

University of Pretoria Yearbook 2020

Radiation physics 211 (RFI 211)

Qualification Undergraduate

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

Module credits 10.00

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.

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