ECG-701: Microeconomics I
Fall 2015: Tuesday & Thursday, 10:15-11:30 AM; 102 David Clark Labs.

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Office hours:  Tuesday 3:00 – 5:00 PM and
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Course Description:

ECG 701 is the first of two semesters of Ph.D. microeconomics. The syllabus below lays out the
sequence of topics and associated readings. The general structure of the micro sequence is that
701 covers theories of the consumer and the firm, welfare measurements, partial equilibrium in
the perfectly competitive markets, imperfect competition and market power. ECG 702 covers
general equilibrium, social choice and welfare, game theory, uncertainty and information, and
mechanisms design.

The purposes of the core sequences are to teach the theoretical tools required to read the
literature, to prepare you for the written preliminary exams, and to lay the groundwork for your
dissertation research.

The prerequisites for 701 include a master’s-level microeconomic theory course such as ECG
700, a year of calculus (MA 131/231 or MA 141/241/242), and familiarity with constrained
optimization and linear algebra such as one would obtain from ECG 765.

Required Textbooks:

AddisonWesley (2001).


Silberberg, E. and W. Suen (SS): The Structure of Economics: A Mathematical Analysis. Third

Additional Readings:

See course outline and reading assignments.
Class Format:

The class will consist of my lectures which are based on the material covered in different readings and my own notes as well as problem solving sessions carried out by my teaching assistant. The lectures will take place twice a week during the officially allocated time slots and problem solving sessions will take place once a week during a mutually agreeable (to be determined) time slot.

Course Requirements:

Your grade for the course will be determined based on your performance in two midterm exams (25% each), a comprehensive final exam (35%) and several (no more than 5) take home problem sets (15%).

Grading:

One should expect the following percentage performance/grade schedule:

- 90 - 100% = A range;
- 75 - 89% = B range;
- 61 - 74% = C range.

TENTATIVE COURSE OUTLINE AND READING ASSIGNMENTS

1. Mathematical Background (on your own, no lectures)

2. Consumer Theory

   2.1. Preferences and Utility
        JR: 1.1, 1.2; MWG: 1A-B, 2A-E, 3A-C

   2.2. Consumer Problem
        JR 1.3; SS: 10.1, 10.2

   2.3. Indirect Utility and Expenditure
        SS:10.3 - 10.6; JR:1.4 - 1.5; MWG: 3D,E,G

   2.4. Duality Results
        JR: 2.1; MWG: 3F,G
3. **Topics in Consumer Theory**

3.1. Revealed Preferences and Exchange  
   SS: 11.1, 11.2; JR: 2.3; MWG: 2F, 3J

3.2. Integrability  
   SS: 11.2; MWG: 3H; JR: 2.2

3.3. Aggregation  
   SS: 11.3; MWG: Ch4; Cornes: 8.1, 8.2  

3.4. Welfare Evaluation  
   SS:11.5; MWG: 3.I; JR: 4.3

3.5. Labor-Leisure Choice  
   SS: 10.7

**FIRST MIDTERM EXAM**

4. **Theory of the Firm**

4.1.1. Production  
   JR: 3.1, 3.2; MWG: 5A, 5B

4.1.2. Cost Functions  
   JR: 3.3, 3.4; SS: 8.1 – 8.10; MWG: 5C, 5D

4.1.3. Competitive Firm  
   JR: 3.5

5. **Partial Equilibrium**

5.1.1. Perfect Competition - Short Run  
   JR: 4.1; MWG: 10A-C

5.1.2. Entry and Exit – Long Run Equilibrium  
   MWG: 10F,G

5.1.3. Imperfect Competition and Market Power  
   JR: 4.2; MWG: 12A,B; Varian, Ch.14

**SECOND MIDTERM EXAM**
6. **Contract and Incentives** (Time permitting)

6.1.1. Introduction to Choice under Uncertainty (Comprehensive treatment in EC-702)
SS: Ch.13, Varian Ch.11

6.1.2. Principal-Agent Model

6.1.3. Moral Hazard

6.1.4. Moral Hazard in Teams and Tournaments


**FINAL EXAM – Tuesday, December 15, 8:00-11:00AM.**

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