



University of Pretoria Yearbook 2022

Diagnostic radiographic science 300 (RSC 300)

Qualification	Undergraduate
Faculty	Faculty of Health Sciences
Module credits	15.00
NQF Level	07
Programmes	BRad in Diagnostics
Prerequisites	RSC 200; RPH 200
Contact time	1 discussion class per week, 2 lectures per week
Language of tuition	Module is presented in English
Department	Radiography
Period of presentation	Year

Module content

Informatics: Basic Computer Terminology, Integrating Healthcare Enterprise (IHE), PACS, Radiology Information System (RIS), Hospital Information System (HIS), Electronic Medical Record (EMR), Health Level 7 (HL7) Networks. Film digitisers.

Storage: Hardware, Storage Requirements, Disaster Recovery. DICOM: Modality Worklist, Image and Non-Image Objects, Components and Terminology, DICOM Conformance.

Data Compression: Clinical Impact, Lossy, Lossless, Image and Video Formats.

Security and Privacy: Encryption, Firewalls. Contrast media used in 2-D and 3-D imaging procedures (including MRI), overview of chemical make-up and physical properties of contrast agents, patient risk factors, pre-medication strategies, indicators/symptoms of patient reactions, care and treatment of reactions to contrast agents. Image quality optimisation in CT, Artefacts, factors affecting patient dose. Intervention Radiography (including digital subtraction angiography), Mammography, Bone densitometry. Application of MRI imaging of musculo-skeletal and central nervous system in terms of image contrast and factors affecting image formation and pulse sequence. Introduction to Quality assurance and quality control in CT, Intervention Radiography (including Digital subtraction angiography), Mammography, Bone densitometry and MRI. The preparation of patients for contrast media radiographic investigations, technical imaging procedures, and needle placements.

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