Stochastic Calculus

ECTS : 6

Volume horaire : 48

Description du contenu de l'enseignement :

The course consists of four parts, each occupying roughly 6 hours:

- Preliminaries (Gaussian processes, Brownian motion, martingales, local martingales, variation, quadratic variation)
- Stochastic integration (Isometry extension, Wiener integral, Ito integral, martingale property)
- Stochastic differentiation (Itô processes, Itô's Formula, Girsanov's Theorem)
- Stochastic differential equations (existence and uniqueness, Markov property, generator, connections with PDEs).

Compétence à acquérir :

This course is a practical introduction to the theory of stochastic calculus, with an emphasis on examples and applications rather than abstract subtleties. Click here for more information

Mode de contrôle des connaissances :

Final written exam, in class.

Bibliographie, lectures recommandées :

Click here for more information

Document susceptible de mise à jour - 02/04/2026
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