Stochastic Calculus and Applications. (R. Catellier).

This course is devoted to the introduction of the basic concepts of continuous time stochastic processes which are used in many fields : physics, finance, biology, medicine, filtering theory, decision theory. It will consist of a presentation of Brownian motion, Itô integral, stochastic differential equations and Girsanov theorem. Several applications from the aforementioned topcis will be given.