

University of Pretoria Yearbook 2019

Engineering management 310 (BSS 310)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	8.00
Programmes	BEng Chemical Engineering BEng Chemical Engineering Engage BEng Computer Engineering BEng Computer Engineering Engage BEng Electrical Engineering BEng Electrical Engineering Engage BEng Electronic Engineering BEng Electronic Engineering Engage BEng Industrial Engineering BEng Industrial Engineering Engage BEng Mechanical Engineering BEng Mechanical Engineering Engage BEng Metallurgical Engineering BEng Metallurgical Engineering Engage BEng Mining Engineering BEng Mining Engineering Engage
Prerequisites	No prerequisites.
Contact time	1 discussion class per week, 2 lectures per week
Language of tuition	Separate classes for Afrikaans and English
Department	Industrial and Systems Engineering
Period of presentation	Semester 1

Module content

Programme and systems engineering

Concepts: Application of project management, systems thinking, systems approach, product, system and project life cycles, project phases and specification practices. Development models: stage-gate development, project charter, systems engineering models, systems engineering management and life cycle characteristics. Planning and Scheduling: task definition, work breakdown structures, duration estimation, Gantt charts, critical path, resource handling. Costs and Budgets: cost estimates, project life cycle costs, work authorisation. Control: project organisation. Legal: contracts, intellectual property. Case studies and semester project

Engineering Economics

Decision making in an engineering environment. Allocation of cost. Money-time relationships (discreet interest formulae, tables, financial calculator, Excel). Bases for comparison of alternatives (present worth, annual worth,). Decision making among alternatives before and after tax (useful lives equal to study period, useful lives different among alternatives).

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