

## University of Pretoria Yearbook 2018

## Algebra 381 (WTW 381)

| Qualification          | Undergraduate                                |
|------------------------|----------------------------------------------|
| Faculty                | Faculty of Natural and Agricultural Sciences |
| Module credits         | 18.00                                        |
| Programmes             | BCom                                         |
|                        | BSc Computer Science                         |
|                        | BSc Applied Mathematics                      |
|                        | BSc Geology                                  |
|                        | BSc Mathematical Statistics                  |
|                        | BSc Mathematics                              |
| Service modules        | 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    | Afrikaans and English are used in one class  |
| 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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