

# University of Pretoria Yearbook 2020

## Radiation therapy 701 (RSZ 701)

<b>Qualification</b>	Postgraduate
<b>Faculty</b>	Faculty of Health Sciences
<b>Module credits</b>	35.00
<b>Programmes</b>	BRadHons Radiation Therapy
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 discussion class per week, 1 lecture per week, 1 practical per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Radiography
<b>Period of presentation</b>	Year

### Module content

#### Part 1:

Clinical ethics and patient care and support in radiotherapy. Medico-legal aspects in radiation therapy. Radiotherapy assessment, patient care and support for patients receiving radiation therapy for tumours of the oral cavity, digestive tract, respiratory system, urinary system, nervous system, reproductive system, skin and blood. Management of patients receiving radiotherapy with co-existing medical conditions of anaemia, infection, ascites, pleural effusion, pain and neutropenia. Care of patients with tracheostomy, mastectomy, amputations and dental care. Radiobiological principles and concepts that underpin the interaction of radiation with cells, tissues, whole body. Tumour kinetics and tumour response to radiation. Carcinogenesis. Tumour micro-environment. Fractionation. Normal tissue responses of skin, oral mucosa, salivary glands, bone marrow, bone, cartilage, lung, kidney, testis, central nervous system and peripheral nervous tissue. Radiation effects on developing embryo. Hyperthermia. Basic principles of application of superficial x-ray, megavoltage x-ray, electron, neutron therapy, proton therapy, brachytherapy, intensity modulated radiotherapy and intra-operative radiotherapy. Basic radiotherapy treatment techniques in the treatment of malignant tumours of gynaecological, head and neck, skin, breast, genitourinary, gastrointestinal, lymphomas, leukemias, lung, mediastinum, bone, soft tissue, central nervous system and paediatric tumours. Radiotherapy treatment techniques for non-malignant tumours. Cancer biology and pathology. Epidemiology, prevention, early diagnosis and education. General principles in oncological management of the patient. Oncological principles related to the treatment of malignant tumours of different anatomical regions. Radiation oncology principles related to management of benign tumours, non-malignant medical conditions and oncological emergencies.

#### Part 2:

Basic management principles. Quality management. Brachytherapy. Treatment field conformation and treatment dose conformation in radiotherapy treatment delivery. Large field irradiation with photons and superficial photon therapy.



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