

University of Pretoria Yearbook 2021

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

Amplifier concepts: gain, input impedance, output impedance, bandwidth, cascaded stages. Amplifier power dissipation and power efficiency. Operational amplifiers: non-ideal, limitations, low power, programmable. Diode operational circuits: Logarithmic amplifiers, peak detector, clamp, absolute value, voltage regulators. Feedback and stability in amplifiers. Operational circuits: Instrumentation amplifiers, multipliers, oscillators, filters, translinear circuits, and sampling electronics.

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