

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	BRad 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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