

# University of Pretoria Yearbook 2017

## Radiotherapeutic dosage planning 700 (RDB 700)

**Qualification** Postgraduate

**Faculty** [Faculty of Health Sciences](#)

**Module credits** 35.00

**Programmes** [BRadHons Radiation Therapy](#)

**Prerequisites** No prerequisites.

**Contact time** 1 lecture per week, 1 discussion class per week, 1 practical per week

**Language of tuition** Module is presented in English

**Academic organisation** 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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