



University of Pretoria Yearbook 2022

Techno-economics and the circular economy 880 (IBD 880)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	10.00
NQF Level	09
Programmes	MEng (Technology and Innovation Management) (Coursework) MSc (Technology and Innovation 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 and Semester 2

Module content

This module will focus on insight in the field of Decision Analysis (DA), Risk Management (RM) and Techno-Economic Analysis (TEA), with the application of the basic principles of decision analysis, risk identification, feasibility assessment and financial return in the context of innovation and technology activities within the enterprise. Theory and practice are important and is illustrated by for example the application of DA and TEA in various functional areas of the enterprise. Techno-economics analysis (TEA), also referred to as economic feasibility studies, is a core technique which is used to support decision making within the technology and innovation context of enterprises. Some of the fundamental approaches for DA, RM and TEA use the generic models of net present values, discounted cash flows, internal rates of return and the time value of money to compare expenses against earnings. In this module, aspects of the principles of techno-economics and the structure of TEA will be integrated with DA and RM to support and guide decisions relating to investment in, for example, future technology and innovation projects.

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