

Game Theory

Academic Year: **2017/2018**

Term: 1st Quarter

Instructor(s): Marco Pagnozzi

Contact(s) and Office hours: pagnozzi@unina.it

Biography:

Marco Pagnozzi is Professor of Economics at the University of Naples Federico II, Director of the *Master in Economics and Finance* and of the *Laurea Magistrale in Economics and Finance*, and research fellow at CSEF. He has a Ph.D. in Economics from Oxford University and a Doctorate in Applied Mathematics from the University of Naples Federico II. His research focuses on auction theory, industrial organization and information economics. He has published in numerous academic journals, including *American Economic Journal: Microeconomics*, *Economic Journal*, *Games and Economic Behavior*, *International Journal of Industrial Organization*, *RAND Journal of Economics*, *Journal of Economics & Management Strategy* and *Journal of Industrial Economics*.

Course overview and objectives:

This course offers an introduction to non-cooperative game theory, with applications to relevant economic topics. The course is intended for master students who wish to develop a solid background in this area.

The course aims to provide students with a deep understanding of incentives in strategic interactions and equilibrium concepts for games, as well as their applications to economic situations.

Course Content:

Part I – Static Games of Complete Information

- A. Modeling Strategic Interaction
- B. Nash Equilibrium
- C. Mixed Strategies

Part II – Dynamic Games of Complete Information

- A. Extensive Form Games
- B. Subgame Perfection
- C. Repeated Games

Part III – Static Games of Incomplete Information

- A. Types
- B. Bayesian Equilibrium
- C. Examples

Part IV – Dynamic Games of Incomplete Information

- A. Perfect Bayesian Equilibrium
- B. Signaling Games

Required background:

None.

Grading:

90% final exam
10% problem sets

Bibliography:

Gibbons, R. (1992), *A Primer in Game Theory*. Pearson.

Mas-Colell, A., M. Whinston and J.R. Green (1995), *Microeconomic Theory*. Oxford University Press.

Extra Costs (case studies, platforms...):

Miscellaneous information:

[If applicable, include here additional information relevant to the course (e.g., requirements of class participation, rules for group composition, details on the group projects etc.)]

Code of conduct and ethics:

Católica Lisbon School of Business and Economics is a community of individuals with diverse backgrounds and interests who share certain fundamental goals. A crucial element to achieve these goals is the creation and maintenance of an atmosphere contributing to learning and personal growth for everyone in the community. The success of CATÓLICA-LISBON in attaining its goals and in maintaining its reputation of academic excellence depends on the willingness of its members, both collectively and individually, to meet their responsibilities.

Along with all the other members of our community, students are expected to follow professional standards and CATÓLICA-LISBON standards of Academic Integrity. Some details should be mentioned here: Please arrive on time for class with uninterrupted attendance for the duration of the class. Signing attendance sheet for anyone else in the class constitutes fraud and a violation of the CLSBE code of conduct. Use of computers and other electronic devices during the class is not allowed, unless expressly requested by the instructor of the course. Students who persistently act in a disruptive and disrespectful manner during the class session may be invited to leave.

Students are expected to behave at all times according to the fundamental principles of academic integrity, including honesty, trust, fairness, respect, and responsibility. In particular,

- a) In **individual graded assignments** of any type, students may not collaborate with others or use any materials without explicit permission from the instructor of the course;
- b) In **group assignments and reports**, all students listed as authors should have performed a substantial amount of work for that assignment;
- c) It is dishonest to fabricate or falsify data in experiments, surveys, papers, reports or other circumstances; fabricate source material in a bibliography or "works cited" list; or provide false information in other documents in connection with academic efforts;
- d) **Plagiarizing**, i.e. "to steal and pass off the ideas or words of another as one's own and or to use another's production without crediting the source" (Merriam-Webster Dictionary) is an Academic Integrity breach. It can be avoided by using proper methods of documentation and acknowledgement. Visit this guide for additional resources on how to avoid plagiarism in your written submissions <http://en.writecheck.com/plagiarism-guide>
- e) In **exams** students must not receive or provide any unauthorized assistance. During an examination, students may use only material and items authorized by the faculty. Use of smartwatches or other communication devices is not permitted during the exam.

Academic integrity breaches will be dealt with in accordance with the school's code of Academic Integrity: <https://www.clsbe.lisboa.ucp.pt/system/files/assets/files/academicintegritycode.pdf>
