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# University of Pretoria Yearbook 2020

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## Diagnostic radiographic science 300 (RSC 300)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Health Sciences</a>
<b>Module credits</b>	15.00
<b>Programmes</b>	<a href="#">BRad in Diagnostics</a>
<b>Prerequisites</b>	RSC 200; RPH 200
<b>Contact time</b>	1 discussion class per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Radiography
<b>Period of presentation</b>	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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