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ECO2100H1S: Advanced Microeconomic Theory I Winter 2011

CLASSES: Thursdays 9:10-11:00am, GE 100

EVALUATION: Referee report, due February 17th - 20% Presentation - 30% Research proposal, due April 15th - 50%

This course is intended to help prepare students to conduct research in microeconomic theory and related fields. The course will focus on recent research papers on the topics of global games, common knowledge, and Bayesian learning (combining optimal experimentation and social learning). Each week I will announce the papers that will be covered in the next class; students are expected to read those papers prior to the corresponding lecture.

The evaluations for the course, described below, are all designed to develop essential skills for success in research.

<u>Referee report</u>: The referee report will be on a paper from the reading list that is not being covered in class. Each student must write on a different paper. In order to prevent duplication, you must let me know by February 3rd (at the latest) on which paper you would like to report. Papers will be allocated on a first-come first-served basis: in case two or more students ask to write about the same paper, it will be given to whoever asks first.

Refere reports are typically 3-5 pages in length, consisting of a 1/2-1 page summary of the paper, with the remaining length offering a critical discussion. A good report identifies strengths and weaknesses of the paper, explains precisely how it contributes to the literature, and, importantly, offers concrete and feasible suggestions for improvement. The report can address any aspects of the paper from broad conceptual issues to details of modeling and presentation.

<u>Presentation</u>: Presentations will be 50 minutes long, and will take place during the final weeks of class (with the exact schedule depending on final enrolment). Each presentation will cover one paper from the reading list or an alternative paper subject to my approval. Scheduling of presentations will be determined on January 20th; you should let me know before then what paper you would like to present. As described above for referee reports, papers will be allocated on a first-come first-served basis.

Each student **must** arrange a meeting with me to take place no later than the Friday before the presentation to go over the presentation slides. A good presentation will convey the main points of the paper while offering a critical perspective. It is particularly important to precisely describe the model and main results without getting lost in technical details.

<u>Research proposal</u>: The research proposal must describe a novel project on any topic in microeconomic theory; it need not be directly related to material covered in the class. As a rough guideline, I expect most proposals to be 6–10 pages in length. A good proposal clearly motivates the research project, discusses how it fits with related literature, and precisely describes a framework for studying the problem. Be sure to describe what sort of results you hope would come out of the project. One approach that can work well is to fully solve a simple example and then discuss how it could be extended to a more general setting. I strongly encourage you to meet with me to discuss any ideas for the proposal before you start writing. Note that you are responsible for doing a thorough enough literature search to be confident that your proposed research is indeed novel.

READING LIST:

1 Global games and common knowledge

- G.M. Angeletos, C. Hellwig, and A. Pavan. Signaling in a global game: Coordination and policy traps. *Journal of Political Economy*, 114(3):452–484, 2006.
- [2] G.M. Angeletos, C. Hellwig, and A. Pavan. Dynamic global games of regime change: Learning, multiplicity, and the timing of attacks. *Econometrica*, 75(3):711–756, 2007.
- [3] G.M. Angeletos and I. Werning. Crises and prices: Information aggregation, multiplicity, and volatility. The American economic review, 96(5):1720–1736, 2006.
- [4] R.J. Aumann. Agreeing to disagree. The annals of statistics, 4(6):1236–1239, 1976.
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- [6] A. Brandenburger and E. Dekel. Common knowledge with probability 1. Journal of Mathematical Economics, 16(3):237–245, 1987.
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- [11] S. Chassang and G.P. i Miquel. Conflict and Deterrence under Strategic Risk. Quarterly Journal of Economics, 125(4):1821–1858.
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- [15] J. Geanakoplos. Common knowledge. In Proceedings of the 4th conference on Theoretical aspects of reasoning about knowledge, pages 254–315. Morgan Kaufmann Publishers Inc., 1992.
- [16] I. Goldstein, E. Ozdenoren, and K. Yuan. Learning and Complementarities: Implications for Speculative Attacks. Forthcoming in *Review of Economic Studies*, 2010.
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- [21] S. Morris and H.S. Shin. Common Belief Foundations of Global Games. Working paper.
- [22] S. Morris and H.S. Shin. Unique equilibrium in a model of self-fulfilling currency attacks. American Economic Review, pages 587–597, 1998.
- [23] S. Morris and H.S. Shin. Global games: theory and applications. In Advances in Economics and Econometrics: theory and applications, Eighth world Congress, volume 1, pages 56–114, 2003.
- [24] S. Morris and H.S. Shin. Liquidity black holes. Review of Finance, 8(1):1, 2004.
- [25] D.P. Myatt. On the Theory of Strategic Voting1. Review of Economic Studies, 74(1):255–281, 2007.
- [26] G.L. Ordonez. Fragility of reputation and clustering of risk-taking. Staff Report, 2009.
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2 Bayesian learning

- [31] D. Acemoglu, M. Dahleh, I. Lobel, and A.E. Ozdaglar. Bayesian learning in social networks. Forthcoming in *Review of Economic Studies*, 2010.
- [32] S.N. Ali and N. Kartik. Observational learning with collective preferences. Working paper, 2010.
- [33] A. Banerjee and D. Fudenberg. Word-of-mouth learning. Games and Economic Behavior, 46:1–22, 2004.
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- [49] J. Hörner and L. Samuelson. Incentives for Experimenting Agents. Working paper, 2009.
- [50] G. Keller and S. Rady. Strategic experimentation with Poisson bandits. *Theoretical Economics*, 5(2):275–311, 2010.
- [51] G. Keller, S. Rady, and M. Cripps. Strategic experimentation with exponential bandits. *Econo-metrica*, 73(1):39–68, 2005.
- [52] G. Moscarini and F. Squintani. Competitive experimentation with private information: The survivor's curse. *Journal of Economic Theory*, 145(2):639–660, 2010.
- [53] P. Murto and J. Välimäki. Learning and Information Aggregation in an Exit Game. Forthcoming in *Review of Economic Studies*, 2010.
- [54] D. Rosenberg, E. Solan, and N. Vieille. Social Learning in One-Arm Bandit Problems. Econometrica, 75(6):1591–1611, 2007.
- [55] L. Smith and P. Sørensen. Pathological outcomes of observational learning. *Econometrica*, 68(2):371–398, 2000.
- [56] L. Smith and P.N. Sorensen. Informational herding and optimal experimentation. Working paper, 2008.
- [57] B. Strulovici. Learning while voting: Determinants of collective experimentation. *Econometrica*, 78(3):933–971, 2010.

<u>IMPORTANT DATES</u>: February 17th: referee report due February 24th: reading week, no class April 7th: last class April 15th: research proposal due