Universiteit van Pretoria Jaarboek 2018

BRadHons Stralingsterapie (10247012)

Minimum duur van studie	1 jaar
Totale krediete	120

Programinligting

Studente wat nie op voorgraadse vlak (d.i. vanaf die tweede studiejaar) in Stralingsterapie gespesialiseer het nie, registreer volgens hierdie leergang.

Toelatingsvereistes

- Behoudens die bepalings van die Algemene Regulasies, is die BRad-graad of gelykwaardige kwalifikasie in die betrokke spesialiseringsrigting, asook registrasie as Radiograaf by die Raad vir Gesondheidsberoepe van Suid-Afrika 'n vereiste.
- 'n Student moet 'n voltydse pos vir hierdie doel beklee by 'n instansie wat deur die Departement goedgekeur word.

Addisionele vereistes

Alle studente moet registreer vir NVB 700 Navorsingsbeginsels.

Sien ook die Algemene Regulasies.

Eksamens en slaagvereistes

'n Tweede eksamengeleentheid kan in modules wat nie geslaag is nie, toegestaan word, ooreenkomstig die bepalings van die Skool vir Gesondheidsorgwetenskappe in die verband.

Slaag met lof

Die graad word met lof toegeken aan 'n student wat 'n gesamentlike gemiddelde van minstens 75% in al die modules vir die graad behaal het.

Kurrikulum: Finale jaar

Minimum krediete: 120

Fundamentele modules

Navorsingsbeginsels 700 (NVB 700)

Modulekrediete	5.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 besprekingsklas per week
Onderrigtaal	Module word in Engels aangebied
Departement	Radiografie
Aanbiedingstydperk	Semester 1

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Development and submission of a research protocol.

Kernmodules

Radioterapie: Dosisbeplanning 700 (RDB 700)

Modulekrediete	35.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 besprekingsklas per week, 1 lesing per week, 1 praktiese sessies per week
Onderrigtaal	Module word in Engels aangebied
Departement	Radiografie
Aanbiedingstydperk	Jaar

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Part 1

Target volumes determination, treatment filed 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.

Navorsingsverslag: Radiografie 700 (RSK 700)

Modulekrediete	30.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	geskeduleer met studieleier
Onderrigtaal	Module word in Engels aangebied
Departement	Radiografie
Aanbiedingstydperk	Jaar

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Continuation of the research process which includes the implementation of the approved research protocol and writing up a research essay of the completed research project.

Stralingsterapie 701 (RSZ 701)

Modulekrediete	35.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 besprekingsklas per week, 1 praktiese sessies per week, 1 lesing per week
Onderrigtaal	Module word in Engels aangebied
Departement	Radiografie
Aanbiedingstydperk	Jaar

Module-inhoud

Hierdie module word slegs in Engels aangebied.

Part 1:

Clinical ethics and m 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 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.

Stralingsfisika en stralingsbeskerming 700 (SFR 700)

Modulekrediete	15.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 besprekingsklas per week
Onderrigtaal	Module word in Engels aangebied
Departement	Radiografie
Aanbiedingstydperk	Jaar

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Basic radiation physics. Interactions of X-radiation and gamma rays with matter. Radiation beam attenuation. Treatment machines for external beam radiotherapy. External photon beam and dose quantities. Photon beam measurements and calibrations and treatment dose calculations. Photon beam modification for treatment dose optimisation. Electron interaction with matter and electron therapy. Radiotherapy quality assurance of external beam units and treatment planning systems. Radiation protection and shielding and personnel monitoring. Imaging in radiation oncology. Radiation physics principles of three dimensional conformal radiation therapy and intensity modulated radiation therapy. Procedures and processes involved in Stereotactic radiotherapy and stereotactic radiosurgery. Radiation physics principles of Brachytherapy. Principles of total body irradiation. Radiation interactions in proton and neutron therapy,