Course: Microeconomics I

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Term: First Semester

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Office Hours: By appointment. Send e-mail to arrange a date.

Description:

Microeconomics is a collection of theories (models) whose goal is to formally explain (represent, emulate, simulate, replicate,...) and analyze the process of decision making for rational agents, and its consequences in different socio-economic contexts.

This courses provides the foundations of Microeconomics. We first review the basic model of individual's choice (preferences, utility representation, utility maximization, demand, properties), placing special emphasis on the assumptions used, its relevance, formal representation, and the logical consequences that one can derive from them. We then move to a parallel analysis that will introduce the behavior of the cost minimizing/profit maximizing firm. Finally, we tackle the concept of general equilibrium, tbat deals with the issue of understanding how the decisions of the economic agents (consumers and firms) studied before interact with each other. The main concern will be whether these decisions are compatible with each other in an ordely manner and, if so, what are the main characteristics of the resulting situation.

Objective:

At the end of the course students will have learned the basic tools of microeconomic theory, which are of extreme importance to initiate the analysis of more complex socio-economic situations. A central methodological objective of the course is that, at the end, the students have learned to formally derive the logical consequences of a set of assumptions.

Outline:

INTRODUCTION

I CONSUMER THEORY

    1.1 Preference Relations.
        1.1.1 Binary relations and their properties. [JR A1.2.3]
        1.1.2 The consumption set. [MWG 2.A, 2.B, 2C. JR 1.1]
        1.1.3 Preference relations and their properties. [MWG 3.B. JR 1.2.1]

    1.2 Utility.
        1.2.1 Representability of preferences by a utility function. [MWG 3.C. JR 1.2.2]
        1.2.2 Properties of the utility function. [MWG 3.C. JR 1.2.2]

    1.3 Consumer Behavior I.
        1.3.1 Budget constraint. [MWG 2.D. JR 1.3]
        1.3.2 Utility maximization. [MWG 3.D. JR 1.3]
        1.3.3 Marshallian demand functions. [MWG 2.E, 3.D. JR 1.3]

    1.4 Consumer Behavior II.
        1.4.1 Indirect utility function. [MWG 3.D. JR 1.4.1]
        1.4.2 Expenditure function and Hicksian demand functions. [MWG 3.E. JR 1.4.2]
        1.4.3 Relations between the indirect utility and the expenditure functions and their properties. [MWG 3.G. JR 1.4.3]
        1.4.4 Relations between the Marshallian and the Hicksian demand functions and their properties. [MWG 3.G. JR 1.4.3, 1.5]

    1.5 Topics in Consumer Theory.
        1.5.1 Revealed preference. [MWG 2.F, 3.J. JR 2.3]
        1.5.2 Measures of consumer welfare. [MWG 3.I. JR 4.3.1]

II THEORY OF THE FIRM

    2.1 Technology.
        2.1.1 Representations of technology: production set, input requirement set, isoquants, production function. [MWG 5.A, 5.B. JR 3.2]
        2.1.2 Returns to scale. [MWG 5.B. JR 3.2]
        2.1.3 Elasticities. [MWG 5.B. JR 3.2]

    2.2 Cost minimization.
        2.2.1 Cost minimization: cost and conditional input demand functions. [MWG 5.C. JR 3.2]
        2.2.2 Properties of the cost and conditional input demand functions. [MWG 5.C. JR 3.2]
        2.2.3 Short and long run families of cost functions. [MWG 5.D. JR 3.3]

    2.3 Profit maximization.
        2.3.1 Profit maximization: profit, output supply and input demand functions. [MWG 5.C, 5.D. JR 3.5.1]
        2.3.2 Properties of the profit, output supply and input demand functions. [MWG 5.C, 5.D. JR 3.5.2]

2.4 Duality in production. [JR 3.4]

III THE THEORY OF GENERAL EQUILIBRIUM

3.1. Equilibrium in pure exchange economies

3.1.1 Definition of pure exchange economies. [MWG 15.A, 15.B. JR 5.1]

3.1.2 The concept of equilibrium in pure exchange economies. [MWG 15.B. JR 5.1]

3.2. Equilibrium in perfectly competitive economies

3.2.1 Definition of perfectly competitive economies. [MWG 16.A, 16.B. JR 5.2.1]

3.2.2 The concept of equilibrium in perfectly competitive economies. [MWG 17.A. JR 5.2.1]

3.2.3 The existence of equilibria in perfectly competitive economies. [MWG 17.B, 17.C. JR 5.2.1]

3.2.4 Welfare properties of perfectly competitive equilibria. [16.C, 16.D. JR 5.2.2]

3.3. Equilibrium in perfectly competitive economies with production

3.3.1 Definition of production economies: private ownership economies. [MWG 16.A, 16.B. JR 5.3.1, 5.3.2]

3.3.2 The concept of equilibrium in private ownership economies. [MWG 17.A. JR 5.3.3]

3.3.3 The existence of equilibria in private ownership economies. [MWG 17.B, 17.C, 17.D. JR 5.3.3]

3.3.3 Welfare properties of perfectly competitive equilibria in private ownership economies. [MWG 16.C, 16.D, 16.E, 16.F. JR 5.3.4]

3.4. Core and Equilibria. [MWG 18.A, 18.B. JR 5.5.1]

References:

- MAS-COLELL, A., M. WHINSTON and J. GREEN, Microeconomic Theory, Oxford University Press, 1995.

- JEHLE, G.A., P. J. RENY, Advanced Microeconomic Theory (Third Edition). Prentice hall. 2011.

- DEBREU, G., Theory of Value. Yale University Press. 1959.

- RUBINSTEIN, A., *Lecture Notes in Microeconomic Theory: The Economic Agent*, Princeton University Press, 2019.
  Free download at https://arielrubinstein.org/gt/arielDocs/main.as

  - OSBORNE, M., RUBINSTEIN, A., *Models in Microeconomic Theory*, Open Books Publishers, 2020.
  Free download at https://arielrubinstein.org/gt/arielDocs/main.asp

Grading Policy:

Regularly distributed problem sets will be graded and returned to you. A final exam will count an 80% towards your nal grade. The remaining 20% will be computed based on your problem sets grades.