

ECONOMICS 743: ADVANCED MICROECONOMIC THEORY II

Fall 2011

TTh 12:30pm – 1:45pm

Bryan 456

Professor Garth Heutel

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Office Hours: TTh 11:00am-12:00pm

This course is part of the PhD theory sequence. The course will have two main sections: game theory and information economics. The first section will cover both static games and dynamic games. The second section will cover adverse selection, signaling, screening, and the principal-agent problem.

Course Materials

We will primarily work with the textbook *Microeconomic Theory* by Mas-Colell, Whinston and Green (MWG). Additional materials may come from other textbooks or journal articles; whenever required these will be made available by me.

Other textbooks that you may find helpful: *Game Theory for Applied Economists* by Gibbons, *Microeconomic Theory* by Nicholson, *An Introduction to the Economics of Information* by Macho-Stadler and Perez-Castillo, and *Contract Theory* by Bolton and Dewatripont.

We will in particular be working on the following chapters in MWG: 7–9 (game theory), and 13–14 (information). We may also discuss parts of chapter 12 (market power) and chapter 23 (mechanism design).

The assigned readings in the course schedule below are to be read before that day of class.

Assignments and Grades

Grades will be determined according to the following allocation of points:

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|--------------------------------|---------------------|
| • Problem sets | 10% of course grade |
| • Midterm #1 | 20% of course grade |
| • Midterm #2 | 20% of course grade |
| • Final Examination | 30% of course grade |
| • Presentation | 15% of course grade |
| • Attendance and Participation | 5% of course grade |

Problem Sets

Problem sets (aka homework) will be assigned about every week. The best way to work on these is collaboratively; I encourage all students in the class to work together and turn in one assignment jointly. Of course, each student is responsible for knowing all of the material in each problem set, and each group is expected to ensure that every group member fully understands the completed assignment.

Problem sets are typically drawn from exercises in MWG and are representative of problems that will appear on the midterms and finals.

Midterms

Two in-class midterm exams will be held on **Tuesday, October 4th** and **Thursday, November 3rd**. The first midterm will cover most of the game theory section of the class. The second midterm will cover the remaining game theory section and some of the information section. Midterms are to be done independently, in class, without use of notes or textbooks.

Final Examination

The final examination is scheduled **for Thursday, December 8 at 12:00pm – 3:00pm**, in the regular class meeting room (Bryan 456). The final will cover all material in the course. It will not over-represent material presented after the second midterm. It is to be done without use of notes or textbooks.

Presentation

Each student will choose a recent paper published in a top economics journal related to game theory or information economics and give a 25-minute presentation summarizing it. Papers should come from a top general journal (e.g. *American Economic Review*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Econometrica*) or a top field journal in a relevant field. The paper can be primarily theoretical or primarily empirical, but it should be relevant to the material covered in class (e.g. an empirical application to game theory). Choose a paper and have it approved by the professor before **November 10th**. Presentations will be in class on **November 29th** and **December 1st**. Each presentation should last about 25 minutes. Each student is also required to read the papers to be presented by the other students and ask questions. The grade will be determined on the quality of the presentation, the quality of the responses to others' questions, and the questions asked of others' presentations.

Attendance and Participation

Half of this portion of the grade will depend on the student being present and punctual. Half will depend on the student reasonably participating in class, either by asking questions or responding when called upon.

COURSE SCHEDULE

Tuesday	Thursday
8/23 – 1 Introduction Game Theory: MWG 7.A, 7.B, 7.C	8/25 – 2 Game Theory: MWG 7.D
8/30 – 3 Game Theory: MWG 7.E	9/1 – 4 Game Theory: MWG 8.A, 8.B
9/6 – 5 Game Theory: MWG 8.C	9/8 – 6 Game Theory: MWG 8.D
9/13 – 7 Game Theory: MWG 8.E	9/15 – 8 Game Theory: MWG 12.C
9/20 – 9 Game Theory: MWG 9.A, 9.B	9/22 – 10 Game Theory: MWG 9.B
9/27 – 11 Game Theory: MWG 9.C	9/29 – 12 Review
10/4 – 13 Midterm #1	10/6 – 14 Review Midterm #1 Game Theory: MWG 9.D
10/11 – Fall break; no class	10/13 – 15 Information: MWG 13.A, 13.B
10/18 – 16 Information: MWG 13.B	10/20 – 17 Information: MWG 13.C
10/25 – 18 Information: MWG 13.C	10/27 – 19 Information: MWG 13.D
11/1 – 20 Review	11/3 – 21 Midterm #2
11/8 – 22 Review Midterm #2 Information: MWG 13.D	11/10 – 23 Information: MWG 14.A, 14.B
11/15 – 24 Information: MWG 14.B	11/17 – 25 Information: MWG 14.C
11/22 – 26 Information: MWG 14.C, 14.D	11/24 – Thanksgiving break; no class
11/29 – 27 Presentations	12/1 – 28 Presentations and Review
12/6 No Class	12/8 – Final exam; 12:00pm – 3:00pm, Bryan 456

Suggested readings

- Akerlof, G. "The Market for Lemons: Qualitative Uncertainty and the Market Mechanism." *Quarterly Journal of Economics*, 84 (3), 1970, p. 488-500
- Spence, M. "Job Market Signaling." *Quarterly Journal of Economics*, 87, 1973, p. 355-374
- Rotschild, M. and J. Stiglitz. "Equilibrium in Competitive Insurance Markets: The Economics of Imperfect Information." *Quarterly Journal of Economics*, 90, 1976, p. 541-562.
- Danzon, Patricia and Mark Pauly. "Affiliation: Health Insurance and the Growth in Pharmaceutical Expenditures." *Journal of Law and Economics*, 45 (2), October 2002, p. 587-613.
- Vera-Hernandez, Marcos. "Structural Estimation of a Principal-Agent Model: Moral Hazard in Medical Insurance." *RAND Journal of Economics*, 34 (4), Winter 2003, p. 670-693.
- Lazear, Edward and Sherwin Rosen. "Rank-Order Tournaments as Optimum Labor Contracts." *Journal of Political Economy*, 89 (5), October 1981, p. 841-864.
- Coles, Melvyn and Adrian Masters. "Optimal Unemployment Insurance in a Matching Equilibrium." *Journal of Labor Economics*, 24 (1), January 2006, p. 109-138.
- Barron, John, Mark Berger and Dan Black. "Selective Counteroffers." *Journal of Labor Economics*, 24 (3), July 2006, p. 385-409.
- Farnworth, Michael. "A Game Theoretic Model of the Relationship Between Prices and Waiting Times." *Journal of Health Economics*, 22 (1), January 2003, p. 47-60.
- Pecorino, Paul. "Should the US Allow Prescription Drug Reimports from Canada?" *Journal of Health Economics*, 21 (4), July 2002, p. 699-708.
- Bolin, Kristian, Lena Jacobson and Bjorn Lindgren. "The Family as the Health Producer—When Spouses Act Strategically." *Journal of Health Economics*, 21 (3), May 2002, p. 475-495.
- Bolin, Kristian, Lena Jacobson and Bjorn Lindgren. "The Family as the Health Producer—When Spouses are Nash-Bargainers." *Journal of Health Economics*, 20 (3), May 2001, p. 349-362.
- Kubler, Dorothea, Wieland Muller and Hans-Theo Normann. "Job-Market Signaling and Screening: An Experimental Comparison." *Games and Economic Behavior*, 64 (1), September 2008, p. 219-236.
- Does Monitoring Decrease Work Effort? The Complementarity Between Agency and Crowding-Out Theories." *Games and Economic Behavior*, 63 (1), May 2008, p. 56-76.
- Einav, Liran and Amy Finkelstein. "Selection in Insurance Markets: Theory and Empirics in Pictures." *Journal of Economic Perspectives*, 25 (1), Winter 2011, p. 115-138.