**Economics I**

## Prof. Stefano Colombo

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The course offers an introduction to modern Microeconomics. At the end of the course, students will be able to:

– know the key elements of the rational choice theory applied to consumers and businesses;

– identify the different ways in which consumers and businesses interact;

– understand how market economies, monopolies, and oligopolies work.

***COURSE CONTENT***

*What the student should already know before taking the course:*

All contents of the General Mathematics course which should be taken before Economics I.

*What the student will learn:*

*– Introduction to the theory of the rational behaviour of economic agents.*

 The student will be familiar with the elements of the theory of rational choice (under certainty; under uncertainty; under strategic interaction).

– *Consumer theory.* The student will be able to describe how consumers allocate their income in purchasing different goods and how the demand for each good varies with the main factors (income, prices of goods) that influence it. The student will be introduced to the concepts of elasticity of demand, cross-elasticity, and consumer surplus. In addition, the student will be able to understand the rationality of intertemporal choice.

– *Choice under uncertainty*. The student will be introduced to the concepts of lottery, expected value, expected utility, and attitude toward risk, and will become familiar with the basic elements of the theory of insurance.

– *The theory of the firm: production and costs*. The student will be able to describe production processes, in the short and long run, and to represent them through cost functions. The student will be introduced to the concepts of returns to scale, industrial structure, and natural monopoly.

– *Perfectly competitive markets.* The student will be able to understand how a firm maximizes its profit in a perfectly competitive market; how to construct the firm’s supply function in the short and long run, and to derive the corresponding industry supply function. The student will also be able to understand why perfectly competitive markets equilibria are efficient.

– *General equilibrium and market efficiency.* The student will be able to describe a general equilibrium for a pure trade economy and for a production economy. The student will be introduced to the concept of Pareto efficiency and will be able to understand why Pareto efficiency is satisfied in a general competitive economic equilibrium.

– *The benefits of trade. T*he student will be introduced to the concept of "comparative advantage" and to the elements of the theory of international trade.

– *Monopoly.* The student will be able to understand how a firm may obtain a monopoly position in a market and to describe the behaviour of a monopolistic firm. Moreover, he will be introduced to the concepts of ‘deadweight loss’, price discrimination and natural monopoly.

– *The theory* *of rational choice in strategic contexts (game theory).* The student will be able to understand the elements of the theory of rational choice under strategic interaction (game theory). The student will be introduced to the concepts of normal games, games in extended form with perfect information, Nash equilibrium, and the backward induction solution method for games in extended form.

– *Oligopoly.* The student will be acquainted with the main models describing the interaction between firms in oligopolistic markets (Cournot, Bertrand and Stackelberg models) and to interpret them in light of the Game theory. The student will be also able to understand and analyse collusion among firms in an oligopoly. Moreover he will be able to understand the link between perfect competition and industry structure.

– *Market failures: externalities and public goods and collective choices.* The student will be able to understand the sources of market failure and to link them back to a problem of strategic interaction. The student will be acquainted with the solutions to problems of externalities: namely, contracts; allocation of ownership rights; or taxation. The concept of public good and the conditions that must be satisfied so that the supply of a public good is efficient, together with some elements of the theory of collective choices, will conclude the course.

***READING LIST***

The following textbook should be used in studying for the exam:

R.H. Frank, *Microeconomia,* McGraw-Hill Italia, 2014, 6th Italian edition, (Chapters 1-6; 9-13; 15-17).

Alternately, the student may consult one of the following:

J. Perloff, *Microeconomia,* Apogeo, 2009.

M.L. Katz-H.S. Rosen, *Microeconomia,* McGraw-Hill Italia, 2011, 4th Italian edition.

***TEACHING METHOD***

The course will be taught through lectures and assignments in class.

***ASSESSMENT METHOD AND CRITERIA***

The final exam is written. The test habitually consists of five questions. The first question aims to verify students' level of understanding of a text concerning microeconomic notions and elementary topics; the second question assesses the understanding of fundamental microeconomic notions; the third students’ ability to establish connections between acquired microeconomic notions; the fourth students’ ability to recur to microeconomic reasoning to deal with a problem; the fifth question aims to verify whether students are able to understand if their interlocutor correctly or incorrectly employs microeconomic reasoning to solve a problem.

To pass the exam at least three out of the five answers must meet the standard requirements.

***NOTES AND PREREQUISITES***

Students should have a good knowledge of the key concepts of mathematical analysis, especially differentiation rules and principles.

In case the current Covid-19 health emergency does not allow frontal teaching, remote teaching will be carried out following procedures that will be promptly notified to students.

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG or on the Faculty notice board.