

# University of Pretoria Yearbook 2016

## Manufacturing planning and control systems 782 (BPZ 782)

<b>Qualification</b>	Postgraduate
<b>Faculty</b>	<a href="#">Faculty of Engineering, Built Environment and Information Technology</a>
<b>Module credits</b>	16.00
<b>Programmes</b>	<a href="#">BEngHons Industrial Engineering</a> <a href="#">BScHons Applied Science Applied Science: Industrial Systems</a>
<b>Prerequisites</b>	BOB 310
<b>Contact time</b>	48 contact hours per semester
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Industrial and Systems Eng
<b>Period of presentation</b>	Semester 1 or Semester 2

### Module content

- Random variables review
- Forecasting models: Time Series models (Review); Regression models (Review); Auto regression and noise models; Integrated models (Causal and time series); Model selection techniques
- Aggregate planning models: Spread sheet models; MP models of Aggregate Planning (LP, DP, QP, GP, SP applications); Constrained systems models (Lagrangean)
- Lot sizing and disaggregation models: System characterisation and notations; Single item models (EOQ, EPQ, back ordering, discount, deteriorating, etc.); Dynamic Economic Lot models (DP and heuristics); Joint item lot sizing models; Multi echelon models; Safety stock modelling; Joint item disaggregation models with opening/target inventories
- Scheduling models: System characterisation and notations; Single and two machine/s sequencing models; Flow scheduling models; Job shop scheduling models; Constraint scheduling models; Line balancing techniques
- Overview of some pull based techniques

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