

University of Pretoria Yearbook 2016

Energy systems 420 (ENR 420)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEng Electrical Engineering BEng Electrical Engineering Engage
Prerequisites	No prerequisites.
Contact time	1 practical per week, 1 tutorial per week, 3 lectures per week
Language of tuition	English
Academic organisation	Electrical, Electronic and Com
Period of presentation	Semester 2

Module content

This module consists of four parts: Energy system basics, solar energy systems, energy system modelling and optimisation, and advanced applications of energy systems. The first part (energy system basics) will include basic power and energy calculation, electricity tariffs, energy efficiency and the energy audit. The third part, energy system modelling and optimisation includes the general modelling processes and optimisation basics, linear programming and Matlab applications in energy optimisation. The last part on advanced applications of energy systems will be dynamically updated to cater for the national needs and international trends in energy efficiency and the topics covered can be energy management for any one or more of the commercial, industrial, residential or transport energy systems.

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