(Tentative) Outline for Economics 201B, Winter 2012

1) What is Game? (Ch.2, OR)

a) Examples
b) Strategic Game and Extensive Game

2) Strategic Game

a) Dominant Action and Dominant Strategy Equilibrium (Ch 2.3, Ch 10.3, OR)
   i) 2nd price auction
   ii) Median Voter Theorem (Location Game)
   iii) VCG Mechanism
b) Nash Equilibrium (Ch. 2, OR)
   i) Nash Equilibrium
   ii) Applications (1st Price Auction, Cournot Duopoly, Bertrand Duopoly, Public Good Game, Rent Seeking Game, AdAuction)
   iii) Existence of Nash Equilibrium
   iv) Zero-Sum Game
c) Mixed Strategy Nash Equilibrium (Ch. 3.1-3.2, OR)
   i) Mixed Strategy Nash Equilibrium
   ii) Interpretation and Discussion of Some Empirical Facts
d) Rationalizability and Iterated Elimination of Dominated Actions (Ch. 4, OR)
   i) Rationalizability
   ii) Iterated Elimination of Dominated Actions
e) Refinements and Other Equilibrium Notions
   i) Trembling-Hand Perfect Equilibrium (Ch. 12.5, OR)
   ii) Correlated Equilibrium (Ch. 3.3,OR)
   iii) Evolutionary Stable Equilibrium (Ch. 3.4, OR)
   iv) Quantal Response Equilibrium
f) Supermodular Games
   i) Increasing Differences and Supermodularity
   ii) Supermodular Games and Nash Equilibrium
g) Bayesian Games (Ch 2.6, OR)
   i) Bayesian Games
   ii) Bayesian Nash Equilibrium
   iii) Applications
      (1) Second Price Auction
      (2) First Price Auction
      (3) Cournot Competition with Private Cost
      (4) Currency Attack
h) Common Knowledge (Ch 5,OR)
   i) E-mail game
   ii) State-Space Model of Knowledge

iii) Common Knowledge
iv) Agree to Disagree and No Trade Result

3) Extensive Games with Perfect Information

a) Extensive Games with Perfect Information (Ch 6, OR)
b) Backward Induction and Subgame Perfect Equilibrium (Ch 6. OR)
c) Applications
   i) Stackelberg Competition
   ii) Chain-Store Paradox
   iii) Rank Order Tournament
d) Infinite Horizon Game
e) Bargaining Games (Ch. 7, OR)
   i) Nash Solution
   ii) Alternative Offer Bargaining
f) Repeated Games (Ch. 8, OR)
   i) Application: Collusion
   ii) Folk Theorem

4) Extensive Games with Imperfect Information

a) Extensive Games with Imperfect Information
b) Mixed and Behavioral Strategies
c) Sequential Equilibrium
d) Perfect Bayesian Equilibrium