



University of Pretoria Yearbook 2018

Calculus 143 (WTW 143)

Qualification Undergraduate

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

Module content

Functions: exponential and logarithmic functions, natural exponential and logarithmic functions, exponential and logarithmic laws, exponential and logarithmic equations, compound interest. Limits: concept of a limit, finding limits numerically and graphically, finding limits algebraically, limit laws without proofs, squeeze theorem without proof, one-sided limits, infinite limits, limits at infinity, vertical, horizontal and slant asymptotes, substitution rule, continuity, laws for continuity without proofs. Differentiation: average and instantaneous change, definition of derivative, differentiation rules without proofs, derivatives of polynomials, chain rule for differentiation, derivatives of trigonometric, exponential and logarithmic functions, applications of differentiation: extreme values, critical numbers, monotone functions, first derivative test, optimisation.

Module credits 8.00

Programmes [BCom Extended programme](#)

[BEd Intermediate Phase Teaching](#)

[BEd Senior Phase and Further Education and Training Teaching](#)

[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: WTW 133 and WST133 and must be taken concurrently with WTW143

Contact time 1 tutorial 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 2

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