

5.00 credits





30.0 h + 10.0 h

Q2



**This learning unit is not being organized during this academic year.**

Language :	English
Place of the course	Louvain-la-Neuve
Main themes	The first part of the course provides the basis of decision theory and game theory. The second part is devoted to the economy of uncertainty. The third part is devoted to the Information Economy
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <p>This course is designed for students of the orientation of the economy Bac ECGE (BAC3) who want to deepen the analysis of economic problems associated with uncertainty and information based on the tools of decision theory and games. The themes of uncertainty and information are vast. We chose to address the most important during the first ten weeks. We suggest a range of topics of interest for weeks: each year, specific topics will be treated according to the needs and tastes of students attending the course. An initial list of topics of interest is suggested. At the end of the course, students will master the theory of games used in the uncertain economy and information and be able to apply to economic problems in concrete they are relevant as tools for analysis and decision support.</p>
Evaluation methods	The grade will be determined by a final written examination
Teaching methods	Lectures and exercises sessions
Content	<p>The course is divided into five chapters:</p> <p>Chapter 1 Decision theory: preferences, utility, loteries, uncertainty, risk aversion</p> <p>Chapter 2 Non-cooperative games: strategic form, best replies, dominant strategy, Nash equilibria, extensive form, backward induction, subgame perfection,</p> <p>Chapter 3 Two-player bargaining: axiomatic solutions.</p> <p>Chapter 4 Cooperative games with transferable utility: characteristic function, cost sharing, core, Shapley value, normative applications.</p> <p>Chapter 5 Voting games: weighted majority voting games, power indices.</p>
Inline resources	Lecture notes and homeworks for the exercises sessions available on Moodle
Bibliography	
Faculty or entity in charge	ESPO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Additionnal module in Mathematics	APPMATH	5		
Minor in Economics	MINECON	5		
Additionnal module in Economics	APPECON	5		
Bachelor in Philosophy, Politics and Economics	PPE1BA	5		
Master [120] in Chemistry and Bioindustries	BIRC2M	5		