University of Pretoria Yearbook 2017

Radiation therapy and nuclear medicine 287 (RAW 287)

Qualification	Undergraduate
Faculty	Faculty of Health Sciences
Module credits	9.00
Programmes	BRad Diagnostics
Prerequisites	RAN 100, RFI 110, FSG 161, FSG 162, RAW 185, RAW 186, MTL 180
Contact time	1 lecture per week, 1 discussion class per week
Language of tuition	Afrikaans and English is used in one class
Academic organisation	Radiography
Period of presentation	Quarter 4

Module content

(a) Radiobiology: Cell survival curves and target theories, radiation effects on tissue, tissue and organ radio sensitivity. Radiation pathology, acute and chronic effects, late effects of radiation. Clinical radiobiology: Radiation therapy, tumour radiobiology, fractionation, iso-effect formulae.

(b) Introduction to radiation therapy: Origin and incidence of cancer, diagnoses and staging, treatment and modalities. Treatment methods in radiation therapy. Preparation for external beam irradiation. Dosage. Biological principles of radiation. Effects of radiation on normal tissue.

(c) Introduction to nuclear medicine: Principles of nuclear physics and nuclear medicine, nuclear instrumentation, radio chemical pharmacology. Basic approach to clinical nuclear medicine and relevant techniques.