

University of Pretoria Yearbook 2021

Radiotherapeutic dosage planning 700 (RDB 700)

Qualification	Postgraduate
Faculty	Faculty of Health Sciences
Module credits	35.00
NQF Level	08
Programmes	BRadHons Radiation Therapy
Prerequisites	No prerequisites.
Contact time	1 discussion class per week, 1 lecture per week, 1 practical per week
Language of tuition	Module is presented in English
Department	Radiography
Period of presentation	Year

Module content

Part 1

Target volumes determination, treatment field localisation and treatment prescription. Treatment localisation equipment and principles of image geometry. Patient positioning, marking fields, and immobilisation in radiotherapy. Use of mechanical and mathematical radiation beam modification in treatment planning and delivery. Principles of 2-Dimensional and 3-Dimensional external beam photon radiation dose planning and dose calculation. Application of standard 2-Dimensional and 3-Dimensional external radiotherapy treatment planning. Principles of electron beam planning. Treatment planning quality assurance.

Part 2

Brachytherapy. ICRU level-3 Radiation dose planning. Stereotactic radio-surgery and stereotactic radiotherapy. Image-based and image-guided radiotherapy. Large field irradiation with photons. Current trends in Electron Therapy, proton therapy, heavy particle therapy and neutron therapy treatment planning and delivery.

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