Syllabus for Experimental Economics I: Behavioral Game Theory

Classroom and Time: Friday 1:20-4:20pm, at Social Sciences 405 (社科 405 教室)
Class website: http://homepage.ntu.edu.tw/~josephw/experimental_18S.htm
Instructor: Joseph Tao-yi Wang (josephw "at" ntu.edu.tw) Office: Social Sciences 754
Office Hours: Friday 4:20-5pm (after class) or by email appointment
Instructor: Sun-Tak Kim (sunkim "at" ntu.edu.tw) Office: Social Sciences 849
Office Hours: Monday 4:20-6:20pm or by email appointment

This is an upper division and graduate level course on experimental economics, focusing on behavioral game theory. The purpose is to introduce experimental economics to students so they can start their own research in this field. You are expected to write individual research proposals and present them. Specific goals of this course include:

1. **Introduction to experimental economics**: After this class, students are expected to be able to name several experiments performed in each fields of economics, and describe how the results affirm (or differ from) economic theory and/or field data.

2. **Experimental design**: After this class, students are expected to understand how to design and run an experiment. Students will also write a research proposal that:
   a. Describes a proposed experiment (with 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. Relates your experiment to existing literature (if any) and describes expected results and/or methods to analyze the data (or simulation results).

3. **Evaluate most current research**: After this 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 and book chapters and present one article and/or one chapter in class.

Textbooks:

1. Camerer (2003), Behavioral Game Theory, Princeton University Press (BGT).

Recommended Reading:

2. Kagel and Roth, ed. (1995, 2016), Handbook of Experimental Economics, Vol. 1 and Handbook of Experimental Economics, Vol. 2, Princeton University Press (HEE1, 2).
3. Palfrey (2016), "Experiments in Political Economy," in HEE2. (Survey: Experiments)
4. Austen-Smith and Banks (2005), Positive Political Theory II, University of Michigan Press. (Political Economy - Theory: ABII)
5. McCarty and Meirowitz (2007), Political Game Theory, Cambridge University Press. (Political Economy - Theory: MM)
6. Holt (2007), Markets, Games and Strategic Behavior, Pearson. (Undergrad)
7. Mas-Colell, Whinston & Green (1995), Microeconomic Theory, Oxford University Press.

Assignments:

1. Homework and Quiz (20%): Midterm quiz (4/27) on weekly problem sets.
2. Programming Homework (30%): (Estimation in groups; Replication individually)
   a. Replication Reports (5% each) for Wang et al. (2010) and Ostling et al. (2011).
   b. Estimation of simulated experimental data (20%) for Chen et al. (2017).
3. Paper Presentation and Feedback (30%): 20-minute oral presentation and subsequent discussion of one research article (20%) and feedback to other presenters (10%).
4. Research Proposal (20%): Written proposal (<4 pages).

Note: Feedback for other presenters should be uploaded to CEIBA and google documents, so the GA can compile them and send them to the presenters. Consult the "Oral Presentation Evaluation Criteria and Checklist" for elements of a good presentation and specific areas you should provide feedback, and Wei-jen Hsu's 關於 presentation 的一些想法 (aka How to Prepare a 20-minute Presentation using 20 hours) for how I expect you to prepare the presentations.

Course Outline:

- Experimental Economics and Behavioral Game Theory (BGT Ch.1; Wang notes)
1. [3/ 2] Risk and Time Preferences (Holt, Ch.4, Liu et al. 2014)
   a. Basic Principles of Experimental Design (BGT A1.2)
2. [3/ 9] Social Preferences: Ultimatum, Dictator and Trust Games (BGT, Ch.2; new Handbook chapter, Review for Ultimatum, Dictator and Trust Games)
3. [3/16] Mixed-Strategy Equilibrium (BGT, Ch. 3; Ostling et al., 2011)
4. [3/23] Bargaining (BGT, Ch. 4) and Dominant Solvable Games (BGT, Ch. 5)
5. [3/30] Level-k Model (BGT, Ch. 5; Crawford et al. 2013)
- [4/ 6] Spring Break (Watch OCW/Coursera video of first lecture)
6. [4/13] Political Economy 1: Legislative Bargaining (MM, 10.3-10.4)
7. [4/20] Political Economy 2: Information Aggregation (MM, 6.3-6.4)
- [4/27] Midterm Quiz (On weekly problem sets)
8. [5/ 4] Political Economy 3: Voter Participation (ABII, 7.9)
9. [5/11] Political Economy 4: Dynamic Political Economy
10. [5/18] Student Presentations (3 papers)
11. [5/25] Student Presentations (3 papers)
12. [6/ 1] Student Presentations (3 papers)
13. [6/ 8] Student Presentations (3 papers)
14. [6/15] Student Presentations (3 papers)
- [6/22] Final Proposal Due

Paper Presentation:

Cheap Talk Games:

1. Wang, Spezio and Camerer (2010), "[Pinocchio's Pupil: Using Eyetracking and Pupil Dilation to Understand Truth telling and Deception in Sender-Receiver Games](#)," *American Economic Review*, 100(3), 984-1007.

2. Lai, Lim and Wang (2015), "[An Experimental Analysis of Multidimensional Cheap Talk](#)," *Games and Economic Behavior*, 91, 114-144.

3. Vespa and Wilson (2016), "[Communication with multiple senders: An experiment](#)," *Quantitative Economics*, 7(1), 1-36.

4. Minozzi and Woon (2016), "[Competition, preference uncertainty, and jamming: A strategic communication experiment](#)," *Games and Economic Behavior*, 96, 97-114.

5. Battaglini, Lai, Lim and Wang (2017), "[The Informational Theory of Legislative Committees: An Experimental Analysis](#)," mimeo.

Political Economy Theory and Experiments:

6. Guarnaschelli, McKelvey and Palfrey (2000), "An Experimental Study of Jury Decision Rules," *American Political Science Review*, 94(2), 407-423.

7. Battaglini, Morton and Palfrey (2010), "Swing Voter's Curse in the Laboratory," *Review of Economic Studies*, 77, 61-89.

8. Goeree and Yariv (2011), "An Experimental Study of Collective Deliberation," *Econometrica*, 79(3), 893-921.

9. Bhattacharya, Duffy and Kim (2014), "Compulsory versus Voluntary Voting: An Experimental Study," *Games and Economic Behavior*, 84, 111-131.

10. Levin and Palfrey (2007), "The Paradox of Voter Participation," *American Political Science Review*, 101(1), 143-158.

11. Feddersen, Gailmard and Sandroni (2009), "Moral Bias in Large Elections: Theory and Experimental Evidence," *American Political Science Review*, 103(2), 175-192.

12. Frechette, Kagel and Lehrer (2003), "Bargaining in Legislatures: An Experimental Investigation of Open versus Closed Amendment Rules," *American Political Science Review*, 97(2), 221-232.

13. Battaglini, Nunnari and Palfrey (2012), "Legislative Bargaining and the Dynamics of Public Investment," *American Political Science Review*, 106(2), 407-429.

14. Agranov and Tergiman (2014), "Communication in Multilateral Bargaining," *Journal of Public Economics*, 118, 75-85.

15. Battaglini and Palfrey (2012), "The Dynamics of Distributive Politics," *Economic Theory*, 49(3), 739-777.