



University of Pretoria Yearbook 2017

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 BEng Mining Engineering ENGAGE
Prerequisites	No prerequisites.
Contact time	1 other contact session per week, 2 lectures per week
Language of tuition	Separate classes for Afrikaans and English
Academic organisation	Industrial and Systems Eng
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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