



# University of Pretoria Yearbook 2019

## Stochastic calculus 764 (WTW 764)

**Qualification** Postgraduate

**Faculty** Faculty of Natural and Agricultural Sciences

**Module credits** 15.00

**Programmes** BScHons Applied Mathematics

BScHons Mathematics

BScHons Mathematics and Mathematics Education Algebra and Analysis

BScHons Mathematics and Mathematics Education Applied Analysis

BScHons Mathematics and Mathematics Education Differential Equations and Modelling

BScHons Mathematics of Finance

**Prerequisites** WTW 734 or WTW 735

**Contact time** 2 lectures per week

**Language of tuition** Module is presented in English

**Department** Mathematics and Applied Mathematics

**Period of presentation** Semester 2

### Module content

Mathematical modelling of Random walk. Conditional expectation and Martingales. Brownian motion and other Lévy processes. Stochastic integration. Ito's Lemma. Stochastic differential equations. Application to finance.

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