Module Descriptor

Title	Introductory Microbiology		
Session	2026/27	**Status**	Published
Code	BIOL08004	**SCQF Level**	8
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Health and Life Sciences**		
Module Co-ordinator	Steven Kelly		

Summary of Module

In this module, students will be introduced through lectures, tutorials and practicals to the basic structural, biochemical, physiological and genetic properties of bacteria, viruses and fungi.

Emphasis will be placed on:

Microbial diversity

Microbial structure in respect of classification and identification of all these microbial groups

Principles of microbial metabolism

Factors affecting microbial growth

Horizontal gene transfer in microorganisms

Classification of bacteria, viruses and fungi using names of international standing

Use of standard microbiological protocols to stain, culture and count microorganisms

During this module, there will be the opportunity to develop a range of technical skills including the handling of microbial cultures in a safe and aseptic manner using standard microbiological techniques, observational skills using the light microscope, recording of data in a logical and accurate manner including estimation of microbial population densities and correct use of scientific convention for tabulation of results.

The module will be assessed by a critical essay, a laboratory logbook and a practical skills test.

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, Effective communicator, Collaborative, Research-minded 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	Describe the structure of the different types of microorganisms and their importance to man.
L2	Outline the major microbial metabolic processes and describe how these influence growth and survival.
L3	Describe factors which influence growth and survival in microorganisms.
L4	Describe the mechanisms of horizontal gene transfer in microorganisms.
L5	Demonstrate ability to carry out standard microbiological techniques according to protocols to minimise infection in accordance with local microbiological safety regulations.

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** Demonstrate knowledge and understanding of essential facts and principles in respect of basic structural, biochemical, physiological and genetic properties of bacteria, viruses and fungi.
Practice: Applied Knowledge and Understanding	**SCQF 8** Use this knowledge gained to develop solutions to practical problems in a routine but unfamiliar context.
Generic Cognitive skills	**SCQF 8**

[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

	Link together different content strands when writing standard laboratory reports.
Communication, ICT and Numeracy Skills	**SCQF 8** Be able to communicate effectively in writing scientific reports using data analysis; and be able to communicate orally.
Autonomy, Accountability and Working with Others	**SCQF 8** Be able to work individually or in teams as appropriate, demonstrate an ability to organise time management and negotiating skills.

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. The module will be delivered using a blended approach with lectures, tutorials and practical sessions. Students will be required to access lecture content, links to reference sources and other support materials on the VLE. This will provide students with core material which forms the basis of the syllabus and extensive supplementary material to broaden their reading within the subject. Practical sessions are extremely important in this module and groups will be created within the cohort in order to accommodate laboratory learning. Research skills, academic writing, presentation and practical skills will be enhanced during this 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	21
Tutorial / Synchronous Support Activity	12
Laboratory / Practical Demonstration / Workshop	15
Independent Study	152
n/a	
n/a	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: OpenStax Microbiology available at https://openstax.org/details/books/microbiology

Medical Microbiology 3e (Fundamentals of Biomedical Science), Ford, M (2019) Oxford University Press
(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 at synchronous sessions (lectures, workshops, practical, and tutorials), completion of asynchronous activities, and submission of assessments to meet the learning outcomes of the module.

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	Roderick Williams
External Examiner	S Haliti
Accreditation Details	RSB
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**

Changes / Version Number	2

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Essay (60%)
Assessment 2
Practical Log Book (30%)
Assessment 3
Practical Skills Test (10%)
(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**
Essay	☒	☒	☒	☒	☐	60	0

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Laboratory/ Clinical/ Field notebook	☐	☐	☐	☐	☒	30	0

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Class test (practical)	☐	☐	☐	☐	☒	10	2
Combined total for all components						100%	2 hours

Change Control

What	When	Who
Indicative resources	July 2025	F Menzies
Moderator Updated Accreditation Details	Jan 2026	S Kelly
