



University of Pretoria Yearbook 2016

Manufacturing planning and control systems 782 (BPZ 782)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEngHons Industrial Engineering BScHons Applied Science Applied Science: Industrial Systems
Prerequisites	BOB 310
Contact time	48 contact hours per semester
Language of tuition	English
Academic organisation	Industrial and Systems Eng
Period of presentation	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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