

## 實驗經濟學課程大綱 Course Syllabus for Experimental Economics

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**Class Time:** Friday, 12:20am-3:10pm at 經大講堂

**Office Hours:** By email appointment

### Course Description:

This is an upper division and graduate level introductory course on experimental economics. The purpose is to provide a thorough introduction to experimental economics so students can start to perform their own research in this field. You will be expected to write a research proposal by the end of the course.

Specific goals of this class include:

1. **Introduction to experimental economics:** After the class, students are expected to name several experiments performed in each fields of economics, and describe how the experimental results affirm (or differ from) economic theory and/or field data.
2. **Running an experiment:** Students have to run a class experiment, and write a lab report.
3. **Experimental design:** After the class, students are expected to understand how to design and run an experiment. Students are expected to write a final research proposal that
  - a. describes a proposed experiment (with a sample instructions for subjects),
  - b. argues why should we care about this experiment and why the experiment is designed this way (compared to other possible designs), and,
  - c. states expected results and methods to analyze the data (or simulation results).
4. **Evaluate the most current research:** After the class, students are expected to develop the ability to read recent journal articles in experimental economics, and evaluate the quality of the papers. During class, students are expected to read assigned journal articles, write one (referee) review report for them, and present the article in class.

### References and Textbook:

1. Holt and Charles (2007), *Markets, Games and Strategic Behavior*, Addison-Wesley (hereafter *MGS*). Most up-to-date undergraduate textbook on experimental economics.
2. Cassar and Friedman (2004), *Economics Lab: An Intensive Course in Experimental Economics*, Routledge (hereafter *EL*). Classnotes from the Trento Summer School of Experimental Economics on June 18-29, 2001, an intensive course in experimental economics. Recommended to any student who wants to design an experiment.
3. Camerer (2003), *Behavioral Game Theory: Experiments in Strategic Interaction*, Princeton University Press (hereafter *BGT*). Introduction to behavioral game theory.
4. Kagel and Roth, ed. (1995), *Handbook of Experimental Economics*, Princeton University Press (hereafter *HEE*). Comprehensive (but old) literature review on experimental economics. Recommended to graduate students as a background review.

### Assignments:

You need to hand in a midterm group laboratory report on one classroom experiment (30%), participate as subjects in others' experiments (30%) and an individual final research proposal (max 4 pages) (30%). Class presentation of your research proposal is highly recommended and earns extra credit. Each group will also have to review a journal article, write a referee report and present the article in class (10%).

## Course outline:

- [ 2/20] **Introduction:** *BGT*, Ch. 1, *EL*, Ch. 2, and *MGS*, Ch. 1-3.  
**Basic Principles of Experimental Design:** *EL*, Ch. 3-4 and *BGT*, A1.2. (Methods 1)
- [ 2/27] **Guest Lecture: Online Field Experiment** (by Yan Chen, University of Michigan)
- [ 3/ 6 ] **Experimental Design, Procedure and Analysis:** *EL*, Ch. 5-7. (Methods 2)  
**Risk and Time Preferences:** *EL*, Ch. 14, and *MSG*, Ch. 27-29. (Preferences 1)
- [ 3/13] **Social Preferences:** *BGT*, Ch. 2, *EL*, Ch. 14, and *MGS*, Ch. 12-13. (Preferences 2)
- [ 3/20] **Bargaining:** *BGT*, Ch. 4 and *MGS*, Ch. 23. (Market Behavior 1)
- [ 3/27] **Auctions:** *EL*, Ch. 9 and *MGS*, Ch. 19-22. (Market Behavior 2)
- [ 4/ 3 ] No class (Holiday)
- [ 4/10] **Asset Markets:** *EL*, Ch. 8 and *MGS*, Ch. 11, 34. (Market Behavior 3)
- [ 4/17] **Nash Equilibrium and QRE:** *BGT*, Ch. 3 and *MGS*, Ch. 5, 24. (Game Theory 1)
- [ 4/24] **Initial Response and Level-k thinking:** *BGT*, Ch. 5, and Crawford (2008), “Level-k Thinking”, lecture notes. (Game Theory 2)
- [ 5/ 1 ] **Learning:** *BGT*, Ch. 6. (Game Theory 3)
- [ 5/ 8 ] **Equilibrium Selection and Coordination:** *BGT*, Ch. 7; *MGS*, Ch. 26. (Game Theory 4)
- [ 5/15] **Signaling, Reputation and Cheap Talk:** *BGT*, Ch. 8, *MGS*, Ch. 33 and Wang, Spezio and Camerer (2009). (Strategic Behavior 1)
- [ 5/22] **Market Structure:** *EL*, Ch. 10 and *MGS*, Ch. 6-10. (Strategic Behavior 2)
- [ 5/29] No class (Holiday)
- [ 6/ 5 ] **Public Choice:** *EL*, Ch. 15 and *MSG*, Ch. 14-18. (Strategic Behavior 3)
- [ 6/12] **Neuroeconomics and Eyetracking:** (Frontier)

## Reading List:

- [ 2/20] **Introduction:** *BGT*, Ch. 1, *EL*, Ch. 2, and *MGS*, Ch. 1-3. (intro)  
**Basic Principles of Experimental Design:** *EL*, Ch. 3-4, *BGT*, A1.2. (Methods 1)  
**Other References:** *HEE*, Ch. 1.  
Rabin (2003), “The Nobel Memorial Prize for Daniel Kahneman,” *Scandinavian Journal of Economics*, 105 (2), 157-182.  
Bergstrom (2003), “Vernon Smith's Insomnia and the Dawn of Economics as Experimental Science,” *Scandinavian Journal of Economics*, 105 (2), 181–205.
- [ 2/27] **Guest Lecture: Online Field Experiment** (by Yan Chen, University of Michigan)  
Harrison and List (2004), [“Field Experiments,”](#) *Journal of Economic Literature*, 42(4), 1009-1055.  
Duflo, Glennerster and Kremer (2007), [“Using Randomization in Development Economics: A Toolkit,”](#) forthcoming in *Handbook of Developmental Economics*, Vol. 4, ed. by T. Schultz and John Strauss, North-Holland.  
**Other References:**  
Duflo, Dupas and Kremer (2007), [“Peer Effects, Pupil-Teacher Ratios, and Teacher Incentives: Evidence from a Randomized Evaluation in Kenya,”](#) discussion paper.  
Karlan and List (2007), “Does Price Matter in Charitable Giving? Evidence from a Large-Scale Natural Field Experiment”, *American Economic Review*, 97(5), 1774-1793.

Bertrand and Mullainathan (2004), "[Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination.](#)" *The American Economic Review*, 94 (4), 991-1013.

- [ 3/ 6 ] **Experimental Design, Procedure and Analysis:** *EL*, Ch. 5-7. (Methods 2)  
**Risk and Time Preferences:** *EL*, Ch. 14, and *MSG*, Ch. 27-29. (Preferences 1)  
**Other References:** *HEE*, Ch. 8.  
\*Tomomi Tanaka, Colin Camerer and Quang Nguyen (2007), "[Risk and time preferences: Experimental and household data from Vietnam.](#)" 3<sup>rd</sup> round revision for the *American Economic Review*.  
\*Hsu, Bhatt, Adolphs, Tranel and Camerer (2005), "[Neural Systems Responding to Degrees of Uncertainty In Human Decision Making.](#)" *Science*, 310, 9 December 2005, 1624-1625. ([Perspectives](#) by Rustichini.)  
McClure, Ericson, Laibson, Loewenstein, and Cohen (2007) "[Time Discounting for Primary Rewards.](#)" *Journal of Neuroscience*, 27: 5796–5804.  
McClure, Laibson, Loewenstein and Cohen (2004), "[Separate Neural Systems Value Immediate and Delayed Monetary Rewards](#)" *Science* 306, October 15 2004.
- [ 3/13 ] **Social Preferences:** *BGT*, Ch. 2, *EL*, Ch. 14, and *MGS*, Ch. 12-13. (Preferences 2)  
**Other References:** *HEE*, Ch. 2.  
Hsu, Anen and Quartz (2008), "[The Right and the Good: Distributive Justice and Neural Encoding of Equity and Efficiency.](#)" *Science* 320 (5879), 1092-1095. [SOM]  
Knoch, Pascual-Leone, Meyer, Treyer and Fehr (2006), "[Diminishing Reciprocal Fairness by Disrupting the Right Prefrontal Cortex.](#)" *Science* 314, 3 November 2006, 912-915. (TMS)  
De Quervain, Fischbacher, Treyer, Schellhammer, Schnyder, Buck, and Fehr (2004), "[The Neural Basis of Altruistic Punishment.](#)" *Science* 305, 27 August 2004, 1254-1258. (PET)  
Kosfeld, Heinrichs, Zak, Fischbacher and Fehr (2005), "[Oxytocin increases Trust in Humans.](#)" *Nature* 435, 2 June 2005, 673-676. (Oxytocin)
- [ 3/20 ] **Bargaining:** *BGT*, Ch. 4, and *MGS*, Ch. 23. (Market Behavior 1)  
**Other References:** *HEE*, Ch. 4.  
Valley, Thompson, Gibbons, and Bazerman (2002), "[How Communication Improves Efficiency in Bargaining Games.](#)" *Games and Economic Behavior*, 38(1), 127-155.  
Johnson, Camerer, Sen and Rymon (2002), "[Detecting Failures of Backward Induction: Monitoring Information Search in Sequential Bargaining.](#)" *Journal of Economic Theory*, 104 (1), 16-47.
- [ 3/27 ] **Auctions:** *EL*, Ch. 9 and *MGS*, Ch. 19-22. (Market Behavior 2)  
**Other References:** *HEE*, Ch. 7  
Crawford and Nagore Iriberry (2007), "Level-k Auctions: Can a Non-Equilibrium Model of Strategic Thinking Explain the Winner's Curse and Overbidding in Private-Value Auctions?," *Econometrica* 75(6), 1721–1770.  
Goeree and Holt (2007), "[Hierarchical Package Bidding: A Paper & Pencil Combinatorial Auction](#)", *Games and Economic Behavior*, forthcoming.

Goeree, Holt and Palfrey (2002), “Quantal Response Equilibrium and Overbidding in Private-Value Auctions,” *Journal of Economic Theory*, 104(1), 247-272

[ 4/10] **Asset Markets:** *EL*, Ch. 8 and *MGS*, Ch. 11, 34. (Market Behavior 3)

**Other References:** *HEE*, Ch. 6

Bossaerts, Plott and Zame (2007), “[Prices and Portfolio Choices in Financial Markets: Theory, Econometrics, Experiments](#),” *Econometrica*, 75 (4), 993–1038.

Snowberg, Wolfers and Zitzewitz (2007), “[Partisan Impacts on the Economy: Evidence from Prediction Markets and Close Elections](#),” *Quarterly Journal of Economics*, 122(2), 807-829.

Hussam, Porter and Smith (2008), “[Thar' She Blows: Rekindling Bubbles with Experienced Subjects](#),” *American Economic Review*, 98(3), 924-937.

[ 4/17] **Nash Equilibrium and QRE:** *BGT*, Ch. 3 and *MGS*, Ch. 5, 24. (Game Theory 1)

**Other References:**

Goeree, Holt, and Palfrey (2008), “Quantal Response Equilibrium”, *New Palgrave Dictionary of Economics*, Second Edition, Editors Steven N. Durlauf and Lawrence E. Blume, Palgrave Macmillan, 2008.

Haile, Hortacsu and Kosenok (2008), “On the Empirical Content of Quantal Response Equilibrium,” *American Economic Review*, 98(1), 180-200.

Ostling, Wang, Chou and Camerer (2008), “[Strategic Thinking and Learning in the Field and Lab: Evidence from Poisson LUPI Lottery Games](#),” working paper.

Crawford and Iriberri (2007), “Fatal Attraction: Saliency, Naivete, and Sophistication in Experimental ‘Hide-and-Seek’ Games,” *American Economic Review*, 97(5), 1731-1750.

[ 4/24] **Initial Response and Level-k thinking (in DSG, and others):** *BGT*, Ch. 5, and Crawford (2008), “Level-k Thinking”, lecture notes. (Game Theory 2)

**Other References:**

Chen, Huang and Wang (2009), “A Window of Cognition: Eyetracking the Reasoning Process in Spatial Beauty Contest Games,” *mimeo*.

Costa-Gomes and Crawford (2006), “Cognition and Behavior in Two-Person Guessing Games: An Experimental Study,” *American Economic Review*, 96 (5), 1737-1768.

Camerer, Ho and Chong (2004), “A Cognitive Hierarchy Model of Games,” *Quarterly Journal of Economics*, 119(3), 861–898.

Holt and Goeree (2004), “[A model of noisy introspection](#),” *Games and Economic Behavior*, 46 (2), 365-382.

[ 5/ 1 ] **Learning:** *BGT*, Ch. 6. (Game Theory 3)

**Other References:**

Knoepfle, Wang and Camerer (2009), “Studying Learning in Games using Eye-tracking,” *Journal of the European Economic Association*, forthcoming.

Ho, Wang and Camerer (2008), “Individual Differences in EWA Learning With Partial Payoff Information,” *Economic Journal*, 118, 37-59.

Ho, Camerer and Chong (2007), “Self-tuning experience weighted attraction learning in games,” *Journal of Economic Theory*, 133, 177-198.

Wilcox (2006), “Theories of Learning in Games and Heterogeneity Bias,” *Econometrica*, 74 (5), 1271-1292.

[ 5/ 8 ] **Equilibrium Selection and Coordination:** *BGT*, Ch. 7 and *MGS*, Ch. 26. (Game Theory 4)

**Other References:** *HEE*, Ch. 3.

Weber (2006), “[Managing Growth to Achieve Efficient Coordination in Large Groups](#),” *American Economic Review*, 96(1), 114-126.

[ 5/15 ] **Signaling, Reputation and Cheap Talk:** *BGT*, Ch. 8, *MGS*, Ch. 33. (Strategic Behavior 1)

**Other References:**

Wang, Spezio and Camerer (2009), “Pinochio’s Pupil: Studying Truth-telling and Lying in Sender-Receiver Games”, working paper.

Bereby-Meyer and Roth (2006), “[The Speed of Learning in Noisy Games: Partial Reinforcement and the Sustainability of Cooperation](#),” *American Economic Review*, 96 (4), 1029-1042.

[ 5/22 ] **Market Structure:** *EL*, Ch. 10 and *MGS*, Ch. 6-10. (Strategic Behavior 2)

**Other References:** *HEE*, Ch. 5

McKinney, Niederle and Roth (2005), “[The collapse of a medical labor clearinghouse \(and why such failures are rare\)](#),” *American Economic Review*, 95 (3), 878-889.

[ 6/ 5 ] **Public Choice:** *EL*, Ch. 15 and *MSG*, Ch. 14-18. (Strategic Behavior 3)

**Other References:** *HEE*, Ch. 2

Choi, Gale and Kariv (2008), “[Sequential Equilibrium in Monotone Games: Theory-Based Analysis of Experimental Data](#),” *Journal of Economic Theory*, 143(1), 302–330.

Palfrey and Levine (2007), “[The Paradox of Voter Participation? A Laboratory Study](#)”, *American Political Science Review*, 101, 143-158.

Kurzban, McCabe, Smith and Wilson (2001), “Incremental Commitment and Reciprocity in a Real-Time Public Goods Game,” *Personality and Social Psychology Bulletin*, 27(12), 1662-1673.

[ 6/12 ] **Neuroeconomics and Eyetracking:** (Frontier)

Camerer (2007), “[Neuroeconomics: Using Neuroscience to Make Economic Predictions](#),” *Economic Journal*, 117(519), C26 - C42.

Wang (2009), “Pupil Dilation and Eyetracking”, *Handbook of Process Tracing Methods*, in preparation.

**Other References:**

\*Kang, Hsu, Krajbich, Loewenstein, McClure, Wang, and Camerer (2009), “The Wick in the Candle of Learning: Epistemic Curiosity Activates Reward Circuitry and Enhances Memory,” *Psychological Science*, forthcoming.

Gabaix, Laibson, Moloche and Weinberg (2006), “[Costly Information Acquisition: Experimental Analysis of a Boundedly Rational Model](#),” *American Economic Review*, 96 (4), 1043-1068. (with [Technical Appendix](#))