



University of Pretoria Yearbook 2022

Analogue electronics 310 (ENE 310)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
NQF Level	07
Programmes	BEng (Computer Engineering) BEng (Computer Engineering) ENGAGE BEng (Electrical Engineering) BEng (Electrical Engineering) ENGAGE BEng (Electronic Engineering) BEng (Electronic Engineering) ENGAGE
Prerequisites	ELI 220 GS
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

This module covers operational amplifiers (non-idealities and limitations), amplifier concepts (two-port modelling, gain, input and output impedance, signal-to-noise ratio, total harmonic distortion, power dissipation and power efficiency, frequency response and bandwidth), cascaded amplifier stages, feedback and stability in amplifiers, linear operational circuits (transducers and amplifiers, instrumentation amplifiers, filters and impedance converter amplifiers), and non-linear operational circuits (rectifiers, Schmitt triggers, peak detector, track-and-hold amplifiers, amplifiers with non-linear transfer functions, and sampling electronics).

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