THÉORIE DES PROBABILITÉS ET INTRODUCTION AUX PROCESSUS STOCHASTIQUES

PROBABILITY THEORY AND INTRODUCTION TO STOCHASTIC PROCESSES

Lecturers: Marie-Christophette BLANCHET, Elisabeth MIRONESCU

| Lecturers : 16.0 | TC : 16.0 | PW : 0.0 | Autonomy : 0.0 | Study : 0.0 | Project : 0.0 | Language : FR

Objectives

The course will be given in English if necessary.
It is a mathematical advanced course which is strongly recommended to students who want to proceed in Mathematics in France or abroad. In the following of teh cours of S7 we introduced in a rigourous way neaw notions such as characteristic function, Gaussian processes, Law of 0-1, Borel-Cantelli lemma. NEw modelisation tools such as conditionnal expectation and martingales, are studied.

Keywords : characteristic function, Gaussian processes, conditionnal expectation, stopping times, discrete time martingales

Programme

Characteristic functions
Gaussian processes
Random sequences, limit theorems
Conditional expectation, martingales and stopping time

Learning outcomes

- Modelisation with discrete stochastic processes

Independent study

Objectifs :

Méhodes : Preparatory works on simulation problems

Core texts

VALériE GirArdin Et nikoLAos Limnios , . *PROBABILITÉS EN VUE DES APPLICATIONS, TOMES I ET II,*, Vuibert,, 2008
Williams FELLER *AN INTRODUCTION TO PROBABILITY THEORY AND ITS APPLICATIONS, 3RD EDITION.* , Willey, 1971

Assessment

Final Mark= 100%kowledge
Knowledge=max(final exam; 75%final exam+25% continous assesment)