

University of Pretoria Yearbook 2020

Reactor physics 784 (MUA 784)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEngHons Mechanical Engineering BSchHons Applied Science Mechanics
Prerequisites	MUA 783 Reactor engineering science 783#
Contact time	21 contact hours per semester
Language of tuition	Module is presented in English
Department	Mechanical and Aeronautical Engineering
Period of presentation	Semester 1

Module content

Probability concepts and nuclear cross sections, multiplication factor and neutron flux, slowing-down process in the infinite medium, diffusion theory the homogeneous one-velocity reactor, Fermi age theory: the homogeneous multi-velocity reactor, transport theory, reflected reactors, reactor kinetics, heterogeneous reactors, control-rod theory.

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