University of the West of England
BRISTOL

CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data						
Module Title	Animal Microbiology					
Module Code	UINXRK-15-2		Level	2	Version	1
Owning Faculty	Hartpury		Field	Animal and Land Science		
Contributes towards	BSc (Hons) Animal Science BSc (Hons) Animal Science (SW) BSc (Hons) Bioveterinary Science BSc (Hons) Equine Science BSc (Hons) Equine Science (SW)					
UWE Credit Rating	15	ECTS Credit Rating	7.5	Module Type	Standard	
Pre-requisites	None		Co-requisites	None		
Excluded Combinations	None		Module Entry requirements	None		
Valid From	01 September 2014		Valid to	01 September 2020		

CAP Approval Date	29 May 2014

Part 2: Learning and Teaching	
Learning Outcomes	On successful completion of this module students will be able to: 1 Analyse the important micro-organisms causing disease in mammals with particular reference to companion and agricultural animals (A, B). 2 Evaluate the measures used to control and treat infectious diseases (A, B). 3 Explain how the interaction between infectious agent and animal determines the outcome of exposure to disease (A, B). 4 Demonstrate safe practice in the microbiological laboratory and practical laboratory skills in the identification and culture of micro-organisms responsible for animal diseases (B). 5 Design a research project covering one aspect of animal microbiology and report it in a format suitable for academic audiences (B).
Syllabus Outline	1 The spectrum of micro-organisms from commensal, opportunist and dedicated pathogens will be introduced. 2 The structure and physiology of bacteria, viruses and fungi and the practical identification and pathophysiology of each. 3 Cellular and humoral immune responses to pathogen invasion with reference to specific diseases. 4 The application of the immune response to vaccine production, development, and usage. 5 The physiology of animal skin and its role in defence against pathogen invasion. 6 The cause of disease and its occurrence; environmental factors, UK animal health status, introduction to epidemiology.

	7 Safe practice in the microbiology laboratory and practical skills associated with identification and culture of micro-organisms. 8 Experimental design and the requirements for scientific reporting.
Contact Hours	Indicative delivery modes: Lectures, guided learning, seminars etc 33 Self directed study 3 Independent learning 114 **TOTAL** **150**
Teaching and Learning Methods	***Scheduled learning*** May include lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops; supervised time in laboratory. ***Independent learning*** May include hours engaged with essential reading, case study preparation, assignment preparation and completion etc. These sessions constitute an average time per level as indicated in the table below. ***Virtual learning environment (VLE)*** This specification is supported by a VLE where students will be able to find all necessary module information. Direct links to information sources will also be provided from within the VLE.
Key Information Sets Information	Key Information Sets (KIS) are produced at programme level for all programmes that this module contributes to, which is a requirement set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are interested in applying for. **<u>Key information set – module data</u>** Number of credits for this module: 15

Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours
150	36	114	0	150

The table below indicates as a percentage the total assessment of the module which constitutes a:

1 *Written exam:* Unseen written exam, open book written exam, in-class test.
2 *Coursework:* Written assignment or essay, report, dissertation, portfolio, project.
3 *Practical exam:* Oral assessment and/or presentation, practical skills assessment, practical exam.

Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the assessment section of this module description:

Total assessment of the module:

Written exam assessment percentage	50%
Coursework assessment percentage	50%
Practical exam assessment percentage	0%
	100%

Reading Strategy	***Core readings*** Any essential reading will be indicated clearly, along with the method for accessing it, e.g. students may be required to purchase a set text, be given a print study pack or be referred to texts that are available electronically or in the Library. Module guides will also reflect the range of reading to be carried out. ***Further readings*** Further reading will be required to supplement the set text and other printed readings. Students are expected to identify all other reading relevant to their chosen topic for themselves. They will be required to read widely using the library search, a variety of bibliographic and full text databases, and Internet resources. Many resources can be accessed remotely. The purpose of this further reading is to ensure students are familiar with current research, classic works and material specific to their interests from the academic literature. ***Access and skills*** Formal opportunities for students to develop their library and information skills are provided within the induction period and study skills sessions. Additional support is available through online resources. This includes interactive tutorials on finding books and journals, evaluation information and referencing. Sign up workshops are also offered.
Indicative Reading List	The following list is offered to provide validation panels/accrediting bodies with an indication of the type and level of information students may be expected to consult. As such, its currency may wane during the life span of the module specification. However, as indicated above, CURRENT advice on readings will be available via other more frequently updated mechanisms, including the module guide. • Alcamo, I.E. & Elson, L.M. (Current Edition) *The microbiology colouring book.* New York: Harper Collins College Publishers. • Black, J.G. (Current Edition) *Microbiology, principles and explorations.* London: Prentice Hall. • Cappuccino, J.G. and Sherman, N. (Current Edition) *Microbiology: A laboratory manual.* California: The Benjamin/Cummings Publishing Company, Inc. • Carter, G.R. and Cole, J.R. (Eds) (Current Edition) *Diagnostic procedures in veterinary bacteriology and mycology.* San Diego: Academic Press Inc. • Carter, G.R., Chengappa, M.M., and Roberts, A.W. (Current Edition) *Essentials of veterinary microbiology.* Pennsylvania: Williams & Wilkins. • Doxey, D.L. and Nathan, M.B.F. (Eds) (Current Edition) *Manual of laboratory techniques.* Cheltenham: BSAVA. • Gorman, N.T. (Current Edition) *Veterinary clinical immunology.* Philadelphia: W. B. Saunders Company. • Higgins, A.J. and Wright, I.M. (Current Edition) *The equine manual.* London: W. B. Saunders Company Ltd. • Lowrie, P. and Wells, S. (Current Edition) *Microbiology and biotechnology.* Cambridge: Cambridge University Press. • Prescott, L.M, Harley, J.P., and Klein, D.A. (Current Edition) *Microbiology.* London: McGraw-Hill. • Quinn, P.J., Carter, M.E., Markey, B., and Carter, G.R. (Current Edition) *Clinical veterinary microbiology.* London: Wolfe Publishing. • Schlegel, H.G. (Current Edition) *General microbiology.* Cambridge: Cambridge University Press. • Singleton, P. (Current Edition) *Introduction to bacteria.* Chichester: John Wiley & Sons, Inc. Journals: • Current Microbiology. • Microbiology. • The Journal of Microbiology.

	Websites and databases: • Microbiology; www.microbiology.co.uk. • Microbiology Guide; www.microbexpert.com. • Microbiology Online; www.microbiologyonline.org.uk

Part 3: Assessment			
Assessment Strategy	The assessment strategy for the module is via different styles of examination and a poster. The examinations have been chosen to allow the knowledge and skills gained throughout the module to be assessed in controlled examination settings. The MCQ examination will present opportunity to give feedback mid-way through the module. The poster has been chosen so as to facilitate practical utilisation of the information covered in the laboratory sessions, as well as via additional study. The poster will be used to report the experimental design and results of a short laboratory project designed by the student. Formative feedback can be gained from this module in the module delivery, on the VLE, in tutorials and in revision sessions. Summative feedback can be gained upon exams and poster. In line with the College's commitment to facilitating equal opportunities, a student may apply for alternative means of assessment if appropriate. Each application will be considered on an individual basis taking into account leaning and assessment needs. For further information regarding this please refer to the VLE.		
Identify final assessment component and element	Written examination.		
% weighting between components A and B (Standard modules only)		**A:**	**B**:
		50%	50%
First Sit			
Component A (controlled conditions) **Description of each element**		**Element weighting**	
1	MCQ in class written test (30 minutes)	40%	
2	Written examination (1 hour)	60%	
Component B **Description of each element**		**Element weighting**	
1	Poster (A1)	100%	
Resit (further attendance at taught classes is not required)			
Component A (controlled conditions) **Description of each element**		**Element weighting**	
1	Written examination (1.5 hours)	100%	
Component B **Description of each element**		**Element weighting**	
1	Poster (A1)	100%	
If a student is permitted an **EXCEPTIONAL RETAKE** of the module the assessment will be that indicated by the Module Description at the time that retake commences.			