STOCHASTIC CALCULUS FOR MATHEMATICAL FINANCE

C. BERNARDIN

This course is devoted to the introduction of the basic concepts used in mathematical finance. It will consist of a presentation of Brownian motion, Itô integral, stochastic differential equations and Girsanov theorem. From the modeling point of view, all these tools will be used to introduce the notions of strategy, arbitrage and risk-neutral probability measure and to define the Black Scholes model used for the pricing of European and Asian options.

Prerequisities: Probability theory with measure theory.
First trimester.

Date: January 12, 2018.