UNIVERSITÀ DEGLI STUDI DI MILANO

UNIVERSITÀ DI PAVIA

Ph.D. in ECONOMICS – Universities of Milan and Pavia

Game Theory

Academic year 2025/26 – Second Term

Claudia Meroni, University of Milan
Office: via Livorno 1, 20122 Milan. Second floor, Room 217
Tel +39 02 50321476
E-mail: claudia.meroni@unimi.it

Office hours: By appointment.

Course description:

The course provides an overview of the major issues of game theory. It will cover normal form and extensive form games, games of perfect, imperfect, and incomplete information, and will present equilibrium concepts such as Nash equilibrium, perfect equilibrium, subgame perfect equilibrium, and sequential equilibrium. A variety of examples will be discussed, including classic games and some economic applications.

Learning objectives:

The aim of the course is to equip students with the tools required to understand game theory and its traditional solution concepts. Students will learn how situations of strategic interaction can be modeled and analysed, the assumptions and implications of key equilibrium concepts, and how to apply game-theoretic methods to economic problems.

UNIVERSITÀ DEGLI STUDI DI MILANO

UNIVERSITÀ DI PAVIA

Learning outcomes:

By the end of the course students will have knowledge of the core ideas and main methods of game theory. Students are expected to be able to model situations of strategic interaction as games, to discuss and predict the behavior of agents according to different solution concepts, understanding their benefits and limitations, and to critically comprehend existing economic models.

Course prerequisites: Good knowledge of microeconomics.

Course organization: 20 hours of lectures.

Course assessment: Written examination.

Syllabus:

1. **Normal form games.** Nash equilibrium, dominance, trembling-hand perfection, incomplete information.
2. **Extensive form games.** Backward induction, subgame perfection, weak perfect Bayesian equilibrium, sequential equilibrium, forward induction, signaling games, repeated games.

References:

van Damme, "Stability and Perfection of Nash Equilibria". Springer-Verlag, 1991.
Chapters: 1 (.1, .2, .3, .4, .5), 2 (.1, .2), 6 (.1, .2, .3, .4).

Mas-Colell, Whinston, and Green, "Microeconomic Theory". Oxford University Press, 1995.
Chapters: 7, 8, 9.