



Programme of Course "Economia Applicata All'ingegneria"

- Code: I0648
- Type of course unit: Elective (Laurea in Ingegneria dell'Informazione curriculum Automatica)
- Level of course unit: Undergraduate Degrees
- Semester: 1

Number of ects credits: (Laurea in Ingegneria dell'Informazione) 6 (workload 150 hours)

Teachers: Massimo Gastaldi

1	Course objectives	The goal of this course is to provide the fundamentals of microeconomics and investment decision. The course begins with an introduction to supply and demand and the basic forces that determine an equilibrium in a market economy. Next, it introduces the study of consumer behavior and analyze consumer decisions. Then we turn our attention to firms and their decisions about optimal production and the impact of different market structures on firm's behavior. The final section of the course provides an introduction to the more important criteria utilized in investment decisions.
2	Course content and learning outcomes (dublin descriptors)	<p>Topics of the module include:</p> <ul style="list-style-type: none"> • Introduction to microeconomics: the market, the demand curve and the supply curve, market equilibrium, Pareto efficiency. • Consumer behavior: the budget constraint, consumer preferences, utility, marginal utility, indifference curves, marginal rate of substitution, consumer optimal choices and consumer demand curve, the inverse demand function, Slutsky equation, consumer's and producer's surplus, market equilibrium, Elasticity. • Firm behavior: input and outputs, technological constraints, properties of technology, the marginal product, the technical rate of substitution, profit maximization in the short run and in the long run, cost minimization, cost curves, firm and industry supply. • Market structures: competitive market, monopoly, price discrimination, monopolistic competition, factor market, oligopoly and basic game theory. • Investment decisions: basic criteria for investment analysis such as: Net Present Value, Internal Rate of substitution, Payback period <p>On successful completion of this module, the student should :</p> <ul style="list-style-type: none"> • understand consumer behavior, understand firm behavior • analyze different types of market structures (competitive market, monopoly, oligopoly), have knowledge and understanding of how to apply economic principles to a range of policy questions • demonstrate capacity for reading and understand investment decisions.
3	Course prerequisites	The student must know the basic notions of Calculus contained in the exams Calculus I and II
4	Teaching methods and language	<p>Lectures and exercises</p> <p>Language: Italian</p> <p>Reference textbooks</p> <ul style="list-style-type: none"> • Varian, <i>Microeconomia</i>. Cafoscarina . 2010.
5	Assessment methods	Written and oral exam.