CORPORATE AND ACADEMIC SERVICES

MODULE/PROGRAMME APPROVAL LOG

Module/Programme Title:	Antimicrobial Agents
Module/Programme Code:	USSKBY-15-3
Initial Approval Date:	28/03/2014
Approved by:	CAP
Approved until:	2022
CAR ID	1347

Changes:

Version 1.1 *(Use the version numbers for fully approved versions and add #.1, #.2 etc to indicate the number of minor changes made – once approved again should go to number 2)*

Outline Change Details:	
Rationale:	
Change requested by:	
CAP approval date:	
Change approved with effect from:	

Version 1.2

Module/Programme Title:	
Module/Programme Code:	
Outline Change Details:	
Rationale:	
Change requested by:	
CAP approval date:	
Change approved with effect from:	

Version 1.3

Module/Programme Title:	
Module/Programme Code:	
Outline Change Details:	
Rationale:	
Change requested by:	
CAP approval date:	
Change approved with effect from:	

University of the West of England
BRISTOL

CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data						
Module Title	Antimicrobial Agents					
Module Code	USSKBY-15-3		Level	3	Version	1
Owning Faculty	Health and Applied Sciences		Field	BBAS		
Contributes towards	BSc Biomedical Science, BSc Biomedical Science (Clinical), BSc Healthcare Science (Life Sciences)					
UWE Credit Rating	15	ECTS Credit Rating		Module Type	Standard	
Pre-requisites	Microbiology (USSKB6-15-2) or Drugs and Disease (USSKB3-15-2)		Co- requisites	None		
Excluded Combinations	None		Module Entry requirements	N/A		
Valid From	September 2016		Valid to	September 2022		

CAP Approval Date	28/03/2014

Part 2: Learning and Teaching	
Learning Outcomes	On successful completion of this module students will be able to: • Demonstrate an in-depth knowledge of the modes of action and uses of a range of antimicrobial agents (component A, component B) • Demonstrate an in-depth knowledge of the mechanisms of resistance to antimicrobial agents (component A) • Demonstrate an in-depth knowledge of the genetic basis of resistance to antimicrobial agents (component A) • Evaluate the wider issues associated with resistance to antimicrobial resistance (component A, component B)
Syllabus Outline	• Antibacterial agents - bacterial cell envelope as a target Gram positive and Gram negative cell envelope structure; cell wall (peptidoglycan) synthesis and structure, antibacterial agents that target the cell wall and antibacterial agents that affect membrane integrity (peptides): proposed modes of action and overview of uses • Antibacterial agents - bacterial protein synthesis, RNA and DNA as targets Review of protein synthesis in prokaryotic cells; survey of agents which target bacterial protein synthesis, proposed modes of action and overview of uses Essential features of RNA and DNA synthesis in prokaryotic cells, highlighting

	targets for antibacterial agents; agents that affect DNA synthesis and integrity; agents targeting RNA synthesis; agents indirectly affecting nucleic acid synthesis via inhibition of folate synthesis • Antimicrobial agents: range, scope, use and alternatives Antifungals, antivirals, biocides; non-clinical use of antimicrobial agents, alternative strategies to conventional antimicrobial therapy • Resistance to antimicrobials Genetic basis of resistance: mutation, plasmids, transposons, integrons Mechanisms of resistance: inactivation, target site alteration, drug uptake and efflux, alternative pathways/molecules, microbial physiological aspects Testing for resistance: susceptibility testing, MICs, MBCs Drivers of resistance: issues associated with antimicrobial use
Contact Hours	• Contact time will amount to 36 hours of scheduled classes over 1 semester.
Teaching and Learning Methods	• Scheduled learning is by a structured programme of lectures and tutorials, including discussion sessions. These are designed to deliver specialist knowledge regarding the mechanisms of action of antimicrobial agents and the resistances which affect them in addition to developing critical thinking with regard to the wider issues driving antimicrobial resistance. • Student learning will be supported through the University Online Learning Environment (OLE; Blackboard) through provision of/direction to peer-reviewed publications to guide independent study. The OLE will be utilised to direct learners to relevant online resources for example the British Society for Antimicrobial Chemotherapy where contemporary policy documents are held and external online seminars hosted. • Students are expected to undertake 36 hours of scheduled learning and 114 hours of independent learning **Scheduled learning** includes lectures and tutorials. **Independent learning** includes hours engaged with essential reading, assignment preparation and completion etc. An indicative breakdown of time required for the different aspects of independent learning is as follows: • **Essential reading** to support scheduled learning: 64 hours. • **Coursework** preparation and completion: 20 hours. • **Examination** preparation and revision: 30 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	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 -

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%
	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 Blackboard or through any other vehicle deemed appropriate by the module/programme leaders.

Indicative Reading List

Indicative reading list

Finch, R., Davey, P., Wilcox, M.H. & Irving, W. Eds.(2012) *Antimicrobial Chemotherapy 6th ed.*. Oxford: ,. Oxford University Press.

Eric M. Scholar and William B. Pratt, (2000) Eds. *The Antimicrobial Drugs Second Edition*. Oxford: Oxford University Press,;

The indicative text books will be supported by direction to **peer-reviewed journals** including the following:

Antimicrobial Agents and Chemotherapy
International Journal of Antimicrobial Agents

	Journal of Antimicrobial Chemotherapy Microbiology Trends in Microbiology Current Opinion in Microbiology Microbiology and Molecular Biology Reviews

Part 3: Assessment	
Assessment Strategy	• The assessment of this module is designed to test the breadth and depth of students' knowledge in addition to their ability to critically evaluate the subject based on the evidence provided in both the taught and independent learning areas. • The controlled component is a three hour unseen essay based examination consistent with the Departmental strategy for assessment of Level 3 modules. This allows students to present their knowledge and understanding of the subject and to demonstrate their ability to construct a structured evidence-based response to the questions. A choice of questions will encompass the module Learning Outcomes. • The coursework will consist of a journal-based exercise where students will be required to identify, synthesise and critically evaluate information from the published literature regarding the usage of and resistance to antimicrobial agents. This will provide students with the opportunity to develop and receive summative feedback on their writing skills whilst providing a discriminator for students who are able to critically evaluate the more complex aspects of antimicrobial resistance. • Formative feedback will be provided throughout the module via tutorial and discussion sessions accompanied by in-class quizzes and direction to useful external formative resources using the OLE.

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

First Sit	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Written examination (3 hours)	100
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Journal-based exercise	100

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
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Journal-based exercise.	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.