

**MICROECONOMIC THEORY, ECONOMICS 713, 2<sup>ND</sup> QUARTER, SPRING 2013**  
**UNIVERSITY OF WISCONSIN-MADISON, PROF. MARZENA ROSTEK**

**TIME AND LOCATION:** TTh 1:00p.m.-2:15p.m., VAN HISE 594.

**COURSE DESCRIPTION:**

This is the fourth part of the graduate core sequence in microeconomic theory. The course topics can be grouped into the following four modules:

- (1) Static Bayesian games with continuous strategies; Main application: auctions;
- (2) Dynamic Bayesian games with continuous strategies; Contract theory; Moral hazard; Adverse selections; Signaling; Screening;
- (3) Mechanism design;
- (4) Axiomatization.

Econ 711 (or my consent) is the prerequisite for this class.

**COURSE TEXT:**

The main reference will be Andreu Mas-Colell, Michael D. Whinston, and Jerry R. Green (1995), *Microeconomic Theory*, Oxford University Press.

I also recommend:

Bernard Salanié (2005), *The Economics of Contracts. A Primer*, MIT Press;

Robert Gibbons (1997, 2005), *A Primer in Game Theory*, Pearson.

Geoffrey A. Jehle and Philip J. Reny (1998), *Advanced Microeconomic Theory*, Addison-Wesley.

I have collected the relevant chapters for you. The readings are available through [Learn@UW](#).

I am happy to recommend other sources, at any level, if you would like to read more.

**CONTACT INFORMATION:**

My office hours are on Thursdays, 2:30p.m.-3:30p.m. in 7440 SS or by appointment. You can reach me by e-mail at [mrostek@ssc.wisc.edu](mailto:mrostek@ssc.wisc.edu) or by phone at 608.262.6723.

**COURSE WEBSITE:**

Detailed readings for each lecture are listed below and announced on my 713 Website:

<http://www.ssc.wisc.edu/~mrostek/713>.

All course materials can be accessed through Learn@UW: <https://learnuw.wisc.edu>.

**TA SECTIONS:**

Our teaching assistant is Jose Antonio Carrasco Novoa ([jaacarrasco@gmail.com](mailto:jaacarrasco@gmail.com)); office hours on Thursdays, 3:00p.m.-5:00p.m. in 6105 SS or by appointment.

**EVALUATION:**

Your grade will be determined by: Problem sets (20%); One Midterm test (30%); and the Final exam (50%). Test dates: Midterm: April 11 (Thu, in class); Final: May 9 (Th, in class).

*Please plan ahead.* Late problem sets will not be accepted—I would like the solutions to be available right after class on the day an assignment is due.

**SOME ADVICE:**

It is essential that you study and read systematically. Take the most of the problem sets—they are there to help you fully understand the fine details of the material. (It is also the best way to prepare for the midterm and the final.) You might find it helpful to complete the readings prior to lectures. I strongly encourage you to discuss the course material with your classmates. The assignments must be written individually (read: in your own words).

**OUTLINE:**

Axiomatization (what, why, how, relation to identification), Mixture set, Proof of Von Neumann-Morgenstern Theorem. Readings: MWG, pp. 175-8.

Static Bayesian games (continuous strategy spaces), Bayesian Nash Equilibrium, Harsanyi's trick, Standard auction formats, First-price auction, Winner's curse. Readings: Gibbons 3.1.C, 3.2B+Appendix 3.2B, MWG, pp. 865-6.

First-price auction (Linear equilibrium and general solution for the monotone BNE), Second-price auction. Readings: Jehle and Reny 9.1, 9.2.1-9.2.4.

Revenue Equivalence Theorem, Stochastic orders, Double auction, Myerson-Satterthwaite Theorem. Readings: MWG 6.D, Gibbons 3.2.C, (Salanie 3.2.3, optional).

Adverse selection, Akerlof's Market for Lemons. Readings: MWG 13.A-B (or Jehle and Reny 8.1.1)).

Spence's Job Signaling model, Single-Crossing Property. Readings: MWG 13.C (Gibbons 4.2.B offers a nice treatment, though it's not a substitute).

Costly signaling games, Equilibrium Dominance, Intuitive Criterion. Readings: MWG Appendix A in Ch 13, The relevant part of Gibbons 4.4.

Principal-agent problems, Screening, Price discrimination, Information rent. Readings: Salanie 2.2, MWG 14.C.

Moral hazard, Incentives versus risk sharing, Monotone Likelihood Ratio Property. Readings: MWG 14.B.

Costless signaling games, Partitional equilibrium. Readings: Salanie 4.3.2 (Gibbons 4.3.A, optional).

Adverse selection with a continuum of types, Incentive compatibility in general mechanisms. Readings: MWG, pp. 887-9.

Mechanism design, Direct mechanism, Revelation Principle. Readings: MWG, pp. 884-5, 889-891.