Niccolò Lomys
Toulouse School of Economics
Email: niccolo.lomys@tse-fr.eu
Homepage: https://niccololomys.com

Economic Theory: Part II

M2 ETE and DEEQA, Winter 2020
Teaching Hours: Thursday, 3:30-6:30 pm
Office Hours: By appointment (send me an email)
Course Language: English

Course Description. This class provides an introduction to Dynamic Games. We will cover the following topics:

1. Repeated Games with Perfect Monitoring.
2. Repeated Games with Imperfect Public Monitoring.
3. Brief Overview of:
    - Repeated Games with Private Monitoring;
    - Stochastic Games;
    - Repeated Games with Incomplete Information.
4. Topics in Dynamic Games
    - Dynamic Games and Markov Perfect Equilibria;
    - Disappearance of Monopoly Power and the Coase Conjecture;
    - Reputations.
5. Bargaining.
6. Timing Games: Wars of Attrition and Preemption Games.

Objective. This is an intermediate-level, mathematically oriented class in game theory. The goal is twofold: (i) to introduce some important ideas in game theory; (ii) to provide basic tools for studying game-theoretic problems that arise in (applied) economic models.

Prerequisites. Microeconomics 1 and Game Theory at the M2 ETE; basic knowledge of mathematical analysis and probability theory; some taste for rigorous thinking. You do not need to know the content of Microeconomics 2 at the M2 ETE, which focuses on the economics of information and is taught in parallel to our class.

References. For each topic, lecture notes will be available on my website. I am not planning to discuss all of the lecture notes in class, but I expect that you understand them and solve the exercises they contain for the exam. You should think of my lectures as the "highlights" of the material, and that a thorough understanding comes from reading these notes, solving the exercises, and discussing the material with your classmates. The lecture notes also reference the relevant textbooks and papers in the literature. Reading textbooks and papers, though not mandatory, is a good way to sharpen your understanding of the topics we cover.

Selected parts of the following sources will provide helpful readings:

- Fudenberg and Tirole (1991), *Game Theory*, MIT Press.
- Mailath (2019), *Modeling Strategic Behavior: A Graduate Introduction to Game Theory and Mechanism Design*, World Scientific Publishing (also available here).
- Mailath and Samuelson (2006), *Repeated Games and Reputations: Long-Run Relationships*, Oxford University Press.

Grading. Summary/report on a paper (25%) and final in-class written exam (75%). To prepare for the final exam, you are strongly encouraged to solve all the exercises contained in the lecture notes and to discuss them with your classmates.