Access to H.E.
National Programme Unit

Unit Title:	X-ray Spectra and Medical Uses of X-rays		
Graded Unit Code:	GA33PHY02	Ungraded Unit Code:	UA33PHY02
Pathway(s):	Health Science and Engineering Construction and the Built Environment		
Module(s):	Science for Health Physics		
Level:	3	Credit Value:	3
Valid from:	1st August 2019	Valid to:	31st July 2024

The following QAA grade descriptors must be applied if you are delivering the graded version of this unit:

1	Understanding of the subject
2	Application of knowledge
3	Application of skills
7	Quality

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
1. Understand the production of X-rays and the operation of the X-ray tube	1.1 Describe two mechanisms for the production of X-rays and relate these to X-ray spectra (continuous and line spectra.)
	1.2 Using a diagram describe the structure of an X-ray tube
	1.3 Describe the production of X-rays by a rotating anode tube

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
	1.4 Explain the importance of reducing exposure dose and time and describe mechanisms for achieving this
	1.5 Interpret graphs relating X-ray spectra to tube voltage, tube current and target material
2. Understand the mechanisms and significance of attenuation	2.1 Define attenuation and explain attenuation of X-rays by scatter, the photo-electric effect, Crompton scatter and pair production
	2.2 Describe how attenuation effects correlate with photon energy, transmission material and distance travelled
	2.3 Explain the significance of attenuation for conventional medical X-ray imaging