

# University of Pretoria Yearbook 2017

## Mathematical statistics 133 (WST 133)

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| <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><br><a href="#">BSc Extended programme - Mathematical Sciences</a><br><a href="#">BSc Extended programme - Physical Sciences</a> |
| <b>Service modules</b>        | Faculty of Natural and Agricultural Sciences  |
| <b>Prerequisites</b>          | At least 4 (50-59%) in Mathematics in the Grade 12 examination; BSc and BCom numeric stream students must be take WTW 133 concurrently.                                 |
| <b>Contact time</b>           | 4 lectures per week, 2 tutorials per week, MAMELODI, Foundation Course, 1 practical per week  |
| <b>Language of tuition</b>    | Module is presented in English  |
| <b>Academic organisation</b>  | Statistics  |
| <b>Period of presentation</b> | Semester 1  |

### Module content

Descriptive statistics – Univariate:

The role of Statistics, various types of data. Sampling, probability and non-probability sampling techniques and the collection of data. Frequency, relative and cumulative distributions and graphical representations. Additional concepts relating to data processing: sigma notation, factorial notation. Descriptive measures of location, dispersion and symmetry. Exploratory data analysis.

Probability:

Introductory probability theory and applications. Set theory and probability laws. Introduction to random variables. Assigning probabilities, probability distributions, expected value and variance in general. Specific discrete probability distributions (Uniform, Binomial). Report writing and presentation. Identification, use, evaluation and interpretation of statistical computer packages and statistical techniques.

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