Advanced Microeconomics I

Logistics:

Lecturer: Young Joon Park, <u>yparkucsd@gmail.com</u> (Office: C403) Lectures: Monday/Thursday 10:10-12:00 (Section 1) and 3:30-5:20 (Section 2) at C102 Office Hours: Monday/Thursday 2:30-3:30 Teaching Assistants: Xinwei Ma (<u>xinweima.pku@gmail.com</u>) and Deng Rui (<u>dr.dengrui@163.com</u>) Weekly TA Sessions: TBA TA Office Hours: TBA

Course Description:

In Advanced Microeconomics 1, we cover basic tools and current topics in modern microeconomic theory. This is the first course of the microeconomic sequence offered to economics and finance program. The course has several objectives including the followings: (a) acquiring basic knowledge of modern microeconomic theory that you can further pursuit in higher level; (b) obtaining familiarity with the use of theoretical tools in other topics in economics and finance; and (c) developing the ability to model and formally analyze economic issues.

Prerequisites:

The knowledge of undergraduate-level microeconomics is necessary. Compared to undergraduate-level, there rare more mathematical methods involved. Basic knowledge of Calculus, Linear Algebra and Probability Theory is required. If you find your mathematical/economical background is not strong enough, please talk to me.

Textbook:

Advanced Microeconomic Theory, (2011) 3rd Ed. Geoffrey A. Jehle & Phillip J. Reny, Prentice Hall

There are several more textbooks that might be useful for your reference. Microeconomic Theory (1995), Mas-Colell, Whinston & Green, Oxford University Press. Microeconomic Analysis (1992), H. Varian, W. W. Norton & Company. Mathematics for Economists (1994), Simon & Blume, W. W. Norton & Company.

Evaluation

Your grade depends on two exams, class participation and homework.

There will be one midterm exam (30%) and one final exam (50%). All exams are closed-book exam. The actual date and time of exams will be announced later. The final exam is cumulative.

The class participation will be marked periodically.

There will be several problem sets that will be marked in a "loose" way.

(Tentative) Schedule:

I. Introduction & Mathematics Overview (Ch.A1, A2)

- Main Objectives of the Course
- Introduction to Modeling Methods and Motivation
- Review of Calculus and Linear Algebra
- Some Topics of Real Analysis and Topology
- II. Consumer Theory (Ch. 1, 2.1-2.3)
- Preliminaries of Consumer's Choice
- Preference Ranking
- Utility Representation
- Utility Maximization Problem and Marshallian Demand
- Indirect Utility Function
- Expenditure Minimization Problem and Hicksian Demand
- Expenditure Function
- Duality
- Comparative Statics of Demand
- Aggregate Demand

III. Producer Theory (Ch. 3)

- Production Sets and Production Function
- Cost Function and Cost Minimization Problem
- Short Run Cost Functions
- Long Run Cost Functions
- Profit Maximization and Supply
- Factor Demand Functions

IV. Decision Under Uncertainty (Ch. 2.4)

- Objective and Subjective Uncertainty
- Expected Utility Hypothesis and von Neumann-Morgenstern Utility Function
- Allais Paradox

- Alternative Models of Choice under Uncertainty
- Attitude toward Risk
- Measure of Risk Aversion
- First and Second Order Stochastic Dominance

In case time permits we will also cover:

- V. Intertemporal Choice & Production: Supply and Demand for Factor Market
- Supply of Labor: The Labor-Leisure Decision
- Supply of Capital: The Consumption-Saving Decision
- Intertemporal Production: The Demand for Capital