

University of Pretoria Yearbook 2016

Statistical process control 780 (SPC 780)

Qualification	Postgraduate
Faculty	Faculty of Economic and Management Sciences
Module credits	15.00
Programmes	BComHons Mathematical Statistics BComHons Statistics BScHons Mathematical Statistics
Service modules	Faculty of Natural and Agricultural Sciences
Prerequisites	BScHons: WST 311, WST 312, WST 321, WST 322; BComHons in Statistics: STK 310, 320
Contact time	1 lecture per week
Language of tuition	English
Academic organisation	Statistics
Period of presentation	Semester 1

Module content

Quality control and improvement. Shewhart, cumulative sum (CUSUM), exponentially weighted moving average (EWMA) and Q control charts. Univariate and multivariate control charts. Determining process and measurement systems capability. Parametric and nonparametric (distribution-free) control charts. Constructing control charts using Microsoft Excel and/or SAS. Obtaining run-length characteristics via simulations, the integral equation approach, other approximate methods and the Markov-chain approach.

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