

Module Details for NEUROLOGICAL REHABILITATION

Historic Record

Module Code	PSU34590
Module Name	NEUROLOGICAL REHABILITATION
Module Short Title	
ECTS weighting	5
Semester/term taught	One semester: 11 lectures; 109 hours independent study
Contact Hours and Indicative Student Workload	
Module Coordinator/Owner	Prof. Richard Carson
Learning Outcomes	<p>On successful completion of this course, students will be able to:</p> <ul style="list-style-type: none">• Demonstrate an understanding of the scientific principles that underpin neurological rehabilitation.• Be able to outline and critically evaluate the conceptual links between adaptation and learning governed by neural plasticity, and methods employed to remediate neurological disorders and progressive neurological diseases.• Show an appreciation of the key theoretical frameworks, observations and conclusions that are relevant to the study of movement dysfunction, and be able to critically analyse this knowledge within a wider socio-historical and intellectual context.• Describe, and be able to appraise the strengths and limitations of a variety of experimental techniques and research methodologies that are used in the domain of neurological rehabilitation.• Exhibit the ability to analyse and critically evaluate original research from a range of disciplines including the neurosciences, and cognitive science.• Have an awareness of the ethical issues, and those relating to values and diversity of experience that are relevant to neurological rehabilitation.• Speak and write effectively in discourse concerning the subject matter of neurological rehabilitation.
	<p>Methods of Teaching and Student Learning</p> <p>The format of lectures is conventional but students are encouraged to ask questions and to engage the lecturer in</p>

discussion where practicable. Both the reduced numbers in these optional modules and the fact that the module is based in the lecturer's own area of research expertise and interest facilitates increased class discussion and debate.

Inclusive curriculum: Each lecture and any supporting and accompanying documentation is posted on our school website to facilitate independent study and self-paced learning.

Module Learning Aims

Rationale and Aims

This module will cover approaches to meeting the needs of people with neurological disorders and progressive neurological diseases. As the production of purposeful goal directed movement pervades all aspects of behaviour, there will be a specific focus upon the physical, psychological and social consequences of movement dysfunction. The module will deal with the scientific principles underlying neurological rehabilitation, including motor control and learning. The student is also introduced to intervention strategies that are designed to maintain or re-establish functional capability, such as brain-computer interfaces, robot assisted therapy, deep brain stimulation and cortical stimulation.

For whom is the module intended?

Psychology Junior & Senior Sophister SH/TSM students and Higher Diploma in Psychology Years 1& 2 students.

How does it fit in to the academic programme?

This module provides advanced coverage of material in some of the essential aspects of the discipline of psychology and is required to be covered by the professional accreditation body, Psychological Society of Ireland.

Is it mandatory or optional?

Optional

Are there prerequisites?

Cognate foundation modules.

From a teaching point of view, what are the intentions of the lecturer?

	To provide students with an in-depth understanding of neurological rehabilitation: the links between brain plasticity (i.e., anatomical, physiological and functional reorganization), adaptation and learning, and the design of interventions which meet the needs of people with neurological disorders and progressive neurological diseases.
Module Content	<p>1: Human motor control</p> <p>2: Methodologies and measurements</p> <p>3: Plasticity, learning, and adaptation</p> <p>4: Introduction to stroke</p> <p>5: Stroke: behavioural manipulations of neural plasticity</p> <p>6: Stroke: electrophysiological manipulations of neural plasticity</p> <p>7: Stroke: cognitive mediation of neural plasticity</p> <p>8: Cerebral Palsy</p> <p>9: Dystonia</p> <p>10: Parkinson's disease Multiple Sclerosis</p> <p>11: Multiple Sclerosis</p>
Recommended Reading List	<p>Carr, J.H & Shepherd, R.B. (2010) (2nd Ed.). Neurological Rehabilitation: Optimizing Motor Performance. Churchill Livingstone.</p> <p>As this is an advanced research-led taught module, state-of-the-art and up-to-date journal articles from the relevant research literature will be made available throughout the module.</p>
Module Pre-requisite	
Module Co Requisite	Cognate foundation modules
Assessment Details@I-MOD-ASSM	TBC
Module Website	
Module approval date	
Approved By	
Academic Start Year	

Academic Year of 2018/19
Data