



CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data					
Module Title	Medical Microbiology				
Module Code	USSKBJ-30-3	Level	3	Version	1
Owning Faculty	Health and Applied Science	Field	BBAS		
Contributes towards	BSc (Hons) Biomedical Science BSc (Hons) Healthcare Science (Life Science) BSc (Hons) Biological Science				
UWE Credit Rating	30	ECTS Credit Rating	15	Module Type	Standard
Pre-requisites	Studies in Biology of Disease (USSKAT-30-2) Or Microbial Life (USSKAQ-30-2)		Co- requisites		
Excluded Combinations			Module Entry requirements	Relevant background at level 2 or higher from undergraduate studies or professional experience/CPD considered appropriate by the module leader	
Valid From	September 2016		Valid to	September 2022	

CAP Approval Date	28/03/2014
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Part 2: Learning and Teaching	
Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <ul style="list-style-type: none"> demonstrate their knowledge of background theoretical constructs in microbiology such as classification and taxonomy, microbial detection and identification, pathogenicity principles; and to evaluate their use in the field of medical microbiology or to specific microbial agents where appropriate (component A and/or B) critically discuss the virulence and pathogenicity of a range of infectious agents (bacteria, viruses, fungi and other parasites); including reference to the concept of the host – microbe balance (component A and/or B) apply theoretical knowledge of pathogenicity, epidemiology, treatment & control of pathogens to selected examples of infectious diseases (component A and/or B) to evaluate the impact that microbial infections have on regional/national populations, sub-populations and individuals in different geographical/economic/political/sociological settings (component A and/or B) to demonstrate an up-to-date awareness of topical issues in medical microbiology (component A and/or B)

	<ul style="list-style-type: none"> • review and evaluate the literature relevant to the area of medical microbiology (component B primarily but also in A to demonstrate additional self-derived knowledge)
Syllabus Outline	<ul style="list-style-type: none"> • Detection of microbes: students will develop knowledge of the methods used in clinical laboratories to detect and diagnose infectious diseases. This includes standard culture and microscopy based methods, immunological diagnoses, infection control screening, the move towards automation and the increasing use of molecular technologies. • Taxonomy and classification: students will develop knowledge of the principles behind classification, the techniques used to classify microbes (bacteria, viruses, fungi and other parasites) and controversies that remain when attempting to classify microbes • Epidemiology: students will develop knowledge of the core principles and techniques used in epidemiology of infectious diseases • The host-microbe balance: students will develop knowledge of the relationship between host and microbes (bacteria, viruses, fungi and other parasites) in both health and disease. This includes a knowledge of the principles and pathogenicity; the human immune response & microbial strategies for subverting the response; the concept of the normal microbiota; microbial virulence factors, including the routes by which microbes acquire these factors, and the genetic mechanisms by which they control expression of the factors; biofilms and their role in microbial infections • The control of infectious diseases in human populations: students will develop knowledge of antimicrobial drugs; vaccination; environmental control of diseases, vectors and reservoirs; disinfection and sterilisation • Infectious diseases of key body systems: students will develop a deeper knowledge of infections of selected body systems such as the neurological system, genital tract, the respiratory tract and the gastrointestinal tract: covering the epidemiology of infections that are associated with the system; pathogenic and virulence traits of the infecting microbes; prevention and treatment of infections of the system; i.e. the host-microbe balance aspects of different infections will be developed. Examples covered will be chosen to illustrate other fundamental microbiological principles such as “childhood infections”, zoonoses, noscomial infections, opportunistic pathogens, environmentally acquired infections and endogenous infections: topics will also be selected to reflect current key diseases of concern where outbreaks arise or government policy holds them to be of contemporary importance
Contact Hours	<p>Students will have 72 hours of direct contact – this time will be split between lectures and tutorials/workshops to cover the delivery of the core material and also provide opportunities for discussion and evaluation of information.</p>
Teaching and Learning Methods	<p>Scheduled learning for this module primarily consists of lectures and tutorials</p> <p>Independent learning includes hours engaged with essential reading, assignment preparation and completion etc. Students will also be required to spend a substantial amount of their independent learning hours on reputable website to gain the most up-to-date information on many of the topics covered in this module (and they will receive guidance on how to do this effectively and reliably)</p> <p>An indicative breakdown of time required for the different aspects of independent learning is as follows:</p> <ul style="list-style-type: none"> • Essential reading to support scheduled learning: 128 hours.

- **Coursework** preparation and completion: 40 hours.
- **Examination** preparation and revision: 60 hours.

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.

Key Information Set - Module data				
Number of credits for this module				30
Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours
300	72	228	0	300

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

- Written Exam:** Unseen written exam, open book written exam, In-class test
- Coursework:** Written assignment or essay, report, dissertation, portfolio, project
- 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	60%
Coursework assessment percentage	40%
Practical exam assessment percentage	0%
	100%

Reading Strategy

All students will be encouraged to make full use of the print and electronic resources available to them through membership of the University. These include a range of electronic journals and a wide variety of resources available through web sites and information gateways. The University Library's web pages provide access to subject relevant resources and services, and to the library catalogue. Many resources can be accessed remotely. Students will be presented with opportunities within the curriculum to develop their information retrieval and evaluation skills in order to identify such resources effectively.

This guidance will be available either in the module handbook, via the module information on UWEonline or through any other vehicle deemed appropriate by the module/programme leaders.

There is a huge literature supporting Medical Microbiology with over 150 English language journals currently being published, of which a representative selection are taken at UWE. In addition, as well as the interlibrary loan service, wherever possible,

	assistance is given to students to access libraries local to them.
Indicative Reading List	<p>Selected Texts – Current Editions of: Greenwood,D., Slack, R.C.B. & Peutherer,J.F. <i>Medical Microbiology: a guide to microbial infections; pathogenesis, immunity, laboratory diagnosis and control</i>.Edinburgh: Churchill Livingston. Schaechter, M, Medoff,G. and Schlessinger, D. <i>Mechanisms of Microbial Disease</i>.Williams and Wilkins. Topley, W.W.C. and Wilson, G.S.<i>Topley and Wilson’s Microbiology and Microbial Infection</i>. London: Hodder Arnold. (Text and CD ROM version) Brooks, G.F. <i>Jawetz, Melnick & Adelberg’s Medical Microbiology</i>. New York: McGraw-Hill.</p> <p>Internet Web Sites e.g. Eurosurveillance Weekly and Monthly, Public Health England (or its equivalent), WHO, CDC</p> <p>And Relevant Journals in Biological and Biomedical Sciences</p>

Part 3: Assessment	
Assessment Strategy	<p>In line with programme norms this module will have a A:B ratio of 60:40</p> <p>Component A is the controlled component and exam papers will be set with a range of questions to cover the breadth of module; and will be complementary to those set for the coursework</p> <p>Component B1 is a dual purpose assessment. Firstly, students work to collect information from the published literature to address a seen question, thereby matching the learning outcome to review and evaluate the public literature in the relevant topics. Secondly, students write their essay under exam conditions enabling them to practice the techniques required for their final third year exams – students are given feed forward advice on their performance to enable them to improve their technique. This is particularly helpful for students that struggle in exams and for direct entry students in to year three.</p> <p>Component B2 is a more traditional researched essay which further addresses the learning outcome regarding evaluation of the published literature but also enables the student to develop an in depth knowledge of an area of medical microbiology. Students have a degree of choice, but topics are chosen that have a “debatable” or at least discursive slant to them so that students have to express opinions and back them up with evidence. Again this provides practice in a core skill for the final exams.</p> <p>The weighting between components B1 and B2 has been placed at 25:75 so that students that struggle in exam conditions are not disadvantaged too heavily by the coursework given that the controlled component is also an exam.</p> <p>The resit has been set as an extended essay as there is no benefit to the student of sitting a seen essay by the time the resit period is reached.</p>

Identify final assessment component and element		
% weighting between components A and B (Standard modules only)	A:	B:
	60	40
First Sit		

Component A (controlled conditions) Description of each element	Element weighting (as % of component)
1. Written Examination (3 hours)	100
2.(etc)	
Component B Description of each element	Element weighting (as % of component)
1. In-class timed essay assignment (1 hour)	25
2. Researched essay (2000 words)	75

Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) Description of each element	Element weighting (as % of component)
1. Written examination (3 hours)	100
2.(etc)	
Component B Description of each element	Element weighting (as % of component)
1. Extended research essay (4000 words)	100
2.(etc)	
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.	