

Professor Jim Engle-Warnick

Office: Leacock 531

Telephone: 514-398-1559

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Office Hours: 4:00pm – 5:00pm Tuesday and Thursday

Course location: Leacock 14 and Leacock Computer Lab 111

Date and time: Tuesday and Thursday, 2:35pm – 3:55pm

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.

Optional textbook: Camerer, C., (2003): *Behavioral Game Theory*, Princeton University Press, Princeton. The textbook is optional in response to comments from students who took the course in the past. The textbook is the state of the art in behavioral economics, and is wonderful to read.

Course pack: There is no course pack. Links to required readings will be provided on the course outline in WebCT.

Course material: You will need access to a computer and at least a spreadsheet program to analyze data. Everything you need is available in McGill’s computer labs.

Additional books on reserve at the library: Kahneman, D. and A. Tversky, *Choices, Values, and Frames*; Kahneman, D., P. Slovic, and A. Tversky, *Judgement under Uncertainty: Heuristics and Biases*; Thaler, R., *Quasi-Rational Economics* and *The Winner’s Curse*; Gigerenzer, G., *Bounded Rationality: The Adaptive Toolbox*; Camerer, C., *Advances in Behavioral Economics*.

Content: The winter term portion of the year-long course ECON 450 is a course in Behavioral Economics, which is a growing body of research that is concerned with how people actually make decisions of consequence in economic markets and strategic environments. We will introduce the theory 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, apply the model to real decision making, and critique the scientific process by which psychology and observed behavior inform economics.

Assessment: Fall term, Professor Francisco Alvarez-Cuadrado: 42.5%; Winter term, Professor Engle-Warnick: 42.5%; project with either Professor Alvarez-Cuadrado or Professor Engle-Warnick: 15%.

Composition of winter term assessment: Attendance and participation in the laboratory experiments, and participation in class: 5.5%; in class test Tuesday, February 14th: 6%; homework assignments: 6%; final exam covering the entire winter term: 25%; paper (for those who did not do the project with Professor Alvarez-Cuadrado: 15%. Missed laboratory experiments cannot be made up. A doctor's note is required to make up any test.

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

I will announce in class which of the readings are required for each topic, and several chapters in Camerer's book on behavioral game theory will supplement some of the required readings. If I find a new paper during the semester within a topic, I will replace an older paper with the newer one.

I. Behavioral Economics

[Mulainathan, S. and R. Thaler, \(2000\): "Behavioral Economics", NBER Working Paper no. 7948.](#)

[Rabin, M., \(2002\): "A Perspective on Psychology and Economics," *European Economic Review*, 46:657-685.](#)

Simon, H. (1987a): "Behavioral Economics", *The New Palgrave: Dictionary of Economics*, 221-225, (eds).

II. Bounded Rationality

[Benartze, S. and R. Thaler \(2001\): "Naïve Diversification in Defined Contributions Savings Plans", *American Economic Review* 91:1:79-98.](#)

[Conlisk, J., \(1996\): "Why Bounded Rationality?", *Journal of Economic Literature* 34:2:669-700.](#)

[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.](#)

Simon, H. (1987b): "Bounded Rationality", *The New Palgrave: Dictionary of Economics*, 266-269.

III. Individual Choice

Bayes' Rule:

[Grether, D., \(1980\): Bayes' Rule as a Descriptive Model: The Representativeness Heuristic](#), *Quarterly Journal of Economics*, 95:3:293-315.

[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.

[Griffiths, T. and J. Tenenbaum, \(2006\): "Optimal Predictions in Everyday Cognition"](#), mimeo Brown University.

[Shanks, D. R. Tunney and R. McCarthy, \(2002\): "A Re-examination of Probability Matching and Rational Choice](#), *Journal of Behavioral Decision Making*, 15:233-250.

Non-Expected Utility:

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

[Starmer, C., \(2000\): "Developments in Non-Expected Utility: The Hunt for a Descriptive Theory of Choice Under Risk"](#), *Journal of Economic Literature* XXXVIII: 332-382.

Time Preferences:

[Laibson, D. \(1997\): "Golden Eggs and Hyperbolic Discounting"](#), *Quarterly Journal of Economics* 112:443-477.

[Harrison, G., Lau, M. Lau and M. Williams \(2002\): "Estimating Individual Discount Rates for Denmark: A Field Experiment"](#), *American Economic Review* 92:1606-1606.

Risk Preferences:

[Holt, C. and S. Laury \(2002\): "Risk Aversion and Incentive Effects"](#), *American Economic Review* 92:5:1644-1655.

IV. Behavioral Game Theory

Camerer, C., (2003): *Behavioral Game Theory*, Princeton University Press, Princeton: several readings optional.

[Engle-Warnick, J. and Slonim, R., \(2003\): "Learning to Trust in Indefinitely Repeated Games"](#), *Games and Economic Behavior* 54: 95-115.

[Rabin, M., \(1993\): "Incorporating Fairness into Game Theory and Economics", *American Economic Review* 83:1281-1302.](#)

[Henrich, J., R. Boyd, S. Bowles, C. Camerer, E. Fehr, H. Gintis, R. McElreath, \(2001\): "In Search of Homo-Economicus: Behavioral Experiments in 15 Small-Scale Societies", *American Economic Review* 91:73-78.](#)

[Henrich, J. \(2000\): "Does Culture Matter in Economic Behavior? Ultimatum Bargaining Among the Machiguenga in the Peruvian Amazon", *American Economic Review* 90:4:973-979.](#)

[Barr, A. and B. Kinsey \(2002\): "Do Men Really Have No Shame? CSAE Working paper WPS/2002-5.](#)

[Gneezy, U., M. Niederle and A. Rustichini \(2003\): "Performance in Competitive Environments: Gender Differences", *Quarterly Journal of Economics* 118:1049-1074.](#)

[Mehta, J., C. Starmer, and R. Sugden \(1994\): "The Nature of Salience: An Experimental Investigation of Pure Coordination Games", *American Economic Review* 84:658-673.](#)

[Brandts, J. and C. Holt \(1992\): "An Experimental Test of Dominance in Equilibrium Signaling Games", *American Economic Review* 82:1350-1365.](#)

V. Market Design

[Kagel, J. and A. Roth \(2000\): "The Dynamics of Reorganization in Matching Markets: A Laboratory Experiment Motivated by a Natural Experiment", *Quarterly Journal of Economics* 115:201-235.](#)

VI. Case Study: An Empirical Result

[Camerer, C., L. Babcock, G. Lowenstein, and R. Thaler \(1997\): "Labor Supply of New York City Cabdrivers: One Day at a Time", *The Quarterly Journal of Economics* 112:2:407-441.](#)

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Paper Assignment: A research paper is due as part of the course requirements for those who did not do a project in the fall semester.

Due Date: A hard copy of your paper is due in my office or in my mailbox in Leacock room 443 on the last day of class, Thursday April 6th, 2006, at 5:00pm. No extensions will be granted, and late submissions will not be accepted.

Length: Seven pages, double spaced, 12 point times new roman font, standard Microsoft Word margins, plus a page for references. References must be typed on a separate page, using the format prescribed by the Canadian Journal of Economics. Anything beyond the seven page limit will not be read.

What is expected: You must read an article from the following list (or suggest an alternative article for approval by the professor) and four or five related articles (not in the list). Your essay must be either a critical evaluation (an exposition and a commentary) of a specific model, or a general discussion of a set of issues raised in the articles, or a suggestion of a model of your own. Your essay must address the following points: (1) an explanation of a principle from another discipline that has informed economics through the article, (2) an argument how this has or has not enriched economics, and (3) a description of possible further work in this area. To assist you with point (1) you should identify and critique (a) the research question in the article, (b) the tools used to address the question, and (c) the results and the economic intuition behind the results. If your essay suggests a new model, you must motivate the need for it, present it, present the solution to it, and predict what people would actually do if they played your game. You can write in French or in English.

The topics: You may choose from the following topics, but you are encouraged to suggest an alternate topic. Any topic you choose you must clear for approval by the professor.

Topics:

1. Learning

Camerer, C., T-H Ho, and J.K. Chong, “Behavioral Game Theory: Thinking, Learning, Teaching, working paper, California Institute of Technology, 2001:

<http://www.hss.caltech.edu/~camerer/Camerer.pdf>

2. Economics and Neuroscience

Camerer, C., G. Loewenstein, and D. Prelec, "Neuroeconomics: How neuroscience can inform economics", working paper, California Institute of Technology, 2003:
<http://www.hss.caltech.edu/~camerer/neurojepsSubmitted.pdf>

3. Loss Aversion

Kahneman, D., J. Knetsch, and R. Thaler, "Anomalies: The endowment effect, loss aversion, and status quo bias", in *Choices, Values, and Frames*, D. Kahneman and A. Tversky (eds.), Cambridge University Press, Cambridge, 2000.

4. Prospect Theory

Kahneman, D. and A. Tversky: "Prospect Theory: An Analysis of Decision Under Risk", *Econometrica* 47:2:263-291, 1979. (reprinted in *Choices, Values, and Frames*, D. Kahneman and A. Tversky (eds.), Cambridge University Press, Cambridge, 2000, pages 17-43).

5. Behavioral Game Theory

Rabin, M., "Incorporating fairness into game theory and economics", *American Economic Review* 83:1281-1302, 1993.

6. Choice Over Time

Loewenstein, G. and D. Prelec, "Preferences for sequences of outcomes", *Psychological Review*, 100:1:91-108, 1993.

7. Market Design

Roth, A. (2002): "The Economist as Engineer: Game Theory, Experimentation, and Computation as Tools for Design Economics", *Econometrica*, 70:4:1341-1377.

8. Psychology and Economics

Rabin, M., (2002): "A Perspective on Psychology and Economics," *European Economic Review*, 46:657-685.

9. Bounded Rationality

Conlisk, J., (1996): "Why Bounded Rationality?", *Journal of Economic Literature* 34:2:669-700.

10. Behavioural Game Theory Field Studies

Camerer, C., L. Babcock, G. Loewenstein, and R. Thaler (1997): "Labor Supply of New York City Cabdrivers: One Day at a Time", *The Quarterly Journal of Economics* 112:2:407-441.