



Module Specification

Fundamentals of Neuroscience for Physiotherapy

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Contents

Module Specification	1
Part 1: Information	2
Part 2: Description	2
Part 3: Teaching and learning methods	4
Part 4: Assessment.....	6
Part 5: Contributes towards	8

Part 1: Information

Module title: Fundamentals of Neuroscience for Physiotherapy

Module code: UZYYDB-15-1

Level: Level 4

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Health & Applied Sciences

Department: HAS School of Health and Social Wellbeing

Partner institutions: None

Field: Allied Health Professions

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Neuroscience is the scientific study of the nervous system, including both neuroanatomy and neurophysiology. An appreciation of how the nervous system works is essential to our understanding of the control of normal posture and movement.

Features: Not applicable

Educational aims: An appreciation of how the nervous system works is essential to our understanding of the control of normal posture and movement. This is fundamental to the practice of physiotherapy and will comprise the bulk of our study in this Level 4 module. It also forms the basis of our understanding of neuropathology and as such will provide a springboard to our study of neurological rehabilitation in Levels 5/6.

Outline syllabus: Theoretical Content:

Overview of central and peripheral nervous systems to typically include:

Microstructures/cellular anatomy/terminology

Electrical activity in the nervous system – action potential, synapses

Sensory receptors, pathways, and perception

Cortex

Motor pathways

Motor control

Cerebellum

Brainstem

Reticular formation

Hippocampus

Amygdala

Spinal cord

Basal ganglia

Vestibular system

Balance

Neuroplasticity

Peripheral nerve injury (PNI)

Introduction to Neurological conditions to typically include:

Stroke

Parkinson's Disease

Multiple sclerosis

Peripheral nerve injury (PNI)

Assessed Practical Skills:

Identify normative responses using a range of sensory, motor and functional assessment procedures to typically include:

Sensory testing: proprioception, temperature, light touch, pin-prick, 2 point discrimination, stereognosis, Romberg's, co-ordination testing, assessment of sitting and standing balance, myotomes, reflexes and dermatomes.

Part 3: Teaching and learning methods

Teaching and learning methods: Lectures provide an introduction and summary of the topic area. Seminars include problem solving, discussion and use of workbooks to support learning. The format of lecture followed by seminar and practical skills teaching on a given topic allows for application and integration of theoretical knowledge with practical skills.

Additionally, students are expected to engage in self-study using the resources and structure in the workbooks provided, the reading list and Blackboard. Preparation time is focused on essential reading, supplemented by self-assessment exercises from the workbook and by attempting sample questions. A major part of their study time is taken up by exam preparation, including sample question and practical skills practice.

Scheduled learning includes lectures, seminars and practical skills teaching.

Independent learning includes hours engaged with essential reading, attempts at sample questions and exam preparation.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Explain the anatomy and the physiology of identified areas of the central and peripheral nervous systems.

MO2 Explain the neurological components of human posture, movement and specified sensory function.

MO3 Explain the physiological response to injury in specified conditions and describe how pathological changes seen in these conditions give rise to the expected clinical features

MO4 Apply safe and effective neuro - specific assessment skills

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 120 hours

Face-to-face learning = 30 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link

<https://uwe.rl.talis.com/search.html?q=UZYKH4-15-1>

Part 4: Assessment

Assessment strategy: Assessment Task 1:

Theoretical content is assessed by an unseen written examination equivalent to 1.5 hours duration: this may include a range of question types.

Rationale

This arrangement allows for assessment of both breadth and depth of theoretical content, thus preparing students for more in depth application of knowledge at level 5.

Assessment Task 2:

Practical skills content is assessed by a 10-minute practical SOPE examination.

Rationale

This arrangement allows for the assessment of a range of neuro specific practical assessment skills, thus preparing students for clinical practice.

Formative opportunities arise throughout the module run in the form of Turning Point/Kahoot quizzes which mimic MCQs, sample longer questions and model answers and a mock exam in the final week of the module run. A mock examination opportunity for the SOPE is offered.

Both assessment tasks need to be passed to pass the module.

Assessment tasks:

Examination (First Sit)

Description: Examination - equivalent to 1.5 hours

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Practical Skills Assessment (First Sit)

Description: 10 minute practical examination of assessment skills [Pass/Fail]

Weighting: 0 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4

Examination (Resit)

Description: Examination - equivalent to 1.5 hours

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Practical Skills Assessment (Resit)

Description: 10 minute practical examination of assessment skills [Pass/Fail]

Weighting: 0 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Physiotherapy {Apprenticeship-UWE} [Glenside] BSc (Hons) 2022-23