

University of Pretoria Yearbook 2017

Radiation physics 210 (RFI 210)

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, MTL 180, RAN 100, FSG 161, FSG 162, RAW 182 and RAW 180

Contact time 3 lectures per week

Language of tuition Module is presented in Afrikaans

Academic organisation Physics

Period of presentation Semester 1

Module content

X-ray generator: transformer, energy losses, rectifiers, capacitor-discharge systems, kVp and mA control, high voltage cables. Image intensifiers: design, brightness gain, coupling systems. TV camera and monitor: design, video signal, scanning. Image quality. Optics: reflection, refraction, total internal reflection, mirrors, lenses, thin lens formula, lens aberrations, fibre optics, lasers, laser camera. Computers: basic hardware, digital principles and terminology, data storage.

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