University of Pretoria Yearbook 2022

Electricity and electronics 111 (EBN 111)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
NQF Level	05
Programmes	BEng (Mechanical Engineering)
	BEng (Chemical Engineering) ENGAGE
	BEng (Civil Engineering) ENGAGE
	BEng (Computer Engineering)
	BEng (Computer Engineering) ENGAGE
	BEng (Electrical Engineering) ENGAGE
	BEng (Electronic Engineering) ENGAGE
	BEng (Industrial Engineering)
	BEng (Industrial Engineering) ENGAGE
	BEng (Mechanical Engineering) ENGAGE
	BEng (Metallurgical Engineering) ENGAGE
Prerequisites	Admission to relevant programme.
Contact time	1 practical per week, 1 tutorial per week, 3 lectures per week
Language of tuition	Module is presented in English
Department	Electrical, Electronic and Computer Engineering
Period of presentation	Semester 1

Module content

The general objective of this module is to develop expertise in solving electric and electronic circuits. The topics covered in the course are Ohm's law, Kirchoff's current and voltage laws, voltage and current division, mesh current and node voltage methods, linearity, Thevenin and Norton equivalent circuits, source transformation, power transfer, energy storage elements in circuits (inductors and capacitors), and operational amplifiers and applications. Although circuits will mostly be solved using direct current (DC) sources, the final part of the course will consider methods to solve circuits using alternating current sources (AC).

The General Academic Regulations (G Regulations) and General Student Rules apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations.