

# University of Pretoria Yearbook 2018

## Precalculus 133 (WTW 133)

**Qualification** Undergraduate

**Faculty** Faculty of Natural and Agricultural Sciences

**Module credits** 8.00

**Programmes** BCom Extended programme

BEd Intermediate Phase Teaching

BEd Senior Phase and Further Education and Training Teaching

BSc Extended programme - Biological and Agricultural Sciences

BSc Extended programme - Mathematical Sciences

BSc Extended programme - Physical Sciences

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

Faculty of Education

Faculty of Economic and Management Sciences

Faculty of Health Sciences

**Prerequisites** BSc and BCom students: At least 3 (40-49%) in Mathematics in the Grade 12 examination and must be taken concurrently with WTW133

**Contact time** 1 practical per week, 3 lectures per week, Foundation Course

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

**Department** Mathematics and Applied Mathematics

**Period of presentation** Semester 1

### Module content

Real numbers, elementary set notation, exponents and radicals. Algebraic expressions, fractional expressions, linear and quadratic equations, inequalities. Coordinate geometry: lines, circles. Functions: definition, notation, piecewise defined functions, domain and range, graphs, transformations of functions, symmetry, even and odd functions, combining functions, one-to-one functions and inverses, polynomial functions and zeros.

Sequences, summation notation, arithmetic, geometric sequences, infinite geometric series, annuities and instalments. Degrees and radians, unit circle, trigonometric functions, fundamental identities, trigonometric graphs, trigonometric identities, double-angle, half-angle formulae, trigonometric equations, applications.

This module is only offered in English at the Mamelodi Campus for the BSc Extended programme. At the Hatfield and Groenkloof campuses it is offered in English and Afrikaans.

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