

## Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
ECON416	Social choice	8	3	3	3	3	5

Prerequisites	
Admission Requirements	

Language of Instruction	French
Course Type	Elective
Course Level	Bachelor Degree
Objective	This course is a deepening of knowledge in game theories and studies the design of the interaction between the agents in order to reach the desired social choices.
Content	The course studies the design of the interaction of agents around three topics: social choice theory (collective decision-making and voting systems), mechanism design and auctions. The course ends with an introduction to social networks.
References	Yoav Shoham and Kevin Leyton-Brown, Multiagent Systems: Algorithmic, Game-Theoretic, and Logical Foundations Cambridge University Press, 2009. Matthew O. Jackson A Brief Introduction to the Basics of Game Theory. Matthew O. Jackson (2008) Social and Economic Networks, Princeton University Press.

## Theory Topics

Week	Weekly Contents
1	Introduction et exemples: Voting systems and difficulties with collective decision making
2	Arrow theorem
3	Gibbard-Satterthwaite and Muller-Satterthwaite theorems
4	Mechanism designs: applications
5	Revelation principle and transferable utility
6	Mechanism design as a problem of optimisation
7	Vickrey-Clarke-Growes mechanism (examples et limitations)
8	Auctions and revenue equivalence theorem
9	Social networks
10	Presentation
11	Presentation
12	Presentation
13	Presentation
14	Presentation