



University of Pretoria Yearbook 2020

Systems engineering and management 801 (ISE 801)

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| Qualification | Postgraduate |
| Faculty | Faculty of Engineering, Built Environment and Information Technology |
| Module credits | 10.00 |
| 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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