

University of Pretoria Yearbook 2016

Specialisation 424 (EES 424)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEng Electronic Engineering BEng Electronic Engineering Engage
Prerequisites	ERS 220
Contact time	3 lectures per week, 1 tutorial per week, 1 practical per week
Language of tuition	English
Academic organisation	Electrical, Electronic and Com
Period of presentation	Semester 2

Module content

Semiconductor physics: materials, doping, carrier drift and diffusion. Device physics. Integrated circuit (IC) fabrication technology. IC layout design. Digital IC design: MOS inverters; static, transfer and dynamic logic gates; sequential gates; design topics: high speed, low power, clock and power distribution. Computer-aided design of integrated circuits. VHDL Hierarchy Revisited. Specialist topics are included for specific niche areas.

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