



University of Pretoria Yearbook 2022

Axiomatic set theory and mathematical logic 724 (WTW 724)

Qualification Postgraduate

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

Module credits 15.00

NQF Level 08

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

[BScHons \(Mathematics\)](#)

Contact time 1 lecture per week

Language of tuition Module is presented in English

Department Mathematics and Applied Mathematics

Period of presentation Semester 1

Module content

Axiomatic set theory, ordinals, transfinite induction and recursion, ordinal arithmetic, the axiom of choice, cardinal arithmetic, the continuum hypothesis. Propositional and first order logic. The completeness and compactness theorems. Decidability, Gödel's incompleteness theorems.

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