



Module Specification

Foundations of Mathematics and Statistics

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Part 1: Information

Module title: Foundations of Mathematics and Statistics

Module code: USSJQW-15-1

Level: Level 4

For implementation from: 2024-25

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: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module provides apprentices with fundamental skills in mathematics, statistics, and data analysis, with a focus on healthcare science.

Features: Not applicable

Educational aims: The overall aims of this module are to equip apprentices with the ability to apply mathematics, statistics, and data analysis tools (such as spreadsheet software) to healthcare science problems.

Outline syllabus: This module covers the following topics:

- Equations, functions
- Fractions, percentages, proportions
- Scientific notation
- Units of measurement
- Logarithms and exponentials
- Descriptive statistics
- Calculations, data analysis and representation using spreadsheet software.

Example applications to healthcare science are used throughout.

Part 3: Teaching and learning methods

Teaching and learning methods: The module will be delivered via the following teaching and learning methods:

- prework (reading, exercises)
- live online lectorial sessions (including discussion and problem solving)
- on campus block sessions (including computer based activities)

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

MO1 Solve problems based on the application of fundamental mathematical concepts, including equations, functions, powers, logarithms, percentages, and the scientific notation.

MO2 Use spreadsheet software to calculate descriptive statistics, including mean, standard deviation, median and quartiles.

MO3 Use spreadsheet software to create appropriate graphical representations of data, such as bar, line or scatter charts, histograms, and boxplots.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 50 hours

Face-to-face learning = 20 hours

Total = 70

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ussiqw-15-1.html) via the following link <https://uwe.rl.talis.com/modules/ussiqw-15-1.html>

Part 4: Assessment

Assessment strategy: The assessment consists of 4 30 minute problem solving exercises, including calculations, data analysis and interpretation, generation of graphical representation of data; this will allow apprentices to demonstrate the skills and knowledge acquired. The assessment will be administered through a smart computer-based platform, which automatically randomises and personalises questions; this prevents plagiarism and collusion. Apprentices will be supported to succeed through the provision of example assessments comprising of automatic personalised feedback, as well as any additional guidance from teaching staff as requested.

Assessment tasks:

Portfolio (First Sit)

Description: The assessment consists of a portfolio of 4 30 minute online tests.

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Portfolio (Resit)

Description: The assessment consists of a portfolio of 4 30 minute online tests.

Weighting: 100 %

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 (Respiratory & Sleep Physiology) {Apprenticeship-UWE}
[Frenchay] BSc (Hons) 2024-25

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

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

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

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

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

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

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

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

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