Module Descriptor

Title	Practical Skills		
Session	2026/27	**Status**	Published
Code	BIOL08002	**SCQF Level**	8
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Health and Life Sciences**		
Module Co-ordinator	Richard Thacker		

Summary of Module

This module provides basic training for students in laboratory techniques, data collection, data analysis, data presentation and introduces basic concepts in epidemiology that are relevant to the fields of biomedical and environmental health. The module begins with a simple consideration of the notion of variability. Students are introduced to the concept of error terms and their presentation and interpretation using confidence limits. Practical laboratory work introduces students to the use of basic laboratory equipment, including the use of spectrophotometers, dilutions and, behaviour and safety in the laboratory. Comparisons of data sets are introduced through the use of t-tests while associations between variables are introduced with correlation and regression analysis. Emphasis is given here to pathogens of biomedical and environmental importance and to their epidemiological characteristics. Practical laboratory work progresses until students complete a twoweek experiment during which they calculate the sugar content of a children's cereal. The purpose here is to stress issues associated with a diet high in sugar content. The module concludes with students constructing and presenting a poster that is associated with their practical laboratory work. The module is taught using a blend of lectures, computer laboratories, and practical laboratories within the biological sciences.

This module will work to develop a number of the key "I am UWS" Graduate Attributes to make those who complete the module (e.g.) Universal Work Ready Successful. these will include students who complete the module being; Analytical, Inquiring, Digitally literate, Autonomous, Problem-solver, Research-minded, effective communicator, Collaborative, Resilient and Driven.

Module Delivery Method	On-Campus[1] ☒	Hybrid[2] ☐	Online[3] ☐	Work -Based Learning[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☒ Lanarkshire ☐ London ☐ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

Terms for Module Delivery	Term 1	☒	Term 2	☐	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	Analyse and interpret basic data sets using simple descriptive statistics (mean, standard deviation, standard error, confidence limits, t-tests) and epidemiological approaches in the fields of Biomedical and Environmental Health.
L2	Describe and interpret simple statistical associations between variables using regression and correlation analysis.
L3	Use basic practical laboratory equipment including spectrophotometers and understand the process and principles associated with the dilution of chemical compounds.
L4	Construct a poster associated with biological data and deliver a 5 minute presentation to a class of peers on the poster's content.
L5	Demonstrate competency in a range of technical laboratory skills.

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 8** Understand the key feature of variability in both biological and physical data sets
Practice: Applied Knowledge and Understanding	**SCQF 8** Use basic statistical techniques to analyse scientific data sets. Use basic laboratory equipment in the conduct of scientific experiments

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

Generic Cognitive skills	**SCQF 8** Use of basic scientific principles in approaches towards data collection
Communication, ICT and Numeracy Skills	**SCQF 8** Analysis and presentation of scientific data, both orally and visually
Autonomy, Accountability and Working with Others	**SCQF 8** Basic laboratory safety and behaviour Working with others in a practical laboratory environment

Prerequisites	**Module Code**	**Module Title**
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours. During completion of this module, the learning activities undertaken to achieve the module learning outcomeswill include formal lectures, computer laboratories, practical laboratories and independent study. VLE-basedsupport materials will be available to support the module.	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	12
Laboratory / Practical Demonstration / Workshop	30
Independent Study	158
n/a	
n/a	
n/a	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Practical Skills in Biology, 7th Edition. Weyers, J. (2021) Pearson.
(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements

In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are attending and participating in all timetabled programme activities including on-campus and online teaching sessions, asynchronous online learning activities, placement, work-based elements, course-related learning resources, and complete assessments and submit these on time. **For the purposes of this module, academic engagement equates to the following:** Attendance on-campus at all classes.

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. In line with current legislation (Equality Act, 2010) and the UWS Equality, Diversity, and Human Rights Code, our modules are accessible and inclusive, with reasonable adjustment for different needs where appropriate. Module materials comply with University guidance on inclusive learning and teaching, and specialist assistive equipment, support provision and adjustment to assessment practice will be made in accordance with UWS policy and regulations. Where modules require practical and/or laboratory based learning or assessment required to meet accrediting body requirements the University will make reasonable adjustment such as adjustable height benches or assistance of a 'buddy' or helper.
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Biological Sciences Health**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☒ **Yes** ☐ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Biology
Moderator	Gary Boyd
External Examiner	J Butcher
Accreditation Details	
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	3

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Presentation
Assessment 2
Lab Reports/Quizzes
Assessment 3

(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Presentation	☒	☒	☐	☒	☐	20	3

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Report of practical/field/ clinical work	☒	☒	☒	☒	☒	80	30

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	33 hours

Change Control

What	**When**	**Who**
Indicative Resources	July 2025	F Menzies