

# University of Pretoria Yearbook 2022

## Algebra 381 (WTW 381)

**Qualification** Undergraduate

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

**Module credits** 18.00

**NQF Level** 07

**Programmes** [BCom \(Statistics and Data Science\)](#)

[BCom](#)

[BSc \(Computer Science\)](#)

[BSc \(Applied Mathematics\)](#)

[BSc \(Chemistry\)](#)

[BSc \(Geology\)](#)

[BSc \(Mathematical Statistics\)](#)

[BSc \(Mathematics\)](#)

[BSc \(Physics\)](#)

**Service modules** Faculty of Engineering, Built Environment and Information Technology

Faculty of Education

Faculty of Economic and Management Sciences

Faculty of Humanities

**Prerequisites** WTW 114 and WTW 211

**Contact time** 1 tutorial per week, 2 lectures per week

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

**Department** Mathematics and Applied Mathematics

**Period of presentation** Semester 1

### Module content

Group theory: Definition, examples, elementary properties, subgroups, permutation groups, isomorphism, order, cyclic groups, homomorphisms, factor groups. Ring theory: Definition, examples, elementary properties, ideals, homomorphisms, factor rings, polynomial rings, factorisation of polynomials. Field extensions, applications to straight-edge and compass constructions.

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