MODULE SPECIFICATION

Part 1: Information			
Module Title	Scientific Practice		
Module Code	USSJT9-30-2	Level	2
For implementation from	1/9/2019		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Health and Applied Sciences	Field	Applied Sciences
Department	Applied Sciences		
Contributes towards	FdSc Healthcare Science BSc (Hons) Healthcare Science (Physiological Sciences) BSc (Hons) Healthcare Science (Clinical Engineering) BSc (Hons) Healthcare Science (Medical Physics Technology) Compulsory for all the above		
Module type:	Standard		
Pre-requisites	USSJT6-30-1 Principles in Healthcare Science		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	N/A		

Part 2: Description
This module provides the trainee with opportunities to apply fundamental scientific research and development principles in the context of their programme functional categories. Additionally, they will undertake a basic research and development project, as well as take part in activities relating to audit and continuous improvement of service. **The scientific method and experimental design**: Framing and testing hypotheses; planning and executing experiments; blocking and factorial experiments; collection, analysis and interpretation of data. **Sources of measurement error/variation**: Biological variation; technical, systematic and random errors; measuring variation. **Relationships between variables**: Simple, multiple, linear and non-linear regression analysis; correlation. **Comparing populations**: Paired and unpaired t-tests; Mann Whitney U and Wilcoxon tests; one- and two-way analysis of variance. **Comparing frequencies**: Chi-squared goodness-of-fit and contingency. **Audit process in Healthcare Science**: Principles and practice.

Data retrieval, analysis and presentation: 'on-line' searches, including online journals/Google Scholar; use of relevant computer packages for the analysis of data and the production of 'publication quality' tables, figures, posters and reports.
Scientific communication: Methods, style and structure

Theoretical material within the module will be presented to the students in the form of problem-solving activities and webinars. A number of practical sessions will be incorporated during the campus-based blocks.

Part 3: Assessment: Strategy and Details

The Assessment Strategy has been designed to support and enhance the development of both subject-based and more general skills, whilst ensuring that the modules learning outcomes are attained, as described below.

Component A
The written exams will provide students with an opportunity to demonstrate their knowledge on a broad range of topics. The first examination assesses semester 1 material and the second semester 2 material.

Component B
This element will be a project that will be assessed through a report structured in the style of a scientific paper; the emphasis of the project will be on the interpretation of the data gathered rather than 'proving' the original hypothesis. The report will include a literature review of the relevant project area.

Formative feedback is available to students throughout the module through group discussions, and in workshops.

All work is marked in line with the Faculty Generic Assessment Criteria and conforms to university policies for the setting, collection, marking and return of student work.

Identify final timetabled piece of assessment (component and element)	**A2**

	A:	**B:**
% weighting between components A and B (Standard modules only)	**50**	**50**

First Sit

Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Examination (1.5 h)	50
2. Examination (1.5 h)	50
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Scientific report (2000 words)	100

Resit (further attendance at taught classes is not required)

Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Examination (3 h)	50
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Scientific report (2000 words)	50

Part 4: Learning Outcomes & KIS Data

Learning Outcomes	On successful completion of this module students will be able to:

	• Understand the principles underpinning scientific research and evidence-based practice [A1, A2, B1] • Understand statistical techniques and their correct application [A1, A2, B1] • Participate in research and development projects to explore innovations in Healthcare Science [B1] • Describe and explain data types and their impact on data analysis [A1, A2] • Conduct a review of scientific literature on an agreed topic [B1] • Understand and/or participate in audit activities in healthcare science [A1, B1]
Key Information Sets Information (KIS) Contact Hours Total Assessment	**Key Information Set - Module data** *Number of credits for this module* 30 Hours to be allocated: 300 Scheduled learning and teaching study hours: 72 Independent study hours: 228 Placement study hours: 0 Allocated Hours: 300 Total assessment of the module: Written exam assessment percentage: 50% Coursework assessment percentage: 50% Practical exam assessment percentage: 0% 100%
Reading List	https://rl.talis.com/3/uwe/lists/FF17D753-A8F9-B731-CF3F-0A90E7583659.html?lang=en-GB&login=1

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First CAP Approval Date	21/11/12			
Revision ASQC Approval Date	5/3/2019	Version	2	RIA 12906