

Professor Anthony M. Marino
Department of Finance and Business Economics

GSBA 602-Fall 2022

Selected Issues in Economic Theory

Textbook: Mas-Colell, Whinston, Green, *Microeconomic Theory*, Oxford, 1995: ISBN-13: 978-0195073409

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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/Notes	Topic
Lecture Notes 10 and Ch 7-8	Games
Lecture Notes 11 and Ch 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

Final Exam.....120 points (See final examination schedule)

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*, Cengage Learning, Twelfth Edition, 2016.
- 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.

Tentative Schedule

Session	Date	Topics	MWG	Marino
1 M	8/22	Preferences and Choice	Ch1	L0 , L1
2 W	8/24	Preferences and Choice	Ch1	L1
3 M	8/29	The Consumer's Choice	Ch2	L2
4 W	8/31	The Consumer's Choice	Ch2	L2
5 W	9/7	Neoclassical Demand Theory	Ch3	L3
6 M	9/12	Neoclassical Demand Theory	Ch3	L3
7 W	9/14	Neoclassical Demand Theory	Ch3	L3
8 M	9/19	The Aggregation of Demand	Ch4	L4
9 W	9/21	The Aggregation of Demand	Ch4	L4
10 M	9/26	Production Theory	Ch5	L5
11 W	9/28	Production Theory	Ch5	L5
12 M	10/3	Decision Making under Uncertainty	Ch6	L6
13 W	10/5	Decision Making under Uncertainty	Ch6	L6
14 M	10/10	Decision Making under Uncertainty	Ch6	L6
15 W	10/12	Midterm *****	*****	*****
16 M	10/17	Competitive Markets	Ch10	L7
17 W	10/19	Competitive Markets	Ch10	L7
18 M	10/24	Competitive Markets	Ch10	L7
19 W	10/26	Externalities and Public Goods	Ch11	L8
20 M	10/31	Externalities and Public Goods	Ch11	L8
21 W	11/2	Imperfect Competition	Ch12	L9
22 M	11/7	Imperfect Competition	Ch12	L9
23 W	11/9	Games	Ch7,8	L10
24 M	11/14	Games	Ch7,8	L10
25 M	11/16	Games and Information	Ch7,8,13	L10, L11
26 W	11/21	Information	Ch,13,14	L11
27 M	11/28	Information	Ch,13,14	L11
28 W	11/30	Review		

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. Dynamic 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.

ADDITIONAL INFORMATION

Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, “Behavior Violating University Standards” <https://policy.usc.edu/scampus-part-b/>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Support Systems:

Students whose primary language is not English should check with the American Language Institute <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students.

Student Counseling Services (SCS) - (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

<https://engemannshc.usc.edu/counseling/>

National Suicide Prevention Lifeline - 1-800-273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <http://www.suicidepreventionlifeline.org>

Relationship & Sexual Violence Prevention Services (RSVP) - (213) 740-4900 - 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <https://engemannshc.usc.edu/rsvp/>

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

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<https://equity.usc.edu/>

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Student Support & Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <https://studentaffairs.usc.edu/ssa/>

Diversity at USC

Tabs for Events, Programs and Training, Task Force (including representatives for each school), Chronology, Participate, Resources for Students. <https://diversity.usc.edu/>

USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime. Provides overall safety to USC community. dps.usc.edu

Students with Disabilities:

USC is committed to making reasonable accommodations to assist individuals with disabilities in reaching their academic potential. If you have a disability which may impact your performance, attendance, or grades in this course and require accommodations, you must first register with the Office of Disability Services and Programs (www.usc.edu/disability). DSP provides certification for students with disabilities and helps arrange the relevant accommodations. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in GFS (Grace Ford Salvatori Hall) 120 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776. Email: ability@usc.edu.

Open Expression and Respect for All

An important goal of the educational experience at USC Marshall is to be exposed to and discuss diverse, thought-provoking, and sometimes controversial ideas that challenge one’s beliefs. In this course we will support the values articulated in the USC Marshall “[Open Expression Statement](#).”

Other Policies

Please turn off your cellular phones before entering the classroom. They may not be used during classes. Since your phone should be turned off, texting during class is not only disrespectful, but it is also a serious violation of class policy.

Students are strongly encouraged to ask questions during class and during office hours. Most times it is not feasible to give a comprehensive answer to questions sent to me by e-mail. If you send me a question by e-mail and I believe that it is not feasible to give a satisfactory answer to that question by e-mail, I will ask you to come to my office hours.