# uc3m Universidad Carlos III de Madrid

### Microeconomics

Academic Year: 2024 / 2025 Review date: 22-05-2024

Department assigned to the subject: Department of Economics Coordinating teachers: PHILIPP DENTER AND DIEG MORENO

Type: Basic Core ECTS Credits: 6.0

First Year, Second Semester

Branch of knowledge: Social Sciences and Law

### COMPETENCES AND SKILLS THAT WILL BE ACQUIRED AND LEARNING RESULTS.

### Knowledge

This course provides a set of basic tools appropriate for economic analysis in all fields of economics:

- Consumer Theory: preferences, utility functions, marginal rate of substitution, budget set, demand functions, consumer surplus.
- Theory of decision under uncertainty: preference for risk, risk attitudes, the use of information, the value of information.
- Theory of the Firm: inputs and outputs, production function, opportunity cost, sunk costs, fixed and variable cost, total, average and marginal cost, short and long run costs, supply function.
- Analysis regulatory policies of competitive and monopolistic markets: price controls, quotas, maximum prices, taxes and subsidies, tariffs.

### Abilities

The course material teaches students how to:

- Frame economic problems by using formal models amenable to quantitative analysis.
- Use standard methods to solve decision problems.
- Apply equilibrium analysis to identify the results of the interactions of economic agents.

### **Aptitudes**

The course encourages students to:

- Analyze economic problems without prejudices, and with precision and rigor.
- Reason critically.
- Learn autonomously.
- Argue a viewpoint showing its foundation and appreciating the merits of other opinions.

# **DESCRIPTION OF CONTENTS: PROGRAMME**

The course focuses on the study of decision problems faced by consumers and firms, and on partial equilibrium analysis. The concepts and tools presented are at the core of Economic Theory. Practical applications are discussed to help understanding and show the potential of the theory. The use of calculus provides economic analysis with a precision and functionality very useful in professional activities.

The program includes the following topics:

- I. Consumer Theory: preferences, utility functions, budget sets, demand functions, applications (labor supply, taxes, subsidies, price indices), uncertainty (expected utility, risk attitudes, risk premium, value of information).
- II. Theory of the Firm: technology, production function, factors demand, cost functions, supply function.
- III. Partial Equilibrium Analysis: competitive and monopolistic markets.

### LEARNING ACTIVITIES AND METHODOLOGY

The teaching methodology includes:

- Lectures in which the basic material is presented and discussed. Students are provided with class notes and basic textbook references to complete and deepen their understanding.
- Discussion of real occurring economic problems related to each of the topics.
- Experimental sessions in computer labs and other environments with the objective of helping understanding of the theory, promoting confidence in the theory's predictions, and revealing possible flaws.
- Solving and discussing practical exercises helpful to provide students with feedback on their level of understanding and difficulties.
- Class presentations in which students discuss the solution to exercises and/or policy relevant topics, with the objective of developing students' ability to analyze and communicate relevant information and participating in fruitful exchanges of opinions.

### ASSESSMENT SYSTEM

The course grade is calculated based on the grades obtained in a midterm exam (ME) and a final exam (FE) according to the formula:

 $max{ML*0.4 + RE*0.6, RE}.$ 

(% Final Exam: 60, % Midterm Exam: 40)

### **BASIC TEXBOOKS**

- R. Serrano and M. Feldman: A Short Course in Intermediate Microeconomics with Calculus, Cambridge UP.

## ADDITIONAL BIBLIOGRAPHY

- Intermediate Microeconomics: An Intuitive Approach with Calculus, by Nechyba Thomas, Cengage Learning.
  - H. Gravelle y R. Rees Microeconomics, Pearson-Prentice.
  - J. Hey Intermediate Microeconomics, McGraw-Hill.
  - R. PINDYCK y D. RUBINFELD Microeconomics, Prentice Hall.