

Clinical Instrumentation and Imaging

Module Code:	MHT4004-B
Academic Year:	2018-19
Credit Rating:	20
School:	Department of Biomedical and Electronics Engineering
Subject Area:	Medical and Healthcare Technology
FHEQ Level:	FHEQ Level 4

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	24
Seminar	6
Practical classes and	6
Tutorials	12
Directed Study	152

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Semester 2 (Feb - May)

Module Aims

To understand the function and operating principles of clinical instrumentation and the fundamental principles of healthcare equipment management.

Outline Syllabus

Diagnostic clinical instrumentation and therapeutic medical devices. Clinical imaging systems and image processing.

Clinical equipment management - quality systems, reliability, adverse incidents.

Medical instrumentation life-cycle - acquisition, acceptance, maintenance & repair, decontamination, decommissioning & disposal.

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1 Explain the function and operating principles of a range of clinical instrumentation and imaging
- 2 Explain the principles and methodology of clinical equipment management for each stage of the equipment management life-cycle
- 3 Identify appropriate instrumentation and imaging to meet a range of clinical needs
- 4 Demonstrate good infection control awareness
- 5 Demonstrate logical thought processes
- 6 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 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 instruments LO 1,2,5,6.

Assessment 2: Closed book examination in a long answer format will assess the wider module outcomes LO 1,2,3,4,5,6.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Formative	Examination -	Past exam paper	2 hours	%	No

	open book or seen paper	to be completed prior to assessment and review during tutorial session			
Summative	Examination - closed book	Long answer exam	2 hours	70%	Yes
Summative	Coursework	Investigative Report	0-2000 words	30%	No

Legacy Code (if applicable)

Reading List

To view Reading List, please go to [rebus:list](#).