University of Pretoria Yearbook 2022

Radiation physics 211 (RFI 211)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	10.00
NQF Level	06
Service modules	Faculty of Health Sciences
Prerequisites	RFI 110, RAW 180, RAN 100, FSG 161, FSG 162, RAW 182 and MTL 180
Language of tuition	Module is presented in English
Department	Physics
Period of presentation	Semester 2

Module content

Radio-active decay: half-life, alfa decay, beta decay, gamma decay. Production of isotopes cyclotron, nuclear reactor, Van de Graaff accelerator. Absorption: nucleons, alfa particles, beta particles. Dosimetry: exposure, absorbed dose, equivalent dose, effective dose, dose limits. Radiation detectors: Geiger counter, scintillation counter, thermoluminescent detector, semi-conductor detectors. Radiopharmaceuticals. Biological effects: genetic and somatic effects.