Microeconomic Theory II

**Course description**  This is the second of two courses in microeconomic theory. Topics will include general equilibrium analysis, market failure and foundations of game theory.

**Prerequisites**  Econ 606 – Note that Calculus, Linear Algebra, Intermediate Microeconomics, Econ 627 and Econ 628 are required for Econ 606. You are assumed to be familiar with concepts and techniques covered by these courses.

**Assessment**  Several assignments and a midterm – 40% of the grade; final exam – 60% of the grade.

**RECOMMENDED TEXTS**


MWG is the main textbook. Others are supplements to help you learn better. There will be also handouts that I will distribute in class.
TENTATIVE SYLLABUS
(We will cover topics 1-4 and some of the topics 5-8 if time)

1. INTRODUCTION.

2. GENERAL EQUILIBRIUM. The Arrow-Debreu model. The existence and uniqueness of equilibrium. The fundamental theorems of Welfare economics.
   - **Pareto Optimality (PO)** – normative criterion
     MWG 10.B, 15.A,B, 16.B,E,F; Kreps 5.1-5.4, Varian 17.6, 17.8, 17.9; ABB 1.5.
   - **Core** – the outcome of the pure exchange institution
     MWG 18.A,B; Varian 21.1; ABB 1.5.
   - **Competitive equilibrium (CE) and its welfare properties** – the outcome of the competitive market institution
     MWG 10.B,D, 15, 16; Kreps 6.1-6.3; Varian 17.2-17.3, 17.6-17.7; ABB 1.6.
   - **Positive Analysis of CE: existence, number of CE, core equivalence**
     MWG 17, 18.B; Kreps 6.4, Varian 17.5, 21; ABB 1.5.
   - **Production Economies and CE**
     MWG – everywhere above; Kreps 8.4, Varian 18; ABB 1.7.
   - **Other issues**: time, contingent commodities

3. MARKET FAILURE. Externalities and public goods.

   - **Externalities** and market failure
     MWG 11; Kreps 6.3; Varian 24.
   - **Public goods** and market failure
     MWG 11.C; Varian 23.

- **Basic elements** of noncooperative game theory. Common knowledge
  
  MWG, Ch.7; FT 3-6, 77-90, 541-48; Kreps 11

- **Normal form games of complete information**
  
  – Dominant strategies and iterated dominance; rationalizability
  – Trembling-hand perfection
  

- **Extensive form games**
  
  – Sequential rationality, backward induction, subgame perfection. Critique
  
  – Extensive form refinements: Weak Perfect Bayesian Equilibrium, Sequential Equilibrium
  

- **Repeated games**
  
  – Repeated games and folk theorems
  
  – Bilateral bargaining
  
  MWG 9.Appendix A; FT 113-117; Kreps 15.3-15.5

- **Static games of incomplete information**
  
  MWG 8.E; FT 207-215

- **Dynamic games of incomplete information**
  
  FT 319-331, 367-381; Kreps 13
5. **Economics of Information and Incentives**

- **Adverse selection, Signaling and Screening.**
  MWG 13, Kreps 17, Varian 25.6-25.11
- **Moral hazard and the Principal-Agent Problem.**
  MWG 14, Kreps 16, Varian 25.1-25.4


  MWG 21; Kreps 5.

7. **Incentives and Mechanism Design.**

  MWG 23, Kreps 18

8. **Applications and Review.**