

# University of Pretoria Yearbook 2021

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

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Health Sciences</a>
<b>Module credits</b>	9.00
<b>NQF Level</b>	06
<b>Programmes</b>	<a href="#">BRad in Diagnostics</a>
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 lecture per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Radiography
<b>Period of presentation</b>	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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