Module Specification

Applied Scientific Practice

Version: 2025-26, v4.0, Approved

Contents

Part 1: Information

Module title: Applied Scientific Practice

Module code: USSJXS-15-2

Level: Level 5

For implementation from: 2025-26

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Health, Science & Society

School: CHSS School of Applied Sciences

Partner institutions: None

Field: Applied Sciences

Module type: Module

Pre-requisites: Biomedical Skills 2024-25, Biomedical Skills 2025-26

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: The module will build on key practical, analytical, and pathology skills obtained at level 4 while helping students to prepare for level 6 modules including their project module. The use of both real life and published data sources allows students to explore valid methods of both qualitative and quantitative data analysis. This will include elements of both experimental numerical analysis, as well as implementation of relevant clinical pathology information and data. The application of these studies then help provide a framework for the critical analyses skills necessary

to undertake a final year research based project.

Pre-requisites: Students must have passed Biomedical Skills (USSKA5-30-1) before starting this module.

Features: Not applicable

Educational aims: This module aims to provide essential knowledge about the scientific method, its use and application. These applications include how experiments are performed and designed, and how data is analysed and how this is communicated. It will also, through the use of case study based practicals, build understanding of the application of data to clinical pathology and its role in diagnosis and management strategies.

Outline syllabus: An Indicative syllabus outline is detailed below: This has been designed to ensure that appropriate and current issues in biomedical science are covered.

Lectures and workshops will explore aspects of the following:

The scientific method and experimental design: e.g. framing and testing hypotheses; planning and executing experiments; generating appropriate data.

Quantitative data analysis, highlighting methods to explore relationships between variables and qualitative data analysis of images etc. which are more subjective.

Key practical skills related to clinical pathology that are informed by the diagnostic process.

The relationship between experimental data, practical outputs, and clinical case studies and patient outcomes.

Part 3: Teaching and learning methods

Teaching and learning methods: Learning approaches will be based on a structured programme of key-note lectures, tutorial sessions, and laboratory practical classes and workshops. Thus, some important concepts will be introduced in lectures then discussed in tutorials and workshops. These concepts will also be applied within laboratory sessions, where the results will be analysed, evaluated and communicated in formats appropriate to different audiences. Teamwork will be encouraged, where appropriate.

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

MO1 Develop and apply the scientific method and experimental design, including appropriate reporting and analysis of data generated from experimental/clinical work.

MO2 Utilise clinical pathology data/outcomes/information to formulate a diagnostic or clinical plan for investigation or intervention.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 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/ussjxs-15-2.html

Part 4: Assessment

Assessment strategy: Assessment: In-class test (1.5 hours)
The in-class test will be conducted under controlled conditions. The test enable students to demonstrate their knowledge, understanding and competency in experimental design and the analysis of a range of different data types. The test will incorporate data and outcomes generated through the clinical case studies practiced during formal teaching sessions.

There will be supporting/practice computer workshop sessions prior to test where students can monitor their progress. In addition to this the workshops and lectures will relate to elements of the research proposal during which students will undertake formative activities.

Assessment tasks:

In-class test (First Sit)
Description: In-class test (1.5 hours).
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

In-class test (Resit)
Description: In-class test (1.5 hours).
Weighting: 100 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Biomedical Science [Frenchay] BSc (Hons) 2023-24

Biomedical Science {Foundation} [Frenchay] BSc (Hons) 2023-24

Biomedical Science [Frenchay] MSci 2023-24

Biomedical Science {Foundation} [Frenchay] MSci 2023-24

Biomedical Science [Frenchay] - WITHDRAWN MSci 2024-25

Biomedical Science [Frenchay] BSc (Hons) 2024-25

Biomedical Science [Frenchay] BSc (Hons) 2024-25

Biomedical Science [Frenchay] BSc (Hons) 2022-23

Biomedical Science [Frenchay] MSci 2022-23