

# University of Pretoria Yearbook 2017

## Statistical process control 780 (SPC 780)

<b>Qualification</b>	Postgraduate
<b>Faculty</b>	<a href="#">Faculty of Economic and Management Sciences</a>
<b>Module credits</b>	15.00
<b>Programmes</b>	<a href="#">BComHons Mathematical Statistics</a> <a href="#">BComHons Statistics</a> <a href="#">BScHons Mathematical Statistics</a>
<b>Service modules</b>	Faculty of Natural and Agricultural Sciences
<b>Prerequisites</b>	STK 310, 320 or WST 311, 312, 321, 322
<b>Contact time</b>	1 lecture 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

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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