



## **Module Specification**

# Assessment and Management of Respiratory Disorders

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### **Contents**

<b>Module Specification .....</b>	<b>1</b>
<b>Part 1: Information .....</b>	<b>2</b>
<b>Part 2: Description .....</b>	<b>2</b>
<b>Part 3: Teaching and learning methods .....</b>	<b>4</b>
<b>Part 4: Assessment.....</b>	<b>5</b>
<b>Part 5: Contributes towards .....</b>	<b>7</b>

## Part 1: Information

**Module title:** Assessment and Management of Respiratory Disorders

**Module code:** USSJS5-60-3

**Level:** Level 6

**For implementation from:** 2024-25

**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:** None

**Excluded combinations:** None

**Co-requisites:** None

**Continuing professional development:** Yes

**Professional, statutory or regulatory body requirements:** None

## Part 2: Description

**Overview:** Assessment of respiratory disorders, incl. Asthma, Chronic Obstructive Lung Disease (COPD), Cystic Fibrosis (CF) and Interstitial Lung Disease (ILD), and their clinical management

**Features:** This module will cover a range of respiratory disorders of the airways, i.e. asthma and COPD, the alveoli i.e. ILD and the chest wall, i.e. Motor Neuron Disease (MND) in terms of how they are assessed through lung function testing and their subsequent clinical management

**Educational aims:** The overall aim of this module is for students to develop underpinning knowledge and understanding of respiratory science in relation to airflow, breathing mechanics, and control of respiration, and the skills to perform relevant clinical tests to assess these parameters.

The module will provide the underpinning knowledge and techniques that will allow the student to develop their skills through work-based learning, combining this with their professional practice skills.

**Outline syllabus:** The student will develop the underpinning knowledge and skills with respect to a patient-centred care pathway by:

1. Understanding the application of instrumentation - Flow and volume transducers, amplifiers and digitization, gas analysers for carbon monoxide, methane/helium, oxygen, nitrogen and nitric oxide, including the importance of quality assurance programmes.
2. Applying the knowledge of normal respiratory mechanics, gas exchange at alveolar level through to cellular level (the pathway of oxygen) and the control of respiration in the awake state at rest and on exercise and in the sleep state in relation to pathophysiological changes in the disease state.
3. Understands the application of reference values from aged 4 years upwards and the effects of sex and ethnicity to the interpretation of the effects of disease states
4. Assessing dynamic lung volumes and flows, airway inflammation, and the response to bronchodilators and inhaled corticosteroids.
5. Measuring static lung volumes using at least one technique of body plethysmography, nitrogen washout or helium dilution.
6. Assessment of gas exchange through the use of arterial/capillary blood gases and CO Transfer Factor
7. Application of pulse oximetry as spot-check and during field exercise testing/cardiopulmonary exercise testing (CPET) to assess non-invasive gas exchange
8. Applying these measurements to a range of respiratory and non-respiratory disorders and interpreting the results, based on the understanding of the pathophysiology of a) common lung diseases including asthma, COPD, cystic fibrosis, occupational, lung cancer and pulmonary fibrosis and b) non-respiratory

diseases including cardiac disease, muscle disorders and obesity

9. Application of imaging techniques in the assessment of respiratory patients - chest x-ray, CT and MRI scanning

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** Delivery of the underpinning knowledge and practical skills will be -

1. Blended learning with on-campus teaching and practical skills (block weeks), coupled with online lectures/tutorials and webinars provided throughout the academic year on a timetabled basis
2. Practice based learning where the students will learn and develop their skills through clinical practice by interaction with patients and teaching from senior practitioners within their department.

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

**MO1** Explain, using correct terminology, the basic equipment and techniques used within the field of respiratory science, and describe the principles of operation.

**MO2** Critically evaluate the risks and benefits related to equipment and techniques for respiratory science (including safety), and discuss and justify the quality assurance (and if applicable legislative) framework.

**MO3** Undertake calibration of equipment to ensure accurate signal acquisition and take appropriate action in the event of errors in calibration.

**MO4** Explain the physiology of the respiratory system and the pathophysiology of common lung diseases and related, non-respiratory diseases, and link the pathophysiological changes to the outcomes of tests undertaken as part of the assessment pathway.

**MO5** Measure static and dynamic lung volumes and flows, and interpret the results for a range of disorder; assess airway inflammation and the response to inhaled drug therapy,

**MO6** Measure gas exchange of a patient using CO Transfer Factor and pulse oximetry, and interpret the results of such studies and with other measurements of gas exchange not measured by the practitioner directly, such as arterial/capillary blood gases

**Hours to be allocated:** 600

**Contact hours:**

Independent study/self-guided study = 346 hours

Face-to-face learning = 254 hours

Total = 0

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ussjs5-60-3.html) via the following link <https://uwe.rl.talis.com/modules/ussjs5-60-3.html>

## **Part 4: Assessment**

**Assessment strategy:** Assessment 1: Case Study (3000 words)

Students will present a case study centred around a respiratory disorder case encountered by them in their workplace (3000 words).

Assessment 2: Practical Skills Assessment (2 hours)

Students will undertake a observed practical assessment of assessing a patient for full lung function tests and pulse oximetry, and the interpretation of provided results.

Assessment Rationale:

Assessment 1 is included so that the student can provide a detailed history of a real-life patient, the assessment pathway, the interpretation of the results and the

treatment pathways chosen for their patient. This is a key element of clinical practice. All patient related data must be anonymised. There will be an interactive discussion between the assessors and the student on points of clarity.

Assessment 2 is included as an essential component of clinical practice is the ability to assess a patient correctly so that quality measurements are obtained, thereby enhancing correct diagnostic outcomes. In addition, results will be provided from studies for interpretation, and may include examples of errors likely to be encountered in clinical practice. There will be an interactive discussion between the student and assessor in relation to the testing and the interpretation of the results.

Within face-to-face and online learning, interactive mini-quizzes will be included to enhance learning and feedback to all students. These will not be formally assessed.

**Assessment tasks:****Case Study (First Sit)**

Description: Case study related to practice (3000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4, MO5, MO6

**Practical Skills Assessment (First Sit)**

Description: Perform and interpret a lung function test (1-2 hours)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

**Case Study (Resit)**

Description: Case study related to practice (3000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4, MO5, MO6

**Practical Skills Assessment (Resit)**

Description: Perform and interpret a lung function test (1-2 hours)

Weighting: 50 %

Final assessment: Yes

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:

Respiratory Science [Glenside] GradDip 2024-25