Module Descriptor

Title	Ecology and Control of Emerging Diseases		
Session	2026/27	**Status**	Published
Code	BIOL11033	**SCQF Level**	11
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Health and Life Sciences**		
Module Co-ordinator	Gordie Mackay		

Summary of Module

This module will provide students with the opportunity to gain critical analytical skills in the global issue of emerging infectious disease, in line with the UWS graduate attributes (https://www.uws.ac.uk/current- students/your-graduate-attributes/). Taking an international one health approach students will be actively involved in learning about what drives emerging infectious diseases, how we spot them, and how we respond. Students will focus on global threats including vector borne pathogens such as Plasmodium falciparum (Malaria) bacteria such as Vibrio cholerae (Cholera) and viruses such as Dengue virus (Dengue fever). It aims to provide underpinning international specialised knowledge of host-pathogen evolution and interactions, use of epidemiological modelling and policy considerations. Students will undertake three assessments as part of the module (2 summative and 1 formative). These will be (1) a case study on an emerging or re- emerging infectious disease (professional writing) (2) practical use of statistics in epidemiology, and, and (3) active participation in discussion fora (debate experience). Students will be taught using varied approaches including online lectures and tutorials, workshops and self-directed study sessions.

The distance learning version of the module is available only to HCPC-registered Biomedical Scientists enrolled on the IBMS accredited MSc Advanced Biomedical Science programme.

Students enrolled on the IBMS accredited MSc Advanced Biomedical Science programme are required to complete the class test under IBMS approved conditions.

Module Delivery Method	**On-Campus[1]**	**Hybrid[2]**	**Online[3]**	**Work -Based Learning[4]**
	☐	☒	☒	☐

[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

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	Investigate the principles of infectious diseases, their epidemiology and ecology using the current literature.
L2	Critically evaluate emerging and re-emerging infectious diseases.
L3	Apply the principles of epidemiology to different types of infection (bacterial, viral, parasitic).
L4	Critically evaluate epidemiological methods and how they have been used effectively to prevent and manage infections, and their limitations.
L5	

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 11** Critical and integrated understanding of current scientific literature in global infection surveillance, prevention and control.
Practice: Applied Knowledge and Understanding	**SCQF 11** Develop case study reports in global infectious disease epidemiology and ecology.
Generic Cognitive skills	**SCQF 11** Critically reviewing current literature, relevant case studies in emerging and re- emerging infectious diseases and make judgements where information comes from a number of sources. Demonstrating a high degree of originality in dealing with professional level issues relating to the development of case studies.
Communication, ICT and Numeracy Skills	**SCQF 11** Interpreting, using and evaluating a range of numerical and graphical data from infectious disease epidemiology Research. Presentation of scientific knowledge through case study writing, and participation in discussion fora.
Autonomy, Accountability and Working with Others	**SCQF 11** Designing a work profile, meeting deadlines for case studies and presentations.

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. This module is a collaborative endeavor. It consists of blend lectures, aimed at setting the scene, tutorials and self-directed study, where students are responsible for the planning and implementation of the case study work (in consultation with staff members). Students will write their own case study using examples from the literature. Students will also participate in discussion fora focused on key concepts of emerging and re-emerging infectious diseases and undertake assessment on the use of statistics in infectious disease.	
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	15
Tutorial / Synchronous Support Activity	14
Laboratory / Practical Demonstration / Workshop	7
Independent Study	164
n/a	
n/a	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Epidemiology. Gordis, Leon, 1934-Philadelphia, Pa. : Elsevier Saunders, 2004. 3rd ed. Control of communicable diseases manual. Heymann, David L., Washington, DC : American Public Health Association, 2015. 20th ed. Access to library; peer-reviewed journals, WHO, CDC and ECDC materials. Internet access – for example the R for epidemiology community resource: https://epirhandbook.com/en/
(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:** For the purposes of this module, academic engagement equates to the following: Attendance at synchronous sessions: lectures, workshops, 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	Steven Kelly
External Examiner	A Khan
Accreditation Details	
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	2

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Case study assessment - 2500 words (60%)
Assessment 2
Class test assessment (40%)
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**
Case study	☒	☒	☐	☐	☐	60	0

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Class test (written)	☐	☐	☒	☒	☐	40	0

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	0 hours

Change Control

What	**When**	**Who**