

University of Pretoria Yearbook 2022

Electrical drives 780 (ETE 780)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	32.00
NQF Level	08
Prerequisites	Undergraduate level Power electronics and Electric machines.
Contact time	32 contact hours per semester
Language of tuition	Module is presented in English
Department	Electrical, Electronic and Computer Engineering
Period of presentation	Semester 1 or Semester 2

Module content

Power semiconductor devices and power electronic converters for drive applications. Theory of three-phase induction motor and synchronous motor machines. Adjustable speed induction motor drives: open-loop and closed-loop control, scalar and vector control, transient analysis of induction motor drives and introduction to vector/field-oriented control. Adjustable speed synchronous motor drives: Open-loop and closed-loop control, self-controlled permanent magnet synchronous motor drives. Introduction to spiral vector theory and analysis.

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