University of Pretoria Yearbook 2016

Multivariate analysis 311 (WST 311)

Qualification	Undergraduate
Faculty	Faculty of Economic and Management Sciences
Module credits	18.00
Programmes	BCom Econometrics
	BCom Statistics
	BSc Actuarial and Financial Mathematics
	BSc Applied Mathematics
	BSc Environmental and Engineering Geology
	BSc Geology
	BSc Mathematical Statistics
	BSc Mathematics
Service modules	Faculty of Economic and Management Sciences
	Faculty of Natural and Agricultural Sciences
Prerequisites	WST 211, WST 221, WTW 211 GS and WTW 218 GS
Contact time	1 practical per week, 2 lectures per week
Language of tuition	Double Medium
Academic organisation	Statistics
Period of presentation	Semester 1

Module content

Multivariate statistical distributions: Moments of a distribution, moment generating functions, independence. Multivariate normal distribution: Conditional distributions, partial and multiple correlations. Multinomial and multivariate Poisson distributions: Asymptotic normality and estimation of parameters. Distribution of quadratic forms in normal variables. Multivariate normal samples: Estimation of the mean vector and covariance matrix, estimation of correlation coefficients, distribution of the sample mean, sample covariance matrix and sample correlation coefficients. The linear model: Models of full rank, least squares estimators, test of hypotheses. Practical applications: Practical statistical modelling and analysis using statistical computer packages and interpretation of the output.

familiarise themselves well with these regulations as well as with the information contained in the General Rules section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.