



University of Pretoria Yearbook 2022

Mathematical models of financial engineering 732 (WTW 732)

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| Qualification | Postgraduate |
| Faculty | Faculty of Natural and Agricultural Sciences |
| Module credits | 15.00 |
| NQF Level | 08 |
| Programmes | BScHons (Financial Engineering) BScHons (Mathematics of Finance) |
| Prerequisites | No prerequisites. |
| Contact time | 2 lectures per week |
| Language of tuition | Module is presented in English |
| Department | Mathematics and Applied Mathematics |
| Period of presentation | Semester 1 |

Module content

Introduction to markets and instruments. Futures and options trading strategies, exotic options, arbitrage relationships, binomial option pricing method, mean variance hedging, volatility and the Greeks, volatility smiles, Black-Scholes PDE and solutions, derivative disasters.

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