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# University of Pretoria Yearbook 2016

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## Energy systems 420 (ENR 420)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Engineering, Built Environment and Information Technology</a>
<b>Module credits</b>	16.00
<b>Programmes</b>	<a href="#">BEng Electrical Engineering</a> <a href="#">BEng Electrical Engineering Engage</a>
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 practical per week, 1 tutorial per week, 3 lectures per week
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Electrical, Electronic and Com
<b>Period of presentation</b>	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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