

University of Pretoria Yearbook 2020

Radiation physics 210 (RFI 210)

Qualification Undergraduate

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

Module credits 10.00

Service modules Faculty of Health Sciences

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

Language of tuition Module is presented in English

Department 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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