

Rehabilitation Engineering

Module Code:	MHT6017-A
Academic Year:	2018-19
Credit Rating:	10
School:	Department of Biomedical and Electronics Engineering
Subject Area:	Medical and Healthcare Technology
FHEQ Level:	FHEQ Level 6
Module Leader:	Dr Mansour Youseffi

Additional Tutors:
Dr John Buckley

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	18
Tutorials	6
Directed Study	24
Other (DO NOT USE)	52

Availability Periods

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.

Module Learning Outcomes

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

- 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	Final Assess'
Summative	Coursework	Design Report (	-3000 words	100%	Yes

Legacy Code (if applicable)

ENG3319M

Reading List

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