three people – all group members receive the same grade): 35%. Missed laboratory experiments cannot be made up. A doctor’s note is required to make up any test. Late submission of the class project will not be accepted. Problems for practice will be handed out and discussed but not graded.

General Information:

McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see <http://www.mcgill.ca/integrity> for more information).

If you have a disability please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the Office for Students with Disabilities at 398-6009 before you do this.

Additional policies governing academic issues which affect students can be found in the McGill Charter of Students' Rights (online at <http://ww2.mcgill.ca/students~handbook/chapter1.html>).

Topics and Readings

We will cover as many topics as are listed here as possible, and some topics overlap a bit so some topics will be covered in a different order listed. Generally we will start with the theory and then compare the way people actually behave. I am most concerned with the depth of coverage so we may not cover them all.

The textbook introduces you to the economic theory, and you will receive the behavioral component in the labs and lectures. I will provide supplementary readings during the semester whenever possible. The optional advanced readings are a bit difficult for this level and are included mainly for your future interest in the topic.

We will cover a portion of the required textbook. The textbook is very useful for the class project. The textbook is important because you must first understand the theory to understand how the behavior is incorporated into the theory.

I. Heuristics and Biases

(1) Representativeness, availability, and anchoring

(2) Monte Hall problem

Optional Advanced Readings:

[Friedman, D., \(1998\): Monty Hall's Three Doors: Construction and Deconstruction of a Choice Anomaly," *American Economic Review* 88:4, 933-946.](#)

[Tversky, A. and D. Kahneman, \(1974\): "Judgement Under Uncertainty: Heuristics and Biases", *Science*, 185:1124-1131.](#)

II. Bounded Rationality

(1) "Fast and frugal" decision making

(2) The nine-dot problem

(3) Beauty contest game

Optional Advanced Readings:

[Gigerenzer, G., & Goldstein, D. G., \(1996\): "Reasoning the Fast and Frugal Way: Models of Bounded Rationality", *Psychological Review*, 103, 650-669.](#)

[MacGregor, T. Ormerod and E. Chronicle, \(2001\): "Information Processing and Insight: A Process Model of Performance on the Nine-Dot Problem", *Journal of Experimental Psychology*, 27:1:176-201.](#)

[Nagel, R., \(1995\): "Unraveling in Guessing Games: An Experimental Study", *American Economic Review* 85:5:1313-1326.](#)

Grantham, G., (2003): "Rationality", mimeo, Department of Economics, McGill University.

III. Individual Choice

(1) Prospect Theory (Expected Utility Theory: Dixit and Skeath pg. 163-173)

(2) Hyperbolic Discounting

(3) Risk Preferences

Optional Advanced Readings:

[Kahneman, D. and A. Tversky, \(1979\): "Prospect Theory: An Analysis of Decision Under Risk", *Econometrica* 47:2:263-291.](#)

IV. Behavioral Game Theory – Dixit and Skeath

Introduction to game theoretic concepts – definitions, equilibrium solution concept, simultaneous games, sequential games, mixed strategies

Specific games - prisoner's dilemma, evolutionary games, collective action games, strategy and voting, auctions, bargaining games, coordination games, trust games, signaling games

Professor Jim Engle-Warnick
Office: Leacock 531
Telephone: 514-398-1559
Office Hours: Tuesday and Thursday 10-11

Course location: Leacock 15 and CIRANO laboratory, 2020 University Ave
Date and time: Tuesday and Thursday, 8:35 – 9:55

Project Assignment: A class project is due as part of the course requirements. You may work on it separately or in groups of up to three people. Everyone in the group receives the same grade.

Due Date: A hard copy of your project is due one week (seven days) after your final exam at 5:00pm. You must submit a hard copy and a copy of a program that runs your experiment to me by then. Late submissions will not be accepted.

Length: Maximum twenty pages, double spaced, 12 point times new roman font, standard Microsoft Word margins, not counting the materials for the experiment.

What is expected: You must identify an important strategic decision-making situation, model it as a game, and implement it as an experiment either for human subjects to participate in or to be run as an agent-based simulation on a computer. You must clear your topic with me before you start working on it.

The project consists of two parts: a paper and a programmed experiment.

The requirements for the paper are as follows:

You must (1) motivate your topic explaining why it is important including a bibliography, (2) define your game, (3) solve your game using traditional solution concepts from game theory, (4) predict how people might actually play the game using results you have learned from behavioral economics, and (5) describe how you would implement your game as an experiment.

The requirements for the program are as follows:

You must (1) write a full set of subject instructions for your experiment, and (2) write a computer program to run your experiment. And if you write an agent-based simulation, (3) results of the simulation.

We will learn how to run the program a laboratory experiment in class; there are several existing free packages you can use to do this. You will find that the complexity of designing the experiment itself might limit how complex the experiment can be. But you will also find that programming an experiment is less daunting than it may seem.

ECON 310 Intro to Behavioral Economics Course Outline, Fall 2006

If for a valid reason you cannot program your experiment, in rare cases you may receive an exception to design a paper-and-pencil experiment, in which case your project must include all the materials necessary to run the experiment. You must receive prior permission from the instructor for this.

You may also run your experiment as an agent-based simulation using a computer language of your choice, as long as I can run your program to verify that it works. In an agent-based simulation, computer agents are given preferences and abilities and then interact with each other in a game. We will cover this briefly in class. If you are interested in this type of experimentation you are welcome to study it in your project.