



University of Pretoria Yearbook 2017

Power system analysis 410 (EKK 410)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEng Electrical Engineering BEng Electrical Engineering ENGAGE
Prerequisites	EKK 320 GS
Contact time	4 lectures per week, 1 tutorial per week, 1 practical per week
Language of tuition	Separate classes for Afrikaans and English
Academic organisation	Electrical, Electronic and Com
Period of presentation	Semester 1

Module content

Power flow: bus admittance matrix, bus impedance matrix, Gauss Seidal and Newton Raphson methods. Fault analysis: balanced fault analysis, symmetrical components, unbalanced fault analysis. Power system protection: definite time, inverse-definite-minimum-time (IDMT), introduction to over-current and earth fault protection, distribution system protection, transmission system protection, reticulation system protection. Sizing of protection devices. High voltage control: over-voltages, transients.

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