



# University of Pretoria Yearbook 2018

## Engineering management 310 (BSS 310)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	Faculty of Engineering, Built Environment and Information Technology
<b>Module credits</b>	8.00
<b>Programmes</b>	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
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 discussion class per week, 2 lectures per week
<b>Language of tuition</b>	Separate classes for Afrikaans and English
<b>Department</b>	Industrial and Systems Engineering
<b>Period of presentation</b>	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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