

# MICROECONOMICS 2 (MATHEMATICAL GAME THEORY)

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**Composante**  
UFR de  
mathématiques  
et  
informatique  
(UFR27)



**Volume  
horaire**  
54h



**Période de  
l'année**  
Printemps

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### Description

**Objectifs:** Provide the basic concepts of game theory and acquire the methods to model and solve rigorously strategic situations. The course stresses the mathematics of the models. Every concept is illustrated by exercises.

### Contenu du cours:

1. Strategic games, domination, dominant strategies, sophisticated equilibria, Pareto solutions
2. Two-Player Zero-sum games: guaranteeing and defending, maxmin, minmax, value, prudent strategies, optimal strategies, saddle points
3. Nash equilibrium, Best reply correspondence, fixed point, existence
4. Extensive form games, Strategic associated games and subgames,
5. sequential rationality, backward induction, subgame perfect equilibrium, relation to sophisticated equilibrium
6. Mixed strategies, mixed extension of a game, characterisation of Nash equilibria, calculations of Nash equilibria.

### Références: books by:

- Moulin,
- Osborne and Rubinstein,
- Myerson,