UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Clinical Instrumentation and Imaging
Module Code	MHT4004-B
Academic Year	2022/3
Credits	20
School	Department of Biomedical and Electronics Engineering
FHEQ Level	FHEQ Level 4

Contact Hours	
Type	Hours
Tutorials	11
Lectures	22
Laboratories	6
Directed Study	161

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 1

Module Aims

To understand the function and operating principles of clinical instrumentation and imaging, as well as the fundamental principles of healthcare equipment management.

Outline Syllabus

Diagnostic clinical instrumentation and therapeutic medical devices: clinical and social context of healthcare technology, regulatory requirements, professional conduct.

Clinical imaging systems and image processing: fundamentals of diagnostic imaging techniques and their applications

Clinical equipment management- quality systems, reliability, adverse incidents, electrical and microbiological safety, waste management.

Learning Outcomes	
Outcome Number	Description
01	Explain the context and function and operating principles of a range of clinical instrumentation and imaging
02	Explain the principles and methodology of clinical equipment management for each stage of the equipment management life-cycle
03	Identify appropriate instrumentation and imaging to meet a range of clinical needs
04	Demonstrate good infection control awareness
05	Demonstrate logical thought processes
06	Communicate complex ideas in simple terms

Learning, Teaching and Assessment Strategy

Core content will be delivered through key lectures and directed reading, providing students with the opportunity to acquire the information to enhance their knowledge and understanding of the subject (LO 1, 2, 3, 4).
This will be complemented by group discussions and tutorials to allow students to apply this learning to specific issues. Discipline skills will be developed in open-ended problem solving, tackled by working in small groups supported by members of academic staff (LO 1, 2, 3, 4, 5, 6).
Directed study provides students with the opportunity to undertake guided reading and to develop their own portfolio of learning to enhance transferable skills and knowledge (LO 1, 2, 3, 4). The VLE will be used to provide access to online resources, lecture notes and external links to websites of interest.

Assessment 1: Coursework will involve investigation of, and reporting on, the function and operating principles of specified clinical imaging techniques (LO 1, 2, 5, 6).
Assessment 2: Closed book examination in a long answer format will assess all module outcomes (LO 1, 2, 3, 4, 5, 6).

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Coursework - Written	Investigative report: Functions and operating principles of specified clinical imaging techniques (1500 words)	30%
Summative	Examination - Closed Book	Closed-book examination (2 hours) in long answer format	70%
Formative	Examination - Open Book	Past exam paper to be completed prior to assessment and review during tutorial session	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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