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# University of Pretoria Yearbook 2020

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## Theory of nuclear medicine 710 (TKG 710)

<b>Qualification</b>	Postgraduate
<b>Faculty</b>	<a href="#">Faculty of Health Sciences</a>
<b>Module credits</b>	25.00
<b>Programmes</b>	<a href="#">BRadHons Nuclear Medicine</a>
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 lecture per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Radiography
<b>Period of presentation</b>	Year

### Module content

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, dacryoscintigraphy. 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  $T_{1/2}$ , target organs, excretory pathways, protection. Quality control. Pattern recognition and interpretation of procedures. Problems and pitfalls. Emerging and hybrid technology and applications.

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