

**Advanced Microeconomic Analysis I:**  
**Information, Communication, and Group Decision Making**

Columbia University, Fall 2008

**Description:** This is a Ph.D. elective course in Microeconomic Theory. The strategic transmission of private information plays an important role in many fields of economics. We will begin by studying classic and cutting-edge models of strategic communication, including some applications. We then look at problems of collective decision making when information may be dispersed amongst a group. This involves aggregating both information and potentially heterogeneous preferences. Finally, we will study “observational learning”, where people try to learn about others’ information not (just) from their words, but rather from their actions.

**Pre-requisites:** Knowledge of non-cooperative game theory at the level of a first year Ph.D. sequence should be sufficient. Ideally, you are comfortable with refinements of Nash equilibrium such as sequential equilibrium and solving games of incomplete information. Notwithstanding, I will devote time as needed to solution concepts.

**Logistics:**

*Instructor:* Navin Kartik, IAB 1127, [nkartik@columbia.edu](mailto:nkartik@columbia.edu).

*Meetings:* Wednesdays, 9.00-10.50am in IAB 501B. There will be no meeting on Nov. 26.

*Office Hours:* TBA; but feel free to make an appointment at any time.

**Requirements and Grading:** Aside from your regular attendance and participation in our class discussion (you should read the lecture readings in advance), there are three things I ask of you:

1. I will assign occasional homework exercises, perhaps three or four over the semester. These are intended to bolster our understanding of the papers we read. Although you should each turn in separate solutions, you are encouraged to collaborate on solving the problems.
2. Each of you will make a presentation in class based on a paper of your choice that is narrowly related to the course topics. I recommend you pick a paper from the *Additional Readings* list; however, you could also suggest something else. In any case, you should confirm your choice with me. If there are multiple students who want to present the same paper, I will use a “first come first served” rule, so consider choosing a paper soon. Presentations should be approximately 30-45 minutes (depending on how many students enroll).

3. At the end of the semester, you should produce a research paper. While I hope that the material we cover in class is stimulating enough that you will write about a related issue, you can choose any theoretical topic so long as you use non-cooperative game theory to address it. An acceptable paper would include a clearly formulated question, some motivation (either theoretical or applied), an explanation of what the related literature is and how it does not address your particular question, at least a sketch of a model, and some conjectures of formal results with some intuition for why they might true. For all this to be feasible by the end of the semester, you should be talking to me within a few weeks of the first lecture about potential projects.

Your course grade will reflect my view of your overall performance, primarily based on your presentation and research paper, and secondarily on reasonable attempts at homework and class participation. Beyond these guidelines, I have not formulated a precise grading scheme, given that this is an elective course focussed on getting you into research mode rather than worrying about grades. If this is a source of concern, tell me, and we will work something out.

**Readings:** There is no textbook for this course. The lectures will be based entirely on papers that are available online.

## Tentative Schedule

### I. Strategic Communication

1. Sept. 3 (*Canonical Model*): [Chen, Kartik, and Sobel \(2008\)](#), [Crawford and Sobel \(1982\)](#).
2. Sept. 10 (*Multi-dimensional Cheap Talk*): [Ambrus and Takahashi \(2008\)](#), [Battaglini \(2002\)](#), [Chakraborty and Harbaugh \(2007\)](#).
3. Sept. 17 (*Repeated Cheap Talk*): [Morris \(2001\)](#), [Sobel \(1985\)](#).
4. Sept. 24 (*Hard Information*): [Kartik \(2008\)](#), [Milgrom \(1981, Section 5\)](#), [Seidmann and Winter \(1997\)](#).
5. Oct. 1: Spillover/presentations.

### II. Group Decision Making

6. Oct. 8 (*Strategic Voting*): [Austen-Smith and Banks \(1996\)](#), [Feddersen and Pendorfer \(1997\)](#), [McLennan \(1998\)](#).
7. Oct. 15 (*Information Acquisition*): [Gershkov and Szentes \(2008\)](#), [Persico \(2004\)](#).
8. Oct. 22 (*Influence*): [Bond and Eraslan \(2007\)](#), [Caillaud and Tirole \(2007\)](#).
9. Oct. 29: Spillover/presentations.

### III. Observational Learning

10. Nov. 5 (*Canonical Models*): [Bikhchandani et al. \(1992\)](#), [Smith and Sorensen \(2000\)](#).
11. Nov. 12 (*Endogenous Timing*): [Chamley and Gale \(1994\)](#), [Gul and Lundholm \(1995\)](#).
12. Nov. 19 (*Markets*): [Avery and Zemsky \(1998\)](#), [Chari and Kehoe \(2004\)](#).
13. Nov. 26: No meeting.
14. Dec. 3: Spillover/presentations.

### Additional Readings

1. Strategic Communication
  - (a) One-dimensional Models
    - i. [Chen \(2007\)](#)
    - ii. [Crawford \(2003\)](#)
    - iii. [Gordon \(2007\)](#)
    - iv. [Kartik, Ottaviani, and Squintani \(2007\)](#)
    - v. [Matthews \(1989\)](#)
    - vi. [Stein \(1989\)](#)
  - (b) Multidimensional Cheap Talk
    - i. [Chakraborty and Harbaugh \(2008\)](#)
    - ii. [Esö and Fong \(2007\)](#)
    - iii. [Levy and Razin \(2006\)](#)
  - (c) Unknown Biases
    - i. [Dimitrakas and Sarafidis \(2005\)](#)
    - ii. [Li and Madarász \(2008\)](#)
    - iii. [Morgan and Stocken \(2003\)](#)
  - (d) Reputational Cheap Talk
    - i. [Ottaviani and Sorensen \(2006a\)](#)
    - ii. [Ottaviani and Sorensen \(2006b\)](#)
  - (e) Hard Information
    - i. [Dziuda \(2007\)](#)
    - ii. [Milgrom and Roberts \(1986\)](#)
    - iii. [Shin \(1994\)](#)
  - (f) Long Conversations
    - i. [Aumann and Hart \(2003\)](#)

- ii. [Forges and Koessler \(2007\)](#)
  - iii. [Krishna and Morgan \(2004\)](#)
- (g) Moral Hazard
  - i. [Che and Kartik \(2008\)](#)
  - ii. [Dewatripoint and Tirole \(2005\)](#)
- 2. Group Decision Making
  - (a) Strategic Voting
    - i. [Feddersen and Pesendorfer \(1996\)](#)
    - ii. [Feddersen and Pesendorfer \(1998\)](#)
    - iii. [Laslier and Weibull \(2008\)](#)
    - iv. [Li, Rosen, and Suen \(2001\)](#)
  - (b) Deliberation
    - i. [Coughlan \(2000\)](#)
    - ii. [Gerardi and Yariv \(2007a\)](#)
  - (c) Reputational Motivations
    - i. [Levy \(2007\)](#)
    - ii. [Visser and Swank \(2007\)](#)
  - (d) Information Acquisition
    - i. [Li \(2001\)](#)
    - ii. [Gerardi and Yariv \(2007b\)](#)
- 3. Observational Learning
  - (a) Basic theory
    - i. [Banerjee \(1992\)](#)
    - ii. [Goeree et al. \(2006\)](#)
    - iii. [Lee \(1993\)](#)
    - iv. [Smith and Sorensen \(2008\)](#)
  - (b) Communication and Observation
    - i. [Banerjee and Fudenberg \(2004\)](#)
    - ii. [Cao and Hirshleifer \(2002\)](#)
  - (c) Markets
    - i. [Bose, Orosel, Ottaviani, and Vesterlund \(forthcoming\)](#)
    - ii. [Bose, Orosel, Ottaviani, and Vesterlund \(2006\)](#)
    - iii. [Neeman and Orosel \(1999\)](#)
  - (d) Sequential Voting
    - i. [Ali and Kartik \(2008\)](#)
    - ii. [Battaglini \(2005\)](#)
    - iii. [Dekel and Piccione \(2000\)](#)

## References

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