ACTU2152 Stochastic calculus with application to finance and insurance I

[30h] 4.5 credits

Teacher(s): Pierre Devolder
Language: French
Level: Second cycle

Aims

The aim of this course is to provide students with basic skills in stochastic calculus and application to finance. At the end of the course, the students must be able to price simple derivative products on stocks and bonds and to use the concept of risk neutral princing.

Main themes

After a presentation of discrete financial models introducing basic financial concepts, the stochastics calculus in a Brownian environment is developed. Applications in option theory and term structure of interest rates are presented.

Content and teaching methods

Content
1 Financial products
2. Discrete models
3. Stochastic calculus
4. Continuous time finance

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Support,
Copy of slides

Programmes in which this activity is taught

ACTU2MS	Master en sciences actuarielles, à finalité spécialisée	

Other credits in programs

ACTU21MS	Première année du master en sciences actuarielles, à finalité spécialisée	(4.5 credits)	Mandatory
MAP22	Deuxième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(3 credits)	