



University of Pretoria Yearbook 2021

Stochastic calculus 764 (WTW 764)

Qualification Postgraduate

Faculty [Faculty of Natural and Agricultural Sciences](#)

Module credits 15.00

NQF Level 08

Programmes [BScHons Applied Mathematics](#)

[BScHons Mathematics](#)

[BScHons Mathematics and Mathematics Education Applied Analysis](#)

[BScHons Mathematics and Mathematics Education Differential Equations and Modelling](#)

[BScHons Mathematics and Mathematics Education Algebra and Analysis](#)

[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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