Boston College
Department of Economics

Game Theory and
Economics of Information

Econ 741
T. Th. 1:30-3:30
Spring, 1999

Chongen Bai
Carney 148
X3690

Text books:

Required:
Mas-Colell, A., M. Whinston and J. Green, Microeconomic Theory, Oxford University Press. (MWG)

Recommended:
Fudenburg and Tirole, Game Theory, MIT Press, 1991. (F&T)

There will be a midterm exam covering Part I and a final exam covering Part II, each accounting for 50% of the course grade. Class participation will be considered for borderline cases. Problem sets will be handed out periodically. Although they will not be graded, students are strongly advised to work through them.

Office Hours: Friday 3:00 - 5:00, or by appointment.

Part I. Game Theory

1. Static Games of Complete Information

Readings:
Gibbons: Chapter 1
F&T: Chapters 1 and 2

Concepts:
Normal Form Representation, Pure Strategy, Strict Dominance, Iterated Strict Dominance, Nash Equilibrium, Mixed Strategy

Applications:
Second Price Auction, Cournot Equilibrium, Tragedy of the Commons

2. Dynamic Games of Complete Information

Readings:
Gibbons: Chapter 2
F&T: Chapters 1 and 2
Concepts:
   Extensive Form Representation, Backward Induction, Subgame Perfect Equilibrium, Time Consistency, Two-Stage Games, Repeated Games, The Folk Theorem
Applications:
   Stackelberg Equilibrium, Entry Deterrence, Monetary Policy, Strategic Investment, Tariffs and Imperfect Competition, Collusion Between Cournot Duopolists, Efficiency Wages, Tournaments, Rubenstein's Bargaining Game.

3. Static Games of Incomplete Information
Readings:
   Gibbons: Chapter 3
   MWG: 8.E
   F&T: Chapter 6
Concepts:
   Bayes' Theorem, Bayesian Nash Equilibrium, The Revelation Principle
Application:
   Asymmetric Information Duopoly, Provision of a Public Good, Auctions

4. Dynamic Games of Incomplete Information
Readings:
   Gibbons: Chapter 4
   F&T: Chapters 8, 9 and 10
Concepts:
   Perfect Bayesian Equilibrium, Signaling Games, Pooling and Separation Equilibrium, Equilibrium Refinements, The Intuitive Criteria
Applications:
   Limit Pricing, Job Market Signaling, Reputation in Finitely Repeated Games, Sequential Bargaining under Asymmetric Information

Part II. Economics of Information

0. Introduction

1. Adverse Selection
   MWG: Chapter 13
(1). Markets with Adverse Selection
(2). Signaling
(3). Screening
a. Monopsony Screening

b. Competitive Screening

2. Moral Hazard
   MWG: Chapter 14


(1). Discrete Actions

(2). Continuous Actions

3. Mechanism Design
   MWG: Chapter 23
   F&T: Chapter 7.