Stochastic Analysis: Fourth Year Research Project

Supervisor: Dr. M. Muraleetharan

This project consisted of a self-study of some theory related to Stochastic Analysis. The project will cover the properties of conditional expectation, martingales, stopping times, Doob's maximal inequality, Doob's up-crossing inequality, Doob's martingale convergence theorem and the Doob-Meyer decomposition. This project also includes a proof of the non-differentiability of Wiener process paths.

The references :

H.L. Royden, *Real Analysis, 3rd edition,* Prentice-Hall, 1988.

I.F. Wilde, *Stochastic Analysis Notes.*