UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title:	Rehabilitation Engineering
Module Code:	MHT6017-A
Academic Year:	2019-20
Credit Rating:	10
School:	Department of Biomedical and Electronics Engineering
Subject Area:	Medical and Healthcare Technology
FHEQ Level:	FHEQ Level 6
Pre-requisites:	
Co-requisites:	

Contact Hours	
Type	**Hours**
Lectures	18
Practical classes and workshops	52
Tutorials	6
Directed Study	24

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

Module Aims

To critically evaluate corrective or assistive devices and prosthetics in patient rehabilitation with good understanding of the main bone, muscular and skeletal disorders, diagnosis and possible treatments.

Outline Syllabus

Introduction to: Survey of assistive technology devices; assistive technology for: hearing, visual, communication, cognitive and mobility impairments, deaf- blindness, children, daily living and personal care, computer access, recreation and workplace; what does a rehabilitation engineer do and where does he/she work?; basic skills and principles for choosing appropriate

technology, about people with disabilities, types of disabilities, diagnosis and corrections/treatment; cerebral palsy, muscular dystrophy; bone disorders: classifications, diagnosis and possible treatments; fundamentals of rehab engineering design, postural support and seating; biomechanics of mobility and manipulation; manual and power wheelchair design, safety, standards and testing; recreational devices and vehicles; use of engineering and structural materials such as steel, aluminium and composites for wheelchair design and fabrication; rehabilitation robotics and prosthetics.

Learning Outcomes	
1	demonstrate a thorough theoretical knowledge and understanding of your chosen specialism; Critically evaluate the knowledge acquired in the light of current practice and past research.
2	Perform a feasibility study; Design an experimental or analytical scientific study; Apply scientific and engineering principles to the solution of practical problems.
3	Critically evaluate the research of others; Analyse, manage and present data; Apply scientific method to solve problems; Present and write-up a cohesive scientific argument; Manage your time.

Learning, Teaching and Assessment Strategy
Through lectures, seminars and practical demonstrations by qualified prosthetists/Orthotists and clinicians, supported by tutorial classes with directed readings for specific areas.

Mode of Assessment				
Type	**Method**	**Description**	**Length**	**Weighting**
Summative	Coursework	Design Report (	-3000 words	100%

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.