

Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
MAT343	Game Theory	5	3	0	0	4	6

Prerequisites	
Admission Requirements	

Language of Instruction	French
Course Type	Elective
Course Level	Bachelor Degree
Objective	
Content	<p>INTRODUCTION TO GAME THEORY</p> <ol style="list-style-type: none"> Introduction <ol style="list-style-type: none"> Defining Games Nash Equilibrium Strategic Reasoning Best Response and Nash Equilibrium Nash Equilibrium of Examples Games Dominant Strategies Pareto Optimality Mixed-Strategy Nash Equilibrium <ol style="list-style-type: none"> Mixed Strategies and Nash Equilibrium Computing Mixed Nash Equilibrium Hardness Beyond 2x2 Games Examples: Mixed Strategy Nash Alternate Solution Concepts <ol style="list-style-type: none"> Beyond the Nash Equilibrium Strictly Dominated Strategies and Iterative Removal Maxmin Strategies Correlated Equilibrium Extensive-Form Games <ol style="list-style-type: none"> Formalizing Perfect Information Extensive Form Games Perfect Information Extensive Form Strategies, BR, NE Subgame Perfection Backward Induction Imperfect Information Extensive Form: Definitions, Strategies Mixed and Behavioural Strategies Repeated Games <ol style="list-style-type: none"> Infinitely Repeated Games : Utility Stochastic Games Learning in Repeated Games Equilibria of Infinitely Repeated Games Discounted Repeated Games Bayesian Games <ol style="list-style-type: none"> Bayesian Games: Definitions Analysing Bayesian Games Analysing Bayesian Games: Example Coalitional Games <ol style="list-style-type: none"> Coalitional Game Theory Coalitional Game Theory: Definitions The Shapley Value The Core

References	
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Theory Topics

Week	Weekly Contents
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