

University of Pretoria Yearbook 2021

Systems engineering and management 801 (ISE 801)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	10.00
NQF Level	09
Programmes	MEng Engineering Management (Coursework) MSc Engineering Management (Coursework)
Prerequisites	No prerequisites.
Contact time	20 contact hours per semester
Language of tuition	Module is presented in English
Department	Engineering and Technology Management
Period of presentation	Semester 1 or Semester 2

Module content

SE & M is discussed within the context of the technology-based enterprise. The first objective is to conceptualise and model a tech-based enterprise in terms of core business processes and the interaction amongst them. SE processes are hence defined and managed in the context of the project and organisation. The concepts of “system, project and process” are explained.

The design and development of the total system for the total system life-cycle, taking into account the requirements of all stakeholders, is the heart of SE. SE & M focuses on the management of the SE process and the establishment of a SE capability in the organisation.

All stakeholders and their requirements are identified, analysed, described and managed over time. The system life-cycle stages/phases and related system design processes are focused upon. A number of “specialty engineering topics”, e.g. information and configuration management, life-cycle cost, quality of design, downstream “design to” requirements and logistics are touched on. The enabling role of SE within Engineering Management is emphasised.

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