Game Theory

Academic Year: (2019 / 2020)   Review date: 19-12-2017

Department assigned to the subject: Economics Department

Coordinating teacher: MARHUENDA HURTADO, FRANCISCO

Type: Compulsory ECTS Credits : 6.0

Year : 1 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Basic calculus and probability theory

OBJECTIVES

- Teaches students the standards of precision and rigor in economic analysis and professional communication.
- Emphasizes autonomous and group learning.
- Familiarizes students with the theory of individual decision under uncertainty, and provides a set of tools appropriate for the analysis of individuals' interactions in strategic settings.

DESCRIPTION OF CONTENTS: PROGRAMME

1. What is game theory?
2. Static games of complete information: normal form; Nash equilibrium; applications
3. Dynamic games of complete information; extensive form; subgame perfect equilibrium; applications
4. Static games of Incomplete information: Bayesian Nash equilibrium
5. Dynamic games of incomplete information: perfect Bayesian Nash equilibrium.

LEARNING ACTIVITIES AND METHODOLOGY

-Lectures in which the basic material is presented and discussed. Basic textbook references are provided with to complete and deepen students¿ understanding.
- Discussion of the solution to practical exercises to provide students with feedback on their level of understanding and difficulties.

ASSESSMENT SYSTEM

% end-of-term-examination:	60
% of continuous assessment (assigments, laboratory, practicals…):	40

Quizzes (40%); Final Exam (60%).

BASIC BIBLIOGRAPHY

- A. Dixit and S. Skeath Games of Strategy, New York: W. W. Norton, 1999

- E. Prisner Game Theory Through Examples, The Mathematical Association of America, 2014

- H. Gintis and S. Schecter Game Theory in Action. An Introduction to Classical and Evolutionary Models, Princeton UP, 2016

- H. S. Bierman and L. Fernandez Game Theory with Economic Applications, Second Edition, Addison-Wesley, 1998

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- K. Binmore Game theory: A Very Short Introduction, Oxford UP, 2007

- Lindley Making Decisions, , John Wiley & Sons, 1985

- M. Osborne An Introduction to Game Theory, Oxford UP, 2003

- M. Peterson An Introduction to Decision Theory, Cambridge UP, 2009

- R Gardner: Games for Business and Economics, New York: John Wiley & Sons, 1995

- R. Gibbons Game Theory for Applied Economists, Princeton UP, 1992

- R. Myerson: Game Theory: Analysis of Conflict, , Harvard UP, 1991