

# University of Pretoria Yearbook 2021

## Statistics 123 (STK 123)

**Qualification** Undergraduate

**Faculty** [Faculty of Economic and Management Sciences](#)

**Module credits** 12.00

**NQF Level** 05

**Programmes** [BAdmin Public Management and International Relations](#)

[BCom](#)

[BCom Business Management](#)

[BCom Human Resource Management](#)

[BCom Informatics Information Systems](#)

[BCom Marketing Management](#)

[BCom Supply Chain Management](#)

[BA](#)

**Service modules** Faculty of Humanities

**Prerequisites** STK 113 GS

**Contact time** 1 practical per week, 1 tutorial per week, 3 lectures per week

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

**Department** Statistics

**Period of presentation** Semester 2

### Module content

\*On its own, STK 113 and 123 will not be recognized for degree purposes, but exemption will be granted for STK 110.

Optimisation techniques with economic applications: Data transformations and relationships with economic applications, operations and rules, linear, quadratic, exponential, hyperbolic and logarithmic functions; systems of equations in equilibrium, system of linear inequalities, solving of linear programming problems by means of the graphical and extreme point methods. Applications of differentiation and integration in statistic and economic related problems: the limit of a function, continuity, rate of change, the derivative of a function, differentiation rules, higher order derivatives, optimisation techniques, the area under a curve and applications of definite integrals. Probability and inference: Theoretical probability distributions (revision only). Sampling distributions. Estimation theory and hypothesis testing of sampling averages and proportions (one-sample and two-sample cases). Identification, use, evaluation and interpretation of statistical computer packages and statistical techniques. The weekly one hour practical is presented during the last seven weeks of the semester.



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