

MASTER OF SCIENCE IN WEALTH MANAGEMENT
MAÎTRISE UNIVERSITAIRE EN GESTION DE PATRIMOINE

STOCHASTIC PROCESSES IN FINANCE (S413054)

Prof. Olivier SCAILLET

6 ECTS

Semester: Fall

Teaching language: English

Objective

- Introduce stochastic processes
- Apply stochastic processes in finance and insurances modeling.

Description

Understanding of stochastic processes is important in the context of financial modeling. After a brief review of probability, the course will cover the following topics: Markov chains, Poisson processes, point processes, martingale and diffusion processes. The course will develop theoretical tools such as sigma algebra, stochastic calculus and Ito's lemma. Those topics will be illustrated through various application in finance and insurance (life insurance, option pricing, portfolio choices, etc...).

Theoretical and practical exercises will be developed in the seminar which is mandatory

Assessment

Written exam

Final grade = 90% exam + 10% Max (participation in seminars, exam)