UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Anatomy and Medical Imaging
Module Code	CLS4014-B
Academic Year	2022/3
Credits	20
School	School of Pharmacy and Medical Sciences
FHEQ Level	FHEQ Level 4

Contact Hours	
Type	Hours
Lectures	28
Practical Classes or Workshops	12
Tutorials	12
Directed Study	148

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Academic Year

Module Aims

The module will introduce students to the surface anatomy and landmarks of the human body, the major organ systems and structures, and the basic functions of these structures.

We will look at a range of imaging modalities used in healthcare for diagnostic and therapeutic purposes, including the history of these imaging techniques and possible areas of future advancement in radiology and nuclear medicine.

During this module, we will also build upon and develop existing knowledge to allow competent use of maths as relevant to healthcare professionals, particularly related to medical imaging, diagnostics and therapeutics.

Outline Syllabus

The anatomical framework of the body, the major surface landmarks, organs and systems; their basic functions and major pathologies;
An understanding of the scientific principles underpinning medical imaging and diagnostic tools, and current therapeutic uses (i.e., in radiology and nuclear medicine); these will include (but may not be limited to) X-ray, CT, MRI, angiography, ultrasound (including Doppler); nuclear isotope imaging, ECG and EEG.
Mathematical skills for healthcare professionals, particularly in terms of the application to medical physics.

Learning Outcomes	
Outcome Number	Description
LO1	Identify and describe the function (in basic terms) of the major anatomical organs and landmarks of the following regions of the body: back; thorax; abdomen; pelvis and perineum; lower limb; upper limb; head and neck, brain, and cranial nerves.
LO2	Utilise visual examination to identify surface structure and landmarks, correlating these to major anatomical organs and systems, and appreciate basic functions and major pathologies.
LO3	Demonstrate an understanding of the principles and applications of different modalities of medical imaging (both diagnostic and therapeutic), and discuss the evolution and advancements in medical imaging for diagnostic and therapeutic purposes.
LO4	Understand the importance of, and demonstrate numerical competence in diagnostic and therapeutic applications of medical physics and imaging for healthcare practitioners.
LO5	Utilise and apply appropriate statistics and calculations in healthcare and clinical settings.
LO6	Collect, evaluate and draw conclusions from clinical data using sources of information available within the discipline, and evaluate and disseminate scientific data in an appropriate manner.
LO7	Apply social, behavioural, medical and clinical scientific knowledge, methods and principles to research and practice.

Learning, Teaching and Assessment Strategy

The knowledge and understanding required for this module will be delivered in research-informed lectures, supported with tutorials which will allow students to explore the basic concepts in more depth. Simulations, videos, and other online resources will be used to support both self-directed learning and taught lecture material. Workshops and laboratory sessions will allow students to engage with physical materials, including (where possible) anatomical models and basic medical diagnostic equipment.

Students will be expected to further enhance their understanding and apply their knowledge during self-directed study, in preparation for tutorials, workshops and laboratory classes, and also assessments. Application of the module anatomy and medical imaging content will be assessed by formative spot test, and multiple choice and short answer examination (end of semester 1 or early in semester 2) to allow students to assess their knowledge and identify any areas of weakness, in preparation for the summative assessment.

A summative multiple choice exam (spot test) and a closed book MCQ and short answer examination will take place at the end of semester 2, based on the anatomy and medical imaging content. These are separate as the spot test will consist of a number of stations the students rotate through.

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Examination - MCQ	Anatomy spot test (60 minutes)	40%
Summative	Examination - MCQ	Closed book multiple-choice questions and short answers examination (90 minutes)	60%
Formative	Online MCQ Examination	Formative anatomy spot test (60 minutes)	N/A
Formative	Classroom test	Formative continuous Canvas Quiz-based assessment including MCQ and short answers	N/A

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:
This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.

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