Mean field games theory

ECTS : 6

Volume horaire : 18

Description du contenu de l'enseignement :

The course on Stochastic Control (1rst semester) is a necessary prerequisite.
Mean field games is a new theory developed by Jean-Michel Lasry and Pierre-Louis Lions that is interested in the limit when the number of players tends towards infinity in stochastic differential games. This gives rise to new systems of partial differential equations coupling a Hamilton-Jacobi equation (backward) to a Fokker-Planck equation (forward). We will present in this course some results of existence, uniqueness and the connections with optimal control, mass transport and the notion of partial differential equations on the space of probability measures.

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