UCL Faculté des sciences

SC

MATH2372 Processus stochastiques (applications)

[30h] 3 credits

This course is taught in the 1st semester

Teacher(s): Jean-François Mertens
Language: french
Level: 2nd cycle course

Main themes

The study of Markov processes bring to the notions of transition probabilities, of semi-groups of operators, of resolvants and generators. For diffusions (strong continuous Markov processes) these generators are elliptic differential operators (like Laplacian), while the transition probabilities are solutions of equations with partial derivatives of a parabolic type (like the heat equation). The integrals of Feynman-Kac bring more probabilistic solutions to families of parabolic equations, while the applications to probabilities, to spectral theory and to mechanics are numerous.

Other credits in programs

MATH22/E	Deuxième licence en sciences mathématiques (Economie mathématique)	(3 credits)
MATH22/G	Deuxième licence en sciences mathématiques	(3 credits)
MATH22/S	Deuxième licence en sciences mathématiques (Statistique)	(3 credits)
STAT3DA	Diplôme d'études approfondies en statistique	
STAT3DA/M	Diplôme d'études approfondies en statistique (méthodologie de la statistique)	(5 credits)