



University of Pretoria Yearbook 2020

Introduction to radiation therapy, nuclear medicine and radiobiology 200 (RNR 200)

Qualification	Undergraduate
Faculty	Faculty of Health Sciences
Module credits	9.00
Programmes	B Rad in Diagnostics
Prerequisites	No prerequisites.
Contact time	1 lecture per week
Language of tuition	Module is presented in English
Department	Radiography
Period of presentation	Year

Module content

- Introduction to radiation therapy: Radiation therapy services organisation. The radiation therapist – Scope of practice; Practice Standards. Cancer management – Cancer incidence; epidemiology and etiological studies; Detection and diagnosis; Prevention. Treatment – Radiation oncology; Surgical oncology; Medical oncology; Immunotherapy; Complementary and alternative medicine. Radiation treatment modalities; Identification and application of radiation therapy equipment and accessories. Key terms related to external beam radiation equipment. Key terms related to radiation dose to be delivered. Radiation beam positioning terms; Patient positioning. Common radiation effects on normal tissue.
- Introduction to nuclear medicine: Role of Nuclear Medicine in medical diagnosis and treatment. Principles of nuclear physics and nuclear medicine, nuclear instrumentation, radio chemical pharmacology. Basic approach to clinical nuclear medicine and relevant techniques.
- Introduction to radiobiology: • basic background to the field of radiobiology the interaction of different radiation types with the molecules and organelles of the mammalian cell; biological interaction of different radiation types with the cellular dynamics; biological effect of radiation on organs of the body and the whole body; clinical radiobiology in diagnostic radiography.

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