University of Pretoria Yearbook 2020

Analogue electronics 310 (ENE 310)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
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	Separate classes for Afrikaans and 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.