



Module Descriptor

Title	Practical Skills in Biomed. and Env. Health		
Session	2024/25	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			
<p>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.</p> <p>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.</p>			

Module Delivery Method	On-Campus¹ <input checked="" type="checkbox"/>	Hybrid² <input type="checkbox"/>	Online³ <input type="checkbox"/>	Work -Based Learning⁴ <input type="checkbox"/>
Campuses for Module Delivery	<input type="checkbox"/> Ayr <input type="checkbox"/> Dumfries	<input checked="" type="checkbox"/> Lanarkshire <input type="checkbox"/> London <input type="checkbox"/> Paisley	<input type="checkbox"/> Online / Distance Learning <input type="checkbox"/> Other (specify)	
Terms for Module Delivery	Term 1 <input checked="" type="checkbox"/>	Term 2 <input type="checkbox"/>	Term 3 <input type="checkbox"/>	
Long-thin Delivery over more than one Term	Term 1 – Term 2 <input type="checkbox"/>	Term 2 – Term 3 <input type="checkbox"/>	Term 3 – Term 1 <input type="checkbox"/>	

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.	
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
Please select	
Please select	
Please select	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Textbook: Jones et al. (2007). Practical Skills in Biology, 4th Edition, 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 regularly attending and participating in timetabled on-

campus and online teaching sessions, asynchronous online learning activities, 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](#).

(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	<input type="checkbox"/> Pass / Fail <input checked="" type="checkbox"/> Graded
Module Eligible for Compensation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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	Biological Sciences and Health
Moderator	Gary Boyd
External Examiner	A. Tsaousis
Accreditation Details	
Module Appears in CPD catalogue	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Changes / Version Number	2.13

Assessment (also refer to Assessment Outcomes Grids below)

Assessment 1

Lab Reports/Quizzes

Assessment 2

Presentation

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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20	3
Report of practical/ field/ clinical work	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	80	30

Component 2							
Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Component 3							
Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Combined total for all components						100%	33 hours

Change Control

What	When	Who