UNIVERSITÀ DEGLI STUDI DI TORINO

ID

VP126_DIP_MAT

Visiting Professor Program
Academic year 2022/2023

TEACHING COMMITMENT: 16 hours

COURSE TITLE

Stochastic Differential Equations

TEACHING PERIOD
1st term

SCIENTIFIC AREA
Probability theory

LANGUAGE USED TO TEACH
English

COURSE SUMMARY
The course aims to put the student in a position to understand the mathematical formulation of various models of applied sciences and financial mathematics which involve stochastic differential equations. The course uses probabilistic concepts and tools as well as elements of Functional Analysis; these concepts are briefly mentioned in the first lectures. The proofs of the main results of the course are carried out completely. They show important links between Analysis and Probability.

LEARNING OBJECTIVES
At the end of the course, students will know several important methods to study stochastic models; in particular they will know the Ito stochastic integral and the related stochastic differential equations. Moreover, they will understand relations between stochastic differential equations and Kolmogorov equations. They will be able to study applications of stochastic differential equations to solve problems in applied sciences.

TUTORSHIP ACTIVITIES
N/A

LAB ACTIVITIES
N/A

OTHER ACTIVITIES BESIDES THE COURSE
N/A

VISITING PROFESSOR PROFILE
An expert in stochastic analysis, with publications in leading international journals and experience in teaching undergraduate and postgraduate students in the area of probability theory.

CONTACT PERSON AT THE DEPARTMENT
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