

University of Pretoria Yearbook 2024

Inventory modelling 780 (BEE 780)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
NQF Level	08
Prerequisites	No prerequisites.
Contact time	24 contact hours
Language of tuition	Module is presented in English
Department	Industrial and Systems Engineering
Period of presentation	Semester 1 or Semester 2

Module content

- Theory of Inventory Systems:
Inventory models and modelling including time and certainty complexities, linear and non-linear systems and feedback systems
- Review of inventory models:
Types and representations (classic, shortage, capacity constraint, time value of money, deterioration, time varying, stochastic inputs, imperfect quality, integrated scheduling and lot sizing models, service systems and retrieval queues)
- Review of important inventory papers, their approaches and their foci:
- Modelling and Solution techniques:
Characterisation and assumptions
Mathematical Modelling, Mathematical Programming, Heuristics, Simulation Models, Control Theory and other approaches
- State of the art of modelling:
Current challenges and research trends
- Technological solutions of inventory modelling and management:
Algorithms and software, integration to MRP, ERP and scheduling modules, integration to WMS modules, and demonstrations

General Academic Regulations and Student Rules

The [General Academic Regulations \(G Regulations\)](#) and [General Student Rules](#) apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the

relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations. The G Regulations are updated annually and may be amended after the publication of this information.

Regulations, degree requirements and information

The faculty regulations, information on and requirements for the degrees published here are subject to change and may be amended after the publication of this information.

University of Pretoria Programme Qualification Mix (PQM) verification project

The higher education sector has undergone an extensive alignment to the Higher Education Qualification Sub-Framework (HEQSF) across all institutions in South Africa. In order to comply with the HEQSF, all institutions are legally required to participate in a national initiative led by regulatory bodies such as the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), and the South African Qualifications Authority (SAQA). The University of Pretoria is presently engaged in an ongoing effort to align its qualifications and programmes with the HEQSF criteria. Current and prospective students should take note that changes to UP qualification and programme names, may occur as a result of the HEQSF initiative. Students are advised to contact their faculties if they have any questions.