



# University of Pretoria Yearbook 2019

## Mathematical statistics 143 (WST 143)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Economic and Management Sciences</a>
<b>Module credits</b>	8.00
<b>Programmes</b>	<a href="#">BCom Extended programme</a> <a href="#">BSc Extended programme - Mathematical Sciences</a> <a href="#">BSc Extended programme - Physical Sciences</a>
<b>Service modules</b>	Faculty of Natural and Agricultural Sciences
<b>Prerequisites</b>	BSc and BCom numeric students: WST 133 and WTW 133 and must be taken concurrently with WTW 143.
<b>Contact time</b>	4 lectures per week, 1 practical per week, 2 tutorials per week, Foundation Course
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Statistics
<b>Period of presentation</b>	Semester 2

### Module content

Probability and inference:

Probability theory and theoretical distributions for continuous random variables (Uniform, Normal and t).

Sampling distributions (means and proportions). Estimation theory and hypothesis testing of sampling averages and proportions (one- and two-sample cases).

Optimisation techniques with economic applications:

Applications of differentiation in statistic and economic related problems. Integration. Applications of integration in statistic and economic related problems. Systems of equations in equilibrium. The area under a curve and applications of definite integrals in Statistics and Economics. Report writing and presentation. Identification, use, evaluation and interpretation of statistical computer packages and statistical techniques.

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