



Module Specification

Advanced Respiratory and Sleep Physiology

Version: 2023-24, v3.0, 14 Jun 2023

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: Advanced Respiratory and Sleep Physiology

Module code: USSJYB-30-3

Level: Level 6

For implementation from: 2023-24

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Field: Applied Sciences

Module type: Module

Pre-requisites: Pathophysiological Sciences B 2023-24

Excluded combinations: None

Co-requisites: Applied Neurophysiology, Respiratory and Sleep Physiology 2023-24

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Pre-requisites: students must have taken USSKAY-30-2 Respiratory and Sleep Physiology and Pathophysiology A and USSKBA-30-2 Respiratory and Sleep Physiology and Pathophysiology B or USSKL9-30-2 Pathophysiological Sciences A and USSKLA-30-2 Pathophysiological Sciences B.

This module explores advanced topics on blood gas measurement and sleep studies.

Features: Module Entry requirements: Students must have a Level 5 (or equivalent) physiological sciences qualification.

Educational aims: Students are expected to integrate knowledge from this module with that of USSJYC-30-3 in order to develop a comprehensive understanding of the subject matter.

In addition to the Learning Outcomes, the educational experience may explore, develop, and practise but not formally discretely assess the following Professional aspects, as set out within the Modernising Scientific Careers Curriculum:-

Respect and uphold the rights, dignity and privacy of patients.

Establish patient-centred rapport.

Appreciate the empathy and sensitivity needed when dealing with the patient experience of long-term conditions and terminal illness.

Actively seek accurate and validated information from all available sources with respect to respiratory and sleep investigations.

Select and apply appropriate analysis or assessment techniques and tools.

Critically discuss the problems associated with the care of patients undergoing respiratory investigations or treatments.

Outline syllabus: A. Review physiology, inflammatory mechanisms and basic immunology of relevance to the key topics

B. Airway Challenge Testing:-

Pharmacology and mechanism of action of - mannitol, methacholine, and histamine

Mechanisms of action of – cold air and of exercise of airway function

Methods for assessing airway reactivity – chemical, cold air, exercise and hyperventilation

Indications and contra-indications for testing

Safety precautions and safe handling of reagents

Presentation of results

C. Allergy testing:-

Immunological mechanisms associated with allergy testing

Skin prick testing

Patch testing

D. Invasive and Non-invasive Blood Gas Measurement:-

Review of the physiological pathways contributing to maintenance of normal blood gases - a) gas exchange, b) gas transport and c) acid-base balance and d) blood gases

Characteristics and function of invasive blood gas analysers and non-invasive blood gas measurement systems (pulse oximetry and transcutaneous measurements)

Comparison of invasive and non-invasive blood gas measurements in clinical practice

Normal values

Application on invasive and non-invasive blood gases in - acute and chronic care, LTOT assessments

Shunt testing, exercise testing, interpretation of results in clinical practice

E. Respiratory Muscle Assessment:-

Mouth pressures

Sniff pressures

Cough PEF

Supine and sitting vital capacity (VC)

F. Overview of exercise testing techniques and pre-op assessments:-

CPET

6MWT

ISWT

ESWT

Additionally, it is expected that students will integrate knowledge from both Level 3 Respiratory Physiology models in order to fully understand the scientific basis and diagnosis of respiratory and sleep conditions.

Part 3: Teaching and learning methods

Teaching and learning methods: There will be blocks of contact time at UWE. Included in each block week are laboratory workshops, lectures and tutorials. The contact time will equate to approximately 15 hours per block (a total of 75 hours).

Theoretical material within the module will be presented to the students in the form of lectures throughout the block periods in each of the semesters in the academic year. The learning of lecture content will be reinforced through tutorials and time spent in independent learning by the directed reading of recommended texts and through the use of technology enhanced learning resources that will be provided online.

A number of relevant practical sessions will be incorporated during the campus based blocks in addition to the work based learning that must be achieved under supervision by a workplace supervisor. Practical sessions will both drive hands on learning and the acquisition of technical skills at both an individual and group working level.

The remainder of the independent learning time allocated to the module should be spent preparing for assessments, and undertaking revision for the in-class assessment.

Scheduled learning includes lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops; fieldwork; external visits; work based learning; supervised time in studio/workshop.

Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc. Scheduled sessions may vary slightly depending on the module choices you make.

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

MO1 Review respiratory physiology investigations and apply this knowledge to typical clinical scenarios.

MO2 Discuss in detail the underpinning basic and clinical science with respect to key areas.

MO3 Evaluate the mode of action and application of key pharmacological and nonpharmacological treatments for disorders assessed in the key areas.

MO4 Use a wide range of contemporary literature and guidelines to discuss and evaluate clinical practice in a range of relevant settings.

MO5 Effectively communicate clinical and scientific concepts.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 225 hours

Face-to-face learning = 75 hours

Total = 300

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ussiyb-30-3.html) via the following link <https://uwe.rl.talis.com/modules/ussiyb-30-3.html>

Part 4: Assessment

Assessment strategy: The assessments within this module have been designed to show that the apprentice has developed the required knowledge and clinical skills required to practice as a respiratory and sleep physiologist or neurophysiologist, as appropriate.

Assessment Task 1 is a set exercise. This will assess a broad knowledge base and focus on data interpretation of clinical scenarios and case based material.

Assessment Task 2 is an integrated case-study.

Assessment task 3 is a presentation.

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

Assessment tasks:**Set Exercise (First Sit)**

Description: Set Exercise

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO5

Case Study (First Sit)

Description: Integrated case-study

Weighting: 35 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Presentation (First Sit)

Description: Oral presentation

Weighting: 15 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Set Exercise (Resit)

Description: Set Exercise

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO5

Case Study (Resit)

Description: Integrated case-study

Weighting: 35 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Presentation (Resit)

Description: Oral presentation

Weighting: 15 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Healthcare Science (Respiratory & Sleep Physiology) {Apprenticeship-UWE}

[Sep][FT][Frenchay][3yrs] BSc (Hons) 2021-22