Module Specification

Neurophysiology

Version: 2025-26, v1.0, 26 Feb 2025

Contents

Part 1: Information

Module title: Neurophysiology

Module code: USSYQK-60-2

Level: Level 5

For implementation from: 2025-26

UWE credit rating: 60

ECTS credit rating: 30

College: College of Health, Science & Society

School: CHSS School of Applied Sciences

Partner institutions: None

Field: Applied Sciences

Module type: Module

Pre-requisites: Introduction to Physiological Diagnostics 2025-26

Excluded combinations: None

Co-requisites: None

Continuing professional development: Yes

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Developing the foundations of fundamental and clinical neuro-pathophysiology.

Pre-requisites: Students must have passed USSJRQ-45-1 Introduction to Physiological Diagnostics before starting this module.

Features: Not applicable

Educational aims: Understand the fundamental scientific basis of neurophysiology and neuropathological conditions.

Identify and explain relevant diagnostic procedures and recordings relevant to specific neurophysiological conditions.

Perform neurodiagnostic procedures using safe effective practices and underpinning theoretical knowledge.

Outline syllabus: Anatomy and Physiology of the CNS and PNS
Development of nervous system (basic and link to conditions)
Neuropathology: Ischemia; Stroke; Migraine and headaches; Tumours and oncology
Basic principles of pharmacology
Epilepsy syndromes (underlying mechanisms, presentation, diagnosis, clinical indications
Interpretation of EEG (Normal variants; abnormal EEG; factual reporting)
Patient history and semiology
Epilepsy: Classification and pathophysiology, epidemiology and etiology
Anti-seizure medication and syndromic epilepsy treatment
Spectrum conditions (Autism, ADHD, Tourette's, tics)
Mental health conditions: underlying mechanisms, pharmacological and non-pharmacological treatments
Introduction to relevant metabolic disorders (underlying mechanisms and clinical presentation
Neurodegenerative disorders (Alzheimer's, Lewy body diseases, Creutzfeldt Jakob Disease and autoimmune pathologies)
Physiology of hypoxic and ischemic damage and relevant conditions (stroke, hemeorrhage, cardiac arrest, carbon monoxide poisoning, cyanide poisoning)
Principles and application of imaging techniques in relation to neuropathophysiology (MRI, CT, PET imaging, DAT scan, SPECT)
Introduction to Evoked Potentials
Neurophysiology in ITU and definitions and diagnosis of Status Epilepticus
Consciousness: Anatomy, definition of consciousness, and neurophysiological measurement of consciousness

Part 3: Teaching and learning methods

Teaching and learning methods: Delivery will be as 2 hours of synchronous online teaching per week, during term time in the format of lectures and 'tutorial' type group work. This will be supported by asynchronous self-learning based on online lecture recordings and additional pre-recorded material, as well as engaging with recommended reading, and the remainder of the independent learning time should be spent preparing assessments for submission and undertaking revision.

In addition, students will attend block weeks on campus, 3 times per year. During these block weeks students will be involved in face-to-face lectures, tutorials involving but not limited to group learning, quizzes, discussions. In addition students will undertake clinical skills workshops to support their professional development.

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

MO1 Understand the fundamental scientific basis of neurophysiology and neuropathological conditions.

MO2 Identify and explain relevant diagnostic procedures and recordings relevant to specific neurophysiological conditions.

MO3 Perform neurodiagnostic procedures using safe effective practices and underpinning theoretical knowledge.

Hours to be allocated: 600

Contact hours:

Independent study/self-guided study = 200 hours

Face-to-face learning = 80 hours

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/modules/ussyqk-60-2.html

Part 4: Assessment

Assessment strategy: The assessments within this module have been designed to show that the student has developed the required fundamental knowledge and clinical skills required to practice as a neurophysiologist. There will be two assessments of this module.

Assessment 1: Practical skills assessment:
This set exercise will assess a broad knowledge base, and focus on data analysis and interpretation of clinical scenarios and case based material, in order to assess the understanding and application of specialist clinical knowledge and the context and importance of the relevant fundamental neurobiology.

Assessment2: Portfolio (maximum 3000 words):
We will assess the understanding of two case studies from their own practice. This will be a written task and students will be assessed in relation to their understanding of the clinical and fundamental principles of both the neuropathology of a condition, as well as the relevant clinical tests. These will be submitted at distinct deadlines, allowing formative feedback to be applied at the second submission.

Formative feedback is available to students throughout the module through group discussions, and in workshops. Students are provided with formative feed-forward for their set exercise through a revision and test preparation session and through the extensive support materials supplied through Blackboard.

Assessment tasks:

Portfolio (First Sit)
Description: Portfolio (1500 words; 15 minute presentation):
The case based presentation and written case report will be assessed and marked by academic staff at UWE.

Cases taken from professional portfolio which also include professional

competencies, Direct Observation of Practical Skills (DOPS), Observed Clinical Events (OCE) and Case Based Discussions (CBD).
Weighting: 60 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Practical Skills Assessment (First Sit)
Description: Practical skills assessment (3 hours)
Weighting: 40 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Portfolio (Resit)
Description: Portfolio (1500 words; 15 minute presentation):
The case based presentation and written case report will be assessed and marked by academic staff at UWE.

Cases taken from professional portfolio which also include professional competencies, Direct Observation of Practical Skills (DOPS), Observed Clinical Events (OCE) and Case Based Discussions (CBD).
Weighting: 60 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Practical Skills Assessment (Resit)
Description: Practical skills assessment (3 hours)
Weighting: 40 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Healthcare Science (Neurophysiology) {Apprenticeship-UWE} [Frenchay] BSc (Hons) 2024-25