

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).

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