Module Specification

Introduction to Physiological Sciences and Patient Care

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Contents

Part 1: Information

Module title: Introduction to Physiological Sciences and Patient Care

Module code: USSKA9-30-1

Level: Level 4

For implementation from: 2020-21

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Delivery locations: Frenchay Campus

Field: Applied Sciences

Module type: Standard

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: This module will provide a broad introduction to the physiological sciences. It will combine key learning of underpinning scientific theory in the physiological sciences, with a focus on the patient journey and patient centred care.

In this module we will begin to explore normal physiology, and how this can change in disease states. We will consider a range of diagnostic testing that is appropriate for patients with cardiovascular, respiratory and neurophysiological disorders.

Outline syllabus: An introduction to the workings of the cardiovascular system: the development, and anatomy and physiology of the heart and vasculature, the electrical and mechanical properties of the heart and vasculature, and their regulation. The characteristics of blood flow. An introduction to the investigations and procedures carried out in the diagnosis and treatment of cardiovascular disease. An understanding of the characteristics of recording equipment and their evaluation. An introduction to cardiovascular disease and therapeutics

An introduction to the workings of the respiratory system: The development and anatomy and physiology of the respiratory system, and its regulatory controls. The mechanics of lung ventilation; neural and chemical control; gas exchange and transport including acid-base considerations, and changes in breathing associated with disease states. An introduction to the investigations and procedures carried out in the diagnosis and treatment of respiratory disease. An understanding of the characteristics of recording equipment and their evaluation. An introduction to respiratory disease and therapeutics. An introduction to the physiological mechanisms involved in sleep and its regulation and assessment.

An introduction to the workings of the brain: The development and anatomy and physiology of the central nervous system. The structure of neurones, and function of neurotransmitters. An introduction to disorders of the nervous system, and their diagnostic assessment. An understanding of the characteristics of recording equipment and their evaluation. An introduction to the anatomy and physiology of the visual and auditory systems. An understanding of the characteristics of recording equipment used in the evaluation of visual and auditory disorders.

An introduction to the different Healthcare Science pathways and disciplines, and how they contribute to patient care. An understanding of the basis of disease, and its progression. An understanding of the basis of disease response mechanisms such as inflammation, necrosis and cell death. An introduction to microbiology, and

an awareness of how microbiological organisms can cause disease, and infection control processes to prevent spread of disease. An introduction to immunology, and knowledge of the cells and tissues within the immune system

An introduction to patient care: an understanding of patient presentation, physiological examinations that may be required and an understanding of specific patient needs and care. An awareness of patient pathways for patients with cardiovascular, respiratory and neurophysiological disorders. Knowledge of good scientific practice in relation to the physiological sciences and patient centred care. Awareness of patient needs and rights as an individual.

Part 3: Teaching and learning methods

Teaching and learning methods: The module will be taught through a blended learning approach. It will incorporate clinical classes and workshops taught in block week sessions at specific points throughout the academic year, combined with online lectures and tutorials throughout semester 1 and 2.

Module Learning outcomes:

MO1 Demonstrate a broad basic and clinical sciences knowledge, and apply that knowledge with respect to Cardiovascular physiology, Respiratory and Sleep physiology, and Neurophysiology.

MO2 Discuss the application of safe and effective practice in physiological measurement, and an awareness of the processes involved in clinical physiology practice contributing to the identification of health care needs and the delivery of care.

MO3 Discuss the basic principles underpinning typical investigations and procedures carried out in the diagnosis and treatment of cardiovascular, respiratory and diseases of the central nervous system, using correct terminology.

MO4 Demonstrate the ability to interpret clinical data, and to draw appropriate conclusions from the data.

MO5 Demonstrate an understanding of patient treatment pathways, from initial patient presentation, diagnostic testing, therapeutic strategy, to overall patient outcomes.

MO6 Discuss and present complex scientific information in ways that can be understood by peers, colleagues, patients and by practitioners in other areas.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

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/usska9-30-1.html

Part 4: Assessment

Assessment strategy: The assessment strategy has been designed to support the development of the underpinning physiological and patient centred care theory and practice, and development of the clinical skills that are required of a healthcare science practitioner.

Component A will comprise two online exams, with a 24 hour window for completion of each exam. The first exam will assess the first semester content and the second exam will assess the second semester content. This assessment will provide students with an opportunity to demonstrate both their knowledge on a broad range of topics. This assessment will test the full range of learning outcomes, particularly, the underpinning scientific theory, physiological diagnostics, and basis of patient centred care. It will provide a valuable learning experience through recalling, applying and demonstrating the knowledge required of a healthcare science practitioner

Component B is a written clinical case study (1000 words). The case study will draw on knowledge from taught material, combined with knowledge and experience drawn from the clinical workplace. This case study assignment will enable demonstration of the breadth of underpinning science knowledge and include knowledge of appropriate diagnostic testing, and interpretation of clinical data. The focus of the case study will be to assess the interpretation of clinical data in the context of relevant patient history and presentation, which is an essential requirement of a healthcare science practitioner. The case study will be submitted in a written format and presented in poster form during the subsequent block week. This will enable the student to demonstrate their ability to discuss and present complex scientific information in ways that can be understood by patients and by practitioners in other areas.

Assessment components:

Examination (Online) - Component A (First Sit)
Description: Online examination (48 hours)
Weighting: 25 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4

Examination (Online) - Component A (First Sit)
Description: Online examination (72 hours)
Weighting: 25 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4

Case Study - Component B (First Sit)
Description: Written case study (1000 words) with poster
Weighting: 50 %
Final assessment: No

Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Examination (Online) - Component A (Resit)
Description: Online examination 1 (24 hours)
Weighting: 25 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4

Examination (Online) - Component A (Resit)
Description: Online examination 2 (24 hours)
Weighting: 25 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4

Case Study - Component B (Resit)
Description: Written case study (1000 words) with poster.
Weighting: 50 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Healthcare Science (Cardiac Physiology) {Apprenticeship-UWE}
[Sep][FT][Frenchay][3yrs] BSc (Hons) 2020-21

Healthcare Science (Respiratory & Sleep Physiology) {Apprenticeship-UWE}
[Sep][FT][Frenchay][3yrs] BSc (Hons) 2020-21

Healthcare Science (Neurophysiology) {Apprenticeship-UWE}
[Sep][FT][Frenchay][3yrs] BSc (Hons) 2020-21