Professor Anthony M. Marino

Department of Finance and Business Economics

GSBA 602-Fall 2014

Selected Issues in Economic Theory

Textbook: Mas-Colell, Whinston, Green, *Microeconomic Theory*, Oxford, 1995.

Contact Information:

Office: HOH 614

Office Phone: 213-740-6525

E-mail: amarino@usc.edu

Web Page: http://www-rcf.usc.edu/~amarino or a no frames version

http://www-rcf.usc.edu/~amarino/main.html

Office Hours: Open door policy and Tuesday and Thursday after class

Topics

Individual Decision Making

Chapter (MWG)	Topic
1.	Preference and Choice
2.	Consumer Choice.
3.	Classical Demand Theory.
4.	Aggregate Demand
5.	Production
6.	Choice under Uncertainty

Market Equilibrium and Market Failure.

Chapter	Topic
10.	Competitive Markets
11.	Externalities and Public Goods
12.	Market Power

An Introduction to Information Economics

Chapter	Topic
Lecture Notes and 7-8.	Games
Lecture Notes and 13-14.	Information

Other Course Information

1. I will give a midterm and a final exam. In addition I will assign problem sets, which will be graded and returned. The point allocation scheme is as follows:

Midterm...............80 points 10/14/2014

Final Exam...........120 points 12/16/2014 11-1PM

Problem Sets..........80 points

2. Other texts which may be of interest to you include the following (in order of importance):

- Kreps, D., *A Course in Microeconomic Theory*, Princeton University Press, 1990.

- Varian, H., *Microeconomic Analysis*, W. W. Norton, Third Edition, 1992.

- Jehle, G. and P. Reny, *Advanced Microeconomic Theory*, Addison Wesley, Third Edition, 2011.

· Nicholson, W. and C. Snyder, *Microeconomic Theory: Basic Principals and Extensions*,

South-Western, Eleventh Edition, 2012.

· Rasmusen, E., *Games and Information*, Blackwell, Fourth Edition, 2006.

· Fudenberg, D. and J. Tirole, *Game Theory*, MIT Press, 1991.

· Tirole, J., *The Theory of Industrial Organization*, MIT Press, 1998.

· Gibbons, R., *Game Theory for Applied Economists*, Princeton University Press, 1992.

Tentative Schedule

Session	Date	Topics	MWG	Marino
1 T	8/26	**Preferences and Choice**	Ch1	L1
2 Th	8/28	**Preferences and Choice, The Consumer's Choice**	Ch1, 2	L1,2
3 T	9/2	**The Consumer's Choice**	Ch2	L2
4 Th	9/4	**Neoclassical Demand Theory**	Ch3	L3
5 T	9/9	**Neoclassical Demand Theory**	Ch3	L3
6 Th	9/11	**Neoclassical Demand Theory**	Ch3	L3
7 T	9/16	**Neoclassical Demand Theory**	Ch3	L3
8 Th	9/18	**The Aggregation of Demand**	Ch4	L4
9 T	9/23	**The Aggregation of Demand**	Ch4	L4
10 Th	9/25	**Production Theory**	Ch5	L5
11 T	9/30	**Production Theory**	Ch5	L5
12 Th	10/2	**Decision Making under Uncertainty**	Ch6	L6
13 T	10/7	**Decision Making under Uncertainty**	Ch6	L6
14 Th	10/9	**Decision Making under Uncertainty (Review and Q&A with TA)**	Ch6	L6
15 T	10/14	**Midterm ********	******	******
16 Th	10/16	**Decision Making under Uncertainty**	Ch6	L6
17 T	10/21	**Competitive Markets**	Ch10	L7
18 Th	10/23	**Competitive Markets**	Ch10	L7
19 T	10/28	**Competitive Markets**	Ch10	L7
20 Th	10/30	**Externalities and Public Goods**	Ch11	L8
21 T	11/4	**Externalities and Public Goods**	Ch11	L8
22 Th	11/6	**Imperfect Competition**	Ch12	L9
23 T	11/11	**Imperfect Competition**	Ch12	L9
24 Th	11/13	**Games**	Ch7	L10
25 T	11/18	**Games**	Ch7,8	L10
26 Th	11/20	**Games and Information**	Ch9,13	L10,11
27 T	11/25	**Information**	Ch13,14	L11
28 T	12/2	**Information**	Ch14	L11
29 Th	12/4	**Review and Finish Games and Information**	Ch14	L11

Table of Contents: GSBA 602 Lecture Notes

Lecture 1: Preferences and Choice

1. The Two Approaches: Preferences versus Choice Rule

a. Preferences
b. Utility
c. Choice Rules
d. WARP

2. Relationships between the Two Approaches

Lecture 2: Choice Rules

1. The Budget Constraint

2. Demand Functions
a. Miscellaneous Definitions
   - HD(0)
   - WL
   - Income Δ's
   - Price Δ's
   - Elasticities
b. Euler's Theorem, Walrasian Demands and Elasticities
c. Cournot Aggregation
d. Engle Aggregation

3. Warp and the compensated law of demand ($\Leftrightarrow$)

4. WL, HD(0), and WARP $\Rightarrow$S negative semidefinite but not symmetric.

Lecture 3: Neoclassical Demand Theory

1. Additional assumptions on a rational preference relation and their implications on u.

2. When can the preference relation be represented by u? What is cardinal versus ordinal?

3. u-Max

4. x(p,w) and Hicksian Composite Commodity Theorem

5. v(p,w)

6. e(p,u)

7. h(p,u), CLD

8. Relationships

a. $h_i = \partial e / \partial p_i$ (h and e)
b. The Slutsky equation (x and h)
c. Roy's Identity (v and x)

9. Welfare

a. EV
b. CV
c. AV

10. SARP

Lecture 4: Aggregation

1. Can aggregate demand be expressed as a function of w independent of the distribution of w_i?

2. When does aggregate demand satisfy WARP?

3. The positive representative consumer and the normative representative consumer.

Lecture 5: Production Theory

1. The Production Set and Transformation Frontier

2. Common Properties of Technology Sets

3. Profit Maximization and Cost Minimization

a. The profit function and its properties
b. The cost function and its properties for the single output case
c. Conditional factor demands from the cost minimization problem
d. Cost and supply in the single output case with price taking behavior

4. Aggregation of Production Decisions

a. Basic results on firm and economy wide profit maximization
b. Efficiency and the first and second fundamental theorems of welfare economics

Lecture 6: Decision Making under Uncertainty

1. Expected Utility Theory

a. A lottery
b. A compound lottery
c. The reduced form lottery
d. The continuity and independence axioms for lotteries
e. The expected utility form for the utility function
d. Linear transformations and the expected utility representation
f. The expected utility theorem

2. Risk Aversion

a. Bernoulli utility function and the continuous case
b. Definitions of risk aversion, risk seeking and risk neutral behavior
c. The certainty equivalent to a gamble and the probability premium
d. Optimal amount of insurance
e. The coefficient of absolute risk aversion
f. The coefficient of relative aversion
g. First and second order stochastic dominance

Lecture 7: Competitive Markets

1. Pareto Optimality and the General Competitive Equilibrium

a. Definitions
b. The first and second fundamental theorems of welfare economics

2. The Single Competitive Firm in the Short-Run

a. Firm's supply
b. Market supply and equilibrium
c. Welfare implications of the single market equilibrium
d. Governmental interference with competitive markets and surplus arguments

3. Long-run Equilibrium of the Competitive Firm

a. The equilibrium
b. Adjustments to equilibrium

Lecture 8: Externalities and Public Goods

1. Externalities

a. The Definition of an Externality

b. The failure of the competitive market in this case
c. The remedies for solving the externality problem
   (i) Quotas
   (ii) Pigouvian taxes
   (iii) Coase bargaining
   (iv)   A competitive market for the right to generate the externality

2. Public Goods

a. Definition of a public good
b. The non-optimality of private provision
c. The remedies for solving the problem of public good provision
   (i) Taxes and subsidies
   (ii) Lindahl equilibrium

Lecture 9: Imperfect Competition

1. Pure Monopoly

a. Basic equilibrium
b. Lerner index
c. Dead-weight loss
d. The perfectly discriminating monopolist and welfare implications

2. The Bertrand Model

a. Set-up and the basic equilibrium for the homogeneous case
b. Results for the heterogeneous case

3. Nash-Cournot Model

a. The homogeneous case and the basic results
b. The heterogeneous case

4. The Stackleberg Model and the Advantage of Being a First Mover

a. The basic model and the equilibrium
b.   The comparison to the Nash-Cournot Equilibrium and the Equilibrium of Perfect Collusion

5. Perfect Collusion

Lecture 10: Game Theory

1. General Definitions

a. Cooperative versus non-cooperative games

b. Constant versus variable sum games
c. An action versus a strategy
d. Payoffs
e. Equilibrium concept

2. Dominant Strategies and Dominant Strategy Equilibrium

3. Nash Strategies and Nash Equilibrium

a. Mixed strategies versus pure strategies
b. Mixed strategy equilibrium

4. Dynamic Games with Symmetric Information

a. Normal form
b. Extensive form
c. Basic information definitions: information set, perfect information, certain information, symmetric information, and complete information.
d. Subgame perfection
e. Examples of two move games
f. Infinite repetition and the Folk Theorem

5. Dynanic Games with Asymmetric Information

a. The perfect Bayesian Equilibrium
b. Equilibrium beliefs and out of equilibrium beliefs
c. The Intuitive Criterion (Cho-Kreps)
d. Examples of games

Lecture 11: Information

1. General

a. The necessary ingredients for an agency problem: asymmetric information and divergence of incentives
b. Hidden action (moral hazard) and hidden information (adverse selection)

2. Hidden Action

a. A general problem
b. A simple discrete version and the technique of point-wise optimization
c.   A continuous version and the first-order approach
d. The first-best benchmark
e. The optimal linear contract

3. Hidden Information

a. The signaling models and the lemons problem
b. The definition of a signal
c. A labor market signaling model
d. The self-selection approach and an example where the principal does not know worker type
e. The revelation principal and mechanism design
f. The mechanism design approach and an example of firm regulation.
g. The ex-post audit approach to hidden information and a safety regulation example.