

University of Pretoria Yearbook 2017

Radiation physics 211 (RFI 211)

Qualification Undergraduate

Faculty [Faculty of Natural and Agricultural Sciences](#)

Module credits 10.00

Programmes [BRad Diagnostics](#)

Service modules Faculty of Health Sciences

Prerequisites RFI 110, RAW 180, RAN 100, FSG 161, FSG 162, RAW 182 and MTL 180

Contact time 4 lectures per week

Language of tuition Module is presented in Afrikaans

Academic organisation 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.

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