

University of Pretoria Yearbook 2022

Reactor physics 784 (MUA 784)

Qualification Postgraduate

Faculty [Faculty of Engineering, Built Environment and Information Technology](#)

Module credits 16.00

NQF Level 08

Programmes [BEngHons Mechanical Engineering](#)

[BScHons \(Applied Science\) 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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