Universiteit van Pretoria Jaarboek 2017

BRadHons Kerngeneeskunde (10247013)

Duur van studie	1 jaar
Totale krediete	120

Programinligting

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

Alle studente moet registreer vir NVB 700 Navorsingsbeginsels.

Sien ook die Algemene Regulasies.

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.

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
Akademiese organisasie	Radiografie
Aanbiedingstydperk	Semester 1

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Development and submission of a research protocol.

Kernmodules

Teorie van kerngeneeskunde 710 (TKG 710)

Modulekrediete	25.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 lesing per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Radiografie
Aanbiedingstydperk	Jaar

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Revision of relevant anatomy, physiology and pathology. Procedures of musculoskeletal, endocrine, respiratory, genito-urinary, gastro-intestinal, hepatobiliary, cardiovascular, central nervous systems. Infection and SPECT imaging. Procedures including lymphatics, venograms, ciliary clearance, dacyroscintigraphy. Non-imaging procedures. Radio-immunoassays: History, basic principles, antibody production. Monoclonal antibodies. Radioimmunoscintigraphy. Radiation safety. Tumour imaging and therapeutic procedures. Paediatric techniques. PET and PET/CT. Indications and contra-indications. Effects of medication on procedures. Drug intervention. Radiopharmaceuticals: methods of administration, choice, physiological pathways, patient dose, quality control. Instrumentation, collimation, settings, quality control. Patient treatment: patient preparation, instructions, route and technique of radiopharmaceutical administration. Procedures: choice of examination, patient positioning, field of view, orientation, routine views, static and dynamic imaging, SPECT imaging, modified views. Radiation effects: physical, biological and effective T½, target organs, excretory pathways, protection. Quality control. Pattern recognition and interpretation of procedures. Problems and pitfalls. Emerging and hybrid technology and applications.

Kerngeneeskunde 701 (KDE 701)

Modulekrediete	25.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 besprekingsklas per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Radiografie
Aanbiedingstydperk	Jaar

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Module consists of two sections to integrate with theoretical knowledge gained in TKG 710 (Theory of nuclear medicine). Clinical practice to operationalise and integrate the fundamental theoretical components. Choice of examination, patient positioning, field of view, orientation, routine views, static and dynamic imaging, SPECT imaging, modified views, acquisition and processing of data, correct labelling of data, patient care. Quality control. Pattern recognition and interpretation of procedures. Problems and pitfalls. Hot laboratory rules, regulations, skills, calculations. Cold laboratory equipment and procedures. Application of radiation safety. Advanced imaging and processing techniques. Procedures involving the use of emerging technologies and radiopharmaceuticals. Paediatric nuclear medicine diagnostic imaging. Management and administration of therapeutic radiopharmaceuticals. Radiation safety aspects. Comprehensive quality assurance and unit management. Establishing nuclear medicine services. Advanced concepts, current quality management theory, accreditation, and audit documentation. Basic principles and practices necessary for effective supervision and leadership in a healthcare environment. Principles and practices in human resource management in healthcare settings.

Stralingsfisika en instrumentasie vir kerngeneeskunde 700 (SFI 700)

Modulekrediete	15.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	2 lesings per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Radiografie
Aanbiedingstydperk	Jaar

Module-inhoud

Hierdie module word slegs in Engels aangebied.

Basic concepts of radiation physics, radioactive decay, radionuclide production, interaction with matter, radiation detectors and counting systems. Problems in radiation detection. The gamma camera: performance, image quality, quality control. Digital computers in nuclear medicine. SPECT principles, cameras, quality. PET principles, cameras, quality. Radiation dosimetry and biology. Radiation protection and safety.

Navorsingsverslag: Radiografie 700 (RSK 700)

Modulekrediete	30.00

Voorvereistes	Geen voorvereistes.
Kontaktyd	geskeduleer met studieleier
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	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.

Radiochemie en -farmakologie 700 (RCF 700)

Modulekrediete	20.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	1 lesing per week, 1 praktiese sessies per week
Onderrigtaal	Module word in Engels aangebied
Akademiese organisasie	Radiografie
Aanbiedingstydperk	Jaar

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Definitions, principles, concepts, terminology, notation. Production and purification of radionuclides. Generators: working knowledge, evaluation techniques, quality control. Technegas production. Radiolabelling methods. Characteristics and quality control of radiopharmaceuticals. Biodistribution, pharmacokinetics, metabolism of radiopharmaceuticals. Kit preparation. Diagnostic and therapeutic radiopharmaceuticals, requirements, radiobiological aspects and applications. Hot laboratory: Rules and regulations. Type A, B, C laboratories. Radiopharmacy construction and design. Radiation safety and protection. Relevant instrumentation and equipment hot and cold lab. Handling, storage and waste disposal of radioactive materials. Contamination and decontamination procedures. Radiopharmaceuticals: preparation, dose calculation and measurement. Molecular imaging. Adverse reactions and altered biodistribution.