



University of Pretoria Yearbook 2018

Radiation physics 110 (RFI 110)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	10.00
Programmes	B Rad Diagnostics
Service modules	Faculty of Health Sciences
Prerequisites	No prerequisites.
Contact time	2 lectures per week
Language of tuition	Separate classes for Afrikaans and English
Department	Physics
Period of presentation	Year

Module content

Units: converting, dimensional analysis. Mechanics: momentum, force, energy, circular motion, moment of inertia, angular momentum, simple harmonic motion.
Electrostatics: Coulomb's law, electric field, potential. Direct currents: resistors, Ohm's law. Capacitors: capacitance, series, parallel energy. Magnetism: force on a moving charge, electric motor. Electromagnetic induction: Faraday's law, Lenz's Law, generators. Alternating currents: average and rms value, three phase, rectification, transformers. Electrical safety. Atomic structure: ionization, excitation.
X-rays: production, absorption.

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