

Academic Year: ( 2023 / 2024 )

Review date: 22-11-2022

Department assigned to the subject: Social Sciences Department

Coordinating teacher: SANCHEZ-CUENCA RODRIGUEZ, IGNACIO

Type: Compulsory ECTS Credits : 6.0

Year : 2 Semester : 1

## OBJECTIVES

### LEARNING RESULTS

- Knowledge of formal models of strategic behaviour, basic notions of utility theory, games in normal and extensive form and models of negotiation and collective action.
- Understand how formal models can be used to analyse complex phenomena and know their main applications to collective action problems and cooperation, conflict, international crisis, dissuasion and market solutions.

## DESCRIPTION OF CONTENTS: PROGRAMME

1. First week: What type of science is game theory?
2. Second week: Two approaches to social phenomena.

Diagnostic test of math skills

3. Third week: Rationality and Society; Math review.
4. Fourth week: Basic Concepts of Game Theory
5. Fifth week: Nash Equilibrium
6. Sixth week: Calculating Nash Equilibria.
7. Seventh week: Multiplicity of Equilibria.
8. Eighth week: Comparative Statics.
9. Ninth week: Tipping Games.
10. Tenth week: Subgame Perfect Equilibrium.
11. Eleventh week: Repeated Games.
12. Twelfth week: Folk Theorems.
13. Thirteenth week: Sustained Cooperation.
14. Fourteenth week: Norms and Institutions.

## ASSESSMENT SYSTEM

There will be four quizzes during the course, each of them worth 10% of the final grade. In addition, students will submit to group essays, each of them worth 20% of the final grade. The remaining 20% will be graded based on class participation.

<b>% end-of-term-examination:</b>	20
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	80

## BASIC BIBLIOGRAPHY

- Martin Osborne An Introduction to Game Theory, Oxford University Press, 2004
- Morrow, James Game Theory for Political Scientists, University of Michigan Press, 1994
- Ordeshook, Peter A Political Theory Primer, Routledge, 1992