

**Time and Location:** Tuesdays 2:35 - 5:25, Leacock 212.

**Reading Material:** *Markets, Games, and Strategic Behavior* by Charles A. Holt and various journal articles.

**Description of the Course:** This class is designed to highlight a relatively new area of study in economics - how people actually behave given economic incentives. Rather than learning economic models of behavior (e.g., consumption, investment, production) in this class you will learn how to test such models using the experimental lab.

Each week we will examine a new area of experimentation. However, the class is split into three broad sections: classic experiments from the early days, experiments in strategic interaction that have challenged the way the economists think about individual motivation, and the new frontiers of experimentation. Each class will also be split into three sections. In the first section we will conduct a typical experiment in the topic of the day (think of this as experiential learning). In the second part we will go through the discussion questions that you will turn in each week, and in the last third, we will discuss individual experiments to highlight the underlying research agenda in each area.

**Material and Schedule:** For most topics, Holt's book (an early PDF version of which is available on the website mentioned below) will provide an introduction to each topic. To supplement these short chapters, we will also read many of the original experiments in their original journal article form. Below is a summary schedule for our class. A detailed reading list appears at the end of the syllabus.

**Grading:** Grades will depend on three components: class participation in the discussion and experiments (10%), an essay midterm exam to take place in class on the 1<sup>st</sup> of March (35%), and a term paper (55%). For the term paper, each of you will design your own experiment and write a grant proposal for funding. Although unfortunately there are no funds to actually implement the good ideas that you will develop, the purpose of the grant writing exercise is to get you to engage with the literature in a way that the typical term paper does not foster. Specifically, I want you to demonstrate specific knowledge of one area of economic behavior (and it need not be one on our list of topics covered in the course), think hard about exactly how to design an implement an economic experiment and practice your writing skills, all while getting you to think creatively about how to extend the current literature.

To standardize the class output I want you all to follow the proposal guidelines laid out in [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=gpg11001](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg11001) (note: a PDF version of this grant proposal guide has been added to the WebCT folder for this class). In particular, I want each of you to prepare your proposal according to the guidelines in Chapter II (sections B and C (subsections 2(a)-(e) and (g, vi))). In other words, write a 10-page proposal and a budget.

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Date	Topic
I. Origins & Classics	
Class 1: January 4 <sup>th</sup>	Economics as an Experimental Science
Class 2: January 11 <sup>th</sup>	Markets

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Class 3: January 18 <sup>th</sup>	Risk and Time Preferences
Class 4: January 25 <sup>th</sup>	Asset Markets and Statistics Review
Class 5: February 1 <sup>st</sup>	Auctions
Class 6: February 8 <sup>th</sup>	Alternating Offers Bargaining and Fairness
II. Strategic Interaction & Social Preference	
Class 7: February 15 <sup>th</sup>	Dictators and Altruists
Class 8: March 1 <sup>st</sup>	Midterm Exam (in class)
Class 9: March 8 <sup>th</sup>	Trust and Positive Reciprocity
Class 10: March 15 <sup>th</sup>	Social Dilemmas (PD, VCM, CPR)
Class 11: March 22 <sup>nd</sup>	Punishment and Negative Reciprocity
III. Frontiers	
Class 12: March 29 <sup>th</sup>	Field Experiments
Class 13: April 5 <sup>th</sup>	Neuroeconomics

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**Detailed Reading List:** All of the following are available online through the library's JSTOR link or they appear on my website at: <http://community.middlebury.edu/~jcarpent/EC499.html>

### **Class 1: Economics as an Experimental Science**

Required:

- [1] Holt book, Preface & Chapter 1. [PDF]
- [2] Smith, V., 1989. Theory, Experiment and Economics. *Journal of Economic Perspectives*, 3(1), 151-169. [JSTOR]
- [3] Smith, V., 1994. Economics in the Laboratory. *Journal of Economic Perspectives*, 8(Winter), 113-131. [JSTOR]

Suggested:

- [4] Camerer, Colin, 2003, *Behavioral Game Theory: Experiments on Strategic Interaction*. Princeton University Press, Princeton. Appendices to Chapter 1
- [5] Davis, Douglas and Holt, Charles, 1993, *Experimental Economics*. Princeton University Press, Princeton. Chapter 1.
- [6] Friedman, Daniel and Sunder, Shyam, 1994, *Experimental Methods: a primer for economists*. Cambridge University Press, Cambridge. Chapters 1-3.

### **Class 2: Markets**

Required:

- [1] Holt book, Chapter 2. [PDF]
- [2] Davis, Douglas and Holt, Charles, 1993, *Experimental Economics*. Princeton University Press, Princeton. Chapter 3.

Suggested:

- [3] Chamberlin, E., 1948. An Experimental Imperfect Market. *Journal of Political Economy*, 56(April), 95-108. [JSTOR]
- [4] Smith, V., 1962. An Experimental Study of Competitive Market Behavior. *Journal of Political Economy*, 70(April), 111-137. [JSTOR]

### **Class 3: Risk and Time Preferences**

Required:

- [1] Holt book, Chapters 4 & 7. [PDF]

- [2] Holt, Charles and Laury, Susan, 2002. Risk Aversion and Incentive Effects. *American Economic Review*, 92(5), 1644-1655. [JSTOR]
- [3] Dohmen, Thomas, Falk, Armin, Huffman, David, Sunde, Uwe, Schupp, Jurgen et al., 2005, Individual risk Attitudes: New evidence from a large, representative, experimentally-validated survey, IZA DP No. 1730.
- [4] Coller, Maribeth and Williams, Melonie B., 1999. Eliciting Individual Discount Rates. *Experimental Economics*, 2(2), 107-127.
- [5] Harrison, Glenn W., Lau, Morten I. and Williams, Melonie B., 2002. Estimating Individual Discount Rates in Denmark: A Field Experiment. *American Economic Review*, 92(5), 1606-1617. [JSTOR]
- [6] Meier, Stephan and Sprenger, Charles, 2007, Impatience and Credit Behavior: Evidence from a field experiment, Federal Reserve Bank of Boston Working Paper 07-3.

#### **Class 4: Asset Markets and Statistics Review**

Required:

- [1] Holt book, Chapter 18. [PDF]
- [2] Ball, Sheryl B. and Holt, Charles A., 1998. Classroom Games: Speculation and Bubbles in an Asset Market. *Journal of Economic Perspectives*, 12(1), 207-218. [JSTOR]
- [3] Sunder, S., 1995, Experimental Asset Markets. In: J. Kagel and A. Roth (Eds.), *The Handbook of Experimental Economics*. Princeton University Press, Princeton.
- [4] Dufwenberg, Martin, Lindqvist, Tobias and Moore, Evan, 2005, Bubbles and Experience: An Experiment, *American Economic Review*, 95(5), 1731-37.
- [5] Noussair, Charles and Tucker, Steven, 2003, Futures Markets and Bubble Formation in Experimental Asset Markets, *Pacific Economic Review* 11(2):167-84.
- [6] Friedman, Daniel and Sunder, Shyam, 1994, *Experimental Methods: a primer for economists*. Cambridge University Press, Cambridge, Chapter 7 - Data Analysis.

Suggested:

- [7] Smith, Vernon L., Suchanek, Gerry L. and Williams, Arlington W., 1988. Bubbles, Crashes, and Endogenous Expectations in Experimental Spot Asset Markets. *Econometrica*, 56(5), 1119-1151. [JSTOR]
- [8] Friedman, Daniel and Sunder, Shyam, 1994, *Experimental Methods: a primer for economists*. Cambridge University Press, Cambridge, Chapter 8 - Reporting your results.

#### **Class 5: Auctions**

Required:

- [1] Holt book, Chapters 19 & 21. [PDF]
- [2] Milgrom, Paul, 1989. Auctions and Bidding: A Primer. *Journal of Economic Perspectives*, 3(3), 3-22. [JSTOR]
- [3] Carpenter, Jeffrey, Holmes, Jessica and Matthews, Peter, 2008. Charity Auctions: A Field Experiment. *The Economic Journal*, 118(1), 92-113.

Suggested:

- [4] Kagel, John H., 1995, Auctions: A Survey of Experimental Research. In: John H. Kagel and Alvin E. Roth (Eds.), *The handbook of experimental economics*. Princeton University Press, Princeton, pp. 501-585.
- [5] Schram, Arthur, Onderstal, Sander, 2008, Bidding to Give: An experimental comparison of auctions for charity, *International Economic Review*, forthcoming.
- [6] Goeree, J. K., Maasland, E., Onderstal, S. and Turner, J., 2005. How (Not) to Raise Money, *Journal of Political Economy*, 113(4):897-918.

## **Class 6: Alternating Offers Bargaining and Fairness**

Required:

- [1] Holt Book, Chapter 23. [PDF]
- [2] Elster, Jon, 1989, *The Cement of Society: a study of social order*. Cambridge University Press, Cambridge, Chapter. 2, pp.68-96
- [3] Gueth, Werner, Schmittberger, Rolf and Schwarze, Bernd, 1982. An Experimental Analysis of Ultimatum Bargaining. *Journal of Economic Behavior and Organization*, 3, 367-388.
- [4] Binmore, Ken, Shaked, A. and Sutton, J., 1985. Testing Noncooperative Bargaining Theory: a preliminary study. *American Economic Review*, 75(5), 1178-1180. [JSTOR]
- [5] Neelin, Janet, Sonnenschein, Hugo and Spiegel, Matthew, 1988. A Further Test of Noncooperative Bargaining Theory. *American Economic Review*, 78(4), 824-836. [JSTOR]
- [6] Carpenter, Jeffrey P., 2003. Is Fairness Used Instrumentally? Evidence from Sequential Bargaining. *Journal of Economic Psychology*, 24(4), 467-489.

Suggested:

- [7] Roth, Alvin, 1995, Bargaining Experiments. In: John Kagel and Alvin Roth (Eds.), *The Handbook of Experimental Economics*. Princeton University Press, Princeton, pp. 253-348.
- [8] Sutton, John, 1986. Non-Cooperative Bargaining Theory: An Introduction. *Review of Economic Studies*, 709-724. [JSTOR]

## **Class 7: Dictators and Altruists**

Required:

- [1] Forsythe, R., Horowitz, J., Savin, N.E. and Sefton, M., 1994. Fairness in Simple Bargaining Experiments. *Games and Economic Behavior*, 6, 347-369.
- [2] Hoffman, Elizabeth, McCabe, Kevin and Smith, Vernon, 1996. Social Distance and Other-Regarding Behavior in Dictator Games. *American Economic Review*, 86(3, June), 653-660. [JSTOR]
- [3] Carpenter, Jeffrey, Burks, Stephen and Verhoogen, Eric, 2005, Comparing Students to Workers: The Effects of Social Framing on Behavior in Distribution Games. In: Jeffrey Carpenter, Glenn Harrison and John List (Eds.), *Field Experiments in Economics. Research in Experimental Economics*. JAI/Elsevier, Greenwich, Conn. and London, pp. 261-290.
- [4] Eckel, C. and Grossman, P., 1996. Altruism in Anonymous Dictator Games. *Games and Economic Behavior*, 16, 181-191.
- [5] Benz, Matthias and Meier, Stephan, 2006, Do People Behave in Experiments as in Real Life? Evidence from donations, Federal Reserve Bank of Boston, Working Paper 06-8.
- [6] Carpenter, Jeffrey, Liati, Allison and Vickery, Brian, 2009, They Come to Play: Supply effects in an economic experiment, *Rationality & Society*, forthcoming.

Suggested:

- [7] Camerer, Colin and Thaler, Richard, 1995. Anomalies: ultimatums, dictators and manners. *Journal of Economic Perspectives*, 9(2, Spring), 209-219. [JSTOR]
- [8] Carpenter, Jeffrey, Verhoogen, Eric and Burks, Stephen, 2005. The Effect of Stakes in Distribution Experiments. *Economics Letters*, 86(3), 393-398.
- [9] Fong, Christina, 2007. Evidence from an experiment on charity to welfare recipients: Reciprocity, altruism and the empathic responsiveness hypothesis *The Economic Journal*. 117(522), 1008-1024.

## **Class 9: Trust and Positive Reciprocity**

Required:

- [1] Berg, Joyce, Dickhaut, John and McCabe, Kevin, 1995. Trust, Reciprocity and Social History. *Games and Economic Behavior*, 10, 122-142.
- [2] Burks, Stephen V., Carpenter, Jeffrey P. and Verhoogen, Eric, 2003. Playing Both Roles in the Trust Game. *Journal of Economic Behavior and Organization*, 51(2), 195-216.
- [3] Cox, James C., 2004. How to Identify Trust and Reciprocity. *Games and Economic Behavior*, 46, 260-281.
- [4] Karlan, Dean, 2005. Using Experimental Economics to Measure Social Capital and Predict Financial Decisions. *American Economic Review*, 95(5):1688-99.
- [5] Barr, Abigail, 2003. Trust and Expected Trustworthiness: Experimental Evidence from Zimbabwe. *The Economic Journal*, 113(489), 614-630.
- [6] Fehr, Ernst, Kirchsteiger, Georg and Riedl, Arno, 1993. Does Fairness Prevent Market Clearing? An Experimental Investigation. *Quarterly Journal of Economics*, 437-459. [JSTOR]

Suggested:

- [7] Fehr, Ernst and Gaechter, Simon, 2001, Fairness in the Labour Market -- A Survey of Experimental Results. In: Friedel Bolle and Marco Lehmann-Waffenschmidt (Eds.), *Surveys in Experimental Economics. Bargaining, Cooperation and Election Stock Markets*. Physica Verlag.

### **Class 10: Social Dilemmas (PD, VCM, CPR)**

Required:

- [1] Holt Book, Chapters 26 & 28. [PDF]
- [2] Fehr, Ernst, Kosfeld, Michael and Weibull, Jorgen, 2003, *The Game Prisoners (Really) Play*, Institute for Empirical Research in Economics, University of Zurich, Working Paper.
- [3] Burks, Stephen, Carpenter, Jeffrey and Goette, Lorenz, 2009, Performance Pay and the Erosion of Worker Cooperation: Evidence from an artefactual field experiment, *Journal of Economic Behavior and Organization*, 70(3), 459-469.
- [4] Dawes, Robyn and Thaler, Richard, 1988. Anomalies Cooperation. *Journal of Economic Perspectives*, 2(3), 187-197. [JSTOR]
- [5] Ostrom, Elinor, Gardner, Roy and Walker, James, 1994, *Rules, Games and Common-Pool Resources*. University of Michigan Press, Ann Arbor, Chapter 5.

Suggested:

- [6] Ledyard, John, 1995, Public Goods: a survey of experimental research. In: John Kagel and Alvin Roth (Eds.), *The Handbook of Experimental Economics*. Princeton University Press, Princeton, pp. 111-194.
- [7] Cardenas, J.C., Stranlund, J. and Willis, C., 2000. Local Environmental Control and Institutional Crowding-Out. *World Development*, 28(10), 1719-1733.
- [8] Frank, R., Gilovich, T. and Regan, D., 1993. Does Studying Economics Inhibit Cooperation? *Journal of Economic Perspectives*, 7(2), 159-171. [JSTOR]

### **Class 11: Punishment and Negative Reciprocity**

Required:

- [1] Fehr, Ernst and Gaechter, Simon, 2000. Cooperation and Punishment in Public Goods Experiments. *American Economic Review*, 90(4), 980-994. [JSTOR]
- [2] Carpenter, Jeffrey, 2007. Punishing Free-Riders: how group size affects mutual monitoring and the provision of public goods. *Games and Economic Behavior*, 60(1), 31-51.

[3] Carpenter, Jeffrey, 2007. The Demand for Punishment. *Journal of Economic Behavior & Organization*, 62(2), 522-542.

[4] Masclet, David, Noussair, Charles, Tucker, Steven and Villeval, Marie-Claire, 2003. Monetary and Nonmonetary Punishment in the Voluntary Contributions Mechanism. *American Economic Review*, 93(1), 366-380.

[5] Carpenter, Jeffrey and Matthews, Peter, 2005, Norm Enforcement: Anger, Indignation, or Reciprocity, Department of Economics, Middlebury College, Working Paper 0503.

Suggested:

[6] Fehr, Ernst and Fischbacher, Urs, 2004. Third Party Punishment and Social Norms. *Evolution and Human Behavior*, 25, 63-87.

[7] Nikiforakis, Nikos, 2008, Punishment and Counter-punishment in Public Goods Games: Can we still govern ourselves?, *Journal of Public Economics*, 92, 91-112.

### **Class 12: Field Experiments**

Required:

[1] Harrison, Glenn and List, John, 2004. Field Experiments. *Journal of Economic Literature*, 42(December), 1009-1055.

[2] Cardenas, Juan Camilo and Carpenter, Jeffrey, 2008, Behavioral Development Economics: Lessons from field labs in the developing world, *Journal of Development Studies*, 44(3), 337-364.

[3] List, John, 2004. Young, Selfish and Male: Field Evidence of Social Preferences. *The Economic Journal*, 114(January), 121-149.

[4] Carpenter, Jeffrey and Seki, Erika, 2005, Do Social Preferences Increase Productivity? Field experimental evidence from fishermen in Toyama Bay, IZA Discussion Paper 1697.

Suggested:

[5] Cardenas, Juan Camilo and Carpenter, Jeffrey, 2005, Three Themes on Field Experiments and Economic Development. In: Jeffrey Carpenter, John List and Glenn Harrison (Eds.), *Field Experiments in Economics*. JAI Press, Greenwich, pp. 71-124.

### **Class 13: Neuroeconomics**

Required:

[1] Camerer, Colin, Loewenstein, George and Prelec, Drazen, 2005. Neuroeconomics: How neuroscience can inform economics. *Journal of Economic Literature*, 43(1), 9-64.

[2] Rustichini, Aldo, 2005. Neuroeconomics: Present and future. *Games and Economic Behavior*, 52, 201-212.

[3] Fehr, Ernst, Fischbacher, Urs and Kosfeld, Michael, 2005. Neuroeconomic Foundations of Trust and Social Preferences. *American Economic Review*, .95(2), 346-351.

[4] de Quervain, Dominique, Fischbacher, Urs, Treyer, Valerie, Schellhammer, Melanie, Schnyder, Ulrich et al., 2004. The Neural Basis of Altruistic Punishment. *Science*, 305(August 27), 1254-1258.

[5] Kosfeld, Michael, Heinrichs, Markus, Zak, Paul, Fischbacher, Urs and Fehr, Ernst, 2005. Oxytocin increases trust in humans. *Nature*, 435(2), 673-676.

[6] Sanfey, A.G., Rilling, J.K., Aronson, J.A., Nystrom, L.E. and Cohen, J.D., 2003. The Neural Basis of Economic Decision-Making in the Ultimatum Game. *Science*, 300(13 June), 1755-1758.

Suggested:

- [7] Rustichini, Aldo, Dickhaut, John, Ghirardato, Paolo, Smith, Kip and Pardo, Jose, 2005. A Brain Imaging Study of the Choice Procedure. *Games and Economic Behavior*, 52, 257-282.
- [8] Bhatt, Meghana and Camerer, Colin, 2005. Self-Referential Thinking and Equilibrium as States of Mind in Games: fMRI evidence. *Games and Economic Behavior*, 52, 424-459.